

**Flint and Bronze in Late Neolithic Schleswig-Holstein:
Distribution, contexts and meanings***Sebastian Schultrich*

This paper presents the first comprehensive compilation of Late Neolithic (c. 2350–1700 BC) metal artefacts found in modern-day Schleswig-Holstein. In addition, flint hoards and burials with flint daggers have been examined in order to investigate the meaning of certain objects which are considered to be connected with status.

It has been demonstrated that the area of Schleswig-Holstein was of importance for Late Neolithic and Bronze Age exchange between central Europe and southern Scandinavia. It has also been argued that certain objects had different meanings depending on choice of material, shape, and context. For example, a bronze dagger is recognized as being essentially different than a flint dagger and, even within the objects class of flint daggers, different meanings and functions were present.

Generally, metal objects were deposited in Late Neolithic southern Scandinavian and central European burials infrequently. However, in southwestern Schleswig-Holstein, burials are the predominant context in which early metal objects appear. Late Neolithic flint daggers and Younger Neolithic battle axes share this property. Whereas these objects appear in great numbers as single finds everywhere in the investigation area, their frequency in burial contexts varies greatly between sub-regions of Schleswig-Holstein. In the southwest, they are common components in graves; in the easternmost areas they are almost completely absent in burials. This bipolar situation is very clearly pronounced during the Late Neolithic period in Schleswig-Holstein. A closer look at northeastern Germany and Jutland suggests that similar differences existed in other regions as well, although less conspicuously. The similar distribution patterns of metal artefacts, flint daggers and battle axes furthermore demonstrate that geographically distinctive treatments of Late Neolithic status artefacts can be traced back to the Younger Neolithic. Different land use strategies, moreover, were presumably already established in the Middle Neolithic. This indicates that these differences, which might be linked to distinctive perceptions of the collective and the individual sphere, seemingly derived from Middle Neolithic or even earlier traditions.

1. Introduction**1.1 Aim of this study**

In central Europe, the transition to the second millennium BC was characterized by the emergence of a significant innovation – namely, bronze-working. The Late Neolithic (LN) period in southern Scandinavia and northern Germany is contemporaneous with the Early Bronze Age (EBA) of central Europe. These different terms suggest that the circulation of metal in this period was restricted to central

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Europe. This is, however, a fallacy, as during the LN, metal work was not lacking in southern Scandinavia nor did it supplant stone work in EBA central Europe. The terms rather reflect differences in the respective research traditions of these two regions. In northern Europe, early studies demonstrated that copper artefacts already circulated in the Early Neolithic (EN) period but more elaborated forms, and tin-alloyed copper artefacts (bronze artefacts) in particular, were not said to enter into circulation until the Older Bronze Age (OBA), a period characterized by their presence (Kersten 1936, 72–74). Many subsequent studies, however, demonstrated that those attributes already existed and were important to the LN of northern Europe (first Forssander 1936). More recently, scholars have moreover been able to demonstrate that bronze artefacts were in circulation in great numbers during the LN and, furthermore, that local production took place (cf. Vandkilde 1996 for a summary of the research history).

Geographically placed between the central European EBA groups and the LN societies of northern Europe, the area of modern Schleswig-Holstein has not been fully studied in detail concerning LN metalwork. In contrast, LN flint work (e.g. Kühn 1979; Siemann 2003) and some prominent single finds and find assemblages of LN metal objects – e.g. some multi-type hoards (Kühn 1979; Endrigkeit 2010), the few known halberds (Endrigkeit 2010; Horn 2013; 2014) or the axe of Ahneby (Kibbert 1980; Vandkilde 1996; Freudenberg/Glaser 2017) have been treated more or less extensively. Until now, a comprehensive project collecting all LN metal artefacts into one research work has never been attempted.

Along with addressing this gap in research, this paper aims to examine the specific contexts in which LN metal artefacts appear. It will be questioned if differences in the treatment, and thereby the perception of early metal objects and other classes of artefacts, are observable. Furthermore, it will be tested if similarities are present in adjacent regions. On this basis, the results of the analysis will be discussed in order to approach a depiction of some aspects of LN societal behavior.

1.2 Method

In the literature, LN metal objects, primarily represented by flanged axes, are often dated to OBA period I. This is due to the fact that recent research of the Nordic Bronze Age is based on the typological classification introduced by Montelius who claimed that bronze axes, and all other bronze items as well, first appear in OBA period I (1885, 52). Furthermore, as flanged axes are characteristic for the EBA of central Europe (e.g. Rassmann 1993, 37; Laux 2000a, 3), the wrong dating attributed to many objects is hardly surprising.

The main aim of many scholars who worked on prehistoric material from Schleswig-Holstein was to collect all prehistoric or Bronze Age artefacts from a certain, demarcated area and to provide a roughly consistent classification (see, for example, Röschmann 1963 on the district Schleswig-Flensburg). The preliminary work for this paper was thus to re-examine all published early metal objects. Only those objects which are concretely, or at least very likely, dated to the LN will be presented in the following text. For dating, only typological attributes have been analyzed, as the investigation area is almost completely lacking in either analyses of metal compositions or radiocarbon dates of find contexts. The material from Schleswig-Holstein is then compared with that from Denmark and central Europe. Early metal objects in both of these regions were strongly influenced by the so-called Únětice Culture and recent investigations in

accordance with modern scientific standards are available (e.g. Vandkilde 1996; Laux 2000a; Rassmann 2005). The placement of Schleswig-Holstein between these two areas makes this comparison both valid and promising.

Vandkilde stresses that LN flanged axes are very diverse in shape (1996, 264; cf. Rassmann 1993, 39–40). Therefore, the suggested dates in the present study may not be regarded as absolute. This is especially the case for single find items without any significant attributes. Such items have been classified by morphological tendencies. Accordingly, it should be kept in mind that these dates are more uncertain. In the following, single finds that quite certainly date to the LN will be discussed only shortly. On the other hand, objects of an uncertain LN origin will be discussed more closely. In addition to all presently known LN metal artefacts of modern-day Schleswig-Holstein, all known flint multi-object hoards will also be presented. However, single finds of flint artefacts, which often were deliberately deposited as well (cf. Malmer 1962, 669; Karsten 1994, 49; Tilley 1996, 253; Lekberg 2002, 71) and grave finds, except for those consisting of flint daggers, will not be examined in detail. This is because, in contrast to LN metal objects, in-depth investigations of these artefacts in Schleswig-Holstein have already taken place (e.g. Kühn 1979; Siemann 2003). Only remarks which are crucial for further discussions will be covered.

1.3 Representativeness

This paper is based on a re-examination of published data dealing with the prehistory of Schleswig-Holstein. The federal state of Schleswig-Holstein is separated into 15 independent districts. More comprehensive publications focus on these districts separately (Kersten 1939; 1951; Hinz 1954; Kersten/La Baume 1958; Hingst 1959; Röschmann 1963; Ahrens 1966; Auer/Kersten 1978; 1979; 1991; 1993; 2005; 2011; 2017; Karnatz 1987; Jestrzowski et al. 1988), whereas other studies with more detailed aims according to specific contexts and research questions present data from the whole federal state (e.g. Kühn 1979; Siemann 2003; Endrigkeit 2010). Another group of studies which also investigate LN material of Schleswig-Holstein focuses on prominent finds (e.g. Horn 2013; 2014; Freudenberg/Glaser 2017) or find assemblages (Vandkilde 1996), underrepresenting more ordinary finds.

Recent infrastructure projects may affect the distribution maps presented here. Examples of such projects include the construction of the Kiel Canal across the entire federal state and the highways and state roads which have been erected, especially in the eastern part of Schleswig-Holstein. However, the majority of artefacts on which this study focuses were found incidentally during agricultural endeavors; as part of the normal cycle of farming these processes, such as ploughing, have been practiced intensively in all parts of the area of interest (Endrigkeit 2010, 41–70). Accordingly, the distribution maps are considered to be representative.

1.4 Chronology

Geographically, Schleswig-Holstein is directly connected to southern Scandinavia as the southernmost part of the Cimbrian Peninsula. In prehistory, many cultural characteristics were shared within this landform. Accordingly, the terminologies in use in both modern areas are roughly identical. Following Vandkilde, the LN period covers

the timespan from c. 2350–1700 BC (1996, 140). It follows the Younger Neolithic (YN), c. 2850–2250 BC (Hübner 2005, 660), which is associated with the so-called Single Grave Culture, a local variant of the eastern and central European Corded Ware phenomenon (Furholt 2014, 72–74). According to Hübner, the YN ends at 2250 BC, thus creating an overlap between the YN and LN of approximately 100 years (2005, 660). Sarauw contradicts this view and suggests an overlap of one generation or less (2007 a, 36–37). However, statements regarding the end of the YN and the beginning of the LN depend crucially on the region of focus. Recent dating reveals that the earliest LN attributes (e.g. Nordic flint daggers) were first produced in the northern part of the Cimbrian Peninsula and, only later, spread to surrounding regions (Apel 2001, 249–251; Vandkilde 2005 a, 15; Sarauw 2006 a, 219–230).

Since Reinecke's influential work (1924), the LN has been said to correspond with the central European EBA Br. A1. The Br. A1a (Early Únětice Culture c. 2200–2000 BC) runs, with a delayed start, more or less simultaneously to LN I (2350–1950 BC), Br. A1b (Classic Únětice Culture c. 2000–1700) covers LN II (1950–1700 BC) and Br. A2 (Late Únětice Culture c. 1700–1600 BC) corresponds with the earliest Bronze Age in northern Europe, period Ia (1700–1600 BC). Period Ib (1600–1500 BC) is associated with the eastern central European Early Tumulus Culture, also called *Hügelgräberbronzezeit* (Vandkilde 1996, 140–142).

However, as recently demonstrated, the classical and evolutionary view of the EBA chronology founded by Reinecke must be revised. By the end of the 1990s, Müller already suggested the need for thoughtful review (1999, 113–126). Subsequent studies employing the full power of modern scientific analytical methods were finally able to address the issue. Within southern Germany, Stockhammer et al. (2015) could prove that Br. A1 and Br. A2 are not periods representing a chronological sequence but rather reflect geographically distinct material cultures of, more or less, the same age (ibid. 24). Thus, more elaborate bronze work with a higher proportion of tin relates to the Únětice Culture whereas less elaborated artefacts are connected to southern German EBA groups. By combining a large number of ¹⁴C-dates, Stockhammer et al. propose to date the EBA to 2150–1700 calBC (ibid. 29). The results of Stockhammer et al. are congruent with the observations of Lorenz (2010). For eastern Germany, she demonstrated that regional preferences led to different tin proportions of early metal work, rather than these proportions reflecting chronological development (2010, 104–106).

In adjacent regions, to the south of the investigation area, some scholars made the choice to do a balancing act between the different terminologies. In northwestern Germany, Strahl combines the YN (a period defined by the presence of battle axes) and the LN (a period defined by the presence of flint daggers) into what he calls the *Endneolithikum* (1990, 320). The term he uses is oriented to the central German terminology, whereas its timespan draws upon southern Scandinavian terminology. Rassmann declares the timespan with flint daggers of Type I–III as the LN, while the subsequent phase EBA period Ia is accompanied by early bronze work of Úněticean style and flint daggers of type IV–VI. The term “period Ia” is inspired by the southern Scandinavian terminology, but the chronologies are offset as in northeastern Germany it already starts c. 2000 BC instead of 1700 BC, as is suggested for southern Scandinavia (1993, 28, Abb. 9, 50–62). Nevertheless, in the following we will be dealing with the dating proposed by Vandkilde (1996). This is due to the geographically close link between Schleswig-Holstein and southern Scandinavia as well as an effort to match recent studies dealing with

Schleswig-Holstein at the transition to the OBA (cf. Czebreszuk 1998, 241–242; Hübner 2005, 660; Goldhammer 2013, 28; Müller 2015, 653).

1.5 General aspects on Late Neolithic metal artefacts

Bronze axes, especially flanged axes, form the majority of LN metal artefacts in Schleswig-Holstein. Some remarks on typological aspects are thus necessary. The earliest copper flat axes, the first metal objects, reached northern Germany and southern Scandinavia at the transition from the fifth to the fourth millennium BC. They were imports from the Balkans and, slightly later, from the eastern and northern Alpine regions (Klassen 2000, 273; 2004, 69; Rosenstock et al. 2016, 81). During the final MN of the Cimbran peninsula and adjacent regions, c. 3300 BC, the frequency of copper artefacts severely declines; this possibly suggests a collapse or shift in focus of the networks along which the metal objects had spread (Klassen 2000, 236). Only a very limited spectrum of small ornaments in a few Danish, Scanian, northwestern and perhaps northeastern German burials are known from that period (ibid. 198–209, 238; Strahl 1990, 272–273; Jacobs 1991, 73; Laux 2000a, 13; 2000b, 18–26; Iversen 2015, 108–109). With the onset of the LN, and perhaps already in the late YN, metal objects were reintroduced in northern Europe (Vandkilde 1996, 177; 2005a, 24).

In the LN I in Denmark, the most common metal artefact is the copper flat axe. These artefacts are difficult to distinguish from EN/MN pieces on the grounds of typological evaluations. Compositional analyses of the metal, however, have shown potential in providing hints of separation (Vandkilde 1996, 180). The early metal artefacts in southern Scandinavia are strongly influenced by western European forms (ibid. 189–190). In particular, numerous attributes of these early metal objects demonstrate connections with western European Bell Beaker societies (Vandkilde 1996, 295; Hübner 2005, 205–209, 658–660; Sarauw 2007a, 39; Drenth 2015, 87). LN flat axes are not common in Schleswig-Holstein. The reason for this might be that compositional metal analyses of northern German material are lacking and thus some axes are wrongly dated to the EN/MN. More plausibly, it demonstrates that contacts with western Europe were primarily maintained by northern Jutish groups rather than by their southern neighbors. In contrast, the LN II period is better represented in Schleswig-Holstein. Only five possible LN I flat axes are known, whereas one flat axe and 49 flanged axes of the LN II period or the transition to OBA period Ia can be listed.

Vandkilde defined nine different types of flat axes. Her last two groups (8 and 9) represent unclassified artefacts and proto-flanged axes respectively (1996, 43–59). Except for those last types, the shape of the broad face of the axe is crucial for the definition. Thus, her typology is generally in accordance with Kibbert's typological classification (1980, 56). The main difference lies with Kibbert's declaration that every axe with flanges is a flanged axe. Vandkilde's type 8 – proto-flanged axes – would thereby in his system become obsolete (Kibbert 1996, 57–59; cf. Karlenby 2002, 39).

According to Kibbert, in northwestern Germany (as well as in northern Europe as a whole), different influences led to the creation of different types of flanged axes. The western influence, based on trapezoidal flat axes, led to the development of trapezoidal flanged axes. The eastern influence, based on triangular flat axes, led to the development of curved flanged axes. Together these two lines of evolution form the substrate for the emergence of axes with parallel sides (1980, 89–93).

These types are represented in Vandkilde's typology as well, though she moreover distinguishes flanged axes according to the shape of their flanges. This leads to a differentiation between four main types of flanged axes: primitive low-flanged axes, developed low-flanged axes, high-flanged axes, and nick-flanged axes (1996, 66–138). She proposes to date almost all primitive low-flanges axes to LN II and further separates them into eleven subtypes (1996, 66–92, 191). This is in agreement with the classification of Kibbert (1980). Developed low-flanged axes were mainly dated to the beginning of the OBA, but some pieces might be of a LN age (Vandkilde 1996, 192). This will be of importance later in this paper as a date of transition to the OBA is suggested for some of the material in the investigation area.

Laux (2000 a) follows the typological classification of Kibbert (1980) with one exception; he examines the cross-section of the axes as well, distinguishing concave from straight. From the perspective of the cross-section, he also evaluates the shape of the flanges (2000 a, 3). With some differences in the classification of distinct types, his method is similar to that of Vandkilde (1996).

According to Vandkilde, primitive low-flanged axes are characterized by a flange height of max. 2 mm and a bi-concave cross-section.¹ They show enormous variations in their lengths. In many cases the butt end is round and the cutting edge is generally smoothly protruding (ibid. 66). Vandkilde's type A3 and A5 are comparable with the largest fraction of the LN low-flanged axes in Schleswig-Holstein. While the latter consists of waisted sides when examining the broad face, the former is characterized by more or less parallel sides. A comparison of these axe types with pieces from the neighboring southern regions reveals similarities with axes of types Veltheim, Leveste, Himmelpforten, Barskamp, Buchholz, Basdahl and Schutschur according to Laux (2000 a).

As all of these axe types have a waisted middle part, Laux terms them "*Randleistenbeile mit mehr oder weniger eingezogener Beilmitte*" and "*Randleistenbeile mit nahezu parallelen Seiten*" (2000 a, 29, 39). In contrast to later exemplars, flanged axes of LN types have less developed cutting edges. This means that the sides of the broad face begin to protrude in a comparatively low part of the axe and the cutting edge is not emphasized as much as is characteristic for many OBA axes.

In addition to the primitive low flanged axes, some more elaborate forms might date to the LN II period. This is not emphasized by the work of Vandkilde, as she only mentions the possibility of a pre-Bronze Age date of some specimens (1996, 192), but is indicated by the study of Laux (2000 a). Some of the more elaborate axes Vandkilde terms as developed low-flanged axes and high-flanged axes may, according to Laux, date to the end of the LN II period (2000 a, 40–42; cf. Lorenz 2010, 102; see below).

Like in Denmark, "real" Únětice axes (type A7 according to Vandkilde, also *Sächsischer Typ*) are not found frequently in Schleswig-Holstein (Vandkilde 1996, 82–83). This, and the presence of peculiar southern Scandinavian forms, indicate a local production of flanged axes, an idea already suggested by Forssander (1936, 167). As shown by Vandkilde (1996, 263), compositional analyses of the early metal objects in the region could validate this suggestion. The LN II axes of Denmark, and presumably those of Schleswig-Holstein as well, are thus locally produced pieces with distinct shapes, although the shapes are influenced by western and central European styles (ibid. 192; Kibbert 1980, 89–93; Vandkilde 1996, 263–264; Brink et al. 2016, 258). Compositional metal analyses were also used by Lorenz to validate the typological development of the flanged axes of the

1 It should be noted that certain middle European copper axes already display low flanges in the fourth and third millennium BC (Klimscha 2010, 131–133).

northwestern Únětice Culture as being chronologically significant (2010, 62–64). Therefore, flanged axes are also an important reference for the dating of EBA hoards (ibid. 97).

2. The Material of Schleswig-Holstein

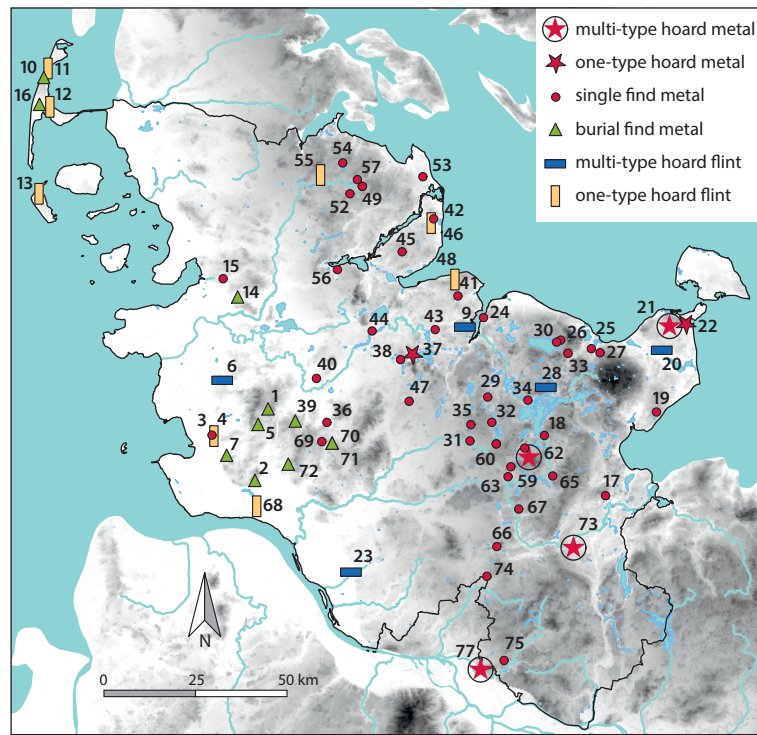


Fig. 1. All mentioned sites in Schleswig-Holstein with their respective catalogue number. The majority date to the LN, but some might date to the earliest phases of the OBA. Uncertain localities are not mapped (cat. No. 8; 50; 51; 76).

1. Albersdorf; 2. Buchholz; 3. Meldorf; 4. Meldorf; 5. Tensbüttel; 6. Weddingstedt; 7. Windbergen; 9. Kiel; 10. Kampen, Sylt; 11. Kampen, Sylt; 12. Keitum, Sylt; 13. Norddorf, Amrum; 14. Oldersbek; 15. Rosendahl; 16. Tinnun, Sylt; 17. Bad Schwartau; 18. Bichel; 19. Bliesdorf; 20. Göhl; 21. Neurathjensdorf; 22. Seekamp (Neukirchen); 23. Kruck; 24. Altheikendorf; 25. Futterkamp; 26. Giekau; 27. Kaköhl; 28. Kossau; 29. Löptin; 30. Neuhaus; 31. Rendswühren; 32. Wandendorf; 33. Wentorf; 34. Wittmoldt; 35. Ziegelhof (Schillsdorf); 36. Beringstedt; 37. Bossee; 38. Emkendorf; 39. Hademarschen; 40. Hamdorf; 41. Kaltenhof; 42. Karlberg; 43. Landwehr; 44. Lehmbeck; 45. Saxtorf; 46. Schuby; 47. Schülpe; 48. Surendorf; 49. Ahneby; 52. Großrude; 53. Gundelsby; 54. Husbyholz; 55. Kleinsolt; 56. Loopstedt; 57. Sörup; 58. Sörupholz; 59. Blunk; 60. Bornhöved; 61. Bornhöved; 62. Grönwohld; 63. Hamdorf; 64. Neuenrade; 65. Strenglin; 66. Tönningstedt; 67. Traventhal; 68. Kuhlen; 69. Puls; 70. Reher; 71. Reher; 72. Wacken; 73. Klein Wesenberg; 74. Langereihe; 75. Schönningstedt; 77. Boberg.

2.1 Multi-object metal hoards

In Schleswig-Holstein four hoards with metal objects belong to the LN, one hoard is of an uncertain date, and one hoard is of a possible LN date. The hoard of Neurathjensdorf (cat. no. 21) consists of two spiral arm rings, a flanged axe, a dagger and five (preserved) neck rings (*ösenhalsringe*) which together form a neck ring collar. In the literature, the age of the hoard is variously attributed. Kersten proposed to date this hoard to period Ia of the OBA (1936, 74). This

proposal is logical considering the year in which his study was published (1936, 74). In contrast, Endrigkeit's proposal that the whole complex dates to period IV-V of the Younger Bronze Age (YBA) seems quite unlikely (2010, 162, 261). Vandkilde dates the complex to the very beginning of period Ia (1996, 105–106, 148–152; 2017, 111–112), as does Willroth (Aner/Kersten 2017, 104). However, Vandkilde's typological classification is based on pictures of the finds only and is therefore questionable.

The dagger of the Neurathjensdorf hoard is decorated with rare elements - grooved and curved V-figures on the blade and a hatched pattern known as a *halbes winkelkreuz* within the indentation. Counterparts to such a decoration have been found on Czech daggers (*Noutonice* and *Holubice*) of type Polepy (Novák 2011, 61), which also share a similar shape - a flat triangular dagger blade - with the dagger from Neurathjensdorf. The Czech daggers are dated to the classic and late Únětice Culture (ibid.). Similar dagger blades occur in the Pile hoard of Scania which is dated to the LN II (Vandkilde 1996, 192). Furthermore, Vandkilde mentions that the decoration *halbes winkelkreuz* is a common decoration in EBA Switzerland and she explains that the special ornamentation is an attribute of the classic and post-classic Únětice Culture (ibid. 216). One Danish specimen with such an ornamentation is dated to period Ia, but the reason for this date is not the decoration. Instead, the date was suggested on the basis of the peculiar hilt (ibid. 216). There is no evidence of a hilt left on the exemplar from Neurathjensdorf, so a LN date is plausible, although not exclusively definite.

The neck ring is a typical artefact of the classic and late Únětice Culture. In the latter stage, however, they are thinner in shape and appear less frequently in hoards (Lorenz 2010, 102, 105). This suggests a date for Neurathjensdorf comparable to the eastern German Hoard Horizon II or III, corresponding to the LN (ibid. 97–102).

The axe found in the hoard is a long and slim low-flanged axe, which Vandkilde classifies as an axe of Langquaid type. This axe type dates to horizon IV, the late Únětice Culture (Lorenz 2010, 102; cf. Vandkilde 1996, 106; Laux 2000 a, 38), so it corresponds with the late part of the LN II or the following OBA period Ia. In Vandkilde's find combination matrix, the hoard is located in between the LN and the period Ia hoards (1996, 105–106). This already opens the possibility for a LN date and Vandkilde herself also stresses that this assemblage dates to the transition LN II–period Ia (1996, 147, 150, fig. 136; 2017, 111). It must be considered, however, that her determination was made solely on the basis of find pictures. Scholars who have personally handled the material note that the flanges of the axe are not as high and the edge is by far not as pronounced as classifies axes of the Langquaid type (1996, 103; Laux 2000 a, 38). Endrigkeit describes the piece as a flat axe with very low flanges (2010, 162) and Kersten described the axe as *sächsischer typ* (1936, 74). Both statements indicate that the axe is not of Langquaid type but of an earlier date (Vandkilde 1996, 82; Lorenz 2010, 97). In comparison with the typology of the northwestern German axes according to Laux, there are enormous similarities to the flanged axes of type Leveste. This type dates to the late Veltheim phase, which corresponds with the late LN I (2000 a, 4, 32–33). In summary, all artefacts from the Neurathjensdorf hoard except for the axe indicate a dating to the late LN II or a little bit later. The axe however, which is Vandkilde's main argument to date the whole find complex to the very beginning of period Ia, strongly indicates an earlier date than she proposed. For this reason, it is suggested to date the hoard of Neurathjensdorf to LN II.

The hoard of Grönwohld (cat. no. 62) includes an oval solid ring, two spiral arm rings and a flanged axe. According to Vandkilde, the

open oval solid ring is of Thuringian type and the axe is a primitive low-flanged axe of Únětice type Variant Halle (A7). Both artefacts date to the LN II period (1996, 148–149). In opposition to Vandkilde's suggestion, her description of the cross-section of this axe would indicate it more rightly belongs in her type A5 (1996, 78). Both types date to the LN II (ibid. 191). The age of these types is supported by Laux's analysis of axes from other regions as well. The best comparisons might be made with axes of type Barskamp, which date to the late Veltheim and early Marwedel phase, corresponding to the transition of LN I to LN II in the area of investigation (2000 a, 4–7, 34–35). Falsely, Endrigkeit dates the hoard to period I (2010, 157, cat. no. 85).

