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Bronzes, farms and rock art

The agrarian expansion of North Norway

Introduction – "Northern Worlds"

In 2010 the National Museum of Denmark launched a large scale research initiative, "Northern Worlds" *(Nordlige Verdener)*, financially supported by the Augustinus Foundation. "Northern Worlds" includes 20 different projects, ranging from investigations related to climate change in Late Palaeolithic and Mesolithic Denmark to the neolithization of Shetland, Inuit and Norse Greenland (Kaul & Mahler 2012). One of these projects has examined the spread of agriculture within Scandinavia. One of the areas that is key to understanding this process is the Norwegian coastal zone facing the Atlantic.

In the coastal areas of Nordland, close to the Arctic Circle, there is good evidence of Bronze Age activity. As we will examine in part one of this article, even though the cultural remains are relatively few in comparison with South Scandinavia, a broad spectrum of find categories is represented, particularly around Alstahaug, in Helgeland. There are burial cairns containing grave furniture of typical Nordic Bronze Age character, votive depositions of bronze objects, and rock carvings. This second part of this article focuses in on the rock carvings located in two separate areas, the islands of Tro and Flatøy, Nordland, and Alta, in Finnmark. The ships on Tro and Flatøy range in dating across both the Early and Late Bronze Age. Over 1000km to the North, at Alta, we find a few rock carving ships from the final period of the Bronze Age. Landscape analyses have demonstrated that the rock carvings, as well as the other finds related to the Nordic Bronze Age culture, are situated close to the best arable land of today, emphasizing their agricultural context.

PART I – HOUSES AND BRONZES

Neolithic expansion and stand still

Around 4000 BC, neolithization took place in Southern Scandinavia. Within a short span of time, most parts of southern Scandinavia were encompassed by the Neolithic Funnel Beaker Culture. In south-western Scandinavia the expansion of the agrarian economy halted, close to what is now the Swedish-Norwegian border, at Svinesund. North of Svinesund, we find the northernmost dolmens of Continental Europe. At Holtnes, on the Hurum Peninsula, at the western side of Oslo Fjord, there are two small dolmen chambers and a number of kerb stones around the mound preserved in situ. In one of the chambers, amber beads of types related to the Funnel Beaker culture have been found, and a ^{14}C-sample has yielded a date of around 3500 BC (Østmo 2007; Glørstad 2009). On the eastern side of the Oslo Fjord, a bit further south, at Skjeltorp, in Østfold, there is a partially preserved dolmen with finds of Funnel Beaker pottery (Østmo 2012).

These few South Norwegian dolmens are relatively small, and even though more megalithic tombs must have been built, the building activity here at the border of

Fig. 1. The passage grave at Massleberg, North Bohuslän, Sweden. Photo: F. Kaul.

the Neolithic expansion was seemingly not overwhelming. But as soon as we go further south, crossing what is now the Norwegian-Swedish border, into Bohuslän, we find more megalithic tombs including a number of large passage graves. At Massleberg, just south of the border, a typical passage grave should be highlighted as being the northernmost of this type of monument (Fig. 1). Even larger is the Snedstenan passage tomb, in Tanum Parish (Hellgren & Johansson 2007). Further south, in Fallbygden, Västergötland, within an inland triangle of fertile land of c. 50 by 30 km, there is a remarkable concentration of large passage tombs. Around 300 megalithic tombs are recorded here, the majority of which are passage tombs (Persson & Sjögren 2001).

For centuries, the border-zone remained stable, though a limited agricultural impact is seen in certain areas of south-western, western, and Middle Norway (T. Bruen Olsen 2009; Hjelle 2012; Asprem 2012; 2013; Sørensen 2013).

A new and strong expansion of the agrarian economy – the earliest farms

With the transition to the Nordic Late Neolithic, approximately 2350 BC, a new agricultural expansion took place along the Norwegian coast, accompanied by a wide distribution of flint daggers and sickles, some of the flint ultimately originating from flint mines in Northern Jutland. With the introduction of an agrarian economy, a new south-north network of contact opened up along the western coast of Norway, and regular ship traffic over the treacherous waters of Skagerak connecting North Jutland with Southwest Norway was created (Østmo 2005). During the Late Neolithic and the Early Bronze Age, the establishment of agro-pastoral systems of production was followed by the full package of cultural elements related to that economy. A wide border zone seems to have been formed and consolidated both sides of the Arctic Circle during the Bronze Age, and – as we shall see, some further expansion took place in the Late Bronze Age.

In Rogaland, South-West Norway, a large number of Bronze Age farms have been excavated in recent years. Late Neolithic and Early Bronze Age two-aisled long houses have been revealed, as well as succeeding Early Bronze Age and Late Bronze Age three-aisled long houses (Løken 1998). The Rogaland area is characterized by a variety of finds from the Early Bronze Age, including rich barrow burials, votive depositions, and rock carvings. Here we find the full Early Bronze Age agricultural package (Fett & Fett 1941; Bakkevig 1998; Nordenborg Myhre 2004).

The Late Neolithic expansion also reached Trøndelag, Middle Norway, which remains today an important agricultural district for many crops, including barley. The development of the house follows the same pattern as in South Scandinavia. This is clearly demonstrated by the house remains from Søberg, Sør-Trøndelag, circa 20 km south of Trondheim. The earliest house remains at Søberg are probably related to the initial phase of agriculture in the area. These long houses belong to the two-aisled type, with one central row of posts carrying the roof, and are dated to the Late Neolithic (c. 2000-1700 BC.). There are also two-aisled long houses from Period I of the Early Bronze Age (c. 1700-1500 BC), followed by three-aisled long houses from Period II and onwards (Rønne 2005; Rønne 2012a).

The northernmost two-aisled house from the late Neolithic or the early part of the Bronze Age has recently been unearthed at Huseby Østre, near the town of Stjørdal, Trøndelag, c. 50 km east-north-east of Trondheim (personal communication by Geir Grønnesby, NTNU, referring to Silje Rullestad: Rapport arkeologisk undersøkelse 2009, Huseby Østre, Stjørdal Kommune, Nord-Trøndelag, NTNU, Vitenskapsmuseet 2010.).

At present, no remains of houses from either the Late Neolithic or the Early Bronze Age have been discovered north of Stjørdal. However, the northernmost house from the Late Bronze Age has been found as far north as the Harstad/Kvæfjord area, in South Troms, East-North-East of Lofoten, Northern Norway. At the Hundstad farm on the island of Kveøy, recent excavations have revealed the northernmost Bronze Age farm. Postholes give evidence of a three-aisled longhouse, which according to ^{14}C dates was in use around 800 BC. Late Bronze Age buried land surfaces, containing charred barley grains and pollen evidence cereal cultivation. The dating evidence from the paleosoils seems to show the existence of earlier cultivation, during the Early Bronze Age (Arntzen & Sommerseth 2010; Arntzen 2012). This area ranks among the richest farming areas of Arctic Norway. On the island of Kveøy itself there are a number of farms today, and when looking from the Hundstad site, across Kvæfjord towards Borkenes, a long row of farms in their agricultural setting dominates the landscape. Such a landscape view repeats itself wherever Bronze Age finds related to the Nordic Bronze Age Culture have come to light (Kaul 2012 a).

At the outskirts of the city of Harstad, also a center of agriculture of today, a Bronze Age site at Nordsand has yielded a cooking pit dated to c. 1200 BC along with ard marks, possible traces of post holes and fossil field layers. At Bergsodden, in the same area, a cooking pit has been dated to c. 1000 BC. (Arntzen 2012).

The first bronzes, Middle Norway

The find distribution of the northernmost bronze objects follows, to some extent, a chronological progression from south to north. Here, we shall deal only with Middle and North Norway. In the case of Middle Norway, only some examples, representing the northernmost finds of a certain period will be considered.

A flanged axe with low flanges and a heavily fanned blade edge has been found in a bog area at a lake at Fevåg in Trøndelag, circa 75 kilometers northwest of Trondheim (Fig. 2). It shows resemblance with Vandkilde's type A 4, type Værslev, which should be dated to the second half of the Late Neolithic (Vandkilde 1996: 76-78). However, the axe from Fevåg does not carry any ornamentation on the blade, as would be expected for axes of type Værslev. There-

Fig. 2. Late Neolithic flanged axe from Fevåg, Trøndelag, Middle Norway, length 15 cm. Photo: P. E. Fredriksen, NTNU.

fore, it could belong to Vandkilde's type B 2, type Torsted-Tinsdahl, which should be dated to Period I. Most of those axes have a slightly marked transversal ridge between the flanges close to the blade, which is not the case for the axe from Fevåg (Vandkilde 1996: 95-101). Consequently, this axe should be dated to an early part of Period I, or around 1700 BC.

