

## CHAPTER FOUR

# WARFARE VS. EXCHANGE? THOUGHTS ON AN INTEGRATIVE APPROACH

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### INTRODUCTION

In prehistoric research, the concept of exchange is generally seen as responsible for much of the distribution patterns we observe, bringing goods in the form of raw materials or finished objects to a region. Such exchange may also be considered to have been imbued with the power to introduce technological and social change. If warfare is at all mentioned in this process, it is often only in passing (Olausson 1988) and is frequently considered to be an opposition to exchange. Slightly exaggerating, it can be stated that prehistoric societies are portrayed either as peaceful or as engaged in warfare (Vandkilde forthcoming). Conflict is uniformly considered to be disruptive and separating (i.e., nothing constructive comes out of it, whereas exchange can take on a multitude of forms) (Polanyi, Arensberg and Pearson 1957; Polanyi et al. 1975; Renfrew 1975). Perhaps this is the reason why the concept of exchange is used by authors from many different theoretical standpoints to interpret their data in favour of either diffusion or migration (e.g., De Navarro 1950; Earle 2010). To a certain extent these interpretations are based on circumstantial evidence such as the distribution of natural resources (Shennan 1982; Needham 2006) or the observation of elements deemed to be ‘foreign’ (e.g., Vandkilde 1996: 225). They are often deduced by analogies taken from social anthropology, for instance from the concepts of gift exchange and the acquisition of commodities (cf. Fontijn 2002: 31).

Nevertheless, the presence of weapons, warrior graves, and imagery does not fit smoothly into this picture. Thus, the questions concerning their meaning in prehistory persist. The following is an attempt to reach an integrated understanding of exchange and warfare. Due to the circumstantial nature of the evidence and space restrictions, the discussion will be brief and some evidence must be left out.

#### ENVIRONMENT AND ECONOMY: FAVOURABLE REGIONS

Similar systems of exchange may have existed in the Late Neolithic and the Earliest Bronze Age in southern Scandinavia. Natural resources for exchange were available in the deposits of flint (Varberg 2005) and Baltic amber (Shennan 1982). Copper, on the other hand, was presumably imported (Ling et al. 2013) as suggested by the morphology of metal artefacts which are thought to confirm these far-reaching contacts (cf. Oldeberg 1976). However compelling, this proposed system is accompanied by some inherent problems, at least when it is supposed to account for all of southern Scandinavia. For example, the distribution of natural resources is unequal and seems to be concentrated in Limfjord, the Danish Isles and Rügen (Fig. 4.1). Another unsolved question is what resource flowed in the opposite exchange direction (Klassen 2000: 277–278). The picture created unintentionally conveys the idea of a communal sphere in which people came together peacefully, bound by common trade, interest and contact: an ideal capitalist world.

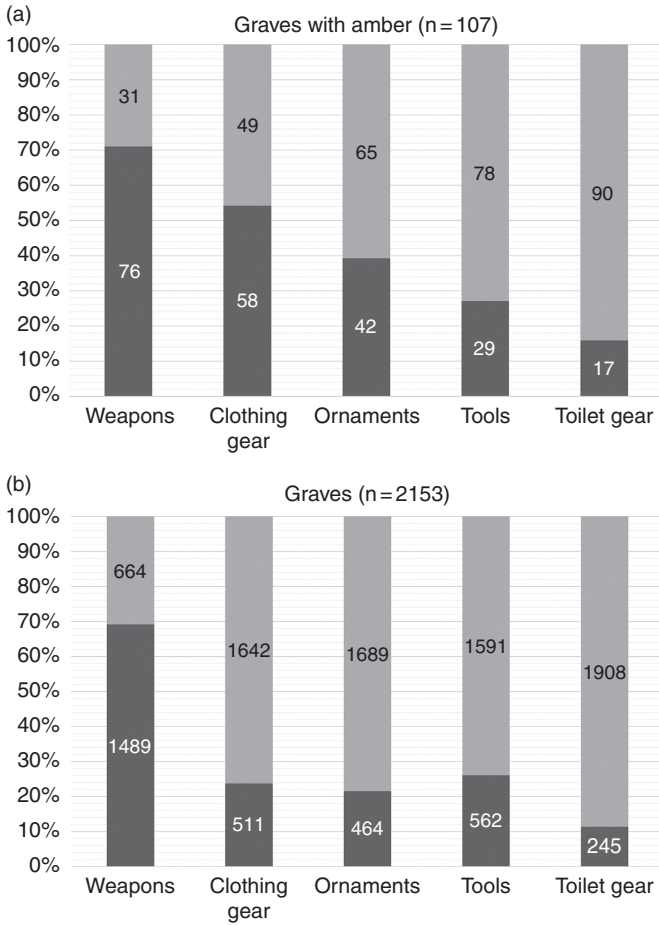
One of the most favourable southern Scandinavian regions in terms of economic advantages is Limfjord and its adjacent regions (Fig. 4.1). It has a large occurrence of Baltic amber (Dahlström and Brost 1996), a resource that was highly significant during the Late Neolithic and the Bronze Age. Amber was exchanged throughout Europe, including the Wessex culture, Únětice culture, and later throughout the Mediterranean region (Harding, Hughes-Brock and Beck 1974; Shennan 1982). Large deposits of naturally occurring flint were another resource used by the inhabitants of Limfjord (Varberg 2005). Flint daggers were widely distributed throughout Scandinavia and more distant regions, reaching Finland, Poland and the Netherlands (Lomborg 1973; Apel 2001). Therefore, both materials were very important for the production and acquisition of prestige goods thought to be highly significant for the establishment of social rule and hierarchies (Earle 2004).