The hoard of Klein Wesenberg (cat. no. 73) consists of three plates (*Schmuckschilde* or *Blechscheiben*), a flanged axe, and a lost dagger of unknown type. This find complex was found in the top of a tumulus grave. By evaluating its broad face, the flanged axe might be of LN date, but the published illustrations do not show its cross-section. Therefore, it is not possible to exactly identify the design of the flanges. For these reasons only the plates should be considered when assigning an age to the whole complex. The plates are of Únětice type 2 according to Jestrzowski et al. (1988, 81; cf. Coblenz 1986) and have close parallels in the hoard of Marwedel (Laux 2000 a, tab. 90) and Falkenwalde (Lorenz 2010, tab. 32). They are thus dated to the phase Marwedel-Falkenwalde, corresponding with the late LN II and period Ia. Because of this reason, the hoard has to be placed into the LN–OBA transitional stage.

The hoard of Hamburg-Boberg (cat. no. 77) shall be mentioned shortly, although it is not from Schleswig-Holstein. It contains a primitive low-flanged axe, eight large Noppenrings of the simple type, two sheet bands with overlapping ends and an early Barbed Wire Beaker. This find complex dates to the LN, perhaps to the LN I period (Vandkilde 1996, 149, 203).

At least one one-type metal hoard exists in the investigation area and there is evidence for a second. In the LN, one-type hoards are known in small numbers in Denmark and Scania (Vandkilde 1996, 209; 2017) and they appear to be infrequent in Schleswig-Holstein as well. Here, the only certain LN one-type metal hoard from Seekamp (cat. no. 22) consists of two flanged axes which are comparable to Vandkilde's (1996) types A3 and A5, thus dating this assemblage to the LN II period.

There is another possible one-type hoard in the research area. Two of, in total for the region, only three halberds were found near Bossee (cat. no. 37). Both pieces have been described as being grave finds (O' Riordain 1937, 314–315; Horn 2014, 349) though many scholars point to the bog patina on one of the halberds as proof that this artefact could not have originated from a burial context (e.g. Aner/Kersten 2005, cat. no. 9751, for more references). Generally solely this one halberd is mentioned (ibid.). Only O' Riordain (followed by Horn [2013]) mentions a second halberd, but he is not sure about the relation of the two pieces. "*Do not know if found with no. 24 [the other exemplar]*" (1937, 315). If there really is a second halberd from Bossee, then the evidence would suggest that it was a one-type hoard. This is due to the conspicuous origin of two of a grand total of three halberds in Schleswig-Holstein from this same community in Bossee. Moreover, they share the same uncertain context as "*grave find?*" and at least one of the pieces has bog patina, indicating an origin from a wet area. According to Brandherm and Horn, two or three halberds often occur together in one-type hoards (2012, 102–107; cf. Rassmann 2010). Finally, a few YN and LN find assemblages are related to burials but still classified as representing hoards (Ebbesen 1982, 73; Hübner 2005, 623). Accordingly, even if an origin in a grave mound were

to be proven, it would not contradict the interpretation of the halberds as a hoard.

The halberds are of type 10b and M1a according to Horn (2014). The former type is very common in western Baltic regions (ibid. 37–38). The latter, on the other hand, is a very unique object, as blade and shaft were cast together as one piece (ibid. 62). Both halberds belong to the last of the three phases of European halberd development, c. 2300/2200–1800 BC (ibid. 172–173; cf. Rassmann 2010, 815–818). Vandkilde dates the majority of the Danish halberds to LN II (1996, 193–199).

It should be mentioned that in her study concerning Bronze Age hoards of Schleswig-Holstein, Endrigkeit (2010) dates all of the LN hoards and single finds to period I. She only mentions one LN hoard (Riesebusch; 2010, 161, cat. no. 110), which without any doubt is of Early or early Middle Neolithic origin (Klassen 2000, 353).

2.2 Single found metal objects

Single depositions of objects constitute the most frequent find context in the Neolithic period of the investigation area. For example, Early, Middle and Young Neolithic flint and shaft hole axes (battle axes) occur much more frequently as stray finds than in settlement, hoard, or grave contexts (e.g. Struve 1955, catalogue; Kühn 1979, catalogue; Karsten 1994; Schultrich 2018, 43–45, 207–211). LN flint daggers are most often single finds as well (Lomborg 1973, 64; Kühn 1979, 62; Sarauw 2006 a, 246). The same holds true for LN metal work in Denmark (Vandkilde 1996, 33–37) and, furthermore, it is confirmed by the material examined in the present study. Whereas hoards and some of the prominent single finds like the halberd of Wankendorf (Horn 2013, 81–98) and the axe of Ahneby (Kibbert 1980, 54–55; Vandkilde 1996, 89; Freudenberg/Glaser 2017) have been the topic of some research projects, until now the majority of single finds have not been comprehensively collected in one study. 38 LN single finds and nine pieces dating to the transition to the OBA are presented in this catalogue. These 47 pieces include 38 flanged axes, six flat axes, one chisel, one halberd and one ring.

Flat axes might be underrepresented in the material. Vandkilde demonstrated the problems concerning the dating of flat axes solely typologically (1996, 18–20, 43–59). Flat axes are quite frequent in the EN and the shape of early specimens is often very similar to those of the LN (ibid.; Klassen 2000, 31–51). Without compositional metal analyses, a clear distinction is possible just in rare cases (Vandkilde 1996, 177–180). Out of a total of six flat axes in the investigation area which the present study dates to the LN, the age of one axe is unconfirmable due to a lack of sufficient information and illustrations; its proposed age in the literature has therefore been accepted (cat. no. 45). One fragmented axe (cat. no. 61) without flanges has a very broad cross-section similar to late flat and early flanged axes (Vandkilde 1996, 52–59, 68–78), so a LN date seems conceivable. In the literature another flat axe (cat. no. 43) is classified as a MN piece, but the shape resembles LN flat axes much better. In opposition to EN specimens which have trapezoidal or straight sides, this thin-butted axe has curved sides. Moreover, a rounded butt is present (cf. Vandkilde 1996, 44–54). Together these characteristics indicate that this axe is of a LN rather than EN date. Two other flat axes are very similar to the preceding piece (cat. no. 15, 19). The last flat axe is the well-known axe of Ahneby (cat. no. 49). This axe is of type A10 (Anglo-Irish Developed Bronze Flat Axe) according to Vandkilde (1996, 87). What is special about this axe is the presence of loops on both sides, a feature

that only has one known parallel in Denmark and one in Ireland (ibid.; Kibbert 1980, 54). It is noteworthy that axes with an anglo-irish shape occur quite often in Denmark, but are almost absent in Schleswig-Holstein. Also, the custom of decorating axes is, in contrast to Denmark, very rare in the LN of the investigation area (Vandkilde 1996, 263–264). The Danish anglo-irish axes are made of a bronze with a high proportion of tin. This differentiates them from contemporaneous low-flanged axes (ibid. 88). In 1996, Vandkilde was unable to draw from compositional analyses of the metal of the Ahneby axe as they had not yet been undertaken. In a recent work, this has been done and it revealed a high proportion of tin as well (Freudenberg/Glaser 2017). In contrast to other flat axes, anglo-irish specimens are of a LN II date (Vandkilde 1996, 192).

If we accept the two halberds from Bossee as representing a hoard find, just one halberd from Schleswig-Holstein is a single find. This piece, from Wankendorf, is of type 9a according to Horn (2013, 88) and like the other halberds, dates to the third phase of the European halberd development c. 2300/2200–1800 BC (2014, 172–173).

One chisel presumably of LN date is a single find (cat. no. 47). The chisel from Schülpe has very low flanges, which contain a weak nick (shouldered part) in their middle and overall it is almost as thick as it is broad. It is similar to chisels of type Holte-Spange (Laux 2000a, 68–69). A comparable chisel is present in the LN II hoard of Skeldal (Vandkilde 1996, 73) and another in the princely grave of Leubingen (ibid.; Horn 2014, tab. 103) which is dated dendrochronologically to 1942 ± 10 BC (Becker et al. 1989, 307). Such chisels have also been found in the hoard of Falkenwalde (Laux 2000a, 68–69). This indicates the possibility for a younger age. Laux places such items (type Holte-Spange) in the end phase of the Únětice Culture (ibid.). This is in accordance with Vandkilde's suggestion, as she dates nick-flanged chisels of types A and B – which are not shaped very elaborately – to the classic and post-classic Únětice Culture (LN II and period Ia) (1996, 130, 135–136, 140). According to both scholars, it is neither possible to prove nor to disclaim a LN II date concretely. As the chisel from Schülpe seems even less elaborated than the comparative objects, here a LN date has been proposed, although one should keep in mind the danger that accompanies such evolutionary arguments.

In Meldorf a neck ring (*ösenhalsring*) has been found deposited individually in a bog (cat. no. 3). Such items are rare in Schleswig-Holstein and Denmark (Vandkilde 1996, 205) when compared to the eastern German Únětice core areas (Lorenz 2010, 105). Vandkilde dates specimens with loops to the transition between LN II and period Ia (1996, 216). This suggestion has already been contradicted by the examination of the hoard from Neurathjensdorf presented in the previous section of this study. Whereas thin specimens appear in a late phase of the Únětice Culture, thick types were deposited in an earlier stage (Lorenz 2010, 97–102; Pernicka et al. 2016, 25). The exemplar from Meldorf is of the thick type so a LN date is likely.

In Schleswig-Holstein, 30 single find flanged axes of the LN and eight pieces presumably of LN date, termed as transition to OBA, are known. The dating for the definitively LN specimens is justified by the fact that a comparison to both central European as well as Danish objects supports the suggested date. The eight pieces with unsure ages contain attributes which match only with LN objects in one of the regions which are used for comparison.

The majority of objects with a secure LN age belong to Vandkilde's type A3 (cat. no. 17, 34, 35, 40, 42, 51, 52, 63, 64, 67, 69) and A5 (cat. no. 18, 24, 26, 38, 41, 50, 58, 59, 60, 66, 75). This means they are parallel-sided-curved flanged axes of Gallelose type (A3) or waisted flanged axes of Store-Heddinge type (A5) (1996, 74–82). In addition, one axe

is of type A7 (cat. no. 44) – a classical Únětice axe style (ibid. 82–83), one is best comparable with type A2 – trapezoidal flanged axes (cat. no. 54), and two pieces are of type B1 (cat. no. 57, 65) – the only specimens of developed low-flanged axes which Vandkilde proposes as not exclusively dating to period Ia (ibid. 94–95). Two axes are of type A1 (cat. no. 27, 33). Three axes do not fit well within Vandkilde's typology. Their attributes characterize them as mixed forms of A3/5 and B1/2 axes (cat. no. 31, 67, 76). The majority of the mentioned pieces are primitive low-flanged axes which, according to Vandkilde, can all be attributed to the LN II period (ibid. 191).

In relation to Laux's typology, the majority of the axes fit in the type Barskamp (cat. no. 26, 38, 40, 51, 52, 63, 64, 66, 69, 75). Such axes have weakly waisted sides and a gently swinging cutting edge similar to Vandkilde's A3 axes (Laux 2000 a, 34–35). They have been found in the hoard of Marwedel and in central German hoards such as that of Orlishausen (Brunn 1959, tab. 71). Laux suggests a chronological placement in late Veltheim and Marwedel phases (2000 a, 35). In southern Scandinavian terminology this corresponds with the late LN I and the LN II periods. Similar axes in eastern Germany date, according to Lorenz, to horizon II (2200–2000 BC) (2010, 100–101). In all regions, therefore, these axes are placed relatively early. As the Marwedel hoard can be dated through other objects to a later period but contains similar axes, it is clear that some problems of typological classification remain. But, in general, a LN date seems well suited to the single find Barskamp type axes of Schleswig-Holstein.

The single finds not of type Barskamp share similarities with axes of type Veltheim (cat. no. 42, 44, 59), Himmelpforten (cat. no. 41, 57), Basdahl (cat. no. 50, 58, 60), Hämelerwald (cat. no. 65), Schutschur (cat. no. 17, 31, 54, 67), Buchholz (cat. no. 33, 34), Marwedel-Bostelwiebeck (cat. no. 27, 35), Emmen (Cat. no. 18), Leveste (cat. no. 24) and Dahlenburg (cat. no. 76). Whereas axes of type Veltheim, Himmelpforten, Buchholz, Leveste and Schutschur have low and not very pronounced flanges and are generally waisted in the middle part (Laux 2000 a, 30–33, 41), axes of type Basdahl, Hämelerwald, Marwedel-Bostelwiebeck, Emmen, and Dahlenburg contain a more accentuated shape in addition to low flanges. By evaluating their broad face, it is apparent that this second group of axe types also generally has a waisted mid-part (ibid. 36–40). Axes of type Veltheim date in the eponymous phase Veltheim (ibid. 31), and thereby represent the LN I period. Type Himmelpforten axes show influences of the Langquaid type so they probably date in the late Marwedel phase (ibid. 33), the transition to period Ia. One axe of type Schutschur occurs in the hoard of Marwedel, but this specimen represents the youngest exemplar of that type. The other axes of that type belong to the early Marwedel phase (ibid. 42), thus LN II. Axes of type Basdahl have been dated to the Marwedel phase (ibid. 36), i.e. LN II and the transition to period Ia in Nordic terminology. Axes of type Hämelerwald are dated to the early Marwedel phase, accordingly to LN II. The type Dahlenburg is dated to the phase Marwedel (ibid. 37), thus LN II or the transition to period Ia.

The eight specimens which are of a less certain age will not be presented in detail. According to Vandkilde's typology they could date to the LN (cat. no. 36, 53), possibly LN (cat. no. 8, 25, 29, 30) or not LN (cat. no. 56, 74). According to Laux' typology the assigned dates are slightly different (LN [cat. no. 8, 25, 30], possibly LN [cat. no. 29, 53, 56, 74], not LN [cat. no. 36]).

Again, some problems appear when comparing the different regions. As emphasized above, the typological classification of single find axes only demonstrates tendencies. All of the dates proposed in this study should thus be understood as suggestions. Though some

general characteristics exist, there is a much greater variety in the shape of LN flanged axes than axes of succeeding periods (Rassmann 1993, 37; Vandkilde 1996, 66–67, 262–266). This explains the difficulties revealed above; many axes will not fit into existing typologies. Nevertheless, it has been demonstrated that similarities in developments occur in distant regions and, accordingly, the majority of the presented pieces can be given a LN date.

2.3 Burials with metal objects

In total, eleven LN burials can be listed which include metal objects. As there are only 64 find complexes of all types containing metal objects dated to the LN, burial finds represent a remarkable 17.19%. In contrast, only 17 Danish LN metal objects have been found in graves, while a total number of 273 find complexes are known (Vandkilde 1996, 189, 207). Accordingly, only 6.23% of the Danish contexts including metal objects are grave finds. When LN I contexts are excluded and only those find complexes dating to the LN II are examined, the proportion drops even further (5.16%). Six of the metal objects found in burials in the investigation area are flanged axes, two objects are chisels, and there are four rings of different types, one dagger, and one bronze fragment, perhaps a knife.

The flanged axes all derive from grave mounds. Five of them were found in tumulus graves and one in a long mound. Four of these flanged axes can be securely identified as LN specimens (cat. no. 2, 39, 71, 72). In comparison to Danish material they belong to Vandkilde's types A3 (two pieces), A5 and C3. According to Laux's typology they belong to the types Barskamp, Veltheim (two pieces) and Schutschur. As the chronological position of these types was presented in the preceding section, relatively few comments concerning the axes are added here. The axe of Wacken (cat. no. 72) shares general characteristics to OBA axes of type C3 according to Vandkilde, but also has very low flanges, a very slim narrow side and the sides are waisted. This piece seems to be an early variant of parallel-sided flanged axes of the Oldendorf type (Vandkilde 1996, 116–117) and it shares elements with axes of the Veltheim type (Laux 2000 a, 30–31). The axe of Wendenbostel (ibid. cat. no. 34) is particularly similar in shape. In both cases the waisting on the sides is minimal, though present, and the cutting edge is neither broad nor pronounced. Both axes also have a weak transverse bevel (linear marking in the middle of the broad face). Accordingly, transverse beveling is not an attribute restricted to OBA flanged axes which leads to palstaves (*Absatzbeile*), as early types also possess such elements (cf. Laux 2000 a, 31). Correspondingly, the axe of Wacken quiet likely is of LN date.

Three other axes (cat. no. 2, 39, 71) are of LN date with regards to both Vandkilde's (1996) as well as Laux' (2000 a) typology of the LN. This dating is supported by a comparison to the axes of the Únětice hoard horizons II and III (Lorenz 2010, 100–101).

A date of the transition to period Ia is suggested for two axes. Unusually, one specimen is already dated to the LN in the literature (cat. no. 16). However, its flanges are problematic. While they are still low, in comparison to other LN specimens they are relatively high and pronounced. The axe has waisted sides, but due to fragmentation the exact type cannot be determined more specifically. For these reasons, this exemplar must be considered as a LN/OBA transitional type. The other uncertain axe (cat. no. 7) has elaborated flanges and may be compared with axes of type C1 according to Vandkilde (1996, 109–113). However, the broad face is not very planar in cross-section, the cutting edge is not pronounced, and there is no transverse bevel

present. The narrow face is even relatively slim. Thus also in this case a clear placing in one of the typologies is not possible as the axe consists of attributes of both early and late – LN and OBA – axes.

In the investigation area, there are two chisels from grave contexts that perhaps are of LN date (cat. no. 10, 14). Both specimens belong to chisels of the type Holte-Spange according to Laux (2000 a, 68–69) and to type D2 and D3 according to Vandkilde (1996, 135–136). Above, such chisels already have been dated to the classic and post-classic Únětice Culture, so they may belong to the LN II or period Ia. Accordingly, in the present paper they will be placed in the transition phase to the OBA. Both chisels were found in tumulus graves. While the chisel from Tinnum is a single grave item, the chisel from Oldersbek was found in a mound with other artefacts from period II. Due to 19th century excavation methods the relation of the chisel to the period II artefacts is not reconstructable; but, they seem to represent different depositions within one mound. Both a LN and period Ia age are possible.

A tumulus grave near Tensbüttel (cat. no. 5) contained a burial with a bronze arm ring and a flint dagger of type IV/V according to Kühn (1979). On the basis of the dagger that is of LN II shape, the complex can be dated to the LN. The characteristics of the ring do not oppose this date since similar rings are known from the Danish LN and contemporaneous central European burials (Vandkilde 1996, 181).

Burial A in a grave mound near Reher (cat. no. 70) contained a bronze fragment, a flint dagger, and a flint flake. The flint dagger is of type III according to Kühn (1979), dating the whole complex to the transition phase LN I to LN II. In the literature, the bronze fragment has been classified as a knife, though this suggestion should be viewed with caution. Nevertheless, Burial A contains a bronze item and belongs to the LN.

A burial in a tumulus grave near Albersdorf was equipped with a bronze dagger, two bronze rings and two flint daggers (cat. no. 1). Although the flint daggers have been lost, older accounts describe them as specimens with “a handle of an almost rhombic cross section” (Aner/Kersten 1991, 3). This would place them either as being of type III or IV (Kühn 1979, 44–45; Rassmann 1993, 24–25). However, as the existing description is imprecise the classification should not be regarded as absolute and it is possible the flint daggers might be of another type. The triangular bronze dagger blade is the only preserved item of the burial. It has transverse grooves near the former shaft and it is comparable with daggers of Novák’s (2011) type Mikulov. Daggers of this type exist throughout the entire timespan of the Únětice Culture, but appear more frequently in Reinecke’s earlier stage, Bz A1 (Novák 2011, 58). The characteristics of the bronze and flint daggers suggest a LN date of the grave seems probable. However, the outdated excavation method hinders identification of the artefacts as a singular complex rather than representative of two or even three distinct burials. Funerary contexts equipped with more than one flint dagger do occur in LN, although very infrequently. Kühn states that this is a phenomenon of a late phase, at least in Schleswig-Holstein (1979, 47). A close look into his catalogue, however, reveals that earlier closed grave finds with more than one flint dagger appear as well (ibid. 108, cat. no. 84, 109, cat. no. 86). His catalogue furthermore contains a presumably closed burial find of the early OBA, associated with a bronze needle, two flint daggers and one bronze dagger (ibid. 102, cat. no. 28; cf. Röschmann 1963, 610, Tab. 71.15, 81.6–7). This underlines the possibility that the items of Albersdorf might belong together.

The possibility of a second LN burial equipped with a bronze dagger should be mentioned. In a multi-phase tumulus grave, a burial

with a bronze dagger blade was found stratigraphically between an OBA and a late YN burial. The grave inventory of the former are represented by Sögel-Wohlde swords and the latter by tanged flint arrowheads and a beaker with cord decoration (Bokelmann 1977, 90–96, fig. 6–8). Laux emphasizes the significance of the stratigraphic position (2000 b, 20), but it should be noted the OBA burials and the discussed burial, were horizontally offset and thus spatially apart from the Neolithic burials. Judging from the cross-section of the dagger blade, Laux identified the best parallels in so-called *Kerbdolchen* which are known from the Copper Age in southern France as well as from a Corded Ware settlement in Switzerland (ibid. 28). Due to the inconclusive shape of the buried dagger, the direct link to the other OBA burials, and the fact that the deceased was buried in a stretched position, typical for OBA (cf. Kühn 1979, 23; Strahl 1990, 289; Hübner 2005, 592), it seems much more likely that this burial does not belong to the LN.

2.4 Hoards with lithic object

In Schleswig-Holstein, nine hoards with flint items of a LN or possible LN date are known. Some further hoards consisting of flint sickles might be LN as well, but their chronological position is hard to determine. In contrast, flint daggers show a significant chronological development. The typology of flint daggers is based on Sophus Müller's work (1902). Lomborg modified this typology and, by examining closed find assemblages, created a relative chronology (1973, 69). His work was fundamental for the development of typo-chronological studies and is still valid today (cf. Kühn 1979, 41–51; Strahl 1990, 246–250; Rassmann 1993, 26–29; Vandkilde 1996, 13; Apel 2001, 248–252; Siemann 2003, 7). According to Lomborg's classification, flint daggers of type I and II belong to LN I, type III daggers mark the transition to LN II, type IV and Vb daggers date to LN II and type Va and VI are OBA specimens. In Schleswig-Holstein, LN II flint daggers appear infrequently in comparison to earlier specimens. OBA specimens, in contrast, are often found in the investigation area, thus highlighting and demarcating it from adjacent regions (cf. Rassmann 1993, 321, Karte 43; Johannesen 2014, 57–59).

In Schleswig-Holstein three one-type hoards with flint daggers are known. These hoards consist of three (cat. no. 68), seven (cat. no. 55) and ten to twelve flint daggers (cat. no. 4) respectively. Whereas the daggers of the seven piece hoard are of unknown type, the other hoards contain early specimens of type I and II.

Four multi-type hoards with flint artefacts are known. Two of them consist of flint sickles. In one case a flint sickle is deposited with a zone-decorated beaker (cat. no. 23), an attribute that generally is connected with a western European Bell Beaker influence (Struve 1955, 53–57; Kühn 1979, 76–79; Vandkilde 2005 a, 19–22; Hübner 2005, 204–209). Another multi-type hoard with a flint sickle also contains a flint dagger of type V and a scraper (cat. no. 28). The third multi-type hoard consists of a flint dagger of type II or VI (even type IX according to Arnold [1978/79, 56]) and a hollow edged flint adze (cat. no. 9). The fourth hoard contains a flint axe and a type IX flint dagger (cat. no. 6).

Asymmetrical flint sickles of Kühn's (1979) type A are already present in the LN I period, but are also observable in OBA contexts. Symmetrical flint sickles of type B are considered to be somewhat younger, but they also occur in both LN and OBA contexts (1979, 64–67). Kühn's proposal is shared by Jensen, as he argues for a chronological development of sickles represented by the shift from asymmetrical

to symmetrical pieces (2001, 523). However, Kühn already pointed out a problem concerning chronological differentiation, as both types occur simultaneously over a long period (1979, 66; cf. Rassmann 1993, 31–32). Flint sickles of type A, which are considered to be older than type B, even occur in YBA contexts in northwestern Germany and the Netherlands (Goldhammer 2013, 16). Consequently, as Kühn recognized (1979, 67; c.f. Rassmann 1993, 32), the production of these artefacts did not cease after the introduction of bronze sickles. Interestingly, sickles of type B occur evenly distributed across Schleswig-Holstein, with a tendency towards increased frequency in the east, whereas type A sickles are restricted to the western part of the region (Kühn 1979, 64, Karte 15–16). As mentioned before, sickles of type A are known from northwestern Germany and the Netherlands, whereas they are lacking in northeastern Germany (Rassmann 1993, 29). In contrast, northeastern Germany possesses distinct local types that occur in strictly delimited geographic areas (ibid. 300–302, Karte 22–24). This suggests that the emergence of different types of flint sickles was not dependent on chronological, but rather on spatial conditions. Accordingly, it is not possible to concretely date single finds and one-type hoards only comprising of flint sickles without further information. This is the case for four find assemblages in the present study (cat. no. 11, 12, 13, 46). The majority of these finds derive from burial-related or burial-like contexts. Due to the close spatial proximity of the objects, they nevertheless must be considered depositions (Kühn 1979, 25). One of the aforementioned contexts consists of two objects and the other three assemblages consist of three objects which were found together. Such assemblages have not been found in sure burial contexts, supporting their assignment to the category “deposition”.

In Surendorf, a hoard containing 16 thick flint points was found. Kühn interprets such items as flint halberds. Although similar artefacts are known from the Early and Middle Neolithic, he suggests a LN date. He justifies this date by the fact that the pieces from Surendorf have a straight base and because they are shorter and thicker than earlier specimens. Comparable pieces have been found in LN and OBA contexts in Denmark (1979, 72–73). According to Ebbesen, in contrast, the points of Surendorf most likely are of type D, which he dates to the MN (1992, 114–116). Regardless, Ebbesen seems to accept Kühn’s interpretation, choosing not to argue for an alternate age (ibid. 103). For this reason, it is proposed to follow Kühn. This is also supported by the hoard Dargast on the island of Rügen, where a short flint point with a straight bases, two flint axes and a hollow edged flint chisel were found deposited together (Rassmann 1993, cat. no. 135). The chisel is known from other late YN and LN contexts (ibid. 17; Arnold 1978/79, 56; Hübner 2005, 365).

In the OBA, hoards with flint items are also known in Schleswig-Holstein and in adjacent regions (Kühn 1979, 25, catalogue; Rassmann 1993, 64–65; Vandkilde 1996, 280–284), but the number of such finds is generally declining (Vandkilde 1996, 286–287; Sarauw 2006a, 245–246).

A recent rescue excavation near Göhl in Ostholstein delivered three flint blades and two ceramic pots of the *Riesenbecher* type (Hartz/Müller 2017, 41; cat. no. 20). The objects were found close together in the filling of an eroded grave mound. The find circumstances indicate that the complex belongs together and perhaps represents a hoard. On the basis of the *Riesenbecher*, the assemblage dates to the latest phase of the YN or to the LN I (cf. Hübner 2005, 290–296; Beckermann 2015, 159). Flint blade hoards and depositions of ceramics in relation to burials are well known from several sites in

southern Scandinavia (Hübner 2005, 627–629), but the find from Göhl is unique (Hartz/Müller 2017, 39).

Many LN flint items in the investigation area derive from single find contexts. In particular, flint daggers, but also many sickles, occur as single finds (cf. Siemen 2009). Numerous studies have already proven that the majority of these single finds represent single piece depositions rather than unrecognized grave or settlement finds (Malmer 1962, 669; Karsten 1994, 49; Tilley 1996, 253; Lekberg 2002, 71).