Period I of the Nordic Bronze Age (1700-1500 BC) is represented by a fair number of finds from Middle Norway, including the areas of Møre og Romsdal south of Trondheim. For instance, a solid Fårdrup shaft hole axe, weighing more than 1.6 kg, comes from Sunndal in Møre og Romsdal. (Rønne 2011; Rønne 2012 b). Another Fårdrup axe has been found at Kvangarsnes, also Møre og Romsdal. At Hovdaset, Hemme, west of Trondheim, South-Trøndelag, an additional Fårdrup axe has come to light. Bronze axes of the Fårdrup Type, larger numbers of which are found in South Scandinavia, should be interpreted as key indicators of Period I B (Vandkilde 1996: 227-228).

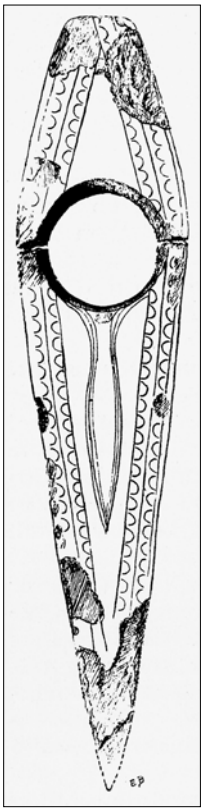


Fig. 3. Fårdrup-axe from Lågsand at Levanger, Trøndelag, Middle Norway, Period I. Length: 17.2 cm. After Petersen 1934.

Of particular interest is the fourth Fårdrup axe, from Lågsand, in Levanger, North Trøndelag, Middle Norway. The find spot, situated around 75 kilometers north-east of Trondheim and about 40 kilometers south of Steinkjer, represents, together with the axe from Fevåg, the northernmost bronze object from Period I of the Nordic Bronze Age. It was found in the 1930's whilst creating a new field for cultivation. Allegedly, it stood upright in the soil with the blade up, as a votive deposition (Petersen 1934; Rønne 2012 b). Even though the surface of this solid bronze axe is damaged, it is still possible to see its geometric decoration, typical of Period I, on one of its narrow sides (Fig. 3). On the one narrow side, the axe is decorated with two rows of arches along each edge within a framing line on each side. The inner triangle below the shaft-hole shows a trilinear, symmetrically-formed curved, pointed figure. The other narrow side seems to have been undecorated. On one of broad sides, there are remains of arches along the edge.

In Period II of the Bronze Age 1500-1300 BC, bronzes are much more common, but they do not reach much further north than the northernmost Per. I find. The cairn cemeteries of Todnes and Holan, at Sparbu, has yielded the northernmost objects belonging to this period. Situated c. 10 kilometers south of Steinkjer, we are in the same area and environment as the find place of the Fårdrup axe from Lågsand. A stone cist in one of the cairns at Todnes contained a razor with a handle in the shape of a horse's head, (Fig. 4) and a pair of tweezers with broad lips (Rygh 1906: 11; Rønne 2011: 61-62; Kaul 2013 a). A burial from another cairn has yielded a celt (a socketed axe), a fibula and a sword with a rhomboid pommel decorated with false spirals (Fig. 5).

Fig. 4. The northernmost razor with a horse headed handle belonging to Period II, Todnes, at Steinkjer, Trøndelag, Middle Norway. After Rygh 1906.

Fig. 5. A sword from a burial cairn at Todnes at Steinkjer, Trøndelag, Middle Norway, Period II. Photo: P. E. Fredriksen, NTNU.

Three daggers from cairns at Holan should probably also be dated to Per. II. Some Period III burials underline the richness and the stability of the society of the Sparbu area (Rønne 2011).

About 60 kilometers further south, at Røkke, Lower Stjørdal, two cairns have yielded objects from Period II. A stone cist, with skeletal remains of two individuals, contained a pin with a spiral head, a small belt plate, a collar and a spiral ring. In another cairn, a fibula and pieces of an arm ring have come to light. The find circumstances were not sufficiently documented and the objects are very fragmented. Nevertheless, these objects seem to represent a rich female burial, similar to examples in southern Norway and South Scandinavia, where there is trend toward the identity of women becoming more widely attested within the burial record around 1400 BC.

Other bronze finds from Period II within this area, include a single find of a spearhead of the Ullerslev type (Jacob-Friesen 1967: 143), a belt hook from a cairn at Revlan, in Frosta, in addition to a belt plate and a pin evidencing a spiral head from a cairn at Gjørv in Innerøy.

These finds of bronze objects belonging to Period II from North Trøndelag, northern Middle Norway, reflect a relatively rich milieu related to the Nordic Bronze Age culture. The bronzes do not stand alone. Other find categories demonstrate the expansion of agriculture into the very same area. We have already mentioned the two aisled long house from Huseby Østre at Stjørdal, between Trondheim and Steinkjer. Recent investigations of fossil soils at Egge, just northwest of Steinkjer, have revealed plough marks made by an ard. In a sample taken from the fill of a plough mark a barley grain was found, the ^{14}C date indicating an age of c. 1745-1520 BC (Asprem 2013: 179). This date falls within Period I of the Bronze Age, however, a final phase of the Late Neolithic or an early part of Period II can not be ruled out.

Yet another find category, the rock carvings, underline the picture of intensive early Bronze Age activity in the northern parts of Middle Norway. It is possible to build a chronological-typological sequence of Bronze Age and Early Iron Age ship images of Scandinavia (Kaul 1998; Ling 2008; 2013). A large number of ship images, which can be dated to Period I or Period II of the Nordic Bronze Age, have been found in the same areas as the metal artefacts. It is clear that these ships are closely related to the early development of ship iconography, which comprises a key part of the general phenomenon of Early Nordic Bronze Age culture. From the Stjørdal area, rock carving sites like Røkke, and Leirfall should be noted. From the area not far north of Steinkjer and Egge, sites such as Hammer and Bardal are similarly worthy of mention. At certain locations, interplay between the placement of cairns and rock carvings within the landscape has been observed (Sognnes 1995; 1999; 2008).

It is remarkable that the dating evidence from the rock art created during the early Nordic Bronze Age corroborates with dates of the burial material, though the creation of the ship images could have started within Period I. In the Stjørdal-Steinkjer area we meet the full agricultural package, with all find categories are represented, a house, remains of fossil soils with ard marks and evidence of barley cultivation, burial cairns with bronzes, votive depositions, and the iconography of the rock carvings. Today, North Trøndelag ranks among the richest agricultural areas of Norway.

The bronzes, Northern Norway

Helgeland

In spite of the many finds and find categories represented, the Stjørdal-Steinkjer area should be regarded as a border zone for the expansion of agriculture, where a stand still can be observed during Period I and Period II. (Fig 6). This stand still, seems clear when considering the distribution of bronze objects. In the areas further north of Steinkjer, no bronzes belonging to Period I or Period II have been found. However, when taking the bronzes belonging to Period III (1300-1100 BC) and later periods into account, then an expansion of the Nordic Bronze