Additionally, natural currents favour Limfjord (Ehlin 1981: 129–133). From the west, significant streams pass Limfjord and flow into the Kattegat and the Skagerrak (Fig. 4.1). Potentially, this facilitated incoming exchange by means of waterborne mobility, perhaps from northwestern Germany and the Netherlands or even European regions farther away, such as the British Isles, France or Iberia. Along the coast, currents flow out of the Skagerrak and



4.1: Map of southern Scandinavia indicating natural resources, maritime currents and metal trade routes (after Dahlström and Brost 1996; Varberg 2005).

Kattegat past Limfjord, possibly enabling water-bound contacts to regions in southern Norway and farther north. Consequently, Limfjord was not just well situated in terms of naturally occurring raw materials for high-profile objects, but it was also in a good position to participate in local, transregional and long-distance exchange networks. This situational framework evokes two central questions (Varberg 2005: figs. 1, 2): what did other regions have to offer in order to participate in exchange networks deemed important in prehistory and, as asked earlier, what flowed in the opposite direction? One raw material that had to be imported from different sources into southern Scandinavia was copper (Ling et al. 2012). Regions in closer proximity to Limfjord which matched its richness may also have been participating in copper exchange networks (e.g., Scania and parts of northern Poland, which also have occurrences of Baltic amber, or the Island of Rügen, with its large quantities of flint and amber). Nevertheless, the combined presence of both resources in Limfjord along with its geographical position may have



4.2: Grave goods: A. in graves with amber; B. all graves.

given it a competitive advantage. Regions to the north might have been providing other materials such as timber and furs (Klassen 2000: 277), but it is still difficult to verify these assumptions (Varberg 2005). Thus, they may have been left out of direct participation in the described exchange networks.

Theoretically, there are several possible disruptions in the flow of resources and prestige goods. Several concurrent groups engaged in exchange with similar raw materials, and competing for participation in the exchange of raw copper and prestige items could have led to an overpresence of providers. Conversely, amber and flint being such important resources could have driven the exchange rate up if some groups were able to deliver more than others. In both cases, some communities would have been left out of the exchange networks but would still have needed these prestige goods due to their significance for their internal socio-political economies. Some communities, especially those farther north, may have been left out entirely due to their lack of resources needed to enable participation.

In accordance with these theoretical considerations, we can assume that the potential for conflict was a given. This may have been a contributor to the variable and fluid southern Scandinavian world during the Late Neolithic and the earliest Bronze Age (Bergerbrant 2013: 153) that cannot be explained easily with a constant, ever-flowing exchange network alone. But if conflict did exist, how can we prove it?

#### THE USE AND USABILITY OF EARLY SPECIALIZED WEAPONS

Among the first bronze objects created in Period I of the Early Nordic Bronze Age were weapons: short-swords and spears. Yet, even prior to this period, weapons in the form of copper halberds were present in southern Scandinavia. This is, in itself, a very intriguing observation, but these early weapons are viewed by many researchers with much scepticism. Frequently, halberds are portrayed as a nonfunctional class of weapons used solely for prestige or ritual purposes, and arguments testifying to their ‘weak construction’, ‘unsuitability’ and ‘uselessness’ have been repeated for more than seventy years (Ó’Ríordáin 1937: 241; cf. O’Flaherty 1998). Swords of the Sögel/Wohlde-complex have also equally been portrayed as technologically ill-constructed and merely fit for stabbing (Fontijn 2005: 146). Similarly, early spears have been considered by some to be ‘clumsy’ (Harding 2007: 76) or generally not fit for fighting (Mercer 2006: 131). In the light of this previous research, I will reconsider the evidence for fighting and war in the following.