3. Distributional patterns, contents and significance

3.1 Flint artefacts

In the previous section it was stressed that many single find flint items should be considered as intentional deposits. This context category yields the majority of all LN/OBA finds. According to Kühn (1979), without counting OBA flint daggers and those from hoard and grave contexts, 1,180 flint daggers of type I–Vb are single finds. However, this amount does not seem to be representative (see below). Furthermore, 106 flint sickles of type A and 289 specimens of type B are single finds. In contrast to flint daggers, sickles are generally not found in grave contexts. Because of this, Kühn proposes to consider all sickle finds as depositions (1979, 66–67). The regional differentiation in frequency of type A flint sickles has been emphasized above. To briefly summarize: they are restricted to the western part of the investigation area and furthermore occur in northwestern Germany and the Netherlands, but are lacking in northeastern Germany (ibid.; Rassmann 1993, 29; Goldhammer 2013, 16).

With a single exception (cat. no. 46), all flint sickle hoards were found on the North Frisian Islands (cat. no. 11, 12, 13). Both of the datable flint dagger hoards (cat. no. 4, 68), each containing early flint daggers of type I and II, are located in the southwestern part of the investigation area. While there may be some LN one-type hoards of hollow edged flint axes in the eastern section of Schleswig-Holstein, the difficulty of typologically distinguishing the axes from YN types makes their age uncertain. Therefore, they have not been mapped (cf. Arnold 1978/79, 56; Ebbesen 1982a, 145). Most of the 71 Danish LN flint axe hoards were deposited in the LN I period (Vandkilde 1996, 282) and, like flint sickle and flint dagger hoards, they occur regularly near the primary flint sources in northern Jutland and the southeastern Danish Islands. A slight difference can be recognized between the distribution of dagger hoards and sickle hoards with the first located almost solely in the areas directly surrounding the sources and the latter spread more widely (ibid.; Ebbesen 1982b, 73).

As visible in Figure 1, the one-type hoards are clustered in the north, whereas the multi-type hoards are located in the south. Due to the small number of finds it is not possible to determine if this distinction is of any significance. Two of the multi-type hoards consist of flint artefacts in combination with ceramics (cat. no. 20, 23). Both perhaps date to the late YN or, more possibly, the early LN. This chronological position might indicate a diachronic development of deposition strategies with deposits including pottery being a short-lived, early phenomenon. This suggestion is further supported by the LN I multi-type metal hoard from Hamburg (cat. no. 77), which also contains a ceramic pot, as well as the early hoard from Göhl (cat. no. 20). However, the inclusion of pottery is not known from any other early metal hoard in the investigation area or in adjacent regions (cf. Vandkilde 1996, 148). This form of deposition could thus conceivably represent a short-lived, independent, micro-regional tradition. Such hoards are

also not known in the preceding YN in Schleswig-Holstein. Another possibility is that these early LN hoards with ceramics might be connected with the well-known tradition of pottery depositions within burial contexts during the YN (Rostholm 1986, 310–314; Beran 1990, 21; Krautwurst 2002, 89–96; Hübner 2005, 291–292; Hage 2016, 151).

In Schleswig-Holstein LN hoards with flint axes are almost absent, whereas dozens have been found in adjacent Denmark (Vandkilde 1996, 282). This might reflect a lower level of research in the investigation area. As mentioned above, a limited number of hoards with hollow edged flint axes are known, but such assemblages are of an uncertain age (Arnold 1978/79, 56; Ebbesen 1982a, 145). Judging from the Danish data, flint axe hoards are quite frequent in LN I, whereas they appear much more infrequently in LN II and the beginning of the OBA. This coincides with the increasing presence of bronze axes in the LN II period (Vandkilde 1996, 262–266, 282).

According to Brandherm and Horn, two or three halberds, swords, or bronze or flint daggers often occur together in one-type hoards (2012, 102–109). While this is the case for many of the bronze artefacts, it only holds true for a small proportion of the known flint dagger hoards in northern Europe. The majority of flint dagger hoards are more diverse in their compositions. This is clearly shown by the LN one-type flint dagger hoards in the investigation area where only one of three known hoards is equipped with three specimens. In Denmark this diversity is even clearer, as flint dagger hoards with great numbers of specimens occur in the vicinity of the primary flint sources (Lomborg 1973, 61; Ebbesen 1982b, 73; Sarauw 2006a, 245–246). In particular, early hoards appear near territories where LN mining activities have been uncovered (Gayck 1999, 151; Sarauw 2006a, 219–230). Although this connection shall not be assessed in the present paper (cf. e.g. Sarauw 2006a; 2006b; 2007a; Müller 2015, 662), this relationship must be noted, as the few flint dagger hoards in the investigation area also might be related to secondary flint sources (cf. Krause-Kyora 2007, 39–51). The fact that the datable dagger hoards belong to the early LN fits with Danish observations. There, the majority of such assemblages were deposited in the LN I period as well (Lomborg 1973, 61–64; Vandkilde 1996, 286–287, fig. 296, 297). Not included in the catalogue of the present study are flint dagger hoards of OBA date, which in Schleswig-Holstein are comparably frequent (see below).

The outlined difference of flint dagger to metal dagger hoards suggests that a difference between metal and flint artefacts was present, a difference which is observable in other contexts as well (see below). Interestingly, flint sickle hoards, at least those in the investigation area, were deposited in accordance with the system proposed by Brandherm and Horn (2012, 102–109). But, as already pointed out, it is not possible to determine the age of the majority of these hoards.

In sum, the deposition of flint artefact hoards occurred regularly during the transition to the LN, in the LN and in the OBA, but a general decline over time is indicated in the available data from the investigation area and confirmed by Danish data. However, in Schleswig-Holstein, OBA flint daggers of type VI experience a novel high consumption rate (Rassmann 1993, 321, Karte 43).

Like flint sickles of type A, which are restricted to the western part of the investigation area, some scholars argue that the deposition of early flint daggers is also geographically restricted (Struve 1955, tab. 32; Kühn 1979, 42–45, 56, 87–88, Karte 3 and 20). Kühn claims that an eastern border marking the end of the distribution of early flint daggers exists, most obviously in Ostholstein. *“Am auffälligsten ist das Fehlen früher Dolche in Ostholstein, das [...] erst in der Obergrabzeit*

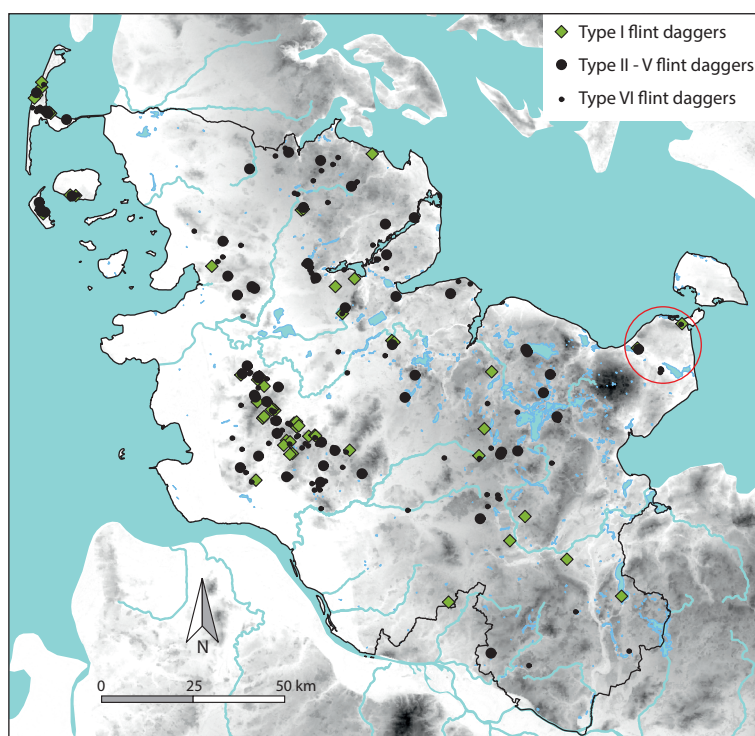


Fig.2. The distribution of flint daggers from burial contexts according to Kühn (1979) and Siemann (2003). It is clearly visible that the majority of the easternmost region does not participate in the custom of burying flint daggers at all. In contrast to Kühn's assumption (1979), this is not a chronological difference. It is rather a general difference in the treatment of certain objects, as all types of flint daggers occur infrequently in burials but regularly as single finds.

[late YN] von Angehörigen der Einzelgrabkultur in Besitz genommen wurde" (1979, 88). This suggestion often has been adopted by other scholars (cf. Strahl 1990, 248; Rassmann 1993, 16–29; Apel 2001, 291–303; Hübner 2005, 686), but is not actually supported by the material evidence. According to Kühn, early flint daggers of type I, especially of type Ib, occur frequently in the western part of Schleswig-Holstein, whereas they are much more infrequent in the eastern part. Kühn's assumption, according a chronological spatial shift from west to east, is valid only in the northeastern part of Schleswig-Holstein (district Schleswig-Flensburg in particular) if evaluating the contrast in the location of early flint daggers and late battle axes (1979, 87–88, Karte 20; cf. fig. 2 in contrast to fig. 8). But, in general, it does not fit with the situation in Ostholstein where Kühn argues that the contrast ought to be most significant.²

A close look into the available data clearly shows that Kühn's proposal is not valid. The single finds in his catalogue are not representative of all of Schleswig-Holstein. This is suggested by the results of Karnatz's research (1987) where he was able to demonstrate that within his investigation area (the southern part of the former district Oldenburg, in the middle of the present-day district Ostholstein) many more flint daggers have been found than Kühn listed. Furthermore, the proportion of early and late flint daggers is more balanced than Kühn stated (Karnatz 1987, 273–274). On the other hand, Karnatz confirmed that burials equipped with flint daggers are rare in Ostholstein during both periods LN I and LN II (ibid. 277). Further investigations to clarify this uncertainty are urgently needed.³ As Ostholstein has such great numbers of single find early flint daggers (and also early YN battle axes appear regularly, a fact rejected by Kühn as well; see discussion) and just small amounts of buried daggers from all periods, the difference is not the chronological one for which Kühn argued. Rather, there are distinct regional differences in the treatment and deposition of status items. While there is a clear contrast between west and east, as Dithmarschen has many buried flint daggers – early as well as late specimens – it is not chronologically dependent.

- 2 Counting single find flint daggers according to Kühn's catalogue and excluding OBA type VI flint daggers, Ostholstein contains a total of 122 flint daggers (17 type I, 8 type II, 29 type III, 19 type IV and 49 type V), whereas Dithmarschen in southwestern Schleswig-Holstein contains a total of 147 flint daggers (78 type I, 12 type II, 39 type III, 7 type IV and 11 type V). According to Kühn's catalogue, early daggers (type I daggers in particular) are more frequent in the west than in the east, while the deposition of later daggers is the opposite. In both times, thus, an ambivalent situation is indicated. However, Kühn's catalogue is not representative.
- 3 It has not been the aim of the present paper to reappraise all the LN flint daggers of Schleswig-Holstein. Only the catalogues of Kühn (1979) and Siemann (2003) have been used to provide an impression. Recent excavations might influence the propositions stated in this paper (cf. e.g. Brozio 2016; Dibbern 2016). However, Karnatz's observations in the district Ostholstein have been verified by a very recent master thesis (Schwarck 2018).

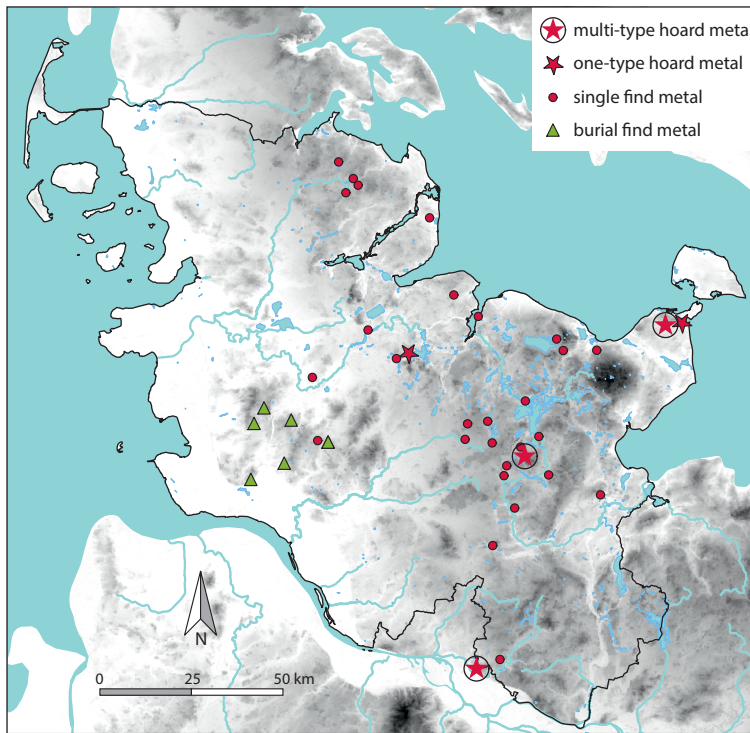


Fig. 3. The distribution of LN II metal objects only, excluding LN I and possible OBA specimens.

Observations in adjacent regions agree with this spatial focus of differentiation. In northeastern Germany, the district Nordwest-Mecklenburg, directly next to Ostholstein, exhibits a small number of LN burials equipped with flint daggers and metal objects (Rassmann 1993, 315–317, Karte 37–39; cf. Fig. 4 for metal objects only). On the contrary, the Elbe-Weser Triangle near Dithmarschen but on the opposite shore of the Elbe River has many burial contexts with early as well as late flint daggers (Strahl 1990, Karte 51–65).

It is notable that some buried LN flint daggers do appear in Ostholstein, although in very low numbers. As Fig. 2 demonstrates, these contexts occur in the direct vicinity of the *Oldenburger Graben* and the spit of land near Fehmarn (red circle). This point will be of importance later on, as similar patterns also occur in the YN (see below).

3.2 Metal artefacts

An examination of the distribution of metal artefacts (presented in Fig. 1 and 3) reveals conspicuous spatial patterning. The multi and single object depositions are almost exclusively concentrated in the east, the hilly Young Drift Morainic landscape near the Baltic coast. Furthermore, all multi-type hoards are located in the southeastern part of this zone. A small number of single finds occur in the western part of the investigation area. Grave finds, however, are restricted to the flatter Old Drift Morainic landscape in the west (cf. Reiß 2005, 27–29; LLUR 2012, 70–79, for aspects concerning the landscape). Such contexts do not occur in the eastern section at all. Within the western zone, some burials appear in the north while the majority are concentrated in the south. Although this picture is clear in both distribution maps, it is particularly visible in Fig. 3 where the finds and find assemblages from the LN I and transition to the OBA are excluded.

In the following, some significances concerning the distribution of LN metal objects will be emphasized and compared to adjacent regions. During this comparison with a geographically larger frame, possible LN artefacts (fig. 1) will be included.

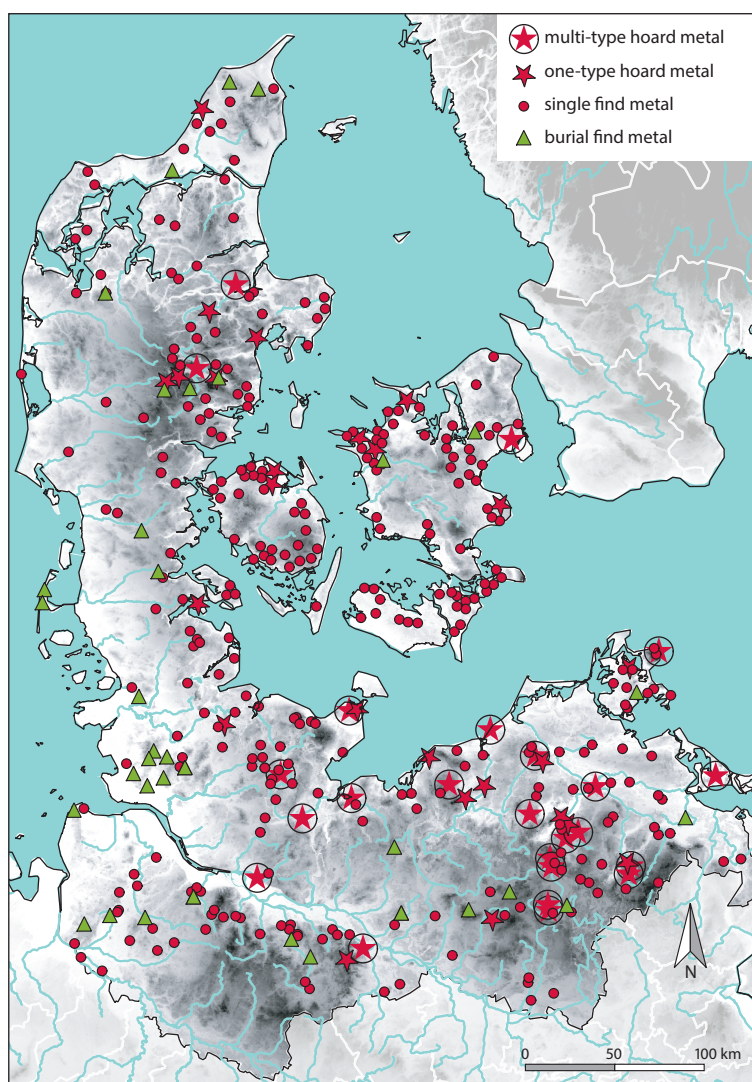


Fig.4. The distribution of metal objects primarily dated to LN II. Denmark has been mapped on the basis of Vandkilde (1996 – LN I material is not included), Bremen and the northeastern part of Niedersachsen on the basis of Laux (2000 a; 2000 b; 2017) and Strahl (1990), and Mecklenburg-Vorpommern and the northwestern part of Brandenburg on the basis of Rassmann (1993).

52 LN or possible LN contexts are currently known in Schleswig-Holstein, consisting of – depending on the method of counting – 69 metal artefacts. As this paper also includes the hoard of Hamburg-Boberg (cat. no. 77), 52 complexes consisting of 80 metal artefacts will be discussed. Of these 80 artefacts, 37 are single finds, four form two one-type hoards, 28 represent four multi-type hoards, and 13 artefacts are associated with eleven burials.

The majority of individually deposited items and multi-object hoards are concentrated in the eastern part of Schleswig-Holstein. In Denmark, as demonstrated by Figure 4, similar patterns are present. Many metal objects were also deposited along the Baltic coast of northeastern Germany. A connection to Scania can be drawn as the multi-type hoards there appear along the coast as well (Willroth 1985, 45–47; Vandkilde 2017, 154). This similarity suggests the presence of a general pattern of distribution across the Baltic Sea (cf. Vandkilde 1996, 210; 2017, 156). Furthermore, the occurrence of several find spots farther inland demonstrates the possibility for internal, inland exchange. It should, however, be noted that the distribution maps presented here may be inaccurate as metal work of OBA period Ia is included in northeastern and northwestern Germany based on the catalogues of Rassmann (1993) and Laux (2000 a; 2000 b; 2017), where many contexts are merely more generally identified as belonging to the EBA (cf. chronology above).

As Figure 4 shows, hoards are rare in the western part of northern Germany, whereas they occur frequently in the eastern part. North-eastern Germany, with the most dense accumulation of early metal objects, is strongly affected by the Únětice core to the south. In fact, following Breddin, this region represents the northernmost border of the Únětice Culture (2007, 291–293).⁴ Two observations in connection with hoards and single finds are remarkable. The first is their linear arrangement along the Elbe River. Just south of modern-day Hamburg, this single line splits with one scattered line proceeding to the west and the other northwards to Schleswig-Holstein. The other observation is the almost absolute lack of find complexes in the inland portion of western Mecklenburg-Vorpommern. Interestingly, farther north within the eastern part of this Federal State, single finds and hoards appear in great numbers near the Baltic coast, whereas they are missing in Baltic regions of eastern Mecklenburg-Vorpommern. The complexes near the Baltic in western Mecklenburg-Vorpommern fit geographically with the multi-type hoards of Schleswig-Holstein. Together, they are located around a bay called the Mecklenburger Bucht.

By examining Figures 3 and 4, the strict geographical separation of grave finds on the one hand and depositions on the other becomes conspicuous. Extremely clearly in the small region of Schleswig-Holstein, such a separation is slightly present in a much larger geographical frame as well. Possible reasons for this phenomenon will be discussed in more depth below. Here, some significances in comparison to adjacent regions, Denmark in particular, will be emphasized.

As table 1 demonstrates, the area of today Schleswig-Holstein and Hamburg consists more multi-type hoards as Denmark does (or the same number, if hoard cat. no. 73 will be ignored, as it has been

Table 1. The distribution of LN II metal objects from different contexts in Denmark and Schleswig-Holstein

Denmark	burial	single find	one-type hoard	multi-type hoard
Axes and chisels	7	158	28	14
daggers	1	3	0	1
halberds	0	20	0	0
rings	6	5	5	15
other	0	0	0	5
items (n=268)	14	168	33	35
contexts (n=195)	11	168	13	3
items %	5.22 %	62.69 %	12.31 %	13.06 %
contexts %	5.64 %	86.15 %	6.67 %	1.54 %

Schleswig-Holstein	burial	single find	one-type hoard	multi-type hoard
Axes and chisels	8	45	2	4
daggers	1	0	0	1
halberds	0	1	2	0
rings	3	1	0	20
other	1	0	0	4
items (n=92)	13	47	4	28
contexts (n=64)	11	47	2	4
items %	14.13 %	51.08 %	4.35 %	30.43 %
contexts %	17.19 %	73.44 %	3.16 %	6.25 %

4 Note that, archaeologically, cultures should never be delimited. This is because different regions are influenced from diverse directions in variable intensities, both of which may change over time. The drawing of clear borders is thus misleading (cf. Furholt 2009, 20–26).

dated to the transition to OBA). Single finds and one-type hoards in contrast form a comparable smaller proportion in the investigation area. The number of burials is approximately the same. In relation to the absolute number of metal objects in both areas, however, buried metal items are much more common in Schleswig-Holstein.

Vandkilde did not recognize the significance connected to metal objects from burial contexts. She mentions two characteristics concerning the few LN burials which contain metal items (1996, 209–210, 284–289):

- They are located in the vicinity of regions rich in metal hoard depositions.
- They consist primarily of small, personal ornaments like arm rings or *Noppenringe*. These items serve to connect burials to multi-object hoards as they are artefacts occurring in both contexts.

It is true that the Danish LN I burials with metal objects are located in areas with concentrations of metal artefact hoards (ibid. 189). The second point also fits with the burial situation in the LN I period. The accompanying metal objects are indeed small adornments and are known from some contemporaneous hoards.

However, during the LN II the situation changed; axes and daggers were introduced to grave contexts. Just three of the eleven Danish LN II burials with metal contain adornments. These three burials again occur in regions with concentrations of hoarded metal objects (Vandkilde 1996, 205). The majority of the LN II graves with metal, though, appear apart from regions with those concentrations. These graves contain flanged axes and one burial is even associated with a bronze dagger. Only two of the graves with axes appear in eastern central Jutland where metal hoards were also densely deposited (Vrold and Skanderborg County; cf. table 2). This demonstrates that Vandkilde's observations regarding buried metal items are valid for the period LN I but not so for LN II.

Table 2. Danish LN burials with metal artefacts according to Vandkilde (1996)

Location	context	artefact	date	Cat. No. Vandkilde
Greve	flat grave	small solid arm ring	LN I	88
Sønder-Bjerger	collective cist	small solid arm ring	LN I	90
Allestrup	flat grave	copper fragment	LN I	89
Blære	cist grave SGC type	spiral ring	LN I	87
Bjergymark	megalithic tomb	roll-headed pin	LN I (II?)	91
Hvisselhøj	megalithic tomb	dagger blade	LN II	600
Sæby	earthen grave	two noppenrings	LN II	611
Gerderup	cist grave	one or two noppenrings	LN II	612
Tvillingegård	earthen grave	two gold noppenrings	LN II	609
Ørnbølle	barrow	axe A5	LN II	234
Lunderup	barrow	axe A5	LN II	236
Vrold	barrow	axe A5	LN II	240
Sevel parish	barrow	axe A5	LN II	242
Tolne parish	barrow	axe A11	LN II	269
? (Skanderborg County)	grave	axe A4 or A5	LN II	?
? (Haderslev County)	grave	axe A4 or A5	LN II	?

"Apart perhaps from the small metal object itself, there is nothing exceptional or conspicuous about the burials containing metal. Thus, the burial goods of LN II can be described as indistinct and anonymous, without signs of wealth and status differentiations [this is also meant in regard to the decline of flint daggers in LN II]. [...] only fourteen [LN II] metal objects are buried with the dead. This would probably imply that metal objects were still the property of the local group, whereas personal possessions of metal were mainly restricted to small and slight adornments, first and foremost Noppenringe of copper/bronze", Vandkilde 1996, 284.

This quote clearly demonstrates that Vandkilde did neither notice the difference between LN I and LN II burial contents nor the spatial significance of the LN II graves. Admittedly, without knowing about the significance present in Schleswig-Holstein, the conspicuity of the Danish burials is hardly to comprehend. But with this knowledge in mind, the few Danish burials with metal axes and daggers show similar significances in their distribution. Without any exception they all occur in Jutland and not on the islands. This point will be of importance later on, as burials with metal objects are restricted to the western part of the investigation area as well.

Also in southern Sweden, the majority of LN metal artefacts stem from single find or hoard contexts. They occur predominantly in the southernmost part of Scania (Willroth 1985, 46–47; Vandkilde 2017, 154). In contrast, a few burial finds appear northwards, in Västergötland and Bohuslän, apart from areas with concentrations of hoards and single finds. Those graves primarily consist of rings, one is attributed with a flanged axe (Willroth 1985, 46–47).

Table 3. Northern German burials with metal objects. Data from Strahl (1990), Rassmann (1993) and Laux (2000a; 2000b). NS = Niedersachsen (northwestern Germany); MV = Mecklenburg-Vorpommern (northeastern Germany)

Location	Items	Literature	Location	Items	Literature
Beckdorf (NS)	dagger	Laux 2000b	Göhlen (MV)	flanged axe	Rassmann 1993, 216, cat. 3618
Deutsch Evern (NS)	ring	Laux 2000b	Marnitz (MV)	flanged axe	Rassmann 1993, 221, cat. 3707
Garlstedt (NS)	fragment; flint arrowheads	Strahl 1990, cat. 430	Putbus (MV)	dagger	Rassmann 1993, 223, cat. 3753
Holte-Spangen (NS)	chisel	Laux 2000a, 68, no. 236	Retzow (MV)	flanged axe	Rassmann 1993, 224, cat. 3766
Ostereistedt (NS)	fragment; flint dagger	Laux 2000b/Kühn 1979, 56	Schwerin-Neumühle (MV)	flanged axe	Rassmann 1993, 225, cat. 3788
Secklendorf (NS)	flanged axe	Laux 2000a, 31, no. 29	Twietfort (Ganzlin) (MV)	flanged axe <i>ösenhalsringe</i> ; spiral; diverse rings and fragments	Rassmann 1993, 226, cat. 3813
Vollersode (NS)	ring; flint arrowhead	Strahl 1990, cat. 461B	Wietstock (MV)	dagger	Rassmann 1993, 228, cat. 3837

In adjacent regions to the south the picture is roughly the same, as table 3 demonstrates. Usually, these graves contain one object, often a ring, a flanged axe or a dagger. Solely the grave of Twietfort is attributed with more than one metal object, but this is an uncertain context (Rassmann 1993, 226). Also in Schleswig-Holstein, only one grave is associated with more than one metal item (cat. no. 1) and the unity of this context is uncertain as well. The distribution of LN burials with metal objects in northern Germany does not show clear significances as it does in the investigation area. The burials of northwestern Germany follow the same distributional pattern as the single finds. They appear along the Elbe River and across the inland

between the Elbe and Weser River. Similar to the Cimbrian Peninsula, northeastern German grave finds tend to appear demarcated from areas with many hoards. A little overlap of both traditions is visible in the central southern part, but the majority of the burials do occur separately. In all regions together, just three burials consist of chisels. Though those burials might date to the very beginning of the OBA, their spatial connection to the North Sea is notable.