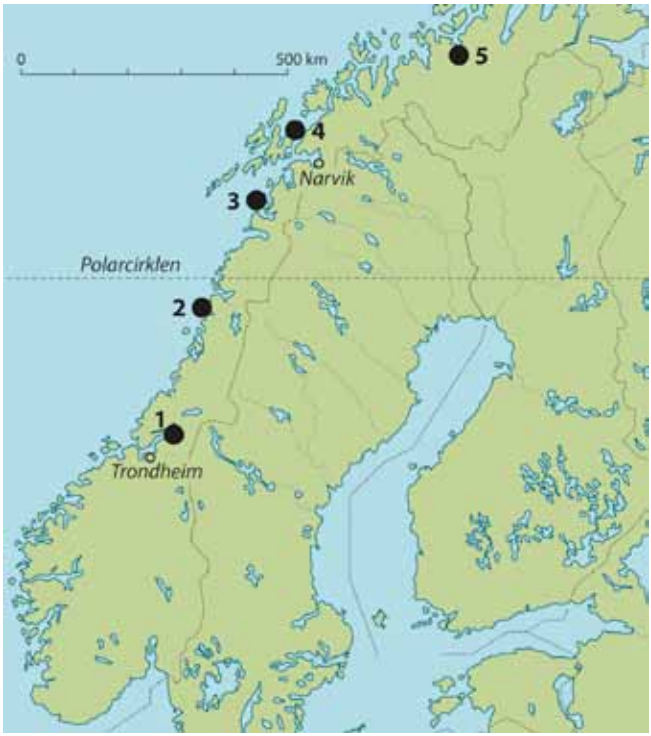


Fig 6. Overview map of Norway, showing study areas and place names mentioned in the text, plus Trondheim and Narvik. 1: Stjørdal-Steinkjer, Trøndelag, 2: Alstahaug-Sandnessjøen, including Skjeggesnes, Våg, Flatøy and Tro, Helgeland, Nordland, 3: Engeløya, Steigen, Nordland, 4: Harstad-Tennevik-Kveøy, Troms. 5: Alta, Finmark. Drawing: Thomas Bredsdorff.

Age culture is discernible. When we cross into Northern Norway, in Nordland, we can see that finds of Period III are evidenced.

About 200 kilometres north of Steinkjer as the crow flies, at Vennesund, on Sømna, within Helgeland, Southern Nordland, a burial cairn has been excavated (Bakka 1976: 26; Binns 1985, 161-165). The grave goods included two bronze knifes, one of them a knife with a frame-shaped handle which can be dated to Per. III of the Nordic Bronze Age. The other knife is fragmented; probably we are dealing with a razor.

Travelling c. 50 kilometres further north, to the Alstahaug-Sandnessjøn area of Helgeland, Nordland, another burial from Per. III has been found – containing the northernmost example of all bronze razors, exhibiting a handle in the shape of a horse's head. (Fig. 7). It was discovered during an excavation in 1962 of a stone cist within a cairn, c. 15 m in diameter, at the farm of Skjeggesnes. It contained the skeletal remains of two human beings, a pottery vessel, a bronze pin and the bronze razor (Binns 1985: 165-168; Kaul 2013 a). The razor with the handle in the shape of a horse's head should be regarded as an emblem of the Nordic Bronze Age Culture, known from a large amount of relatively rich grave finds, particularly from Southern Scandinavia. Here we are dealing with the northernmost find of its kind. The horse-head shaped handle must be considered a significant iconographical element. According to other iconographical evidence, the horse was conceived as the most sacred animal. In the cosmological or transempirical world of the Nordic Bronze Age the horse was the Sun-horse (Kaul 2004: 241 ff.), acting as the helper of the sun, pulling the sun round and around on its eternal voyage.

The cairn is part of a larger cemetery of cairns, more than 16 in total, most of them situated on a low ridge close to the coast. Even though this cairn is the only one that has been excavated, it is presumed that the others should be dated to the Bronze Age as well (Fig. 8). This cairn cemetery in its landscape setting can easily be compared with similar sites further south. From most of the cairns there is a fine view over the sea, and on the inland side the best agricultural land can be seen. Cultivated fields are found in a sheltered position between low ridges dotted with cairns. Due to the mild climate provided by the Gulf Stream, the fields of this area, located less than 100 km South of the Arctic Circle, are well suited

Fig. 7. The northernmost razor of all razors with horse headed handle, Per. III, Skjeggesnes, Helgeland, Nordland, Norway. L: c. 8 cm. P. E. Photo: P. E. Fredriksen, NTNU.

Fig. 8. The cairn where the razor with the handle in the shape of a horse's head was found, Skjeggesnes, Helgeland, Nordland. Photo: F. Kaul.

for growing barley, although, grass for hay harvesting is preferred today. The fine 12th century Romanesque church at Alstahaug bears witness to the economical potential of the area in later periods. The results of archaeological excavations at the Medieval Alstahaug vicarage, as well as the testimony of written sources from 18th century, document the importance of cereal growing (including barley) and cattle breeding here. Barley was grown not only for making beer – flatbread was also baked from barley flour. Fishing was also of great importance (Berglund 2007).

The razor from Skjeggesnes is not the only Bronze Age find from this rich agricultural area. Not far away, we find the rock carving fields on the islands of Tro and Flatøy, which probably indicate activity within Period III. In Part II we shall take a closer look on these rock carvings.

From a later part of the Bronze Age, the votive find category within Helgeland is represented by a bronze sword found in a bog at Våg on the island of Dønna, west of Sandnessjøen (Fig. 9) (Rygh 1885, no. 103; Rønne 2011). It has been assigned as one of the so-called Hallstatt swords, even though it belongs to a group that was produced in Scandinavia, probably under Western European influences, rather than under influences from Central Europe (J. Jensen 1966, 39; J. Jensen 1989, 154-155). The blade of the Våg sword is decorated with ship motifs with stylized animal headed stems of typical Nordic Late Bronze style (Kaul 1998, 164). Probably the sword can be dated to the second half of Period V, after 800 BC, even though a later date should not be excluded. It is not possible to determine whether it was produced in Northern Norway or was imported from South Scandinavia. At any rate, the presence of typical ship iconography clearly relates the sword to the religious imagery of the Nordic Bronze Age.

A sword with a short tang found at Tønsvik, in Nesna, north east of Sandnessjøen, probably belongs to the votive find category. It is a long sword of delicate shape, typical of the Nordic Period V (900-700 BC) (Binns 1985: 161-163).

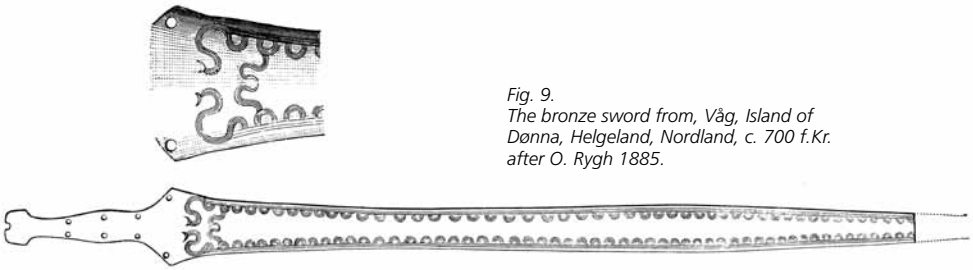


Fig. 9.
The bronze sword from, Våg, Island of Dønna, Helgeland, Nordland, c. 700 f.Kr. after O. Rygh 1885.

Engeløya, Steigen

When going further north, another large leap along the Norwegian coast has to be taken, before finds of bronzes appear. About 250 kilometres north-north-east of the Alstahaug-Sandnesssjøen area, the island of Engeløya, in Steigen, provides an agricultural 'buttercup´, in spite of its situation more than 100 kilometres north of the arctic circle. The possibilities for gardening perennials and the presence of oak and chestnut trees today inform us of a remarkablly mild local climate within Steigen. The island of Engeløya, the agricultural center of Steigen Kommune, is dotted with Prehistoric monuments, though mostly from the Iron Age and Viking Age (Pedersen 2008). Steigen Church on Engeløya is one of the few Romanesque churches of Nordland.

On the western side of Engeløya, facing Lofoten, the burial cairn at Grådusan is located at a commanding position within the local landscape, 'overlooking' the most fertile land of Engeløya, including many farms, fields and pastures. Unfortunately, the central part of the cairn at Grådusan was destroyed during the Second World War, when the cairn was integrated into *Marine Küstenbatterie Dietl*, an in-depth system of fortifications centered around three heavy calibre guns erected by the German occupying forces. In the middle of the cairn, a machine gun position was placed, using the strategic position of the cairn. There is no record of finds from the cairn, though it has been claimed to be of a Bronze Age date (Pedersen 2008: 118-119). A Bronze Age date cannot be excluded, especially with reference to its landscape setting, but it must be underlined that there is no solid evidence of its date, and it could as well belong to the Iron Age. However, it is tempting to consider the cairn from Grådusan as a 'mother cairn', as it can be seen from most of the more low-lying cairns of the area (Kaul 2012 a).