If these weapons were not fit for use, a use-wear analysis should be expected to provide no traces of past combat. Here, I will only provide a summary of the use-wear analysis (for details, see Horn 2013, 2014a, 2014b). Fifteen of the forty-one known Late Neolithic halberds, and 208 of the approximately 600 known Period I weapons have been examined. Traces of use included impact damage (e.g., notches, indentations, blow-marks and plastic deformation including curvatures and fractures). Although plastic deformations are partially caused by impact, they are separated within this designation from impact damage because they affect larger parts of the weapon. Conversely, ‘impact damage’ leaves more or less clear imprints of the impacting objects. In that sense, tip damage forms a separate category including pressure, fracture and curvature. Traces of repair were recorded for two reasons: first, repairs were obviously only necessary when something had been damaged; therefore, they may account for secondary proof of combat use (Kristiansen 1984, 2002). Second, repairs distort combat traces because they subtract larger parts of the edges.

Post-depositional processes, above all corrosion, also distort use-wear traces. In general, certain aspects of depositions increase the potential of corrosion: for example, the environment of graves is more corrosive due to the presence of chlorine and ammonia as products of the decomposition of the human body

(Spähn 2001: 203 tab. 1; Tylecote 1979: 350). Preweakened parts, such as notches, are also susceptible due to their enlarged surface. For example, 56 per cent of the swords (twenty-eight) exhibited traces of use or repair, and only two swords (4 per cent) clearly lacked such evidence. The remaining swords (twenty or 40 per cent) were too disturbed to make any clear judgement. In comparison, spears exhibit use-wear more frequently. Perhaps this relates to the fact that more swords were discovered in burial contexts. Accordingly, almost half of the examined swords (twenty-three or 46 per cent) display strong corrosion. Despite these difficulties, the evidence for the use of the examined weapons in combat is overwhelming (Horn 2013, 2014a, 2014b). Kristiansen has shown that weapons continued to be used in frequently occurring conflicts in later periods (Kristiansen 1984, 2002).

More than half of the examined weaponry possessed damage acquired in combat as well as traces of repair indicating frequent and heavy use. If we consider the presence of different damage categories, repairs and the simultaneous presence of both combined with the occurrence of heavy disturbances, we can conclude that the damage observed represents only the minimum of the damage that was originally incurred (see Horn 2013, Horn 2014b).

Considering the evidence from the use-wear analysis it can be said that fighting occurred quite often. If the assumption is accepted that the weapons in the archaeological record present only a subset of the prehistoric reality, we may view Scandinavia as a tightly knit network in which conflict occurred with a certain degree of regularity. That this conflict could have ensued between close neighbours is exemplified by a deceased man discovered in Over Vindinge who had the tip of a local Valsømagle spear embedded in his pelvis (Kjær 1912). He also reminds us that these conflicts had serious consequences for the living population.

#### EXCHANGE AND WEAPONRY

It can perhaps generally be stated that archaeological evidence is for the most part sketchy, always demanding interpretation if past reality is to be approximated. Nonetheless, there is good evidence for the association of warfare and exchange if we turn our attention to the weapons themselves. The use-wear analysis suggests that many weapons were produced for violent conflict. However, used weapons may also have been part of the exchange of highly regarded gifts as objects invested with stories. That is to say, their use in warfare gave them their value and the potential to convey prestige. Therefore, it cannot be assumed that they were deposited as symbols for exchange as freshly produced objects might. Nevertheless, used weapons can serve as secondary proof of commodity exchange, namely as evidence of the exchange of the raw materials they were made from (Ling et al. 2013).

Accordingly, studies of lead isotopes suggest that most of the copper was imported into Scandinavia from all over Europe (Ling et al. 2013). This is confirmed by the observation that many weapon forms are influenced by contact with other regions. Halberds feature types known from the British Isles and later from the Únětice culture (Horn 2014a), whereas the development of swords seems to be largely dependent on interaction with the Carpathian Basin (Lomborg 1960). That past people made the decision to set aside some of the precious raw materials in anticipation of conflict (i.e., producing weapons to be used in combat), perhaps points to a certain necessity to do so. This necessity may have arisen within the competitive context of exchange. On a local scale, the same might be true for flint and flint daggers, which should be regarded as weapons rather than as tools within their social context (Christensen 2004: 141; Sarauw 2007: 73–75).