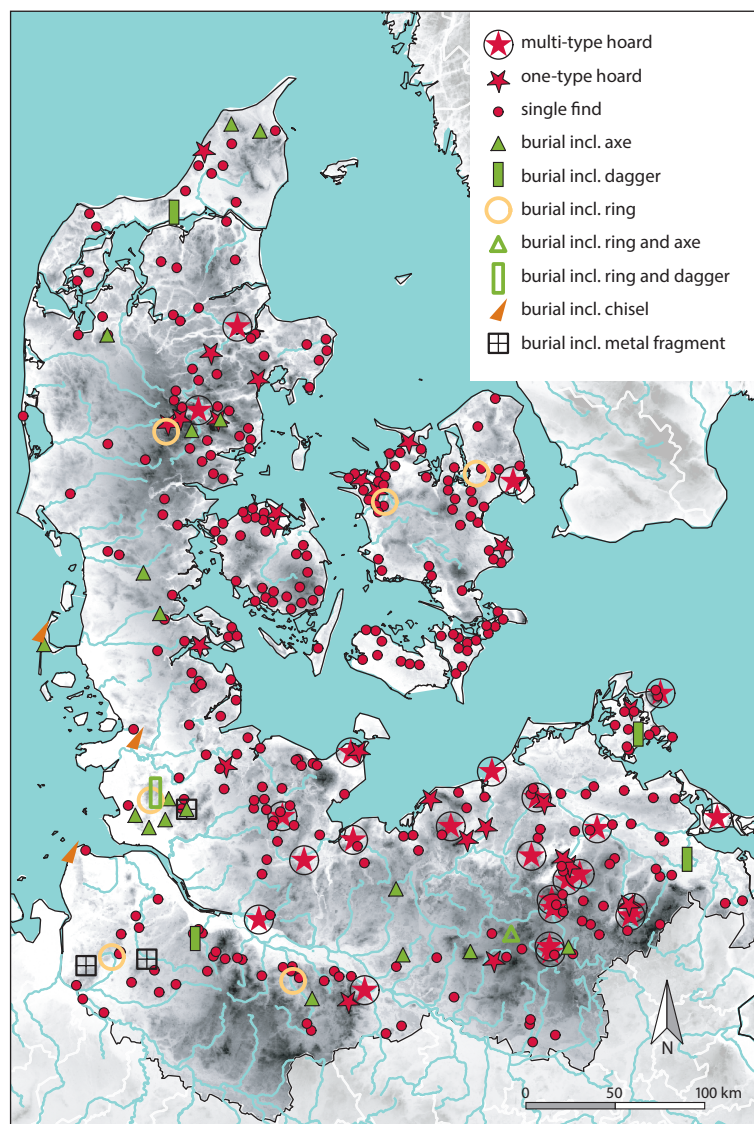


Fig.5. Distribution of different grave goods. As in Schleswig-Holstein, the LN II contexts in Jutland also indicate a separation into a western and eastern part (cf. fig. 7). The western part contains a comparably small amount of hoarded objects, and several burials with flanged axes as well as one with a dagger. The eastern part consists of many hoards and, compared to the western part, a smaller number of burials with metal objects. Furthermore, these burials differ from the western ones, as the eastern burials only contain small adornments.

In summary, several large-scale spatial patterns in the deposition of metal artefacts are visible. In LN Schleswig-Holstein, the spatial patterning of metal objects deposited in burials and the landscape is very striking. Similar patterns are observable in adjacent regions as well, though less markedly. In northeastern Germany a separation of LN metal burials and hoard deposits is present. In Sweden and Denmark in contrast, a detailed look at the specific contents and locations of burials with metal objects has shown that there is a strong tendency for graves containing metal objects to appear outside of areas where metal has been deposited as hoards in the landscape. A similar situation has been recognized for flint daggers and YN battle axes, at least in Schleswig-Holstein. With respect to these artefacts, the contrast between southwestern Schleswig-Holstein and its easternmost part is especially significant. Accordingly, there are spatial

differences in the treatment of the same classes of artefacts across a large timespan. The meaning and origin of these differences is discussed below.

4. Discussion

4.1 Patterns of exchange

Above, the contents of the hoard and single find contexts as well as their spatial distribution has been described. In general, in the southern Scandinavian LN II there seems to be a relation between the deposition of metal artefacts and distance to the Baltic, with the most artefacts appearing along the coast. In Schleswig-Holstein, however, a significant number of these objects were found inland. Many scholars (e.g. Thrane 1975) attributed an important role in supplying southern Scandinavia with metal during the Bronze Age to the area of modern Schleswig-Holstein. On the other hand, many scholars emphasize the importance of the Baltic Sea for the transport of material and immaterial culture in different times (Lomborg 1973; Rassmann 1993; Vandkilde 1996; 2017; Karlenby 2002). Here, to discuss the role of Schleswig-Holstein in LN distribution systems, some thoughts about how raw material was brought to Scandinavia will be presented. On the basis of this, the possibility of the existence of a fixed value system will be discussed as well as its effect on the local material culture.

Previously, the presence of early fixed value systems in this region have been based on ösenringe. Although there is evidence that this artefact began to circulate in central Europe during the YN (there Endneolithikum), they first become frequent during the EBA (Maran 2008, 175–176). In the EBA, ösenringe were manufactured in the eastern Alps. Their standardized form and weight and the occurrence of large one-type hoards in southern Germany, Bohemia, and eastern Austria in particular led to the idea that these items were products meant for exchange (Vandkilde 2005 b, 264, for an overview of the research history; Falkenstein 2017, 13). In recent research, ösenringe are considered to represent standardized ingots, possibly forming some kind of established value system, though Vandkilde emphasizes that one object may have different meanings in different contexts, regions, and stages of its life cycle (2005 b, 264–267). According to Pernicka et al., the use of ösenringkupfer (specific copper signature) from the Mitterberg region (Austria) began to spread in the 19. /18. Century BC (2016, 25). The earlier (LN II) copper in southern Scandinavia derived, according to Vandkilde, primarily from the Harz and Erz-Gebirge regions in central Germany. Then, in the beginning of the OBA, objects made of raw material from the eastern Alps regions became more common in southern Scandinavia (1996, 299).⁵ A local southern Scandinavian production of metal objects is implied by the fact that while ösenringkupfer is recognized in multiple objects, almost no ösenringe are known. This clearly points to a local production with a preference for the consumption of only a limited spectrum of metal artefacts (Vandkilde 1996, 216, 263–264, 300; 2005 b, 275–276). This narrow spectrum resembles that of the central German Únětice Culture. There, ösenringe appear more frequently than in southern Scandinavia, but not as often as in adjacent regions to the south (ibid. 273–275).

The question is, then, does the available data give an indication of the existence of a fixed value system in LN southern Scandinavia? As LN flanged axes, which form the major part of early metal objects in southern Scandinavia, are very dissimilar in shape, Vandkilde

5 Ling et al. (2014) claim that southern Scandinavia was integrated in a wide distribution system during the Bronze Age and was supplied with copper from very different regions including Spain, Sardinia, the Alps and Cyprus (2014, 127). Pernicka et al. (2016) do not share this interpretation. They state that the copper from the early OBA (Period I–II) predominantly derives from the eastern Alps region (2016, 39–41).

answers negatively. She claims that it is not before the onset of the OBA that axes are shaped similarly enough to demonstrate a standardization (ibid. 265; cf. Karlenby 2002, 84, fig. 18). However, the dissimilarity of the early axes reflects local character, as they have been remodeled in local contexts (Vandkilde 1996, 264). Accordingly, accepting locally manufactured items as evidence of a lack of standardization does not withstand critical review, as standardized forms can be transformed by local demands. In contrast to Vandkilde, Karlenby demonstrates implied standardization in the LN II period, exemplified by the hoard of Gallemose (cf. Vandkilde 1996, cat. no. 175; Karlenby 2002, 81, 86). Following Karlenby, this hoard consists of six weight groups which he tries to compare with the Syrian weight system of the Mediterranean Bronze Age (ibid. 86, fig. 19). Axes of northwestern Germany are even more standardized than southern Scandinavian specimens (ibid. 81). This argument, however, is also problematic. The implied standardized system present in the Gallemose hoard is not very striking. Karlenby tries to explain this as a result of local re-smelting and use of the ingots (ibid. 87). While the weight system he shows for the northwest German axes seems valid (ibid. fig. 17, 18), he includes early OBA axes. As Vandkilde pointed out, these axes are much more standardized than their earlier counterparts (1996, 265; cf. Falkenstein 2017, 13). Furthermore, his arguments are based on just one hoard; his conclusions thus should not be extended to cover the entire southern Scandinavian LN. Accordingly, his study should be seen as an intriguing indication that a weight system may have evolved during the LN, although it was far from being strictly standardized. At this point it is necessary to stress that strict standardization is not absolutely necessary for a value system which is not gain-oriented (see below).

Whether or not Karlenby's hypothesis holds true, scholars often tend to connect weight systems with a pre-monetary (*prämonetäres*) system (cf. Lenerz-de Wilde 2002). This view distinguishes between two extremes: A gain-oriented, developed exchange system on the one hand and an undeveloped system on the other. There is no reason, however, why intermediate systems cannot exist. The LN exchange system is likely one such case. Sommerfeld argues that the dissimilarity in shape of EBA axes contradicts the classical view of a pre-monetary system, where one may expect a balance between the value of the given and the gotten (1994, 91). However, objects known from central German EBA hoards are similar enough to represent some kind of fixed value (ibid.; cf. Vandkilde 1996, 302) and early flanged axes of Salez type, which mainly are distributed in modern day Switzerland and southwestern Germany, are even more similar in shape (Nielsen 2016, 11). Such axes with more or less fixed values were evidently brought into LN southern Scandinavia (Vandkilde 1996, 68; Nielsen 2016, 11), where they were quite often reshaped in accordance to the local demands (Vandkilde 1996, 263–264, 300). Accordingly, southern Scandinavia very well might have been incorporated in a system using more or less fixed values already in the LN, although the following consumption concealed it. However, it does not mean the Scandinavian LN society strived to get as much profit as possible out of their exchange, as they would have in “trade” in the modern sense of that term. This view in a way follows Karlenby's suggestion (2002, 85). Below, possible routes of exchange will be discussed based on the spatial distribution of these axes.

For many scholars, the southern Baltic coast area is of great importance for the distribution of metal towards the north. This is assumed by the fact that concentrations of metal artefacts and the prominent multi-type hoards all are located in the direct vicinity of the Baltic

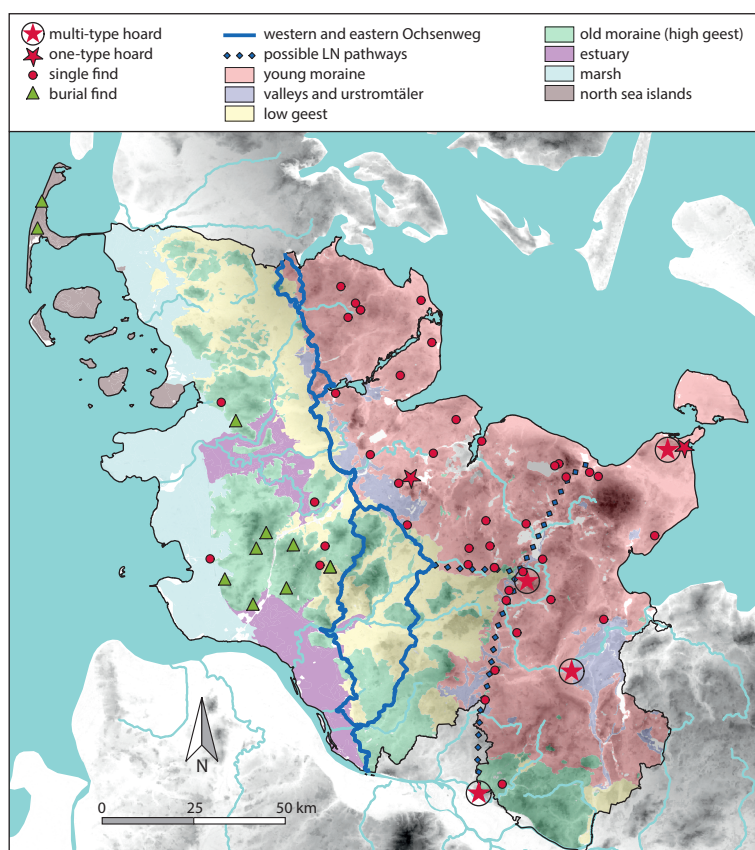


Fig.6. The relation between LN metal work, waterways, geomorphological units and, the *Ochsenweg* as it is known from historical times. For the LN, a similar pathway might have existed. The possible LN pathway on the figure is argued for on the basis of the distribution of metal finds.

(Vandkilde 1988, 132; 1996, 299; 2017, 145–151; Rassmann 2000, 18–22).⁶ As an example, the outstanding hoard Pile located at the Øresund strait in Scania can be mentioned. It consists of more than 30 local and foreign pieces, thereby resembling the Únětician phenomenon of *Übersstattung* (Vandkilde 2005 b, 276; 2017, 55).

The concentration of multi-type hoards in the southeastern part of the investigation area is striking. Their occurrence there can be linked to their proximity to northeastern Germany, an area that is labelled as being the northernmost offshoot of the Únětice Culture (cf. Breddin 2007, 291–293). Unlike the multi-type hoards, the majority of single finds appear nearby to the Baltic. In comparison to Denmark, single finds and, especially, one-type hoards are slightly less common in the investigation area. As the spectrum of metal artefacts in Denmark resembles that produced by central European customs, those areas might have been connected directly across the Baltic (cf. Vandkilde 1996, 210, 298). This is furthermore suggested by the location and components of the multi-object hoards. The majority, especially those in Scania, are directly next to the Baltic (Vandkilde 2017, 154). Furthermore, more foreign and special objects are found in the Danish and Swedish multi-object hoards than in their single finds. Moreover, as they often consist of broken artefacts, Vandkilde argues that the place of deposition perhaps was the place of import and (re-)casting as well (2017, 145–150, 169–172). This pattern, however, does not completely explain the lack of finds in western Denmark. It is possible, even likely, that different deposition strategies that did not highlight the role of metal artefacts in this region might have been more prevalent, thus hiding potential networks.

Here, the aim is not to contradict the importance of the Baltic in connecting southern Scandinavia and central Europe, but to point to the occurrence of numerous finds in Schleswig-Holstein demonstrating that this in-between region was not avoided. An in-

⁶ Note that we are dealing with the LN II period. In LN I, southern Scandinavia evidently had contact to western European Beaker Cultures (Hübner 2005, 205–209, 658–660; Vandkilde 2005 a, 19–22; Sarauw 2007 a, 39; Drenth 2015, 86–87). In Schleswig-Holstein, the LN I is poorly represented (see above).

land exchange may also have taken place. The distribution maps, Figures 3–6, show concentrations of single finds along two lines. The line running west-east is only faintly visible whereas the other is more obvious and oriented north-south. The latter follows the geomorphological border between the Young and Old Drift Morainic landscapes in Schleswig-Holstein. Of course, the occurrence of objects in linear arrangements does not directly prove the existence of an exchange route. The frequent appearance of finds in the eastern part of the Federal State might be influenced by the large impact of its importance to modern infrastructure (cf. Endrigkeit 2010, 42). However, prehistoric barrows in northern Europe often are arranged in lines and it has been convincingly demonstrated that these lines mark prehistoric routes (Bourgeois 2013, 182–193; Holst/Rasmussen 2013, 107; Dibbern 2016, 170). The presence of the postulated route across the Cimbrian Peninsula, the so-called *Ochsenweg* or *Hedevej*, is also supported by several bordering Bronze Age grave mounds (Carnap-Bornheim 2007, 14; Endrigkeit 2010, 42, 99). Regardless of the interpretation of depositions, these finds very strikingly coincide with the location of proposed routes (cf. fig.6). By the end of the 1950s, von Brunn (1959) had already noted that hoards consisting of *ösenringe* often appear close to rivers; more recent distribution maps confirm that observation (Vandkilde 2005 b, 269). Above, *Ösenringe* were presented in relation to exchange systems and rivers would have been very well suited for such prehistoric exchange (Vandkilde 2017, 145). The potential meaning of rivers is indicated by Figure 6, as almost all single finds and hoards were found alongside fresh water. Accordingly, a connection between the distribution of depositions and possible prehistoric routes is demonstrated, although other, unknown factors could also have influenced their placement. At least indirectly, this connection supports the existence of prehistoric ways.

The core areas of the EBA are located in Bohemia, Moravia, Silesia, and southwestern Slovakia as well as in central Germany in the federal states Sachsen, Thüringen and in particular Sachsen-Anhalt, where the *Mittelelbe-Saale-Gebiet* is outstanding (Ernée et al. 2009, 356; Falkenstein 2017, 13). Expanding on the network presented in the previous paragraph, the concentration around the *Mecklenburger Bucht* and the concentration along the Elbe River point to two possible exchange routes: one across the Baltic and one across land. Interestingly, the Elbe River connects an Únětice core area directly with northwestern Germany. If we go to the beginnings of the linear alignment of depositions south of the Elbe River and follow it northwards, the route seems to split south of Hamburg and connect to the aforementioned line in Schleswig-Holstein between the two geomorphologic zones. The suggested inland route, which perhaps supplied southern Scandinavia with metal, thus becomes more evident.

In summary, contact during the LN was not carried out by sea travelling only. The occurrence of LN metal objects on the island of Bornholm far out in the Baltic (cf. Vandkilde 1996, 209, fig. 216) and the knowledge of ships, as exemplified by early OBA Scandinavian rock art (Goldhahn/Ling 2013, 276), show that the seafaring did take place. But, it is not known to which extent such shipping routes were used. In addition to the exchange throughout the Baltic, transport of goods and ideas might very well have been carried out by land along rivers and other natural pathways like the geomorphologic boundary zone in the investigation area, making Schleswig-Holstein a transmitting zone. In the beginning of the OBA, inland contacts become even clearer, as Denmark and Schleswig-Holstein are separated in two zones with differently oriented contacts (Vandkilde 1996, 290; Laux 2000 b, 18; Bergerbrandt 2009, 119–120).

4.2 Thoughts about the LN material culture

Vandkilde states that items from burials are connected to the sphere of the individual whereas depositions are rather representative of collective efforts (1996, 276; cf. Renfrew 1974; see below). Despite critical opinions (cf. Karlenby 2002, 107; Brück/Fontijn 2013, 197–215), this assumption will be followed in the present section. Furthermore, Vandkilde states that axes represent tools satisfying communal needs, whereas daggers are the property of individuals and display rank and status (1996, 266–267; cf. Kühn 1979, 93; Apel 2001, 336; Sarauw 2006a, 259; Johannesen 2014, 60). This view, in contrast, will not be followed here, as the interpretation is too concentrated on local context. With the beginning of the LN, and under the influence of western and central Europe, southern Scandinavia participated in the dagger idea (Sarauw 2006a, 213; 2007b, 65). Conspicuously, southern Scandinavian daggers were made predominantly of flint, although a local metal dagger production might have been handled, as a few known pieces demonstrate (Vandkilde 1996, 264). One question that arises is why daggers were made of flint whereas axes were made of metal. Vandkilde argues that a collective control of the rare resource of metal is ensured by producing axes, which in her opinion are possessions of a group. This collective control would not be ensured if individual possessions like daggers were also made of bronze (*ibid.* 285–288; similar interpretation for preceding YN in central and western Germany: Maran 2008, 177–178). This argument is supported by the fact that LN metal daggers are very rare in contrast to flanged axes (*ibid.*).

Indeed, flanged axes are the most common LN metal objects. However, searching for an explanation for this observation by examining only local conditions is, due to similar observations in central Germany, not adequate. Bronze daggers also appear infrequently compared to rings and flanged axes in central Germany, an area which strongly affected southern Scandinavia during the LN (Sommerfeld 1994, 90; Lorenz 2010, 105).⁷ Based on their rarity, Sommerfeld terms EBA daggers as single pieces with individual character (1994, 90). According to Meller, during the EBA of central Germany 1174 axes and just 36 halberds and 20 daggers were deposited (2013, 516; 2015, 250). Thus, the relation between daggers and axes is about 1:59 and the relation of halberds and axes is 1:33.⁸ According to table 1, and ignoring artefacts from burial contexts, the relation in Schleswig-Holstein is 1:50 for daggers (or 1:25 if the missing dagger from Klein Wesenberg [cat. no. 73] is included) and 1:17 for halberds. In Denmark during LN II the relation is 1:50 for daggers (1:28 in OBA period Ia) and 1:10 for halberds.

The similar proportion of metal daggers to axes in all examined regions indicates that the reason for the rare deposition of metal daggers is a feature that is shared across the entire area of central and northern Europe. In contrast to metal daggers, flint daggers were deposited quite frequently in southern Scandinavia. This already suggests that bronze and flint daggers must be considered as two independent phenomena and, accordingly, flint daggers should not be treated as a substitution for bronze daggers (cf. Friemann 2012, 451). The rarity of deposited metal daggers in southern Scandinavia reflects behaviors which also are observable in, and presumably determined by, central Europe. Thus, the huge numbers of flint daggers in northern Germany and southern Scandinavia do not represent a counter reaction to bronze daggers in particular, rather they are a local variation on the dagger idea as a whole.⁹

This line of argumentation is further supported by a closer examination of distinct aspects of LN flint daggers and other items whose

- 7 Although, surprisingly, in a particular region of northeastern Germany (eastern part of Mecklenburg-Schwerin, between the great lakes *Müritz* and *Kummerower See*) there is a higher proportion of deposited daggers than the Únětice core area (Rassmann 1993, 79, Karten 26, 29; 2000, 25).
- 8 Mellers suggests that these relations are an expression of a military organization, in which warriors with axes are the predominant and “normal” warrior, whereas halberds and daggers indicate a higher military rank (2015, 250).
- 9 Nordic flint daggers do appear in central Germany, but they are considered to be imports (Apel 2001, 278).

primary function was displaying certain social roles (cf. Kühn 1979, 23; Vandkilde 1996, 279–281; Hübner 2005, 605–608, 640–647; Heyd 2007, 358–362; Sarauw 2007 b, 79–82; Furholt 2014, 70). Zápotocký noted that MN battle axes in northern Europe are shaped very elaborately (1992, 195). In the YN, southern Scandinavia has qualitatively better (according to their shape) and quantitatively more battle axes in burial contexts than central Germany (Beran 1999, 26–30; Hübner 2005, 65, 152–153; Furholt 2014, 72–74). Similarly, LN flint daggers, which succeed YN battle axes, appear in vast quantities and are, partially, of very good quality (Lomborg 1973, fig. 25–28; Kühn 1979, 62–63; Rassmann 1993, 26–29; Sarauw 2006 a, 246). The special status of rank-displaying artefacts in southern Scandinavia which leads to a high production of flint daggers thus roots in local preconditions.

Many scholars emphasize that the similarity of central European EBA bronze daggers and LN II type IV flint daggers is very striking. This has the effect that flint daggers often are considered as representing direct copies of metal daggers (Lomborg 1973, 87; Kühn 1979, 48–49, 60–61; Apel 2001, 249–251). A closer look at the shape of these daggers reveals, however, that this is not true. Crucial differences from metal daggers are detectable. For example, some stylistical features resemble attributes known from earlier flint axes (Friemann 2012, 456). Moreover, southern Scandinavian and northern German OBA burials sometimes contain both a bronze dagger/sword as well as a flint dagger (Siemann 2003, 128). This demonstrates that flint daggers do not substitute bronze specimens; both objects are attributed with distinct values. Correspondingly, southern Scandinavian flint daggers mirror a superregional trend with a local perception of how status objects must be treated, they are not a counter reaction to bronze daggers *per se* (cf. Müller 2015, 660).

It has been argued that daggers were not made of bronze as southern Scandinavia mirrors central European norms rather than guaranteeing a collective use of metal, as Vandkilde supposed. In this respect, it is conspicuous that the majority of flint daggers do not come from burial contexts. If single finds are considered hoard items too (cf. Malmer 1962, 669; Karsten 1994, 49; Lekberg 2002, 71), the contrast of hoard to buried pieces is striking. This contrast increases through time, as the presence of LN I flint daggers appears quite balanced between the different contexts, whereas the LN II and OBA specimens predominantly are individually deposited items (Lomborg 1973, fig. 5–28; Kühn 1979, 62–63; Rassmann 1993, 26–29, 76, Karte 4–18). If the practice of hoard deposition represents the effort of a group, an opinion maintained by Vandkilde (1996, 276), then the occurrence of flint daggers in hoards might indicate that they were not exclusively restricted to the sphere of the individual. Friemann came to a similar conclusion due to the fact that daggers in central Europe appear five times more frequently in hoard and single find contexts than they do in grave contexts (2012, 451).

However, this statement is also not as absolute as has been indicated. The existence of a superregional dagger idea does not mean that each flint dagger was perceived and treated in the same way. According to Sarauw, very elaborate daggers of Type IC occur most frequently in burials, whereas other types occur predominantly in hoard or single find contexts (2006 a, 246). This shows that there are also differences within the same class of artefact. Such a differentiation is also visible in other classes of artefacts as well. For the OBA of southern Scandinavia, different variants of bronze axes have been recognized. Not just the shape, but also the context in which those axes appear separates the different variants. In OBA period II, *Nordische Absatzbeile* (palstaves) are of an elaborate shape and appear

predominantly in burials, whereas *Norddeutsche Absatzbeile* are less elaborated and appear almost exclusively in hoard and single find contexts (Willroth 1985, 96–99, 157, 235–236). With respect to EBA bronze daggers a difference is also detectable, as metal hilted daggers occur predominantly in depositions, whereas dagger blades appear in both contexts (Siemann 2003, 122).

Correspondingly, it is not the artefact class alone that determines if an object belongs to the communal or individual sphere, rather its distinct shape and the context in which it was deposited. Accordingly, one can consider artefacts from burial contexts as an opposition to hoarded items. This, then, could be an explanation for the observation that southern Scandinavian LN bronze daggers occur more often as single finds and in hoards than they do in graves, as do the axes as well (cf. Friemann 2012, 451).

Given the rarity of LN bronze daggers, one further observation is noteworthy. The only two LN burials equipped with a bronze dagger on the Cimbrian Peninsula are located in southwestern Schleswig-Holstein and northern Jutland, two areas which in the final phases of the YN and early LN show evidence for Bell Beaker affiliated material culture (Mertens 2003, 54–56; Hübner 2005, 205–209, 658–660; Vandkilde 2005 a, 19–22; Sarauw 2007 a, 39). Bell Beaker copper daggers derive predominantly from burial contexts (Drenth 2015, 89–90). Although the present paper argues that long lasting traditions led to the bipolar LN situation (see below), it is also possible that a western European influence might have affected these few, outstanding contexts as well. Admittedly, the relatively high frequency of corresponding contexts in northeastern Germany and the lack in northwestern Germany limits this alternative explanation, as those areas were affected to a much higher degree by Bell Beaker related material culture than the investigation area (Strahl 1990, 322; Rassmann 2000, 25; Mertens 2003, 54–56). Nevertheless, a western European influence cannot definitively be ruled out.