Not far away, in a lower position in the landscape, though on a plateau overlooking the Bøsanden beach, situated close to the farms at Bø, a number of small cairns and a large mound remain (one mound dated to the Iron Age). One of the cairns is dated to the Bronze Age (Rygh 1906; Rønne 2011: 64-65). It contained a pair of tweezers and a double button with long rod. The top plate of the button is decorated with a star (solar) motif. The button can be dated to Period IV of the Nordic Bronze Age (1100-900 BC), probably to an early part of the period (Fig. 10) Both artefacts were found when the owner opened and partly cleared the cairn in order to build a potato cellar (Arntzen 2013: 190-192). Elsewhere within the Steigen area, at Åsfjorda, a Late Bronze Age socketed axe has been found (Bakka 1976: 27).

At Sandvågmoen, Engeløya, one of the northernmost rock carvings belonging to the Bronze Age tradition can be seen. A large flat stone block is dotted with cup marks, some of these connected by pecked lines (Pedersen 2008: 32-33; Kaul 2012 a: 80-81; Arntzen 2013: 190). This stone is situated in an open agricultural landscape, mainly consisting of grass fields (Fig. 11).

Fig. 10. Grave find dated to Period IV from cairn at Bø, on Engeløya, in Steigen, Nordland, containing the following grave goods: a pair of tweezers and double-stud with long rod without end plate. On the plate where the rod starts can be seen an indented star motif that can be regarded as a solar symbol. Total length of double button 7.5 cm, length of rod 6.2 cm. Photo: Mari Karlstad. Tromsø Museum, Universitetsmuseet.

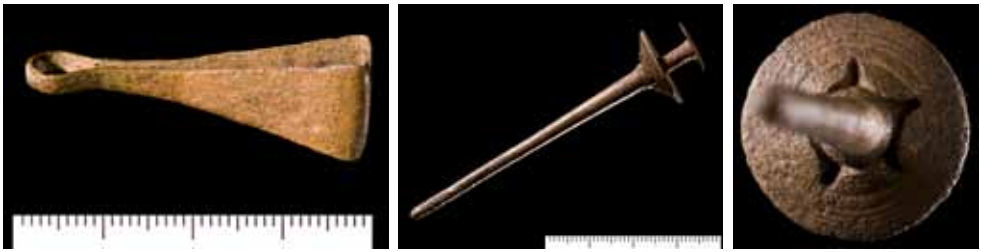


Fig. 11. Large flat stone with cup marks, Sandvågmoen, Engeløya, Steigen, Nordland. Photo: F. Kaul.

The Harstad area

Continuing our voyage northwards from Engeløya, the bronze objects become dominated by finds related to Period V of the Nordic Bronze Age (900-700 BC). Around 150 kilometres north of Engeløya, at Trondenes, north of Harstad, within the region of Troms, another rich agricultural area is evidenced. Even here, around 250 kilometres north of the Arctic Circle we can indeed see agriculture in the arctic. Once again, the North Atlantic Current, an extension of the Gulf Stream, gives Harstad a much milder climate than one would expect for a town at this latitude.

Close to Trondenes Church, at Prekestolen, Altevågen, Trondenes, a bronze collar was found in 2002 under an overhang of a prominent vertical cliff (Arntzen & Sommerseth 2010: 122-123). The bronze collar is crescent-shaped. It is flat, although slightly domed with three ornamental ridges along the centre, and a wide opening. The ends are smooth and terminate in two loops. During subsequent archaeological investigations, traces of small pieces of corroded bronze were found, and a celt, a kind of socketed axe, was found 1 m from the collar. The two objects should probably represent one deposition. The celt belongs to Baudou's type VI C 2b, also called "Westnordischen Typ". This type is dated to Period V or Period VI of the Nordic Bronze Age (Baudou 1960: 24 & Tafel VI, Karte 14).

Behind the prominent cliff there is a rich agricultural landscape, and at the vicarage farm of Trondenes, a farm mound has produced finds from the Pre-Roman Iron Age. Trondenes Church is a magnificent Romanesque church, almost of cathedral size demonstrating the agricultural potential of the area. Trondenes Church is the northernmost of all Romanesque stone built churches (Eide 2005). It is worth noting that in the other areas of Bronze Age finds of North Norway (Steigen and Helgeland) a similar relationship between Bronze Age finds and the few Romanesque churches can be observed.

In the same area, about 20 kilometres from Trondenes, at Tennevik, two quite similar, crescent shaped bronze neck collars were found in 1875 within a crevice of a low cliff, overlooking a rich agricultural landscape, including areas where barley is cultivated (Munch 1966; Bakka 1976: 27; Arntzen & Sommerseth 2010; Rønne 2011; Kaul 2012 a) (Fig. 12) (Fig. 13). Here we are also probably dealing with a votive deposition.

The three bronze collars from Trondenes and Tennevik are of a particular type, which has parallels in Middle and North Germany, North Poland and West Denmark. Generally they belong to the so-called *"steile längsgerippte Halskragen"*, dated to the Nordic Period IV and Period V (Sprockhoff 1937: 41-43). The closest parallel is a collar from Wierzschowo, pow, Szczcninek, North Poland, not far from Oder and the Baltic Sea (Sprockhoff 1956, Tafel 24, 2; Wrobel Nørgaard 2011: 73-74 & Tafel 46 no. 369). The collar from Wierzschowo (in

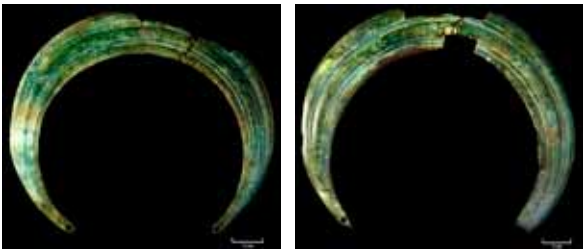


Fig. 12. Two collars from Period V, at Tennevik, Harstad, South Troms. Outer diameter: 17 and 19 cm., respectively. Photo: P.E. Fredriksen, NTNU.

Fig. 13. Agricultural landscape at Tennevik, South Troms. Photo: F. Kaul.

German: Wurchow, Kr. Neustettin, westliche Hinterpommern) is part of a larger votive deposition with other types of neck rings, and it belongs to Period V of the Nordic Bronze Age (Sprockhoff 1937: 90; Sprockhoff 1956: 69-70; Wrobel Nørgaard 2011: 74). This date is in agreement with the celt from Trondenes, of Period V or VI. A collar of similar shape, although with a quite different clasp construction, has been found at Söderåkra, Småland, Southern Sweden, together with other bronze objects giving a date to Period V (Montelius 1917: 55, no. 1274).

Another group of bronze neck collars, called *"Plattenhalskragen mit Rillenzier"*, is likewise closely related to the collars from Trondenes and Tennevik, as well as, among others, a collar from Fænøgård, West Funen Denmark (Sprockhoff 1956: 132; Wrobel Nørgaard 2011: 90-92). The distribution of these collars includes West Poland (Hinterpommern), North Germany, Jutland and West Funen, and they can be dated to Period IV and Period V. Even if the collars from Trondenes and Tennevik were perhaps produced in Northern Norway, they seem to demonstrate close contacts with North Germany and the Jutland Peninsula area.

Not far away from Harstad, at Grøtavær on the island Grytøy, a mould of soapstone for casting Bronze celts has been found in a field, 2 m from a large stone (Munch 1966; Rønne 2011). The mould consists of two halves, of which the one is fully preserved, and the other fractured lengthways. It can be dated to Period V or Period VI of the Nordic Bronze Age (900-500). Once again an open, coastal agricultural landscape is seen. This interesting find thus evidences that production of bronze objects took place in the far North.

A fragment of a soapstone mould for a Bronze Age Period V/VI celt has been found at Sandvika in Tromsø municipality, about 150 kilometers northeast of the Harstad area (Arntzen 2013: 183-184). This appears to be the northernmost find related to bronze production.