In a wider view, there is further evidence that warfare and exchange were interrelated. Other raw materials refer to this connection, pointing to exchange networks with regions outside Scandinavia. In the Wessex culture of southern Britain, pendants were produced in the shape of halberds. Their handles were made out of gold, Baltic amber or both (Piggott 1938: 84–85). These finds point to the manifold complexity involved in exchange and warfare. To produce the handles with imported raw materials from another region was not the only choice made: people decided to produce pendants in the form of a weapon not in use locally, but typically belonging to the wider Únětice region. Within the Únětice culture, hoard II from Dieskau not only exemplifies the link between warfare and exchange, but indicates connections to Scandinavia as well. A necklace of amber beads was associated with fourteen halberds, which implies that the Dieskau hoard II contained elements of both exchange and warfare because European halberds were usable and used as weapons (Horn 2014a).

Furthermore, there is local evidence in southern Scandinavia for a connection between amber and weapons. In Tinnum (Sylt), a grave assemblage was discovered containing an amber bead associated with a sword of the Sögel type (Aner and Kersten 1979: no. 2742) and a grave in Kisum in the Limfjord area contained a Wholde-type sword which was associated with another amber bead (Aner and Kersten 1995: no. 4642). These findings can be quantified: a sample of 107 graves with amber and associated finds dating to the Late Neolithic and Early Bronze Age mainly from northern Germany, Sweden and the Copenhagen region (taken from the respective Aner and Kersten volumes and Oldeberg 1974) were analysed and five categories were defined (Fig. 4.2). Ornaments and clothing gear have been separated according to their degree of practical utility. Assuming that the dead were usually buried clothed, a fibula or a pin was necessary to secure the garment and therefore was possibly not a prestigious gift, but a finger ring would have been something extraordinary in



this sense. It should also be mentioned that the weapons category also includes axes. Scandinavian rock art may be considered evidence that axes were employed in violent encounters because they appear in a number of antagonistic scenes; however, they were also counted in the tool category to reflect their other potential uses.

A majority of the graves with amber contain swords (seventy-six or 71 per cent). While this only slightly deviates from the overall percentage, there is a drop-off from the other categories. This can possibly be explained overall by the graves that include amber being somewhat richer than the rest. Analysing the categories further, we see that the average of present categories is 2.1 and the median is 2. For all the other graves, the average is 1.5 and the median is 1. Most remarkable in the scope of this paper is the relative increase in ornaments, clothing and toilet gear at the expense of tools in these graves (Fig. 4.2). This may potentially be seen as evidence that the local precious exchange material was closely connected to activities associated with conflict. Depending on the outlook of what the grave goods represent, this suggests that exchange with amber was a high-status activity either of the deceased himself or those who succeeded him. Assumedly, the continuous flow of the raw materials that formed the base and potential for exchange, as well as the raw materials used to produce these grave goods, needed to be secured. The weapons could be interpreted as an integral part of exchange acts, whether to protect exchange networks or to force a one-sided 'exchange' through raiding. Rock carvings possibly depict this entanglement of high statuses, exchange networks, organization of raiding parties, waterborne mobility and participation in cosmological and political codes (see Chapter 5).

#### WATERBORNE MOBILITY AS A MEANS OF WARFARE AND EXCHANGE IN SOUTHERN SCANDINAVIA: AN OPEN MODEL

Here, I will argue that waterborne mobility, in addition to being a means of exchange, was a major means of warfare in southern Scandinavia. That does not imply that fighting took place on or from canoes: it just refers to a mode of transportation equally employed in both activities.

People were present on the various islands of southern Scandinavia since at least the Neolithic. Isotopic studies carried out on populations of Öland verify that some of them migrated during their life times, with an increased migration tendency during the transition from the Late Neolithic to the Early Bronze Age Period I (Linderholm et al. 2011). Boats were most likely the means used to reach new destinations, which is confirmed by rock art stemming at the latest from the Early Nordic Bronze Age (Period I), although some might be Late Neolithic. Previously thought to be merely a symbol for terrestrial communities, Ling (2008: 15–35) has convincingly shown that boats, or rather canoes,



were an important means of transportation, shaping social and ritual life through practice.