In summary, in this paper Vandkilde's arguments are followed with some alteration. Here, the relation of metal axes to metal daggers is not seen to be restricted due to a local preference, but instead to mirror central European norms. The huge number of flint daggers is not a counter reaction to bronze daggers, rather it is a translation of a superregional sign, expressed in a locally rooted tradition. This shows that societies in LN southern Scandinavia participated in central European developments, rather than demarcating themselves by intentionally using another kind of material to satisfy the same purpose (cf. Lomborg 1973, 87). Moreover, as both axes and daggers as a concept appear in hoard as well as in burial contexts, neither item is restricted to solely an individual or a collective sphere.

4.3 The bipolarity on the Cimbrian Peninsula – emergence and possible meaning

LN metal objects were deposited in burials, in hoards, or as single finds. It is obvious that the contrast of depositing items in burial contexts or at distinct places in the landscape reflects an intentional choice; a determination of the meaning behind these choices, however, remains elusive. It is possible that the dissimilar deposition strategies might reflect different social structures. Following classical interpretations, precious artefacts deposited as offerings in bogs, waterbodies, or in the ground are representative of a society that acts collectively, whereas an individually oriented society deposits precious items in burials, relating them more to the interred individual (Renfrew 1974; Vandkilde 1996, 281). Contrastingly, according to

Karlenby, hoards and individually deposited objects may also reflect individual offerings (2002, 107). Perhaps both possibilities hold some truth. Buried items are considered as a link to the deceased individual, but burials and burial equipment can also represent certain beliefs or social roles which the deceased did not necessarily have to play in life. Grave goods might represent gifts and thereby not personal possessions. The burial equipment itself might even be the highlighted component, rather than the buried individual (Schmalfuß 2009, 766; Brück/Fontijn 2013, 202–206; Beckermann 2015, 239). Moreover, buried and hoarded metal objects share one element – they have been intentionally deposited. All known LN metal items are preserved due to this fact, as their deposition removed them from the reach of recycling. This connects the different contexts and demarcates them from re-smelted objects.

These observations, though, do not undermine the importance of difference based on context. Even if grave goods are not directly connected with the individual but rather a larger group meaning, the choice of depositing objects in graves and not in hoards is intentional and thus meaningful.¹⁰ In this paper it is thus assumed that a difference of meaning between depositing items in the landscape or in burials existed. What these meanings are, however, is not further specified as in both cases it might represent collective as well as individual possessions and/or efforts.

Let us move back to the situation in LN Schleswig-Holstein. An examination of the distribution maps Figures 1–6 indicates a strong separation in the treatment of both LN metal objects and flint daggers. In the eastern part, metal objects were deposited individually or in hoards. Contrastingly, in the western part metal artefacts were predominantly, though not solely, deposited in burials. In both regions, flint daggers were deposited as single finds regularly, but the easternmost part only consists of a very limited number of buried specimens when compared to the west. Before seeking possible explanations for why such differences might appear, similar observations from other periods will be presented.

Kneisel demonstrated that the southwestern part of Schleswig-Holstein was involved in a far reaching exchange system during the YBA (2012/13, 43–52). In the modern district of Dithmarschen imported artefacts, especially dating to YBA period V (c. 950–700 BC), are more frequent than in adjacent regions. One example is the golden artefacts which could be traced by their composition to an origin in Great Britain. Other artefacts are witness to contacts with southern Germany. Furthermore, the frequent occurrence of early iron and amber artefacts as well as face urns indicate far reaching contacts (ibid. 47–48). According to Kneisel, the presence of face urns furthermore demonstrates that the area of Dithmarschen was open minded towards the incorporation of foreign symbols into the local context (ibid. 48–49).

It has already been stressed that an evaluation of the burial customs at the beginning of the OBA shows that the southern and western part of the Cimbrian Peninsula tended to be more closely attached culturally to the EBA northwestern European lowland regions (*Sögel-Wohld-Kreis*), whereas northern Jutland and the Danish Islands were connected to central Europe (*Valsømagle*) (Lomborg 1973, 161; Vandkilde 1996, 250–252, 303–305; Bergerbrandt 2009, 119–120). The existence of a similar separation during the LN has already been demonstrated (cf. Vandkilde 1996, 189–190, 206–210, 294–303).

According to Kühn, in Schleswig-Holstein a spatial difference in the adoption of flint daggers is visible (1979, 78; cf. Struve 1955, taf. 32). In the western part they supplant the battle axe as the predominant, rank displaying item in burial contexts earlier than they do in

10 Although, of course, it might be entangled as indicated by hoards that are attached to grave monuments (Ebbesen 1982a, 143; Hübner 2005, 627–629).

the eastern part. Accordingly, the western part, again, seems to act more progressively by adopting new ideas (*ibid.*; cf. Struve 1955, 35; Lomborg 1973, 35; Apel 2001, 273; Hübner 2005, 132). However, as demonstrated above, a re-examination of the data shows that there is not such a strong chronological difference contrasting these two subregions. Rather than a chronological difference, there is a general difference in the treatment of specific items between these areas. As demonstrated by Figures 2, 10 and 11, in the LN I, LN II and OBA, flint daggers appear much more regularly in burials in the western part of the investigation area, whereas the easternmost part rarely contains any buried flint daggers. The largest difference is then spatial, especially as single finds occur regularly in all periods, thus contradicting Kühn's assumption.¹¹

The results of this paper must be embedded in this context. With respect to metal objects, different treatments of the same classes of artefacts have also been recognized. Generally, in the entire region of northern Germany and southern Scandinavia, LN burials containing metal objects are not very common in contrast to hoards and single finds (Willroth 1985, 45; Strahl 1990, 273; Rassmann 1993, 14; Vandkilde 1996, 289; Laux 2000 a, 13; 2000 b, 18). The spatial separation of hoarded versus buried LN metal objects is very striking in the investigation area and is also indicated in northeastern Germany, southern Sweden and Jutland as well. In southern Sweden this fact was already emphasized by Willroth (1985, 45). In Denmark, Vandkilde overlooked the significance in the LN II period by a blurred examination with LN I contexts. As Figures 4 and 5 show and Figure 7 further illustrates, a separation oriented along a north-south demarcation is visible in Denmark as well.

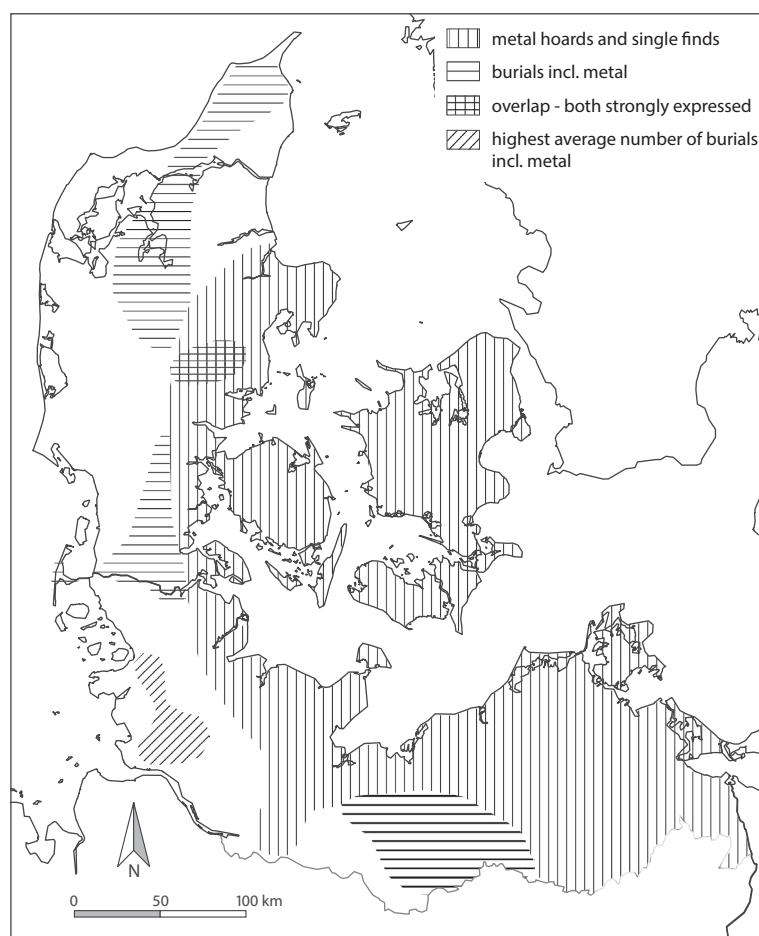


Fig.7. An impression of the separation addressed in the text. Only the Cimbrian Peninsula and northeastern Germany are included. This is an interpretative map as it, for example, ignores the less pronounced overlaps of burials and hoards which occur in southwestern Schleswig-Holstein, the island of Zealand and easternmost northeast Germany, as Fig.4 demonstrates.

11 Again, flint daggers as a concept are lumped together. In consideration of the different treatment between types of daggers (cf. Sarauw 2006 a, 246), a closer look at the specific subtypes in the respective regions would probably furnish a more detailed picture of the LN situation. However, the general sheer rarity of buried flint daggers in the east in contrast to the west is very striking.

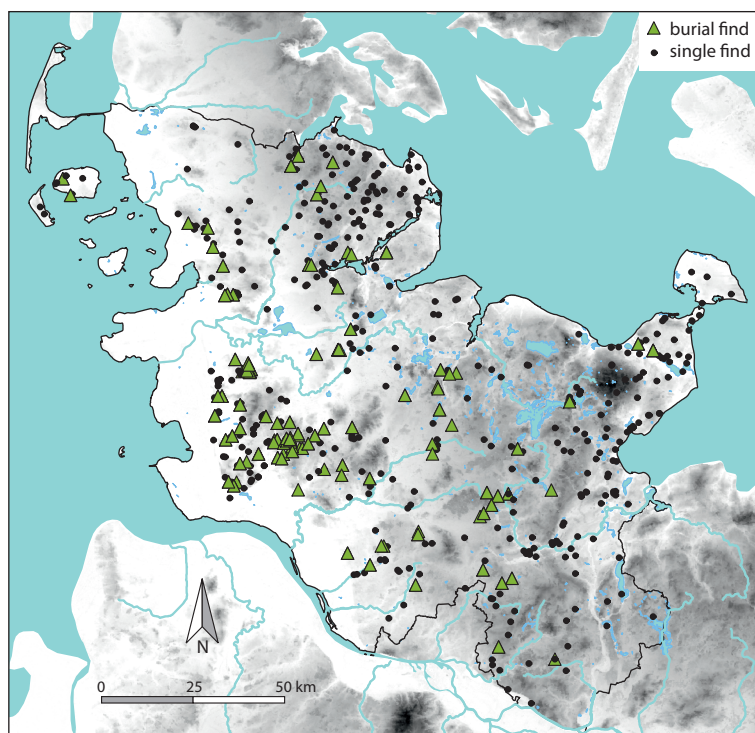


Fig.8. The distribution of early YN battle axes in Schleswig-Holstein. Battle axes of types A–F are included. According to Hübner's typology and chronology, these axes cover primarily the YN I (c.2850–2600 BC) (2005, 143–154). Single find early battle axes appear in both the region of investigation and those that were discussed here for comparison. Burial finds are most common in southwestern Schleswig-Holstein and moderately represented in the central part (along the geomorphological border between Young Drift Morainic and Old Drift Morainic Landscape), whereas they are almost lacking in the east. Data according to Schultrich (2018).

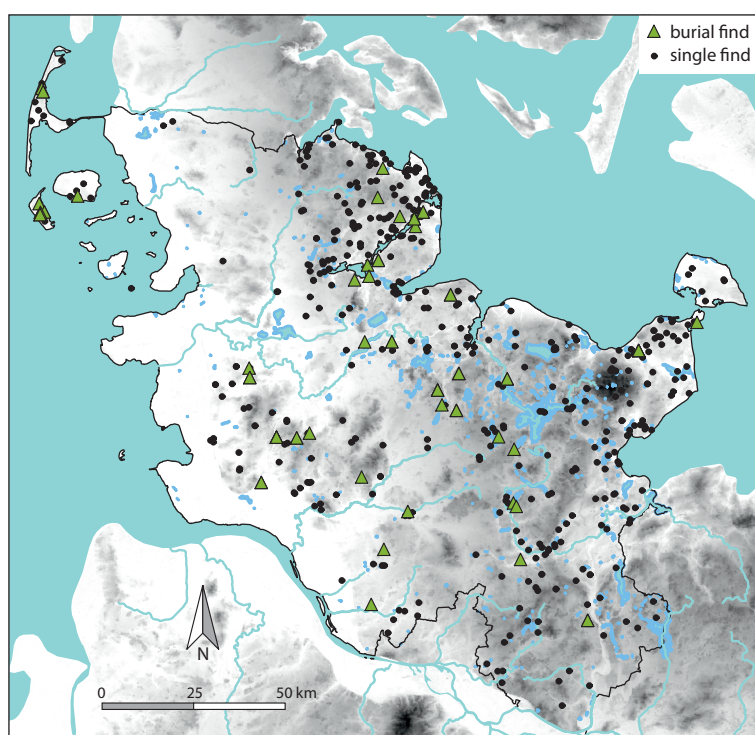


Fig.9. The distribution of late YN battle axes in Schleswig-Holstein. Battle axes of type K and L are included. According to Hübner's typology and chronology those axes cover primarily the YN IIIb (c.2350–2250 BC) with just a small proportion dating instead to the YN IIIa (c.2450–2350 BC) (2005, 143–154). Whereas the central part of Schleswig-Holstein contains approximately the same number of buried battle axes as in YN I, there are fewer in the southwestern part. Single finds do appear more frequently in the east but a chronological shift is not as clear-cut as often stated. Data according to Schultrich (2018).

Interestingly, a similar dichotomy is characteristic for the preceding YN. With the onset of the YN, a separation on the Cimbric Peninsula is clearly expressed. The eastern part of the Cimbric Peninsula and the Danish Islands contain abundant EN/MN megalithic tombs, whereas YN single graves in barrows are seldom. The western part of the Cimbric Peninsula, contrastingly, has many early YN burial mounds (Hübner 2005, 27, 655–660; Furholt 2012, 127, fig. 7; Iversen 2015, 75–76). This spatial demarcation as well as the distinct burial traditions have often been taken as proof of a migration event (Glob 1944; Struve 1955, 57; Kristiansen 1989, 222). More recent

research has shifted to an explanation based on a cultural/ideological break which was initiated locally due to internal developments (Jensen 1979, 125; Damm 1991, 201–202). Within the last year, an explanation between these two extremes has been discussed, as aDNA analysis has suggested that people were highly mobile in that time (Furholt 2017, 11–12; Kristiansen et al. 2017, 342–343).

However, for the YN a similar alteration of the old narrative must be made, as was already demonstrated above for the case of the LN. During the YN, the peoples of the western part of the investigation area are also said to act more progressively in the adoption of new symbols, whereas the eastern part allegedly adopts battle axe practices later on. However, as Figures 8 and 9 indicate, the locations in which both early and late battle axes were buried in the western part are in approximately the same area as the LN buried metal items and flint daggers. Although many more early axes than late specimens were buried, this decline represents a general trend that is also observable in Jutland. As the YN evolved, battle axes became an increasingly less common inclusion in burial equipment (Hübner 2005, 605). The central part of the investigation area contains buried battle axes of all phases as well, though in a lower concentration. The easternmost part has a very low number of buried battle axes of all periods but, contrastingly, early as well as late pieces from single contexts do occur regularly. The fact that large numbers of early specimens appear in the eastern area as well is often overlooked by many scholars (Struve 1955, 27–33; Kühn 1979, 86–87; Hübner 2005, 651–660; Ebbesen 2006, 50, 123–124; Iversen 2015, 106–108). A more detailed study shows that such statements do not match with the actual situation (Struve 1955, 27–33, taf. 26–28; comparable observations in adjacent regions: Schlosser Mauritsen 2003, 30–31; Iversen 2015, 106–108; cf. Schultrich 2018). While single finds are common, burials with battle axes are extremely rare in the easternmost part. In this respect, no distinction between early and late specimens is given. This suggests that the supposed chronological difference in the appearance of new YN attributes in the East versus the West is a fallacy. The wrong assumption originates from a mixed examination of grave and single finds. Only in the northeastern part of the investigation area is a chronological trend of easterly moving YN attributes visible (Figs. 8 and 9; already Kühn 1979, 90, Karte 20).

Nevertheless, a strong contrast of southwestern and easternmost Schleswig-Holstein is present in the YN as well as in the LN, reflected by different inclinations regarding the incorporation of certain items (status objects) into burials. This west-east contrast becomes even more clear when compared to the respective adjacent regions. In modern day Mecklenburg-Vorpommern, the region southeast of Ostholstein lacks evidence for burials equipped with LN metal objects as well as flint daggers (Rassmann 1990, 315–317, Karte 37–39). Alongside of Dithmarschen on the opposite side of the Elbe River there is the Elbe-Weser Triangle, a region where LN flint daggers were common grave gifts as well (Strahl 1990, Karte 51–65).

A more detailed examination shows that the few YN and LN burials in Ostholstein attributed with battle axes or flint daggers all are located in direct vicinity of the *Oldenburger Graben* and the spit of land near Fehmarn (Fig. 2, 8, 9, 10, 11). The special character of this small region is furthermore demonstrated by the appearance of one multi-type and one one-type hoard. The same character of difference is visible within this area as within the entire Schleswig-Holstein. Moreover, this contrast is not restricted to a short period; it appears during the entire YN and LN.

One question that arises is if it is possible that the different perceptions of the treatment of precious artefacts might have survived

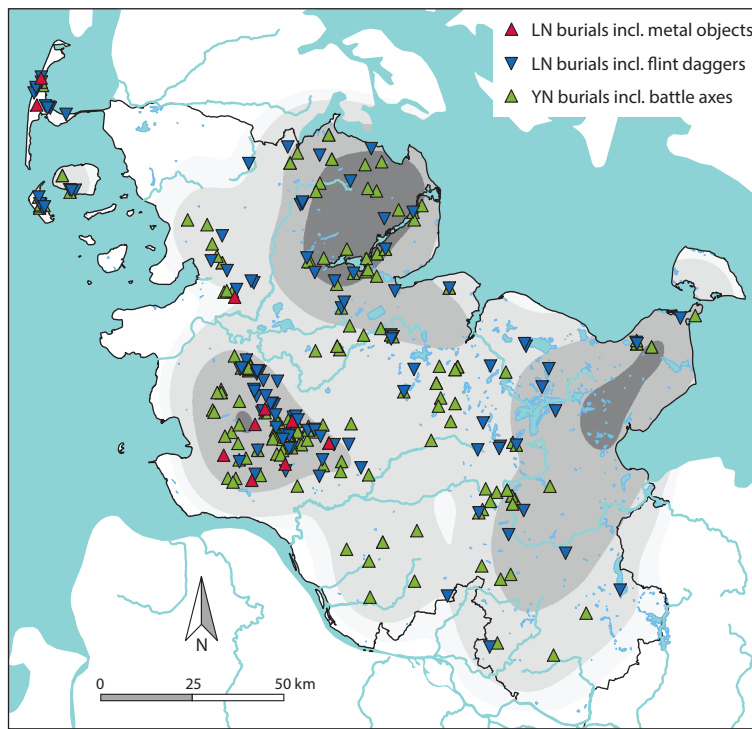


Fig. 10. The distribution of YN and LN burials equipped with metal objects, flint daggers and battle axes. The grey areas mark the density of YN battle axes from single find contexts. The darker the grey, the more single find battle axes have been found. Data according to Kühn (1979), Schultrich (2018) and the enclosed catalogue. Note that the northern and the easternmost area might be overrepresented in contrast to other regions as YN battle axe data collection focused on the districts of Ostholstein and Schleswig-Flensburg (Schultrich 2018).

throughout the entire YN as well as LN. According to Vandkilde, the presence of similar observations over a large timespan does not necessarily mean that the same ideas and structures were present continuously (1996, 297–298). However, Rassmann has been able to demonstrate that spatial networks (*Interaktionsräume*) may be long-lasting (2003, 92–97). Regions in northeastern Germany which in the MN had contacts to distinct other regions kept those contacts in the EBA. That perhaps is the reason for the appearance of the huge numbers of EBA metal hoards in Uckermark, in the eastern part of northeastern Germany (cf. fig. 4), since strong cultural links towards the south already were established during the MN (*ibid.*).

According to Figure 11, densities of YN battle axes correlate spatially with EN/MN megalithic tombs, thus indicating human activity in the specific regions in all times. In these activity zones, LN burials with flint daggers and metal objects appear in very different intensities. Following Rassmann (*ibid.*), long-lasting traditions are indicated, as the same areas have been occupied regularly over the entire Neolithic period. The gradient of incorporating prestige items into burials is one of many differences between these density areas though this difference is at least shared throughout both the YN and LN. As the distinct areas were occupied already in the MN (and the EN as well), it seems that the differences between the areas perhaps evolved during the MN period. Accordingly, the bipolar situation first becomes archaeologically recognizable during the YN but was perhaps already established before.

This was also suggested by the study of Feeser and Furholt (2014). Their inclusion of palynological data provides strong evidence that the separation was already present in the MN (*ibid.* 126–134). In the eastern part of the studied area a clear connection between palynological and archaeological data is observable. For example, when the erection of megalithic tombs reached a climax (ritual activity), the landscape openness reached its highest amount too (economic activity). In the western part of the Cimbrian peninsula, in contrast, there is no such strong link detectable in either the MN or the YN, even though megaliths were erected regularly in this subregion as

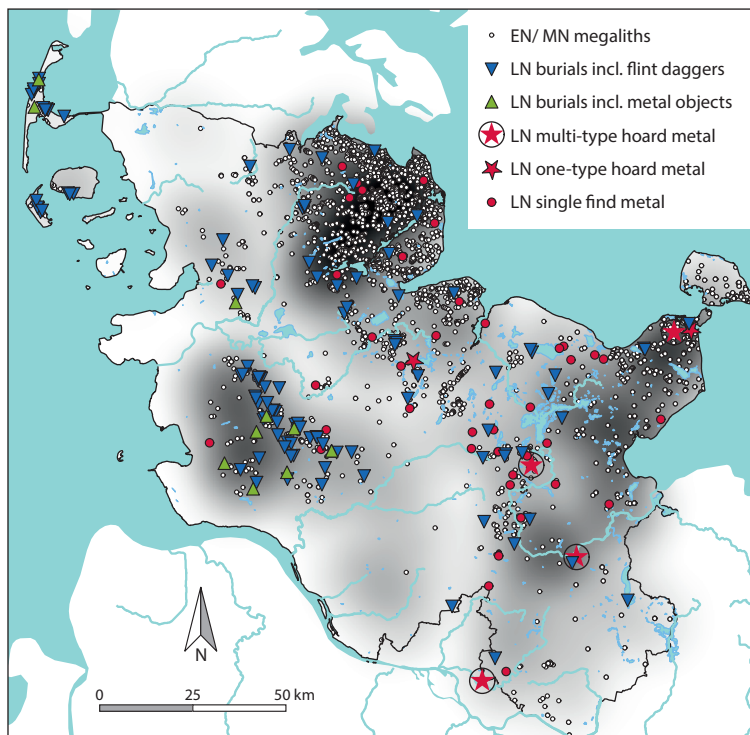


Fig. 11. The distribution of burials with LN metal artefacts and flint daggers compared to EN/MN megalithic tombs. The greyish background shows the density of YN battle axes from single find contexts. Instead of showing the density of LN flint daggers from single find contexts, it has been chosen to demonstrate the density of battle axes, as the single find portion of Kühn's (1979) does not seem to be representative. According to Karnatz's study (1987), the distribution of single find flint daggers is similar to that of single find battle axes in the entire investigation area.

well (ibid. 130). According to Kristiansen (1984), the burial equipment in MN megalithic graves is linked to subsistence and thereby collective purposes. The missing link between economic and ritual activity during the MN and YN in the west leads Feeser and Furholt to suggest that the social structure there was organized less collectively. By highlighting the individuals this framework allows a much more intensive adoption of new signs in the beginning of the YN (ibid. 131–133), presumably influenced by central European developments (the emergence of Corded Ware Societies). At the onset of the YN, already existing differences in social behavior become archaeologically visible for first time, as distinct social roles become evident in burials. Especially on the Cimbrian Peninsula many barrows attributed with certain artefacts and standardized alignments were erected (Hübner 2005, 636–647; Furholt 2014, 70–74).

As mentioned above, the obvious avoidance of regions formerly inhabited by MN groups often becomes emphasized when examining the early YN "impact" (Glob 1944; Struve 1955; Damm 1991, 202; Hübner 2005, 655–660; Furholt 2012, 127, fig. 7). However, this is a very generalizing estimation as the southwestern part of Schleswig-Holstein holds MN megalithic tombs as well as early YN single graves in the same area (Struve 1955, 68; Feeser/Furholt 2014, 130; Dibbern 2016, 170). Sometimes early YN material culture even appears in megalithic graves, demonstrating a continuity in both spatial and cultural traditions (Struve 1955, 90; Malmer 1962, 776–778; Simonsen 1982, 88–93; Ebbesen 1997, 79; cf. Schultrich 2018). Furthermore, pathway systems remained unchanged and in southwestern Schleswig-Holstein, a EN/MN causewayed enclosure was re-used in the YN (Dibbern 2016, 170). This demonstrates that there was no intentional shift of habitation locale during the Neolithic in the investigation area.

In the YN, a north–south discontinuity on the Cimbrian Peninsula is also present. This is represented by distinct pottery developments with the onset of the YN (Hübner 2015, 184, 222). The above demonstrated cultural traditions that have been shared in southwestern Schleswig-Holstein throughout the MN, YN and LN indicate that also this north–south discontinuity already might have been

initiated in the MN. As the YN progresses, this discontinuity becomes more and more obvious in terms of extremely different developments of the material culture. Regional preferences in burial traditions also evolved (Struve 1955, 36, 70; Strahl 1990, 285; Jacobs 1991, 16; Vandkilde 1996, 278; 2005 a, 33; Hübner 2005, 658–660). Many attributes point to a complex situation in a comparatively small region. Perhaps, it is this situation that leads to the difference appearing in the LN, when the treatment of metal artefacts in southwestern Schleswig-Holstein is unique. It does not only contrast to that in the eastern part of the region, it contrasts to that of the northern part of the Cimbrian Peninsula as well. In northern Jutland, similar spatial significances were present with LN II metal items deposited either in the landscape or in burials contexts, but this contrast is by far not as striking as it is in Schleswig-Holstein.

According to Figures 10, 11 and 12, a separation of Schleswig-Holstein in three different zones is appropriate. All zones share a large number of single find YN battle axes and in all zones EN/MN megalithic tombs occur, although in different frequencies.¹² The most significant difference, however, is the number of burials attributed with YN and LN battle axes, flint daggers, and metal objects. The southwestern part strongly tends to incorporate these presumably prestigious items into burial contexts, the central part does this to a lesser but still regular degree, and the easternmost part does not participate in this custom very intensively. Between these zones, more differences are present upon more detailed investigation. In the northern section of the central zone there is evidence for a chronological development in which a YN battle axe tradition is maintained along the coast, as already proposed by Kühn (1979, 90, Karte 20). Within the easternmost area the small delineated region at the *Oldenburger Graben* and the spit of land near Fehmarn seem to be very different, containing many burials with status objects.