The Harstad area today is a rich agricultural area. Earlier, we mentioned that at Hundstad, on the island of Kveøy, recent excavations have revealed the northernmost Bronze Age farm, with a three-aisled longhouse, which, according to ^{14}C dates, was in use around 800 BC. Closer to Harstad, settlements have yielded dates around 1200 and 1000 BC. (Arntzen & Sommerseth 2010; Arntzen 2012). The bronzes of the Harstad area seem to indicate the main period of activity within Period V (900-700 BC), which is in agreement with the dates of the house from Hundstad. However, there is also evidence of earlier agricultural activity at Hundstad.

The sword from Vinje, Bø, Vesterålen

The northernmost of all Bronze Age swords was found in a peat bog at the Vinje farm, at Bø, in Vesterålen, Northwest Nordland. Vinje is located at about the same latitude as Harstad, circa 100 kilometers west of Harstad. Here, just north of Lofoten, almost facing the Atlantic, it is perhaps unexpected that there should be land suitable for agriculture. However, sheltered by the coastal cliffs, there is actually an area with fine cattle grazing even today, and, until recently, barley has been grown on a limited scale.

The sword is a flange hilted sword, with a handle of organic material, secured by the flanges and a number of rivets (Fig. 14). The hilt is slightly convex in shape, with six rivet holes in the hilt and four rivet holes in the shoulders. The sides of the blade are not parallel but slightly curved, giving it a willow leaf shape. The sword is rather short, measuring only 40.5 cm (Sjøvold 1952).

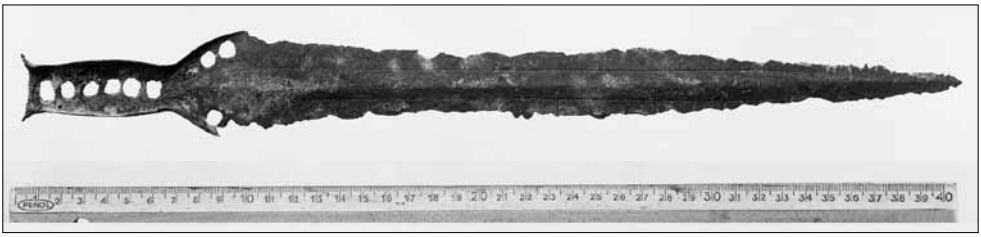


Fig. 14. Flange hilted sword from Vinje, in Bø, Vesterålen, North Nordland, Length: 40,5 cm. Photo: Tromsø Museum, Universitetsmuseet.

It has been suggested that the Vinje sword should be dated to Period III of the Nordic Bronze Age, following comparisons with a flange hilted sword from a burial at Ris near Fårevejle, Northwest Zealand, Denmark (Sjøvold 1952: 43). Doubtless, the sword from Fårevejle (Broholm 1944: 149; Aner & Kersten 1976: no.800), dated to Period III by a brooch with a cruciform head, shares a number of features with the sword from Vinje, such as the slightly swollen handle. However, the sword from Fårevejle has only three rivet holes in the hilt, and the sides of the blade are straighter.

It seems difficult to include the Vinje sword among the swords of Period III. With the characteristics mentioned, such as the many rivet holes, it relates to Sprockhoff´s *"Das Mitteleuropäische Griffzungenschwert"* (Sprockhoff 1931: 40-42). This group of swords demonstrates a large variety. A sword from Bremen, North Germany, with six rivet holes in the handle, is among the nearest matches illustrated by Sprockhoff (1931, Tafel 18,1), despite the shoulders of the sword being more straight than the Vinje sword. The sword from Bremen is a single find from the Weser River.

Almost all of the swords of this group are single finds from bogs, rivers and wetland areas, which means that they are difficult to date. Referring to a pair of burials, Sprockhoff (1931: 41) suggests a date within Period V, even though placement within Period IV should not be totally rejected.

Among the class of flange hilted sword outlined by Sprockhoff, swords of the Hemigkofen type and others related to it, are of particular interest, as a number of these swords share certain characteristics with the Vinje sword. Two of these swords are from Danish burials. They have only four rivet holes in the handle, and they are probably imitations of the Central European sword. According to Randsborg's detailed chronological studies they should be placed in Period IV or a prolonged (sub) Period III, continuing into Period IV (Randsborg 1972: 14 ff.). Unfortunately, the swords of Hemigkofen type (or Nordic manufactured related types), which show greatest resemblance to the sword from Vinje, are all single finds, or finds with unclear find circumstances giving no dating evidence. This applies to the sword from Holme at Aarhus, East Jutland, with six rivet holes (Sprockhoff 1931:108; Randsborg 1972: Pl. XXV),), and a single find from a bog, Ullerup Sandmose, at Vejle, East Jutland, with five rivet holes (Randsborg 1972: Pl. XXIV). The decoration on the flanges of the hilt of the last mentioned sword may be compared with the decoration of early Per. IV swords of Danish production (*ibid*.: 14). The original Hemigkofen swords of the Urnfield culture area can be placed in Period Ha A 2, which is parallel with the first half of Period IV (*ibid*. 14 ff. & 71 ff).

A flange hilted sword found in a bog at Sønder Lyngby, North Jutland, Denmark, share some characteristics with the sword from Vinje, in particular the six rivets of the handle. However, there are also differences. The Sønder Lyngby sword has an antennae shaped pommel, the sides of the handle are more swollen and the shoulders are much straighter than on the sword from Vinje. The Sønder Lyngby sword is placed in Ha B 1 (Thrane 1968: 154 ff.), best to be paralleled with a late part of the Nordic Period IV.

Probably, our sword from Vinje should be considered as a bit earlier than this.

To sum up, although it must be stated with some uncertainty, we would suggest that the sword from Vinje was produced in the first half of Period IV, or around 1000 BC.

Following these general chronological considerations, it is time to examine the closest parallel to the Vinje sword. It is a flange hilted sword, found during fieldwork, at Thalebra in North Thüringen, just south of Harzen, around 100 kilometres west of Halle, not far away from the Weser River system (Fig. 15). Even though the top of the handle is missing, it is still obvious that the sword from Thalebra demonstrates similarity with the Vinje sword, both in terms of its manufacture and its overall dimensions. The sides of the hilt are slightly convex, and there are six rivet holes in the hilt, in addition to four rivet holes in the shoulders. The sides of the blade are not quite parallel, but curved, giving it a shape similar to that of a willow leaf. Furthermore, the sword from Thalebra is rather short, originally measuring a bit more than 46 cm (Wüstemann 2004: 59, no. 206).

The sword belongs to the Hemigkofen type, which can best be dated to Period IV. Swords of this type are mainly distributed within the area of the Urnfield Culture: Switzerland, Eastern France, Alsace and areas surrounding the Bodensee. Some swords have been found in Central and Northern Germany related to the river systems of Unstrut, Elbe and Saale (Wüstemann 2004: 60). It may be difficult to decide whether the Vinje sword represents an original piece from the western Urnfield culture, or whether it is an imitation made in Central or Northern Germany. At any rate, one of the middle 'stations' for the Vinje Sword could be the area around the mouth of the rivers Elbe and Weser. From there, along the Jutland west coast, and further up along the Norwegian coast, is only around 2000 km. It is interesting to note that the three neck collars from the Harstad area show similarities with pieces in Northern Germany and West Denmark.

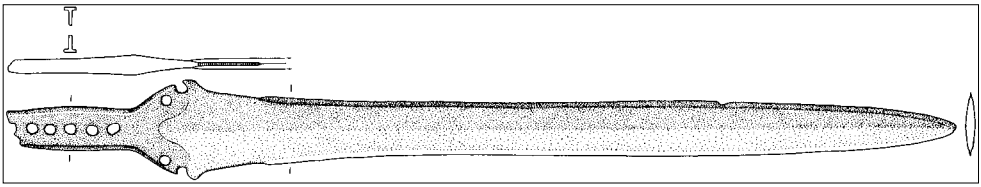
Even though the bronzes are few in the far North, at the border zone of the Nordic Bronze Age culture, these finds can inform that the contact network of Period IV and Period V reached as far as, it may seem, possible.

The Bronzes, final remarks

Through the bronze objects it seems possible to follow the progress of the agricultural Bronze Age culture. It should be reiterated, once again, that wherever there are finds of bronzes in the far north we find the best agricultural land of today both on a regional and local basis. Another common feature of the find locations is their proximity to good landing places, in the form of sandy beaches.