The construction of boats was presumably very consistent over time. A sewn-plank canoe dating to the Iron Age was discovered in Hjortspring (Randsborg 1995) along with a large number of weapons. Although no such canoe has been found for the Late Neolithic and the Early Bronze Age, boats depicted in rock art possess a very similar outline; they could also have been constructed as skin boats (Crumlin-Pedersen 2003: 228–230). Log canoes with potential sewn plank extensions have, however, been discovered in Denmark (Crumlin-Pedersen 2003: 218–219). These canoes were lightly built vessels (Crumlin-Pedersen 2003: 232), perhaps capable of fast movement. If we follow Virilio's (1986) argument, such speedy waterborne mobility itself may have stimulated violent encounters. The interpretation of these canoes as war canoes has also been supported by ethnographic evidence (Ling 2008: 206, fig. 10.10). A quintessential multifunctionality (i.e., to be deployed for exchange and warfare) rests within these vessels.

Kaul (2003: 203) maintains that 'true' maritime warfare first started in the Early Iron Age. Yet Hjortspring is not, as he states, the oldest large-scale weapon sacrifice in the Nordic sphere (Kaul 2003: 203). Even though the amount of recovered weapons is considerably smaller, the hoard from Torsted, dating to Period I, contained forty spears (Becker 1964). Compared to what is known from contemporary finds, this is a massive amount. Moreover, there are further indications for a connection between waterborne mobility and warfare: depictions of halberds were occasionally transformed into ships (Burenhult 1980: 95–99). Considering Ling's interpretation (2008: fig. 7.35) that the tradition of carving canoes may already have started in the Late Neolithic, a possible connection between weapons and canoes can be suggested. Furthermore, early panels with rock carvings show canoes as well as weapons; for example in Enkenberg, Scania (RAÄ Östra Eneby 23:1). It may be that both weapons and canoes were employed in interrelated real-life situations. Kaul also suggests that there might be a relationship between weapon sacrifices and war-like interactions (2003: 203–206). During the Late Neolithic and the Early Bronze Age, settlement finds of weapons are virtually absent in the archaeological material. Conversely, ritual contexts are abundant if graves, hoards and single depositions are interpreted as such despite their different purposes.

There are not many Period I swords in Sweden, but a cluster was discovered in the wider surroundings of Mälardalen; the main distribution of these types is dispersed within Jutland and possibly Lolland (Bergerbrant 2013). People carrying weapons may have travelled between these places, regardless of whether the sacrificed weapons belonged to them or were local products after the transmission of the technological design by said travellers. Other weapon technologies spread in a similar manner (e.g., the halberd made of

metal). Nonetheless, what do these weapon sacrifices tell us about a connection between warfare and exchange?

Limfjord and Mälardalen had higher sea levels in prehistory; the land uplift was stronger in Mälardalen (Andersen 1990; Ling 2008: 47–57; cf. Pässe 2001). Charting the higher sea levels and weapon sacrifices reveals that many depositions were put down in close connection to the seascape (Fig. 4.3A–B). The light vessels in use probably did not need any special construction to land, so it may therefore be suggested that the charted deposition places were potential natural landing zones. Sea voyages fostered exchange due to speedy transport and the avoidance of land occupied by other groups, which thereby reduced the necessity for negotiation. Conversely, the increased speed of waterborne mobility increased the chances of violence due to a lack of possibilities for the control of movement (Virilio 1986). That, in turn, enables fast surprise attacks. Journeys by sea could have served to achieve ends with violent means. Such incidents may not have even been predetermined when a journey started, but rather decided upon opportunistically. People may have signified such places with ritual performances involving the weaponry used.