Vandkilde suggests *“the relationship between ritual hoarding and burial deposits of metalwork may reveal whether individuality or collectively is the dominant principle of social organization”* (1996, 277). Following this line of argumentation, the western part of Schleswig-Holstein can be said to be linked to a social system of individuality whereas the areas in the vicinity of the Baltic seem to act in a more group-oriented manner. Feeser and Furholt share this opinion (2014, 131–133). However, the huge amounts of individually deposited axes and flint daggers might indicate that a similar societal order was present in all regions, but was expressed in a different way. One explanation of the pattern might be that YN and LN societies near the Baltic merely represented themselves as collectively acting groups by depositing items in the landscape instead of burials. They thereby simulated an ideal of a collective society in respect to former times (similar Vandkilde 1996, 277). However, this does not necessarily mean that the social constitution was more group-oriented than it was in areas where precious items were included in burials. It has been argued that collectively oriented societies – or those just pretending to be (cf. Müller 2011, 148) – are more common in areas near the Baltic and were maybe maintained due to intensive contacts between Baltic regions which can be traced from Mesolithic times onwards throughout the entire Neolithic period and into the OBA (e.g. Lomborg 1973, 161; Hartz et al. 2000, 129–152; Hübner 2005, 653; Bergerbrandt 2009, 119–120; Iversen 2016, 162–164).

In contrast to the eastern part, groups in the southwestern part of Schleswig-Holstein tended to incorporate certain signs into burials to a higher degree. It is possible that this represents a social system which highlights the individual (Vandkilde 1996, 277; Feeser/Furholt 2014, 131). However, another potential reason for the

¹² It already has been emphasized that the YN battle axes of the districts of Ostholstein and Schleswig-Flensburg have been researched in more depth (Schultrich 2018). Although it distorts the overall distribution pattern on the one hand, on the other it underlines the significances already stressed in the text.

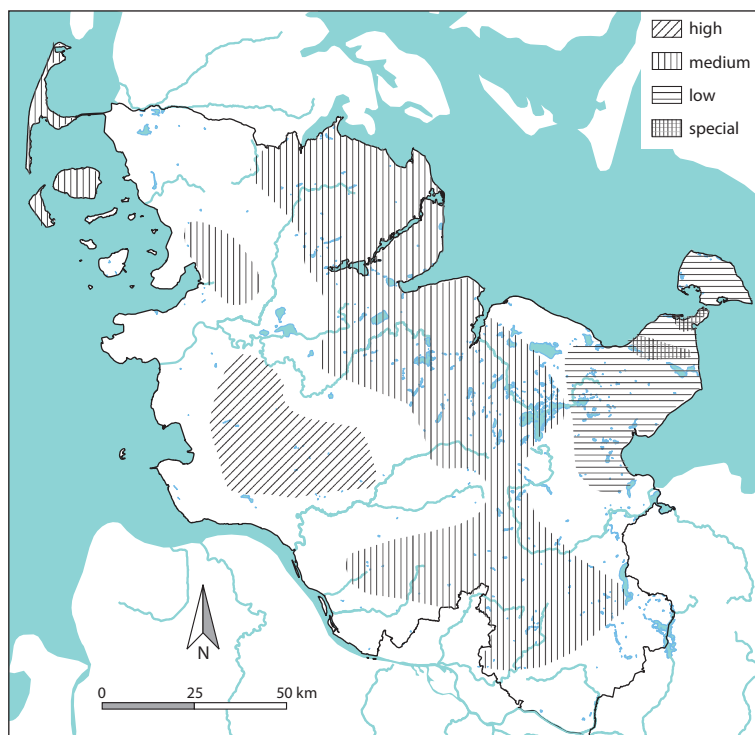


Fig. 12. The incorporation of status objects into burials in the diverse regions of Schleswig-Holstein.

emergence and maintenance of a willingness to incorporate certain items into burials might be determined by geographical position and not by different societal systems. Southwestern Schleswig-Holstein is near to the shoreline of the North Sea as well as to the Elbe River, thus ensuring contacts to both northwestern as well as central Europe. The connection to the Elbe River could promote the existence of LN burials with metal objects, since they also are comparably frequent along the Elbe River in northwestern Germany (cf. fig. 4). Following the Elbe River in the EBA, one will reach areas formerly inhabited by EBA *Circum-Harzer* and Bohemian societies which occasionally deposited metal items in graves as well (Krause 1988; Ernée et al. 2009, 376–379). Accordingly, the frequency of burials accompanied by metal objects might be linked to a direct influence from the south and/or it might display a social system with a minor focus on traditions as was practiced in the Baltic areas. It should be emphasized, though, that trying to explain the special position of the southwestern part of Schleswig-Holstein during the LN and especially the YBA (cf. Kneisel 2012/13, 42–52) as the result of a single line of tradition is likely going too far. Regardless, all hypothetical drivers may have been favorably adopted or spread based on geography.

What is not included in the present paper, Bell Beaker affiliated material culture, is shared among the entire southern part of Schleswig-Holstein, crossing the boundaries of the proposed subareas and almost excluding the northern part (Mertens 2003, 54–56; Hübner 2005, 205–209, 658–660). This shows that the suggested differences between regions in SH do not mirror clear-cut cultural boundaries – a concept anyway not accepted in recent research (cf. Furholt 2009, 20–28). Rather, different cultural expressions, preferences, and contacts to other regions form a very complex situation present in Neolithic Schleswig-Holstein. Examining other materials, objects, and their contexts would probably reveal other patterns and accordingly demand different explanations. Nevertheless, differences in the treatment not only of LN flint daggers, but also LN metal artefacts as well as YN battle axes are clear and they point to possible general

dissimilarities in either social structure or in the symbolic meaning of certain artefacts and contexts.

5. Conclusion

Although Schleswig-Holstein possesses a small amount of LN material culture in comparison to adjacent regions, a close examination of the different artefacts and their specific contexts reveals some fascinating insights into LN social behaviors. It has been shown that within the investigation area differences in the treatment of certain objects on a spatially very small scale were present. YN battle axes, LN flint daggers, and LN metal objects are objects with a certain societal value and, presumably, their function was related to the display of a certain social role and perhaps status (Hübner 2005, 605–622; Heyd 2007, 358–362; Sarauw 2007b, 79–82; Furholt 2014, 70). Those items were incorporated into burials in the southwestern part of the investigation area regularly, whereas they were more often deposited in the landscape farther to the east. The most striking contrast is present between southwestern Schleswig-Holstein and its easternmost part. Both parts consists of many status objects from single find contexts, but the frequency of such objects from burial contexts is very diverse, as they are lacking almost completely in the easternmost part.

But does the significant contrast of west and east also mean that massive differences in societal structures were present? Or might it just reflect diverse burial and deposition customs, whereas societal structures were similar?

Following Vandkilde, this contrast represents different principles of social organization, as items directly accompanying the deceased are linked to the individual, whereas hoarded objects are an effort of or for a group. Accordingly, social groups that deposit wealth in the landscape act more collectively than groups that display wealth in individual burials (Vandkilde 1996, 275–279; Klassen 2000, 286–292; Jensen 2001, 496; Maran 2008, 177–178; Feeser/Furholt 2014, 131).

However, this interpretation reaches its limits when trying to explain the situation in Schleswig-Holstein. Here, a similar west–east discontinuity is present in the LN and YN and, moreover, it already is visible in the MN. Accepting that at least YN battle axes and LN flint daggers display a certain social role of an individual, the huge number of single finds might reflect personal depositions. Taking this into account, individually deposited LN metal objects might reflect personal depositions as well. This idea was also presented by Karlenby who emphasized that Vandkilde's (1996) and other scholar's suggestion to consider hoarded items as representing collective expressions does not necessarily have to be accepted. He states that LN metal objects very well might have been deposited by single persons, thus reflecting their personal power and the gathering of prestige on an individual level (2002, 107).

However, Karlenby's suggestion points to strong individuals displaying their power in front of a group to gain prestige. In this respect, his view does not differ significantly from Vandkilde's, as it still is connected to a group. Perhaps, the choice of depositing metal objects in burials or in sacred places in the landscape thus is not as much of a contrast as is often stated. In both cases, metal has been extracted from circulation and deposited (more or less) irreversibly. As burial items might be gifts from other persons or groups, thus not representing personal possessions of the deceased (Brück/Fon-tijn 2013, 202–206), this also is a way to demonstrate power and to gain prestige.

This means that objects deposited in burials or in the landscape both might reflect individual as well as collective possessions and offerings. If a well-shaped battle axe or flint dagger is a feature of a certain social status, and those axes and daggers do appear in all regions that have been examined here although deposited differently, it demonstrates that similar societal forms of organization might have been present in the respective regions. Thus, the different deposition strategies reflect diverse societal perceptions of how to treat persons and objects at the end of their life, but they do not necessarily demonstrate different societal organizations of the living community. The appearance of the difference might be connected to the importance of traditions in the respective areas. Whereas the eastern parts acted more traditionally, i.e. *pretending* to be oriented collectively, the western parts did not find it necessary to strive for this ideal. Perhaps, this difference appears due to different contacts – the eastern parts were connected throughout the Baltic and to eastern central Europe, whereas the western parts held more contacts to western and western central Europe.

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7. Catalogue

Find locations listed within the districts of Schleswig-Holstein in alphabetical order. Additionally one find from Hamburg is listed. Only limited information will be presented. Typology according to Vankilde (1996) is marked with V, Typology according to Laux (2000) is marked with L. Typology of halberds according to Horn (2014).

1.–8. Dithmarschen

1. Albersdorf

Tab. 1.1
grave find, tumulus
triangular dagger, two bronze rings,
two flint daggers
LN II
Aner/Kersten 1991, cat. no. 9000

2. Buchholz

Tab. 1.2
grave find, tumulus
flanged axe, V: A3; L: Barskamp
LN II
Inv: II 2665, Mus. Berlin
Aner/Kersten 1991, cat. no. 9057

3. Meldorf

Tab. 1.3
single find, bog find
ösenhalsring
LN II
Inv: II 9585, Mus. Berlin
Aner/Kersten 1991, cat. no. 9190

4. Meldorf

one-type hoard,
ten to twelve flint daggers type I or II
LN I
Inv: Im 1806, Mus. Berlin
Kühn 1979, cat. no. 179

5. Tensbüttel

Tab. 1.4
grave find, tumulus
armring, flintdagger type IV/V
LN II
Aner/Kersten 1991, cat. no. 9265A

6. Weddingstedt

Tab. 1.5
multi-type hoard, in a depth of 12 feet
in "Weddingstedter Moor"
flint axe and flint dagger type IX
LN I
Inv: 14045a-b, Kieler Sammlung
Arnold 1978/79, 56, tab. 4.4.5

7. Windbergen

Tab. 2.1
grave find, tumulus
flanged axe, V: C1; L: Schutschur
transition LN–OBA
Inv: Im 2125, Mus. Berlin
Aner/Kersten 1991, cat. no. 9283

8. uncertain (district Dithmarschen)

Tab. 2.2
single find, bog find
flanged axe, V: B1; L: Hämelerwald
transition LN–OBA
Inv: A 513 Mus. Heide
Aner/Kersten 1991, cat. no. 9340

9. Kiel

9. Kiel

Tab. 2.4
multi-type hoard, beneath stones on a field
flint dagger type II or VIa, hollow edged flint adze
LN?
Inv: 6855, 6881, Kieler Sammlung
Kühn 1979, cat. no. 41, tab. 9.7; Arnold 1978/79,
56–57, tab. 5.1–2

10.–16. Nordfriesland

10. Kampen, Sylt

Tab. 2.5
grave find, tumulus
chisel, V: D3; L: Holte-Spange
transition LN–bronze age
Inv: 7572, Flensburger Sammlung
Aner/Kersten 1979, cat. no. 2679

11. Kampen, Sylt

one-type hoard, in tumulus grave
three flint sickles of type A
LN?
Inv: 5500a-c, Kieler Sammlung
Kühn 1979, cat. no. 203; Kersten/
La Baume 1958, 419, tab. 6.27–29

12. Keitum, Sylt

one-type hoard,
three flint sickles of type A
LN?
Inv: 16376, Kieler Sammlung
Kühn 1979, cat. no. 206; Kersten/
La Baume 1958, 422, tab. 28.22–26

13. Norddorf, Amrum

Tab. 2.3
one-type hoard, on stone packet (hoard or grave)
three flint sickles of type B
LN?
Inv: 20889, Kieler Sammlung
Kühn 1979, cat. no. 196; Aner/
Kersten 1979, cat. no. 2621 IA; Kersten/
La Baume 1958, 181, tab. 28.24–26

14. Oldersbek

Tab. 2.6
grave find, tumulus,
chisel, V: D2; L: Holte-Spange
(described as flanged axe in the literature)
transition LN–OBA
Inv: 11085–86, Kieler Sammlung
Aner/Kersten 1979, cat. no. 2825

15. Rosendahl

Tab. 3.1
single find, in a streambed
flat axe, V: Flat axe type 5; L: Oberode
LN I
Inv: Nissenhaus Husum
Aner/Kersten 1979, cat. no. 2840, tab. 21.10

16. Tinum, Sylt

Tab. 3.2
grave find, longbarrow
flanged axe, V: B1; L: Uelzen/Dahlenburg
transition LN–OBA
Inv: 18223, Kieler Sammlung,
Aner/Kersten 1979, cat. no. 2752B

17.–22. Ostholstein

17. Bad Schwartau

Tab. 3.4
single find
flanged axe, V: A3; L: Schutschur
LN II
Inv: II a 41, MVF Berlin
Aner/Kersten 2017, cat. no. 10144

18. Bichel

Tab. 3.5
single find
flanged axe, V: A5; L: Emmen

LN II
 Inv: 6019, KS
 Aner/Kersten 2017, cat. no. 10156;
 Junghans et al. 1960, 164, list B2 no. 7

19. Bliesdorf

Tab. 3.3
 single find
 flat axe, V: flat axe type 5; L: Oberode
 LN I
 Inv: Private
 Aner/Kersten 2017, cat. no. 10255;
 Karnatz 1987, cat. Bl. 184, tab. 101,1

20. Göhl

multi-type hoard LA 142, in tumulus
 two Riesenbecher inside each other,
 three flint blades in the direct vicinity
 YN III–LN I
 Hartz/Müller 2017

21. Neurathjensdorf

Tab. 4
 multi-type hoard LA 281, found during
 drainage working dagger, low flanged axe,
 two spiral armrings, five ösenhalsrings
 (originally more; together as neck-ring collar)
 LN II
 Inv: 14673 a-e, Kieler Sammlung
 Aner/Kersten 2017, cat. No. 10177;
 Endrigkeit 2010, cat. no. 119;
 Kersten 1936, 140, tab. I, 6–9

22. Seekamp (Neukirchen)

Tab. 6.1–2
 one-type hoard LA 28
 flanged axe (tab. 6.1), V: A3; L: Ankum
 flanged axe (tab. 6.2), V: A5;
 L: Marwedel-Bostelwiebeck
 LN II
 Slg. Wulf Theophile
 Aner/Kersten 2017, cat. no. 10204

23. Pinneberg

23. Kruck

Tab. 5.1
 multi-type hoard
 flint sickle, beacker with zone decoration
 LN
 Inv: 14540–41, Kieler Sammlung
 Kühn 1979, cat. no. 64;
 Ahrens 1966, 72–73, Abb. 10, tab. 50,5–6;
 Struve 1955, cat. no. 444, tab. 20,4.10

24.–35. Plön

24. Altheikendorf

Tab. 5.2
 single find, found at the beach
 flanged axe, V: A5; L: Leveste
 LN II
 Inv: 9034/15. slg. Lübeck
 Aner/Kersten 2017, cat. no. 10091

25. Futterkamp

Tab. 5.3
 single find
 flanged axe, V: A5/B2; L: Schutschur
 transition LN–OBA
 Inv: Private (Fam. Behrens, formerly Panker)
 Aner/Kersten 2017, cat. no. 10029

26. Giekau

Tab. 5.4
 single find
 flanged axe, V: A5; L: Barskamp
 LN II
 11381, Kieler Sammlung
 Endrigkeit 2010, cat. no. 156; Kersten 1936, 140

27. Kaköhl

Tab. 5.5
 single find
 flanged axe, V: A1; L: Marwedel Bostelwiebeck
 LN II
 Inv: without no., Kieler Sammlung
 Aner/Kersten 2017, cat. no. 10033

28. Kossau

multi-type hoard flint
 flint sickle type B, flint dagger type Vb, round scraper
 transition LN–OBA
 Inv: 699, Mus. Plön
 Kühn 1979, cat. no. 71; Hücke 1963, 16

29. Löptin

Tab. 5.6
 single find LA 11, possibly hoard
 flanged axe, V: A5/B2; L: Dahlenburg
 transition LN–OBA
 Inv: without no., Mus. Plön
 Aner/Kersten 2017, cat. no. 10102

30. Neuhaus

Tab. 6.1
 single find, possibly hoard in a depth of 1 meter
 flanged axe, V: A5/B2; L: Hämelerwald
 transition LN–OBA
 11381, Kieler Sammlung
 Aner/Kersten 2017, cat. no. 10075

31. Rendswühren

Tab. 6.2
 single find, possibly hoard
 flanged axe, V: A (A5/B2); L: Schutschur,
 presumably re-worked cutting half
 LN II
 Inv: HM 1890.143, Arch. Mus. Hamburg
 Aner/Kersten 2017, cat. no. 10124

32. Wankendorf

Tab. 6.3
 single find, found close to a big stone
 at the "Stolper See"
 halberd type 9a
 LN II
 Inv: 541, Kieler Sammlung
 Aner/Kersten 2017, cat. No. 10135;
 Horn 2013, 81–93; Endrigkeit 2010, cat. no. 175

33. Wentorf

Tab. 6.4
 single find, possibly hoard in a sandpit
 on a urn cemetery
 flanged axe, V: A1; L: Buchholz
 LN II
 Inv: 11014 KS
 Aner/Kersten 2017, cat. no. 10095

34. Wittmoldt

Tab. 6.5
 single find
 flanged axe, V: A3; L: Buchholz
 LN II
 Inv: Private
 Aner/Kersten 2017, cat. no. 10138

35. Ziegelhof (Schillsdorf)

Tab. 6.6
 single find, possibly hoard
 flanged axe, V: A3; L: Marwedel Bostelwiebeck
 LN II
 Inv: slg. Schule Hüttenwohld
 Aner/Kersten 2017, cat. no. 10132

36.–48. Rendsburg-Eckernförde

36. Beringstedt

Tab. 7.1
 single find
 flanged axe, V: A3; L: Buchholz
 transition LN–OBA
 Aner/Kersten 2005, cat. no. 9553

37. Bossee

Tab. 7.2
 one-type hoard metal?, allegedly tumulus,
 rather hoard than burial find
 halberd type 10b (37.1), halberd type M1a (37.2)
 LN II
 Inv: 970, Kieler Sammlung
 Horn 2014, 349, cat. no. 15.16–17, tab. 18b, 52c;
 Aner/Kersten 2005, cat. no. 9751, tab. 52–53

38. Emkendorf

Tab. 7.3
 single find

flanged axe, V: A5; L: Barskamp
 LN II
 Inv: B 310, Kieler Sammlung
 Aner/Kersten 2005, cat. no. 9587

39. Hademarschen

Tab. 7.4
 grave find, tumulus
 flanged axe, V: A3; L: Veltheim?
 LN II
 Inv: 6961 Kieler Sammlung
 Aner/Kersten 2005, cat. no. 9645

40. Hamdorf

Tab. 7.5
 single find, bog find
 flanged axe, V: A3; L: Barskamp
 LN II
 Aner/Kersten 1978, cat. no. 2566

41. Kaltenhof

Tab. 8.1
 single find
 flanged axe, V: A5; L: Himmelpforten
 LN II
 Inv: 17494, Kieler Sammlung
 Aner/Kersten 1978, cat. no. 2501

42. Karlberg

Tab. 8.2
 single find, bog find
 flanged axe, V: A3; L: Veltheim
 LN II
 Inv: Private
 Aner/Kersten 1978, cat. no. 2506

43. Landwehr

Tab. 8.3
 single find
 flat axe, V: Flataxe Typ 5; L: Oberode
 LN I
 Inv: B 409.1, Kieler Sammlung
 Aner/Kersten 2005, cat. no. 9694

44. Leimbek

Tab. 8.4
 single find
 flanged axe, V: A7; L: Veltheim/Bostelwiebeck
 LN II
 Inv: Private
 Aner/Kersten 1978, cat. no. 2522

45. Saxtorf

single find
 flat axe
 LN I?
 Aner/Kersten 1978, cat. no. 2544

46. Schuby

Tab. 8.5
 one-type hoard flint (hoard or grave find)
 two flint sickles of type B
 LN?
 Inv: 12395, Kieler Sammlung
 Kühn 1979, cat. no. 11, tab. 18,7

47. Schülp

Tab. 8.6
 single find
 chisel, V: D3; L: Holte-Spange
 transition LN–OBA
 Inv: 6506, Kieler Sammlung
 Aner/Kersten 2005, cat. no. 9709

48. Surendorf

Tab. 9.1
 one-type hoard flint
 16 flint halberds
 (just two pieces have been illustrated here)
 LN?
 Ebbesen 1992, 130, Appendix 8, Fig. 25;
 Kühn 1979, tab. 14,6–7

49.–58. Schleswig-Flensburg

49. Ahneby

Tab. 9.2
 single find, bog find
 flat axe, V: Anglo-Irish developed flat axe

LN II
 Inv: B 141, Kieler Sammlung
 Freudenberg/Glaser 2017; Aner/Kersten 1978, cat. no. 2178

50. Angeln

Tab. 9.3
 single find, bog find
 flanged axe, V: A5; L: Basdahl
 LN II
 Inv: B 2428, Nationalmuseum København
 Aner/Kersten 1978, cat. no. 2456

51. Bei Glückburg

Tab. 9.4
 single find
 flanged axe, V: A3; L: Barskamp
 LN II
 Inv: PV 139 Museum Flensburg
 Aner/Kersten 1978, cat. no. 2212

52. Großrude

Tab. 9.5
 single find
 flanged axe, V: A3; L: Barskamp
 LN II
 Inv: Private
 Aner/Kersten 1978, cat. no. 2390

53. Gundelsby

Tab. 10.1
 single find
 flanged axe, V: A5; L: Findorf
 transition LN–bronze age
 Aner/Kersten 1978, cat. no. 2247

54. Husbyholz

Tab. 10.2
 single find, bog find
 flanged axe, V: A2; L: Schutschur
 LN II
 Inv: 1881. 22, Helms Museum Hamburg
 Aner/Kersten 1978, cat. no. 2254

55. Kleinsolt

one-type hoard flint
 seven flint daggers
 LN?
 Kühn 1979, cat. no. 218; Röschmann 1963, 364

56. Loopstedt

Tab. 10.3
 single find
 flanged axe, V: C2; L: Langquaid
 transition LN–OBA
 Inv: 1896. 211, Helms Museum Hamburg
 Aner/Kersten 1978, cat. no. 2350; Kersten 1936, 140

57. Sörup

Tab. 10.4
 single find
 flanged axe, V: B1; L: Himmelpforten
 LN II
 Aner/Kersten 1978, cat. no. 2309

58. Sörupholz

Tab. 10.5
 single find, bog find due to drainage work
 flanged axe, V: A5; L: Basdahl
 LN II
 Inv: Private
 Aner/Kersten 1978, cat. No. 2307, tab. 28

59.–67. Segeberg

59. Blunk

Tab. 10.6
 single find
 flanged axe, V: A5; L: Veltheim B
 LN II
 Inv: B 102, Kieler Sammlung
 Aner/Kersten 2011, cat. no. 9810

60. Bornhöved

Tab. 11.1
 single find
 flanged axe, V: A5; L: Basdahl
 LN II
 Inv: Private
 Aner/Kersten 2011, cat. no. 9827

61. Bornhöved

Tab. 11.2
 single find
 flat axe fragment
 LN I?
 Inv: 52, Mus. Marne
 Aner/Kersten 2011, cat. no. 9836

62. Grönwohld

Tab. 11.4
 multi-type hoard metal
 armring, two armspirals, flanged axe, V: A5;
 L: Barskamp/Im Lüneburgischen
 LN II
 Inv: 2695–98, Kieler Sammlung
 Aner/Kersten 2011, cat. no. 9946;
 Endrigkeit 2010, cat. No. 85, Tab. 3,6

63. Hamdorf

Tab. 11.3
 single find, bog find
 flanged axe, V: A3; L: Barskamp
 LN II
 Aner/Kersten 2011, cat. no. 9943

64. Neuenrade

Tab. 11.5
 single find,
 flanged axe, V: A3; L: Barskamp
 LN II
 Inv: B 575, Kieler Sammlung
 Aner/Kersten 2011, cat. no. 9977

65. Strenglin

Tab. 12.1
 single find
 flanged axe, V: B1; L: Hämelerwald
 LN II
 Inv: 11545, Kieler Sammlung
 Aner/Kersten 2011, cat. no. 9961; Kersten 1936, 140

66. Tönningstedt

Tab. 12.2
 single find
 flanged axe, V: A5; L: Barskamp
 LN II
 Aner/Kersten 2011, cat. no. 9987

67. Traventhal

Tab. 12.3
 single find,
 flanged axe, V: A3/B1; L: Schutschur
 LN II
 Aner/Kersten 2011, cat. no. 9908

68.–72. Steinburg**68. Kühlen**

Tab. 12.4
 one-type hoard flint (in marsh landscape)
 three flint daggers type Ib
 LN I
 Inv: 12814, Kieler Sammlung
 Kühn 1979, cat. no. 153, tab. 5,1–3;
 Kersten 1939, 207, 209, Abb. 207a–c

69. Puls

Tab. 12.5
 single find, bog find
 flanged axe, V: A3; L: Barskamp
 LN II
 Inv: 13889, Kieler Sammlung
 Aner/Kersten 1993, cat. no. 9480

70. Reher

Tab. 13.1
 grave find, tumulus
 knife? (bronze fragment),

flint dagger type III, flint flake
 LN I–II
 Inv: 6419, Kieler Sammlung
 Aner/Kersten 1993, cat. no. 9491A;
 Kühn 1979, cat. no. 160, tab. 13,9–10

71. Reher

Tab. 13.2
 grave find, found close to a big stone
 at the “Stolper See”
 flanged axe, V: A5; L: Schutschur
 LN II
 Inv: 5570, Kieler Sammlung
 Aner/Kersten 1993, cat. no. 9498

72. Wacken

Tab. 13.3
 grave find, tumulus
 flanged axe, V: C3; L: Veltheim A
 LN II
 Inv: 6796, Kieler Sammlung
 Aner/Kersten 1993, cat. no. 9512

73.–75. Stormarn**73. Klein Wesenberg**

Tab. 13.4
 multi-type hoard metal, LA 15,
 found in hilltop of tumulus
 three jewellery plates, flanged axe
 (and originally two more plates, a [bronze?]
 dagger and a battle axe)
 transition LN–OBA
 Inv: 9045/51, 9045/908–10, Mus. Lübeck
 Endrigkeit 2010, cat. no. 41;
 Hingst 1959, 489, tab. 59

74. Langereihe

Tab. 14.1
 single find, bog find
 flanged axe, V: B/C?; L: Findorf
 transition LN–OBA
 Inv: 7402, Kieler Sammlung
 Endrigkeit 2010, cat. no. 37;
 Kersten 1936, 140