Even with this close proximity with the best agricultural land of today, it may perhaps seem a bit far fetched to see this relatively small number of bronze objects as markers of an agrarian economy. However, we should not neglect the ideological significance of the objects. A sword was not just a thing that anyone could purchase; it was not merely a practical tool and without any symbolic meaning. A sword was something that leading members of society had a right to carry within a well defined cultural and social context. That man who, after a certain Period of use, deposited his sword

Fig. 15. Flange hilted sword from Thalebra, North Thüringen, Germany. Length: 46 cm. After Wüstemann 2004.



in the bog at Vinje – for instance – accepted its ideological and social importance, just as the social group around him accepted his right to carry the sword, and eventually his obligation to sacrifice it. The sword was both a mark of status, and a mark of membership of the ideological community of the Nordic Bronze Age. When considering the razor with the handle in the shape of a horse's head, an emblem of the Nordic Bronze Age Culture, the ideological significance is similarly apparent. Probably the razor was given to the young man to mark the transition from childhood to adult status. As part of the initiation rites, the young man learned about cosmology and religion. Thus, it would have had an underlying ideological meaning. A man buried with such a razor was – when alive – considered a vital member of the Nordic Bronze Age agrarian societies. Such objects, being ideological bearers, should consequently be seen as agrarian indicators (Kaul 2013 a: 165; Kaul & Sørensen 2013: 258-259).

Thus, the distribution of bronze objects demonstrates the progress of an agrarian economy during Bronze Age Periods I and II up to the Steinkjer area, then a stand still can be observed, until a new progress can be observed during Period III and Period IV with a culmination in Period V.

These observations related to the bronzes seem to be in accordance with the evidence of other find groups and the scientific material. When considering Northern Norway, including the Harstad/Lofoten area, the first clear expansion phase can be documented at around 1000 BC, with a following phase circa 600 BC. A third, and possibly more intense expansion, appears during the Pre-Roman Iron Age, c. 300-100 BC (Myhre & Øye 2002: 85 ff.; Arntzen 2013: 183).

When including as many find groups as possible, a more comprehensive picture of Bronze Age activity at the border zones can be obtained. As we shall see below, the rock art should not be considered as something isolated, but as another part of the cultural milieu of the Bronze Age. In addition, studies of rock art, in particular the ship images, can contribute to our understanding of the expansion of agriculture.

PART II – ROCK ART

The rock carvings at Flatøy and Tro, Helgeland, Nordland, Northern Norway

As we have seen above, evidence from rock art enhances the picture of early Bronze Age activity in the northern parts of Middle Norway, North Trøndelag. A large number of ship images, from sites like Røkke and Leirfall in Stjørdal, and Hammer and Bardal, near Steinkjer, can be dated to Period I or Period II of the Nordic Bronze Age (Sognnes 1995; 1999; 2008). It is in the very same area of North Trøndelag that the northernmost bronze objects of the Nordic Period I and II appear – in votive depositions and burials. Furthermore, there is clear evidence of agricultural activity from circa 1750-1500 BC, Period I (Asprem 2013: 179). Quite independent evidence, related to three different find categories, seems to support each other. In the Steinkjer area, we are close to the borderline of agricultural activity of Period I and Period II (1700-1300 BC).

When going further north, there are no bronzes belonging to Period I or Period II of the Nordic Bronze Age. However, Period III (1300-1100, see above) is represented in Helgeland, South Nordland, 200-250 kilometres north of Steinkjer. It is in the very same area of coastal Helgeland, (Alstahaug-Sandnessjøen) where Period III and Late Bronze Age bronzes have been found, that the northernmost rock carvings of Period III (or perhaps Per. II) are located – on the islands of Flatøy and Tro.

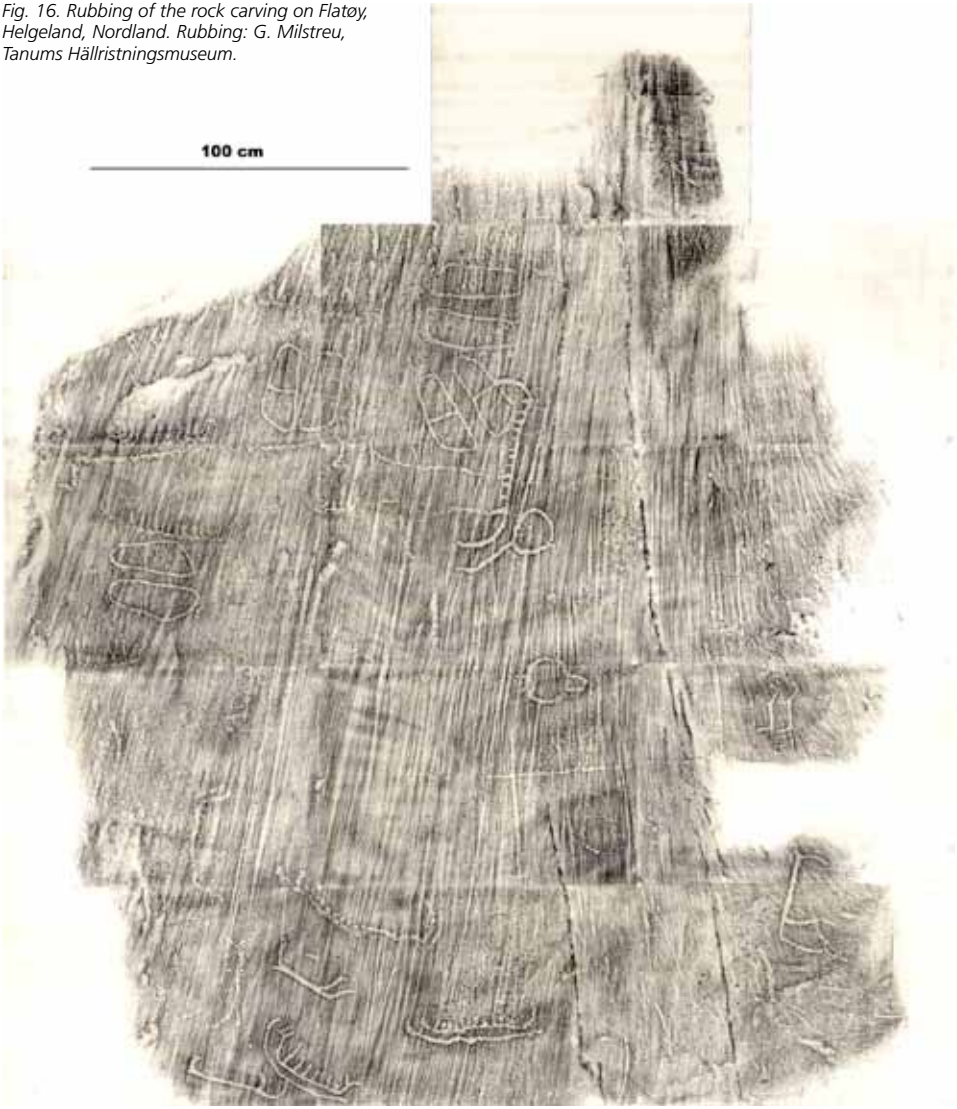
Flatøy, Helgeland, Nordland

Let us first consider the rock carvings on Flatøy, which are situated on a south-facing slope, close to the narrow strait that separates the islands of Flatøy and Tro. They have been thoroughly studied and described by K. Sognnes (1985; 1989). As part of the "Northern Worlds" project, in 2011, a rubbing of the whole rock carving was made by G. Milstreu, Tanums Hällristningsmuseum. The panel includes at least

15 ship images, five pairs of foot figures, 2 horse figures and three circular figures. No cup marks were found (Fig. 16). The original surface of the rock, 'polished' and with striations made by glacier, is well preserved, and it is also possible, on the rubbings, to observe the individual peck marks of the figures. Not much weathering has taken place, due to the hardness of the rock. Some of the figures were clearly discernible, but some of the ships were not very deeply pecked, probably because of the hardness of the rock, and in some cases their lines can be difficult to follow. Also some of the foot figures are very difficult to discern.

Many of the ships are of a very simple design, with a hull formed of a single line,

Fig. 16. Rubbing of the rock carving on Flatøy, Helgeland, Nordland. Rubbing: G. Milstreu, Tanums Hällristningsmuseum.