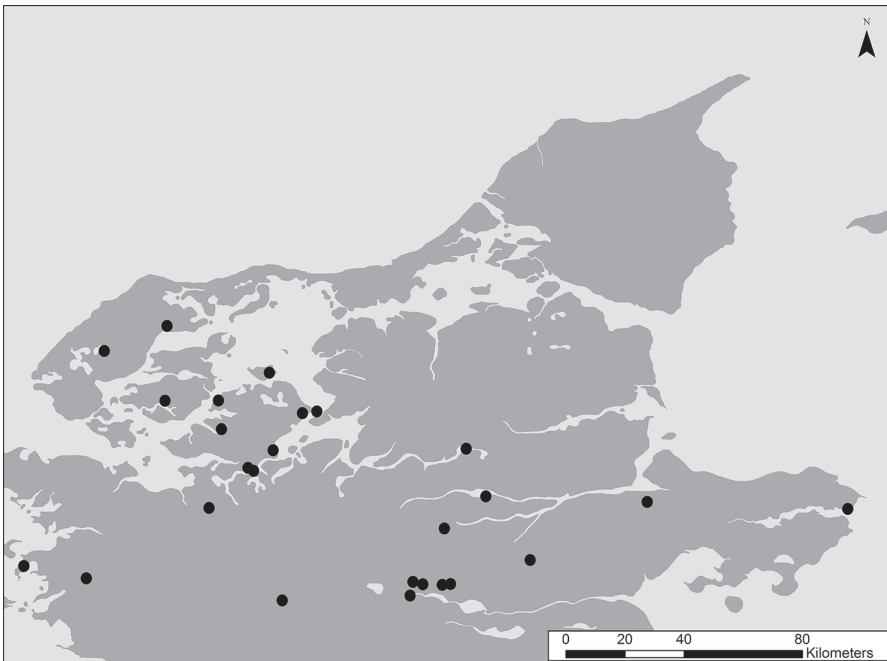
In summary, a high-frequency use of weaponry in combat, sacrifices of such weapons within seascapes and the presence of weaponry in rock art suggests that warfare and ritual are interrelated. This is potentially linked to what Price (2002: 346–352) so aptly called ‘the supernatural agency in battle’. A war leader could have been honoured with a burial including his weapon close to the locality chosen to embark on raiding journeys, or a successful raid could have triggered a sacrifice of a weapon used or looted by the raiders at the same locale. Hypothetically, sacrificed weaponry and items associated with them in hoards may represent loot rather than objects of trade-like exchange.

The natural environment may even hint towards a directionality for such violent exchange. Limfjord and the Danish Isles, with their abundance of precious raw materials and their privileged position in exchange networks, in addition to currents coming from Mälardalen, but also Scania, Bohuslän and Østfold, may have provided the incentive and the possibility for these communities to carry out speedy attacks (Fig. 4.1). Within this model, we may expect responses such as counter-raids. Unfortunately, this has to remain a hypothesis for now because the archaeological remains are equivocal on these matters.

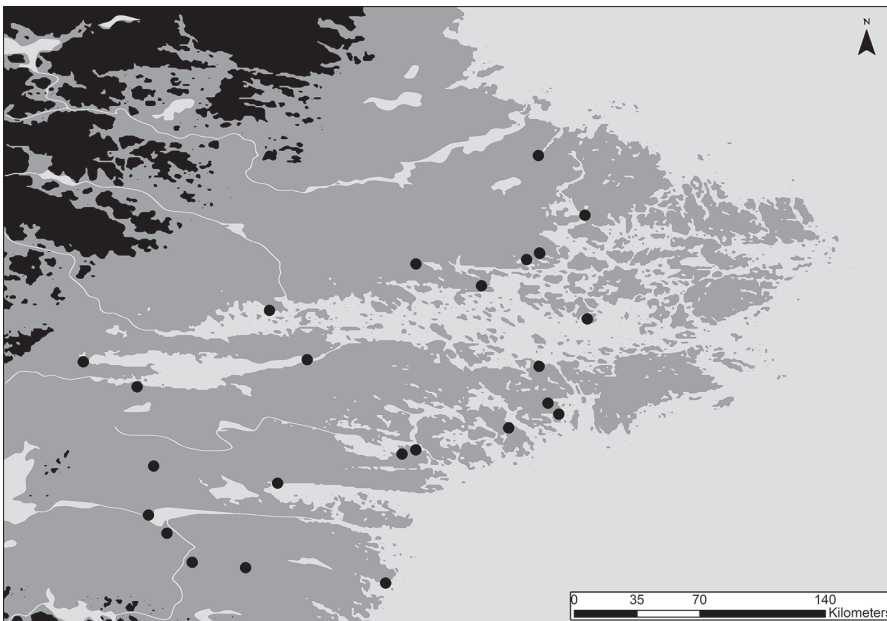
## CONCLUSION

By examining the weapons and their internal and external associations to the sphere of exchange, this contribution argued that exchange and warfare should not be regarded as separate entities in Scandinavian prehistory. Both are meaningful actions suggesting mobility and contact between people. Some view the origin of exchange in warfare (Lévi-Strauss 1943), others may interpret it the

(a)



(b)



4.3: Early Bronze Age sea level: A. Limfjord (~5 m above current sea level); B. Mälardalen (~20–22 m above current sea level).

other way round. From the material presented here, it is not possible to make a firm decision on this issue. It appears that warfare and exchange are each other's *sine qua non*. Thus, if archaeologists are concerned with the distribution and displacement of material culture, it is suggested that considering both conflict and exchange is a worthwhile undertaking.

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