75. Schönningstedt

Tab. 14.2
 single find
 flanged axe, V: A5; L: Barskamp
 LN II
 Inv: Private
 Hingst 1959, 424

76. Uncertain**76. somewehre in Southern Schleswig (Südschleswig)**

Tab. 14.3
 single find
 flanged axe, V: A5/B1; L: Dahlenburg
 LN II
 Inv: Städtisches Museum Schleswig
 Aner/Kersten 1978, cat. no. 2458

77. Hamburg**77. Boberg**

Tab. 14.4
 multi-type hoard metal, in a depth of 2 m
 while grundwork
 eight wire-noppenrings, two tires (ten rings),
 curved barbed wire beaker, flanged axe
 LN I–II
 Inv: 1927. 21, MfV Hamburg
 Endrigkeit 2010, cat. no. 49;
 Vandkilde 1996, 203;
 Struve 1955, cat. no. 186, Abb. 5

8. Tables

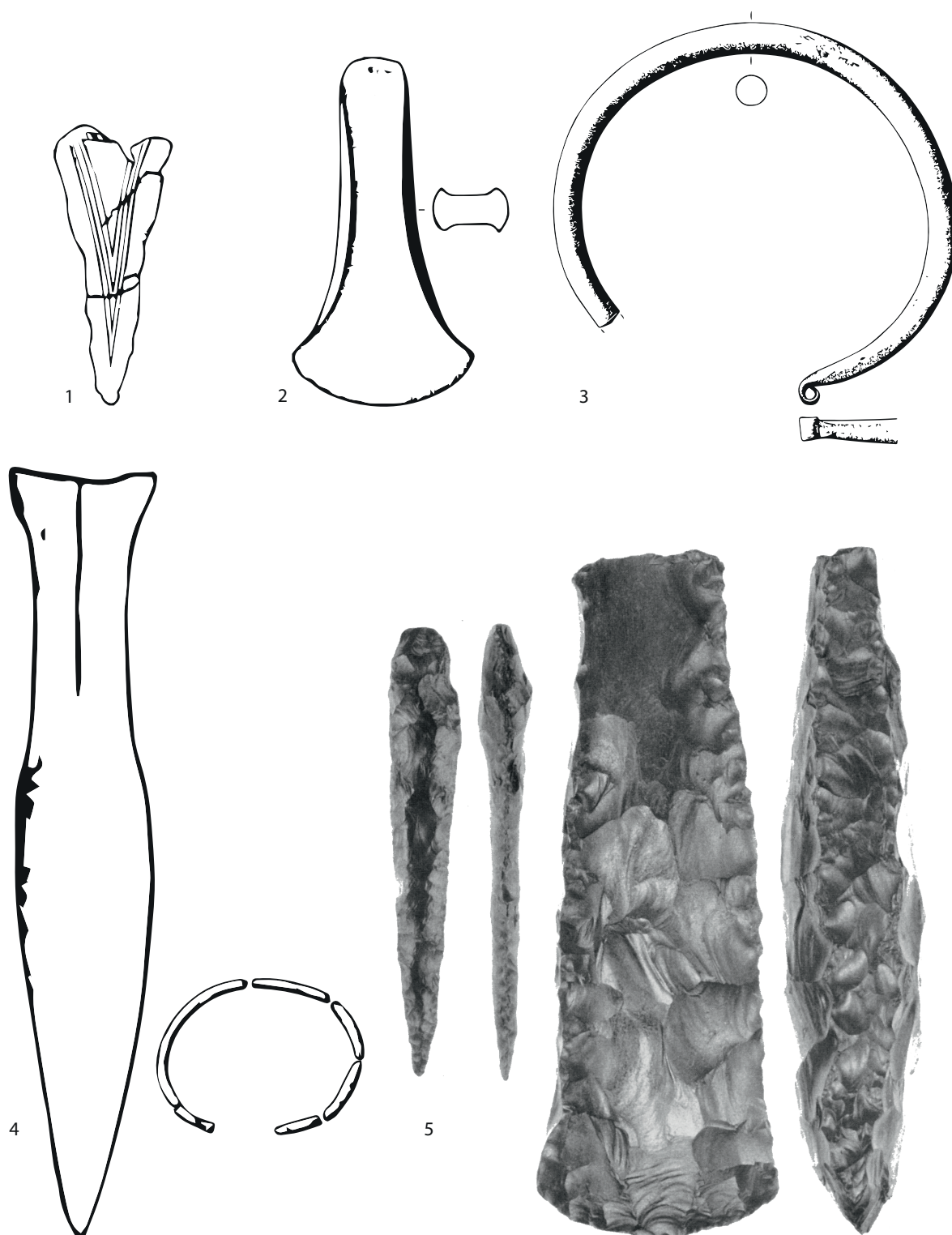


Table 1. 1–5: scale 1:2. 1 Albersdorf, cat. no. 1, Aner/ Kersten 1991, cat. no. 9000; 2 Buchholz, cat. no. 2, Aner/Kersten 1991, cat. no. 9057; 3 Meldorf, cat. no. 3, Aner/Kersten 1991, cat. no. 9190; 4 Tensbüttel, cat. no. 5, Aner/Kersten 1991, cat. no. 9265A; 5 Weddingstedt, cat. no. 6, Arnold 1978/79, 56, tab. 4,4.5.



Table 2. 1–6: scale 1:2. 1 Windbergen, cat. no. 7, Aner/Kersten 1991, cat. no. 9283; 2 uncertain locality, district Dithmarschen, cat. no. 8, Aner/Kersten 1991, cat. no. 9340; 3 Norddorf (Amrum), cat. no. 13, Kühn 1979, cat. no. 196; Aner/Kersten 1979, cat. No. 2621 IA; Kersten/La Baume 1958, 181, tab. 28,24-26; 4 Kiel, cat. no. 9, Kühn 1979, cat. no. 41, tab. 9,7; Arnold 1978/79, 56–57, tab. 5,1–2; 5 Kampen (Sylt), cat. no. 10, Aner/Kersten 1979, cat. no. 2679; 6 Olderbek, cat. no. 14, Aner/Kersten 1979, cat. no. 2825.

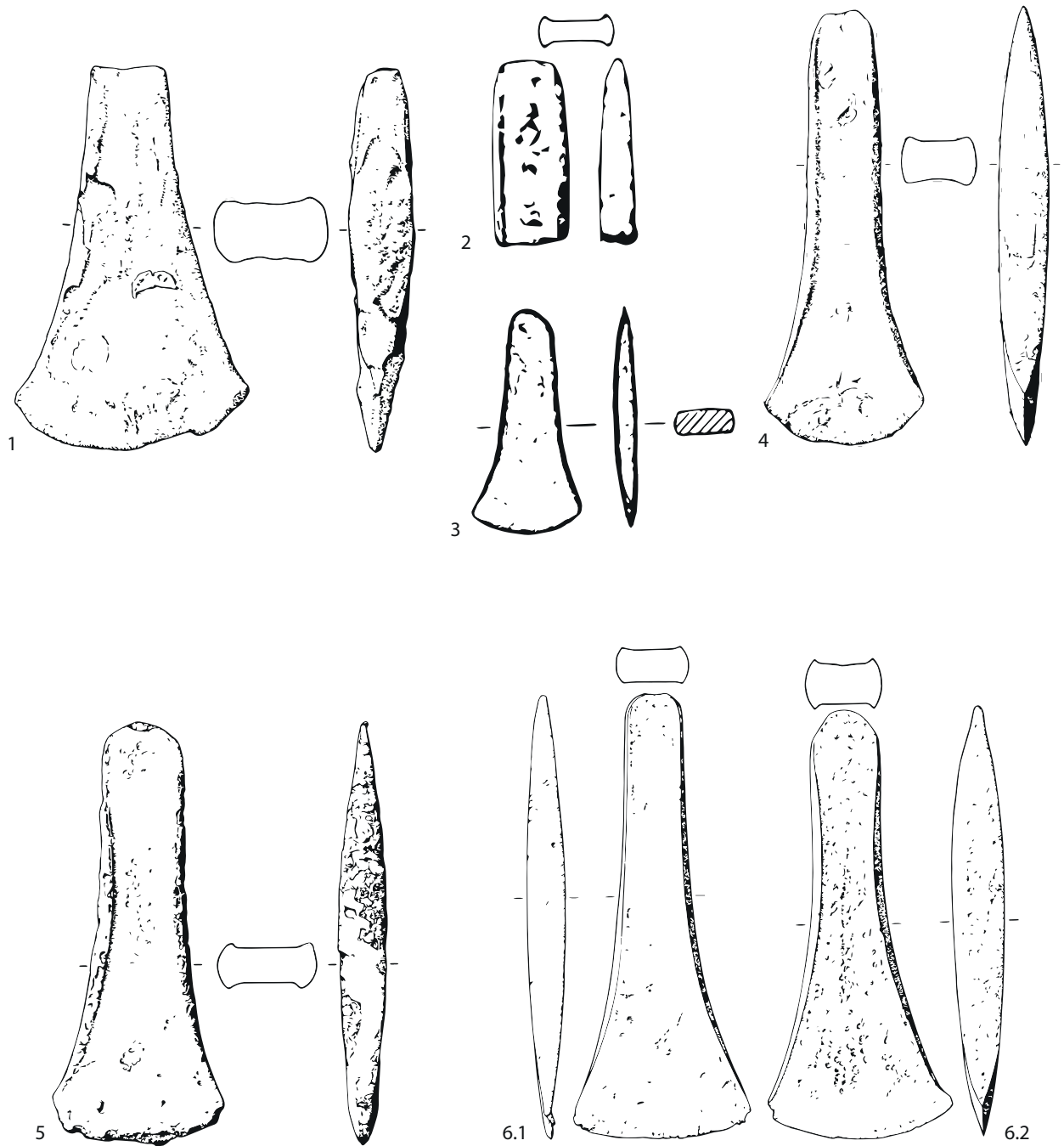


Table 3. 1 – 6: scale 1:2. 1 Rosendahl, cat. no. 15, Aner/Kersten 1979, cat. No. 2840; 2 Tinnum (Sylt), cat. no. 16, Aner/Kersten 1979, cat. no. 2752B; 3 Bliesdorf, cat. no. 19, Aner/Kersten 2017, cat. no. 10255; Karnatz 1987, cat. Bl. 184, tab. 101,1; 4 Bad Schwartau, cat. no. 17, Aner/Kersten 2017, cat. no. 10144; 5 Bichel, cat. no. 18, Aner/Kersten 2017, cat. no. 10156; Junghans et al. 1960, 164, list B2 no. 7; 6.1 – 2 Seekamp (Neukirchen), cat. no. 22, Aner/Kersten 2017, cat. no. 10204.

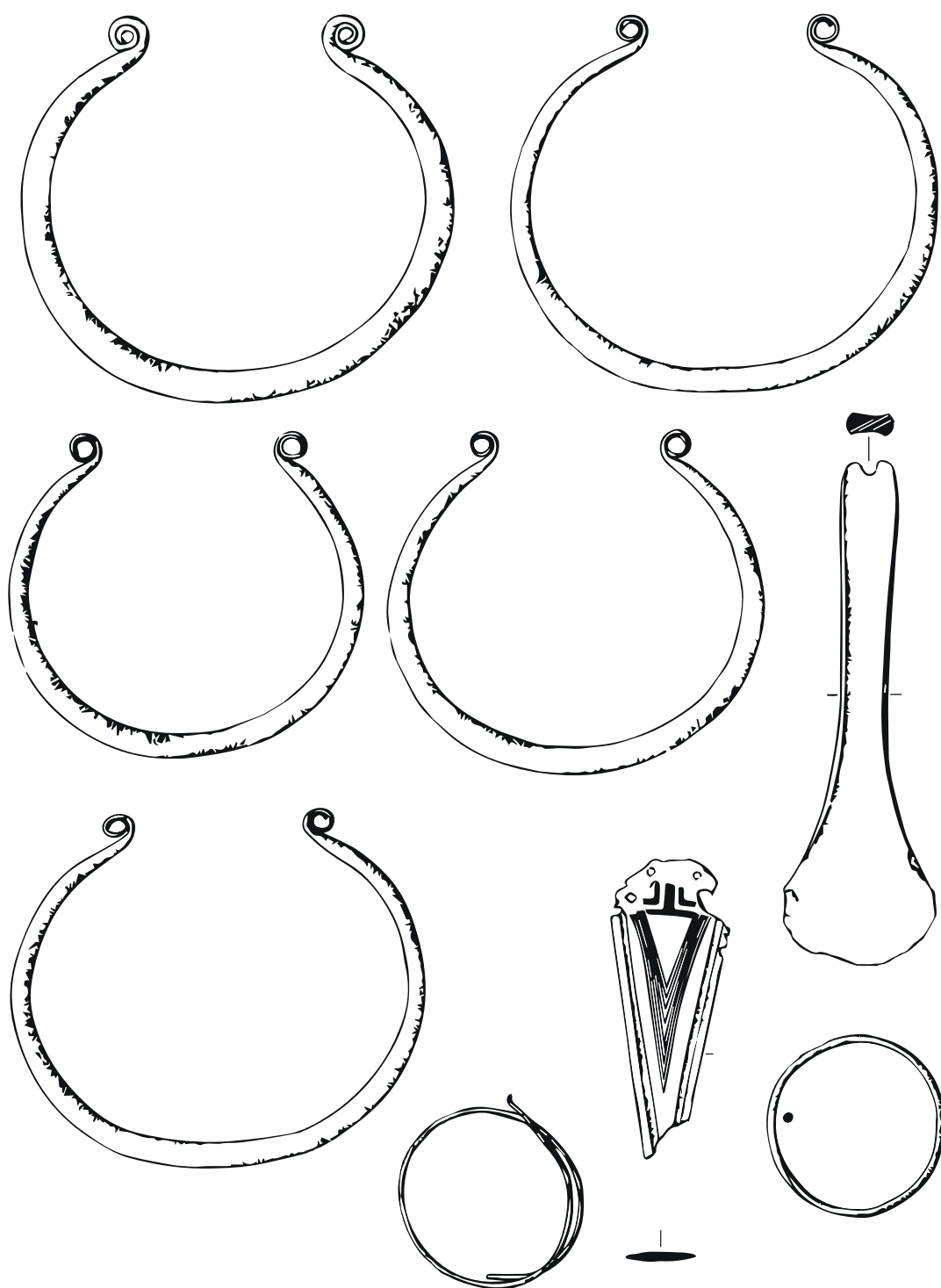


Table 4. Scale 1:3. Neurathjensdorf, cat. no. 21, Aner/Kersten 2017, cat. No. 10177; Endrigkeit 2010, cat. no. 119; Kersten 1936, 140, tab. I,6–9.

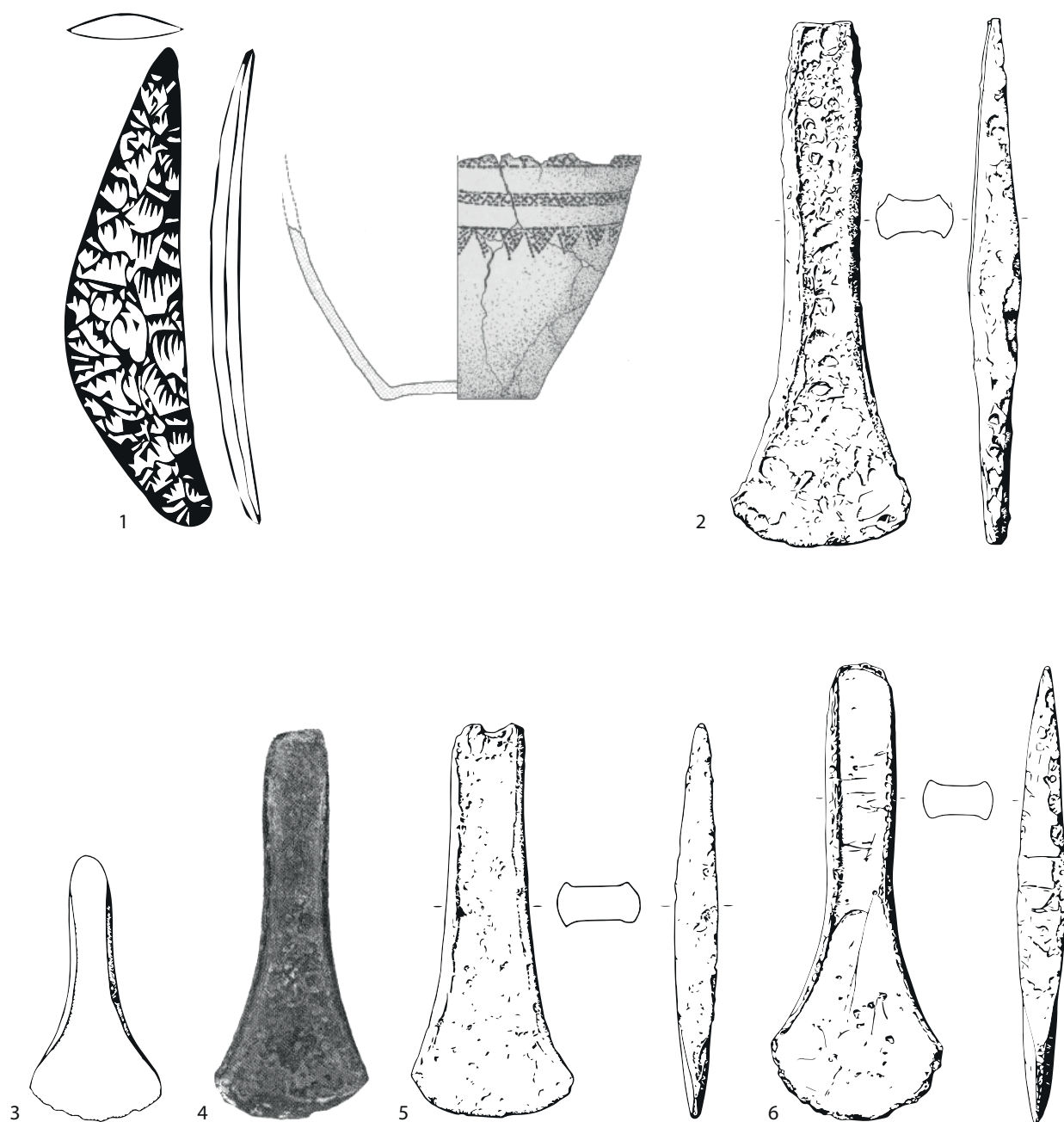


Table 5. 1: scale 1:3; 2–6: scale 1:2. 1 Kruck, cat. no. 23, Kühn 1979, cat. no. 64; Ahrens 1966, 72–73, Abb. 10, tab. 50,5–6; Struve 1955, cat. no. 444, tab. 20,4.10; 2 Altheikendorf, cat. no. 24, Aner/Kersten 2017, cat. no. 10091; 3 Futterkamp, cat. no. 25, Aner/Kersten 2017, cat. no. 10029. 4 Giekau, cat. no. 26, Endrigkeit 2010, cat. no. 156; Kersten 1936, 140; 5 Kaköhl, cat. no. 27, Aner/Kersten 2017, cat. no. 10033; 6 Löptin, cat. no. 29, Aner/Kersten 2017, cat. no. 10102.

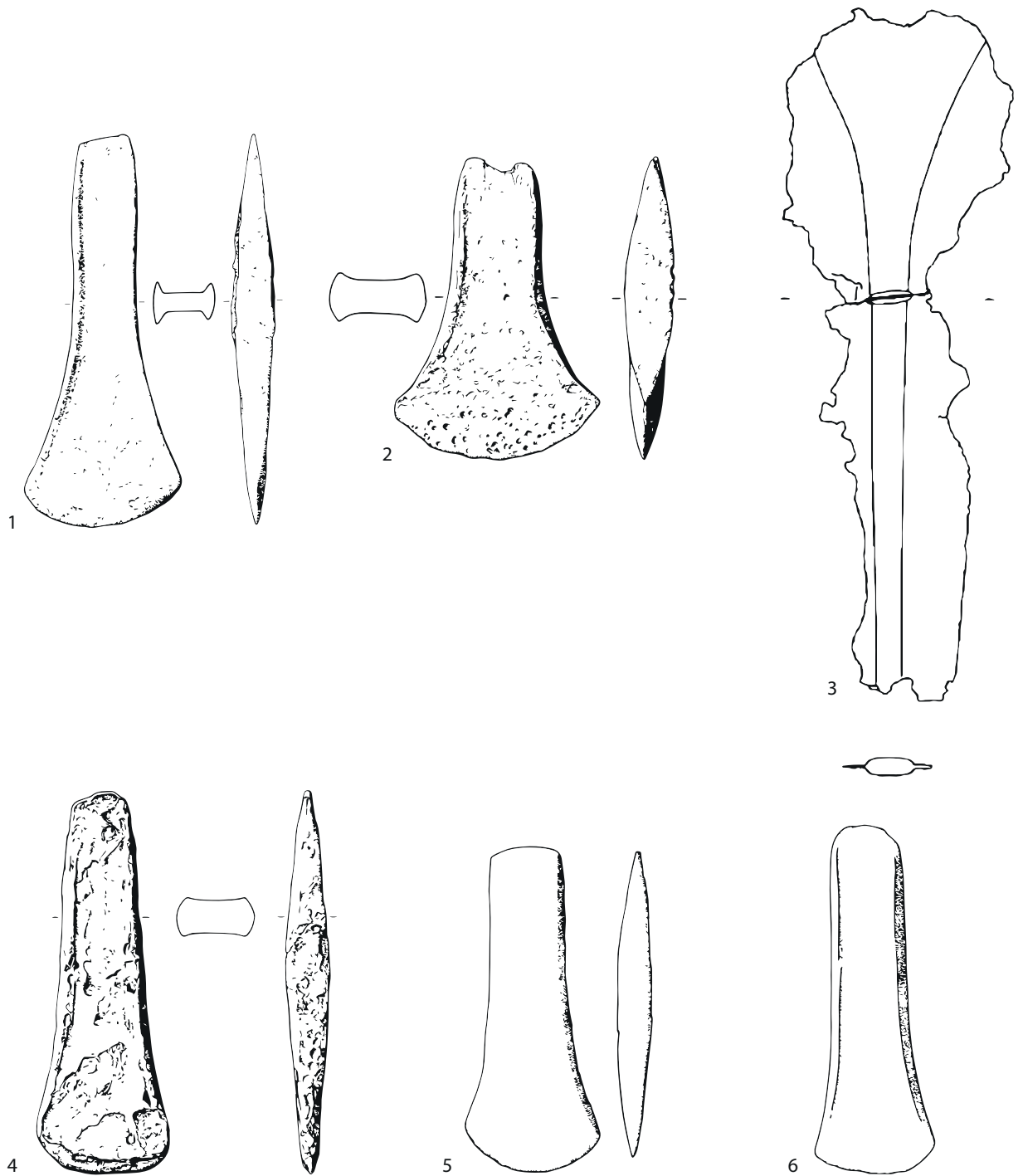


Table 6. 1–6: scale 1:2; 1 Neuhaus, cat. no. 30, Aner/Kersten 2017, cat. no. 10075; 2 Rendswühren, cat. no. 31, Aner/Kersten 2017, cat. no. 10124; 3 Wankendorf, cat. no. 32, Aner/Kersten 2017, cat. No. 10135; Horn 2013, 81–93; Endrigkeit 2010, cat. no. 175; 4 Wentorf, cat. no. 33, Aner/Kersten 2017, cat. No. 10095; 5 Wittmoldt, cat. no. 34, Aner/Kersten 2017, cat. No. 10138; 6 Ziegelhof (Schillsdorf), cat. no. 35, Aner/Kersten 2017, cat. No. 10132.

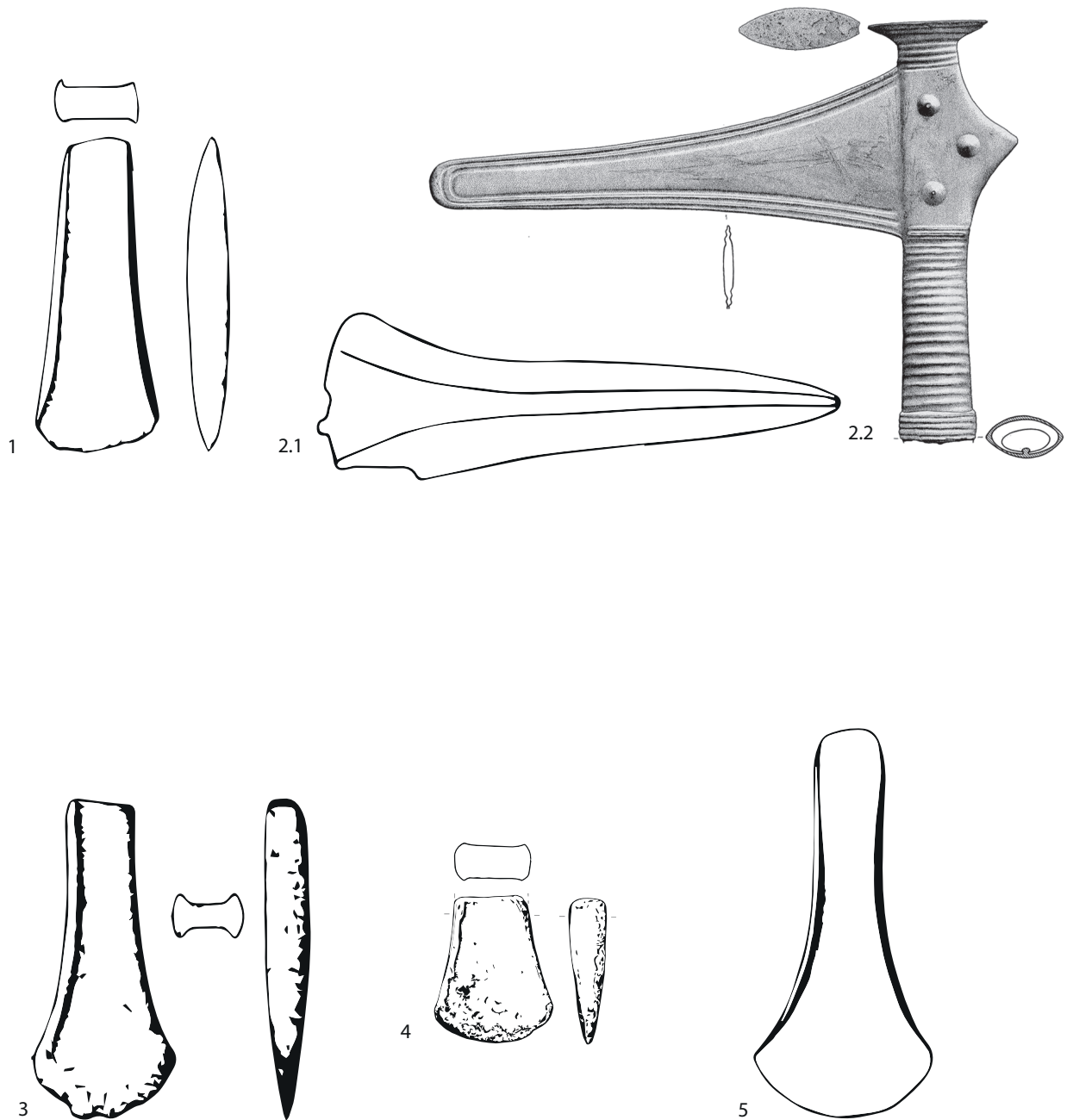


Table 7. 1, 3 – 5: scale 1:2; 2.1: scale 1:4; 2.2 scale 1:3. 1 Beringstedt, cat. no. 36, Aner/Kersten 2005, cat. no. 9553; 2 Bossee, cat. no. 37, Horn 2014, 349, cat. no. 15.16 – 17, tab. 18b, 52c; Aner/Kersten 2005, cat. no. 9751, tab. 52-53; 3 Emkendorf, cat. no. 38, Aner/Kersten 2005, cat. no. 9587; 4 Hademarschen, cat. no. 39, Aner/Kersten 2005, cat. no. 9645; 5 Hamdorf, cat. no. 40, Aner/Kersten 1978, cat. no. 2566.