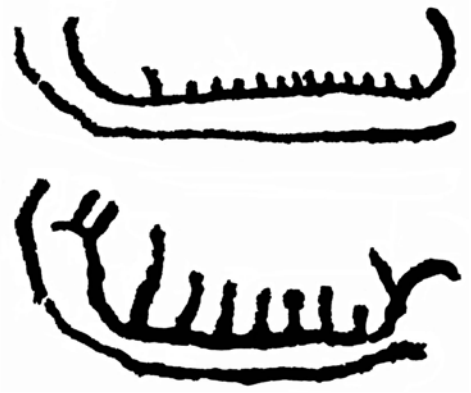


Fig. 17. Two ships from Flatøy, Helgeland, Nordland, showing alterations made to the lines of the keel extension. Photo and graphic: Kaul & Milstreu.

Fig. 18. Rubbing of one of the ships at Flatøy with horse headed stems, Helgeland, Nordland. The line forming the keel extension exhibits a slightly different pecking technique. Rubbing: G. Milstreu, Tanums Hällristningsmuseum

with no separate gunwale and keel line. Such simple ships are not of much use for dating purposes. However, other ships evidence more details, possessing both gunwale and keel lines, as well as carrying strokes, representing the crew. Here it seems possible to gain evidence regarding their dating.

Two of the ships are equipped with high, in-turned stems. The stem-shape indicates an Early Bronze Age date, within the centuries around 1400 BC. One of these ships cuts through three of the foot figures, and it is worth noting that in one of the cases, the high in-turned stem has been pecked over the foot figure. Consequently the foot figures – which are of the category with shoes on (not the naked foot with toes marked) – should be among the earliest figures carved on this panel.

The dating of the ships according to their stem shape – Early Bronze Age – may seem to be contradicted by the highly raised keel extension of the prow – a feature characteristic of Late Bronze Age ships (Kaul 1998: 87 ff.). However, a closer examination of these ships reveals that the upper part of the keel extension is a later addition (Fig. 17). At a certain point, there is almost a break in the line of the keel extension, and above this point the technique of pecking changes. In other words, an Early Bronze Age ship was modified to a Late Bronze Age ship (Kaul & Rønne 2011; Kaul 2012 b). A ship with stems in the shape of low out-turned horse heads, has likewise received a heightening of its forward keel extension (Fig. 18). Ships with stems carrying these low horse heads should be dated to the second half of Per. II and Per. III of the Nordic Bronze Age, 1400-1100 BC (Ling 2008: 79 ff.; 2013: 53 ff.). In any case, here we are also dealing with an 'upgrading' of an older ship image.

There is no doubt that there was an overlap period, where ships with high in-turned stems were made alongside ships with stems terminating in out-turned horse's heads. The best example is the bronze fittings of the Vismar Horn, Mecklenburg, North Germany, with these different ships on the very same object. When considering other decorative elements of the Vismar Horn and the general ship chronology, it should be dated to Period III of the Early Nordic Bronze Age, 1300-1100 BC (Glob 1969: 49-55; Randsborg 1993: 98-99; Kaul 1998: 92-93). A stone from Birkerøgel, North Zealand, Denmark, carries two ships, made in exactly the same technique, seemingly forming a single composition. One of the ships has in-turned stems, the other has stems terminating in out-turned horse's heads. The slightly curved hull of the Birkerøgel ships indicates a, typologically, slightly later date than the Vismar Horn,

but still belonging to Period III (Glob 1969: 49-54; Kaul 1998: 89-90). It can not be ruled out that the ship images on Tro belong to Period II of the Nordic Bronze Age, though in the case of one of the ships, the horse headed stem can not be older than 1400 BC. The curved hulls seem to point in the direction of Period III. The upgrading of the ships – the high keel extension – took place in the Late Bronze Age, from Period IV (1100-900) onwards. Another, longer ship, seems to have an S-shaped stem, this element indicating a Late Bronze Age date.

The chronological analyses of these ships from Flatøy thus narrows down the time span of their creation, and gives a later date for their 'modernization'. Such observations are of importance on a number of different levels. Firstly, we are informed, that there was rock carving activity in both Early and Late Bronze Age. Secondly, that the continuous activity here, among the northernmost rock carvings of the Bronze Age tradition, was respecting the old figures, renewing the ships, so that they would remain in accordance with the latest fashion or tradition.

Similar observations of 'upgrading' ships and other motifs to the later styles have been made at a number of other rock carving sites in Scandinavia (Fredell 2003: 228; Kaul 2004: 297-298; Fredell 2010: 62).

Fig. 19. Two horse figures from Flatøy, Helgeland, Nordland. Note their low, elongated necks. Rubbing: G. Milstreu, Tanums Hällristningsmuseum.

Fig. 20. View from the rock carvings on the island of Flatøy, Nordland, Norway. Photo: F. Kaul.

Fig. 21. Rich agricultural landscape on the island of Flatøy, Nordland, Norway, close to the Bronze Age rock carvings. Photo: F. Kaul.

On Flatøy, two horses are depicted (Fig. 19). With their long forward-stretched necks, almost straight body, and forelegs turned forward, a dating to the Early Bronze Age, Per. II or Per. III is most likely (c. 1400-1100 BC). A number of parallels with this horse shape have been found within South Scandinavia, both as bronze figures and as rock carvings, for instance, in Scania, Sweden, at Kivik, Villfara and Tågaborg (Goldhahn 1999; Kaul 2004: 291-297).

When approaching the island of Flatøy by boat, the coastal setting of the rock carving site is indisputable. From the panel, a somewhat harsh, rocky, fjord landscape is seen, which does not seem suitable for agriculture (Fig. 20). However, when walking a few meters up behind the rock carvings, then, suddenly, an open, agricultural land-

scape emerges, with pastures, grass fields, and with scattered deciduous trees (Fig 21). Thus, a change in view, leads to a change in the landscape.

Trovika, Tro, Helgeland, Nordland

The rock carvings on the neighbouring island of Tro, at Trovika, are similarly situated close to the best agricultural land of today, facing the best field on the island (Fig. 22). The field forms an approximately 1 kilometre long, gentle slope, facing south towards a small beach – an ideal landing place. It is a well sheltered 'basin' between ridges of higher land, today, with grass fields for hay harvesting and cattle pasture (Kaul 2012 a). During one of our research visits to Helgeland, we were informed that the name of the island, Tro, may refer to this main feature of the agricultural landscape. The word "tro" in Norwegian has a number of meanings, one of which is "trough" (Danish: *trug*), in the context of a receptacle used for feeding or watering animals. The panel is located within a long, flat bottomed valley formed by parallel ridges of low hills, which give shelter (Fig. 23).

Fig. 22. View from the rock carvings of Trovika, Tro, Helgeland, Nordland. The rock carving faces an arable field. Photo: F. Kaul.

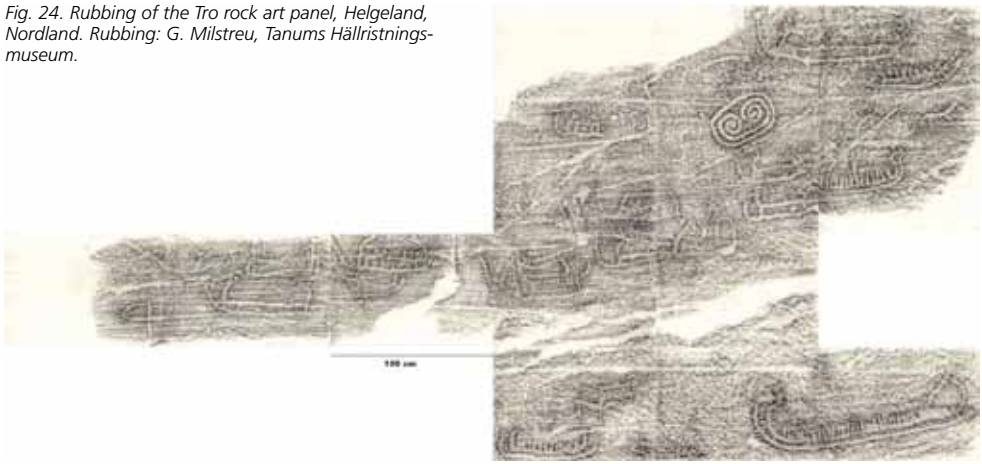
Fig. 23. View over the long field at the bottom of the "trough" running through the island of Tro, Helgeland, Nordland. Photo: F. Kaul.