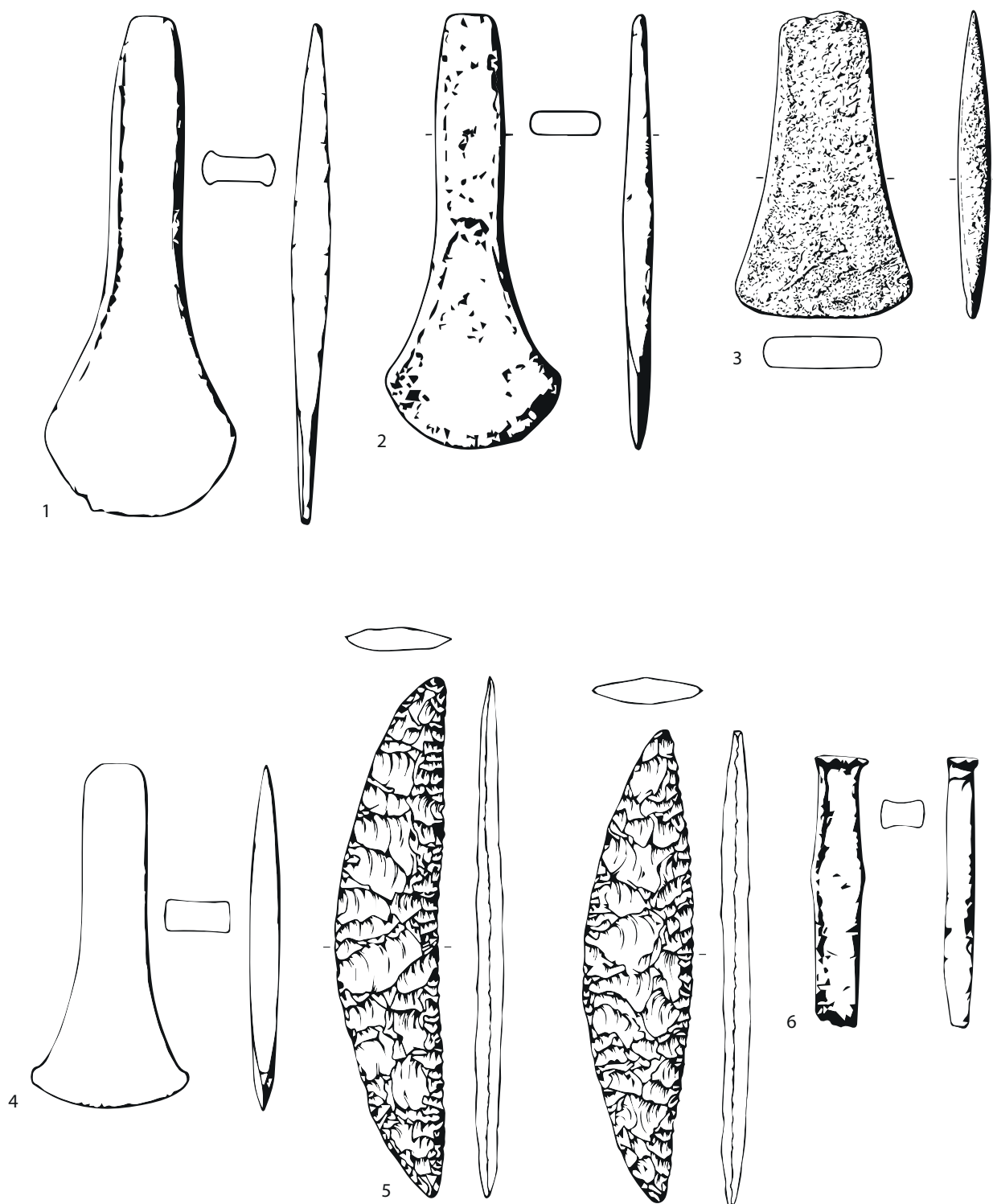


Table 8. 1–6: scale 1:2. 1 Kaltenhof, cat. no. 41, Aner/Kersten 1978, cat. no. 2501; 2 Karlberg, cat. no. 42, Aner/Kersten 1978, cat. no. 2506; 3 Landwehr, cat. no. 43, Aner/Kersten 2005, cat. no. 9694; 4 Lehmbeck, cat. no. 44, Aner/Kersten 1978, cat. no. 2522; 5 Schuby, cat. no. 46, Kühn 1979, cat. no. 11, tab. 18,7. 6 Schülpe, cat. no. 47, Aner/Kersten 2005, cat. no. 9709.

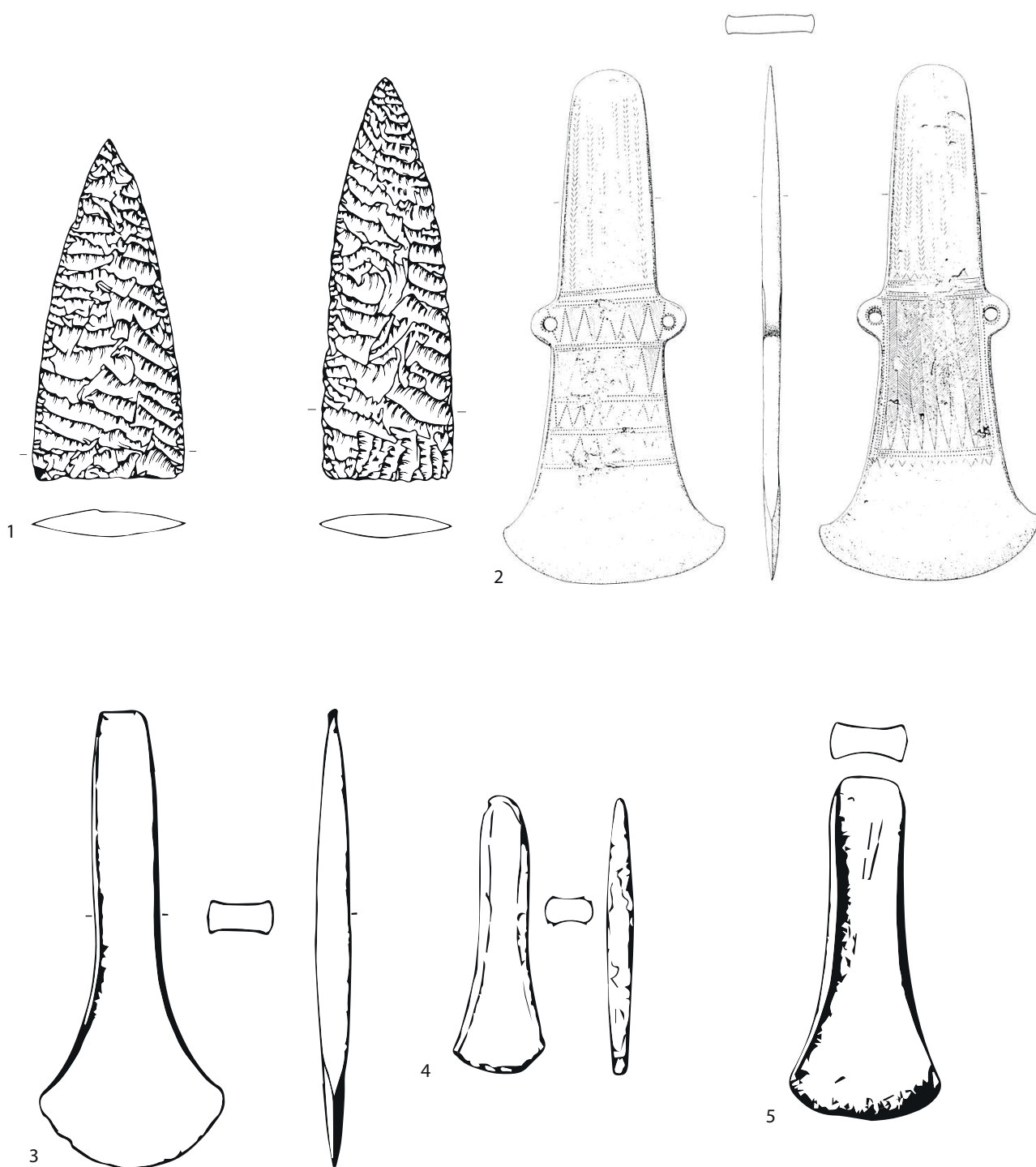


Table 9. 1, 3–5: scale 1:2; 2: scale 1:3. 1 Surendorf, cat. no. 48, Ebbesen 1992, 130, Appendiks 8, Fig.25; Kühn 1979, tab. 14,6–7; 2 Ahneby, cat. no. 49, Freudenberg/Glaser 2017; Aner/Kersten 1978, cat. no. 2178; 3 uncertain locality (Anglia), cat. no. 50, Aner/Kersten 1978, cat. no. 2456; 4 vicinity of Glückburg, cat. no. 51, Aner/Kersten 1978, cat. no. 2212; 5: Großrude, cat. no. 52, Aner/Kersten 1978, cat. no. 2390.

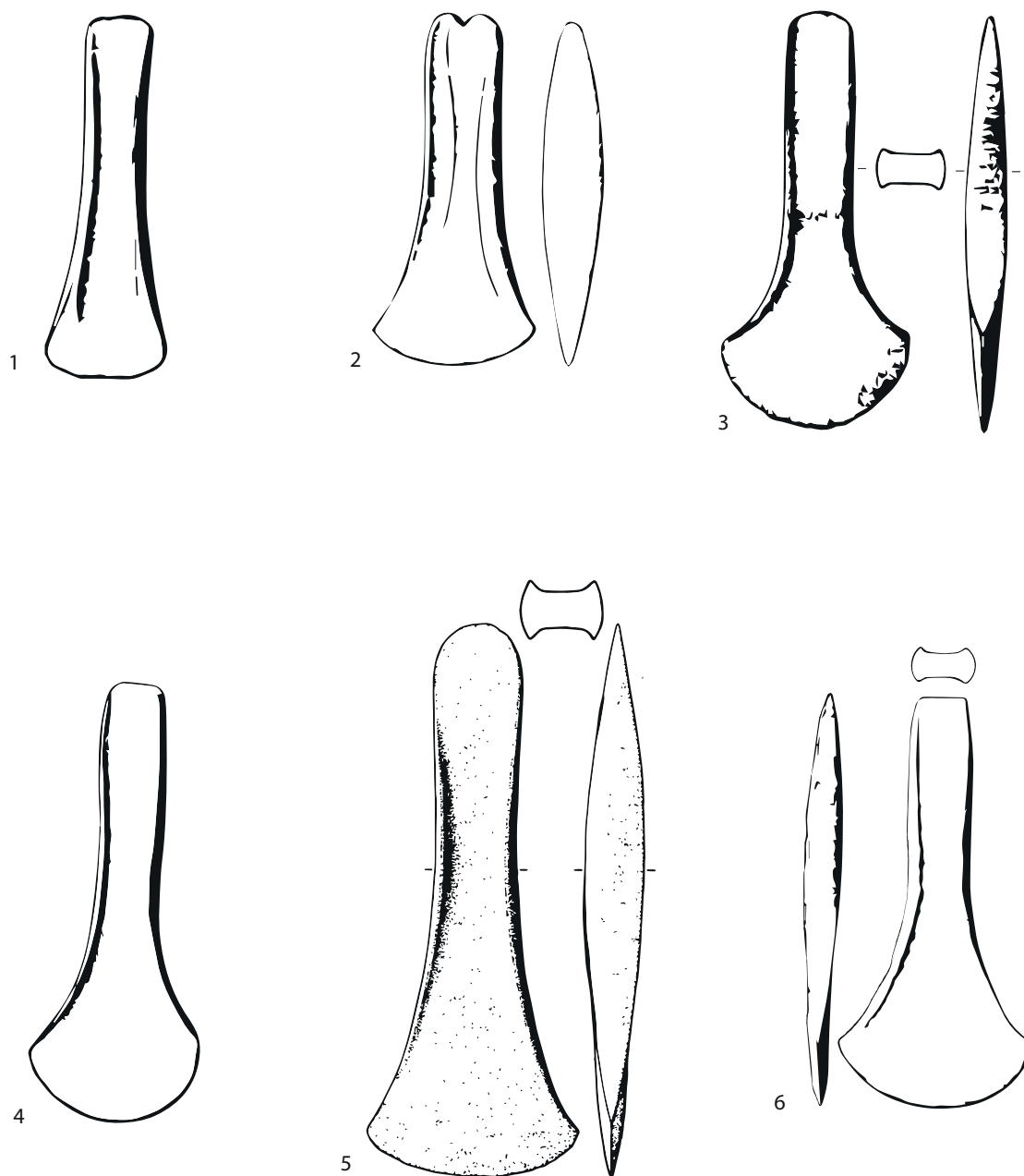


Table 10. 1 – 5: scale 1:2; 6: no scale. 1 Gundelsby, cat. no. 53, Aner/Kersten 1978, cat. no. 2247; 2 Husbyholz, cat. no. 54, Aner/Kersten 1978, cat. no. 2254; 3 Loopstedt, cat. no. 56, Aner/Kersten 1978, cat. no. 2350; Kersten 1936, 140; 4 Sörup, cat. no. 57, Aner/Kersten 1978, cat. no. 2309; 5 Sörupholz, cat. no. 58, Aner/ Kersten 1978, cat. No. 2307; 6 Blunk, cat. no. 59, Aner/Kersten 2011, cat. no. 9810.

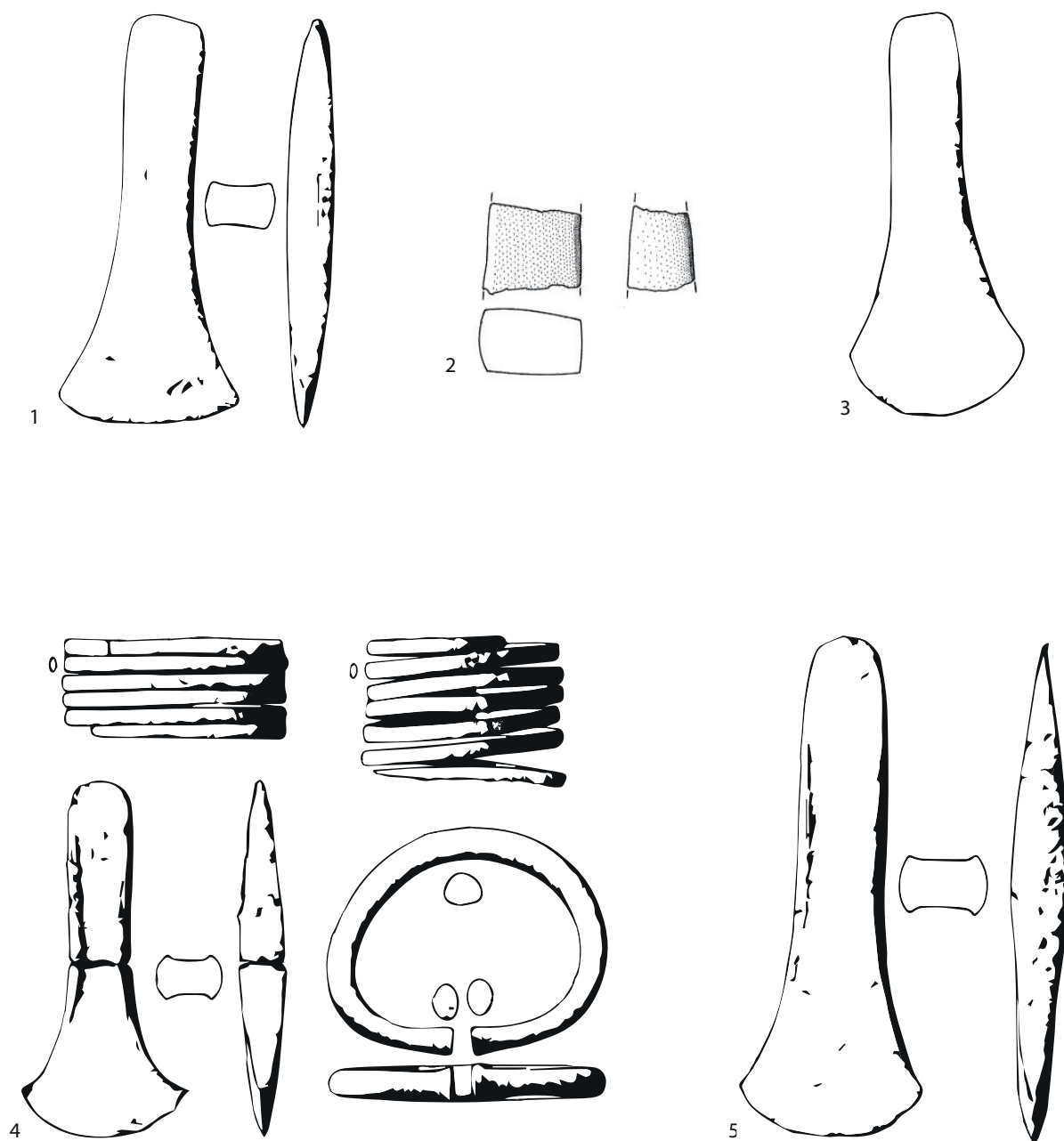


Table 11. 1–5: scale 1:2. 1 Bornhöved, cat. no. 60, Aner/ Kersten 2011, cat. no. 9827; 2 Bornhöved, cat. no. 61, Aner/Kersten 2011, cat. no. 9836; 3 Hamdorf, cat. no. 63, Aner/Kersten 2011, cat. no. 9943; 4 Grönwohld, cat. no. 62, Aner/Kersten 2011, cat. no. 9946; Endrigkeit 2010, cat. No. 85, Tab. 3,6; 5 Neuenrade, cat. no. 64, Aner/Kersten 2011, cat. no. 9977.



Table 12. 1–3, 5: scale 1:2; 4: scale 1:3. 1 Strenglin, cat. no. 65, Aner/Kersten 2011, cat. no. 9961; Kersten 1936, 140; 2 Tönningstedt, cat. no. 66, Aner/Kersten 2011, cat. no. 9987. 3 Traventhal, cat. no. 67, Aner/Kersten 2011, cat. no. 9908; 4 Kühlen, cat. no. 68, Kühn 1979, cat. no. 153, tab. 5,1–3; Kersten 1939, 207, 209, Abb. 207a–c; 5 Puls, cat. no. 69, Aner/Kersten 1993, cat. no. 9480.

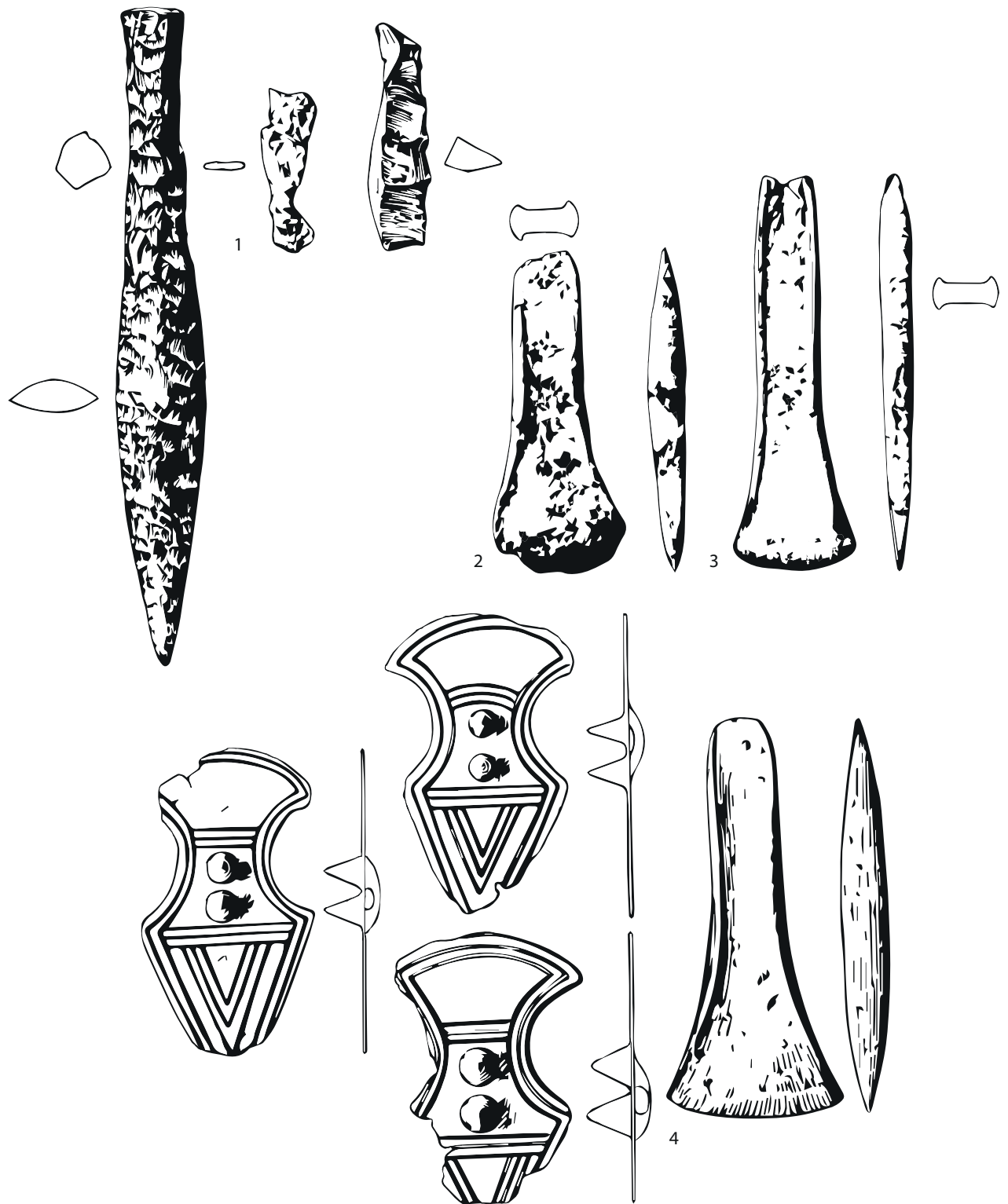


Table 13. 1–4: scale 1:2. 1 Reher, cat. no. 70, Aner/Kersten 1993, cat. no. 9491A; Kühn 1979, cat. no. 160, tab. 13,9–10; 2 Reher, cat. no. 71, Aner/Kersten 1993, cat. no. 9498; 3 Wacken, cat. no. 72, Aner/Kersten 1993, cat. no. 9512; 4 Klein Wesenberg, cat. no. 73, Endrigkeit 2010, cat. no. 41; Hingst 1959, 489, tab. 59.

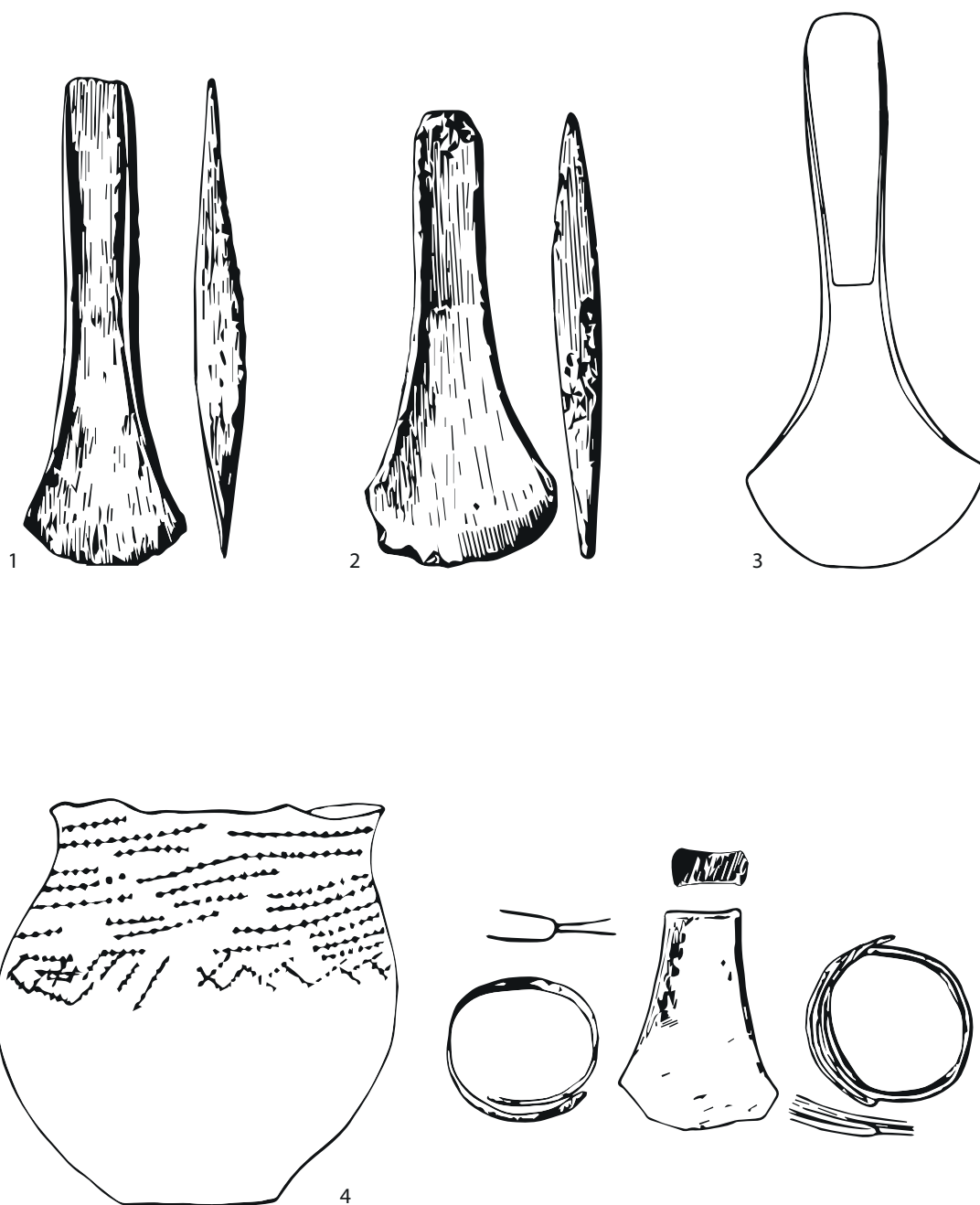


Table 14. 1 – 3: scale 1:2; 4: no scale. 1 Langereihe, cat. no. 74, Endrigkeit 2010, cat. no. 37; Kersten 1936, 140; 2 Schönningstedt, cat. no. 75, Hingst 1959, 424; 3 uncertain locality (Southern Schleswig), cat. no. 76, Aner/Kersten 1978, cat. no. 2458; 4 Boberg (Hamburg), cat. no. 77, Endrigkeit 2010, cat. no. 49; Vandkilde 1996, 203; Struve 1955, cat. no. 186, Abb. 5.

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