The rock carving field at Trovika includes more than 17 ships, a pair of foot figures, two single foot figures, three horses, a complex spiral pattern and some cup marks (Fig. 24). Most of the ships have both keel line and gunwale line, and they are equipped with high, raised keel extensions forward, and some carry S-shaped stems, probably in the shape of stylized aquatic birds' heads (Fig. 25). The shape of the ships indicates a Late Bronze Age date, probably Per. IV and/or V (1100-700 BC). The ships are typical Nordic Bronze Age ships, and, as on Flatøy, they clearly manifest themselves as part of the common Nordic tradition (Sognnes 1985; 1989). For instance, similar ships have been found in Trøndelag, Norway, in Bohuslän, Sweden, and on Bornholm, Denmark, far to the south. It should not be ruled out that a couple of the ships belong to the Early Bronze Age.

The rock at Trovika is not so hard as on that on Flatøy, and the ships seem to have been cut deeper. The rock is much more weathered than on Flatøy, and it is not possible to distinguish the single pecking marks here. Consequently, no differences in pecking technique are observable, and no clear evidence of later remodelling can be positively evidenced. Even so, the possibility remains that a couple of Early Bronze Age ships have been changed into Late Bronze Age ships, altered, so that they would be in accordance with the latest fashion. The largest of the ships from Trovika carries high, rounded in-turned stems, indicating an Early Bronze Age date. A high keel extension and a stylized animal's head at the prow could have been added during the Late Bronze Age (Fig. 26). Another ship, with in-turned stems, exhibits an addition made to its keel extension.

One of the horse figures with a long, low neck, similar to those on Flatøy, is per-

Fig. 24. Rubbing of the Tro rock art panel, Helgeland, Nordland. Rubbing: G. Milstreu, Tanums Hällristningsmuseum.



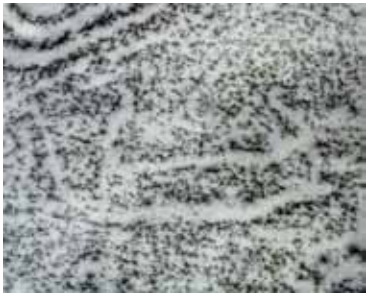


Fig. 25. Ship carving at Trovika with stems in the shape of stylized aquatic birds. Rubbing: G. Milstreu, Tanums Hällristningsmuseum.

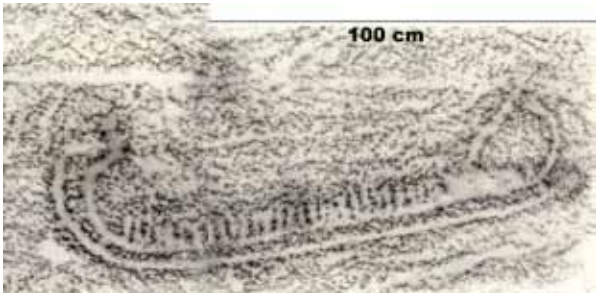


Fig. 26. Ship image from Trovika, Tro, Helgeland, Nordland. This ship figure appears to be an example of an Early Bronze Age ship with in-turned stems where the high keel extension should be regarded as a later alteration. Rubbing: G. Milstreu, Tanums Hällristningsmuseum.

haps best placed within the Early Bronze Age (Fig. 27). Two other horses, of a different shape and with a higher neck posture, should be dated to the Late Bronze Age. Both types of horses have parallels further south (Kaul 2004: 289-308).

In conclusion, the two rock carving sites on Flatøy and Tro probably represent more than one activity event, at least two, and probably more, stretching from the Early Bronze Age into the Late Bronze Age. It is worth emphasizing that the rock carvings reflect a continuity of activity, and the alterations demonstrate respect for the old carvings. As we have seen, it is in the same coastal area of Helgeland, and not

Fig. 27. Horse figure from Trovika, Tro, Helgeland, Nordland. Rubbing: G. Milstreu, Tanums Hällristningsmuseum.

far away from Flatøy and Tro, that finds from the Nordic Period III and onwards are represented, both as votive depositions and within burials. The northernmost razor with a handle in the shape of a horse's head was found in a burial cairn at Skjeggesnes, about 20 kilometres northwest of Tro as the crow flies. Such an object should be considered as being carrier of iconography (see above).

Nordic Bronze Age ships at Alta, Finmark, North Norway.

At Sandvågmoen, Engeløya, one of the northernmost rock carvings belonging to the Bronze Age tradition can be seen. A large flat stone block is dotted with cup marks, some of these connected by pecked lines (Pedersen 2008: 32-33; Kaul 2012 a: 80-81; Arntzen 2013: 190). The stone is situated in an open agricultural landscape, mainly consisting of grass fields. When going further north, the concentration of Late Bronze Age finds from the Harstad/Kvæfjord area in South Troms should be noted (see above). In this area no rock carving belonging to the Bronze Age tradition has been found.

At Alta, in Finmark, almost as far north as you can get, a number of ship carving from the Nordic Bronze Age tradition have come to light. In 1973, the first rock carvings were found at Hjemmeluft/Jiepmaluokta, Alta. Since then, hundreds of rock carvings have been found, and this place has become one of the most important rock carving sites of Northern Europe, and is now recognised as a World Heritage site. Most of the rock carvings belong to the Arctic tradition (also known as "hunters' carvings").

Somewhat separated from the other rock carvings, at Apana Gård, on the east side of the Alta Fjord, more than 12 ships distinguish themselves through attribution to the Nordic Bronze Age tradition (also termed farmers' carvings). The striking similarities with ship images of the Nordic Bronze Age were noted almost as soon as the ship renderings were discovered, K. Helskog (1988: 94) suggesting that one of the ships belongs to a type that you would expect to travel to the southernmost parts of Scandinavia in order to find similar figures.

In some studies, these ships have been dated to the Late Bronze Age (Helskog 1988: 33; Sveen 1996: 59), and in others, they have been dated to the Pre-Roman Iron Age, or around 500 BC (shoreline dating) (Helskog 2000; 2012). Most of the ships in question are asymmetrical, with a high, protruding keel extension forward, and a short keel extension aft. In some figures, the stems fore and aft terminate in stylized animals' heads, probably horses' heads, ending in short spiral curls. This type of ship style, with a high keel extension at the forward prow, is typical of the Late Bronze Age (Kaul 1998; Ling 2008).

In the case of a number of ships at Hjemmeluft, the keel extension and the gunwale extension meet, creating a pointed loop-shaped, or rather contour-drawn, stem, behind which a horse headed stem-like decoration is sometimes evidenced (Fig. 28). Such loop shaped stems are seen on ships belonging to the Pre-Roman Iron Age, but

Fig. 28. Ship carving at Hjemmeluft, Alta, Finmark, Norway. Note the asymmetrical shape of the ship with a high keel extension or stem forward, and a low, horizontal stabilizer aft. Upper: F. Kaul photo; lower: Alta Museum rubbing.

Fig. 29. Another ship image with Late Bronze Age characteristics, Hjemmeluft, Alta, Finmark. Photo: F. Kaul.

the loop-shaped stem in itself does not necessarily determine the age. What seems to be of importance for the date is the asymmetrical ship-shape, which is to be considered as a typical Bronze Age feature (Østmo 1991; Kaul 2003; 2006; Sognnes 2006; Kaul & Rønne 2011; Helskog 2012). From analogy of a number of razors of a seemingly ship shape, the introduction of the loop shaped stem may have taken place during Period V of the Nordic Bronze Age (900-700 BC) (Kaul 1998: 140-141). However, with a tendency towards a more symmetrical shape among some of the ships from Hjemmeluft, a date close to the end of the Bronze Age, Period VI (700-500), seems most likely. Two of the ships seem to be equipped with steering oars, a feature which is best known from the Pre-Roman Iron Age

Other ships from Hjemmeluft, of essentially the same design, carry a more pronounced high, almost tower-like stem construction, and here there appear to be dancers onboard. (Fig. 29). On this vessel, as well as within other ships, the stem carries a stylized horse's head with spiral curls (Fig. 30). These heads, of the "curled muzzle type", are typical of the stylistic tradition of Period V and Period VI of the Nordic Bronze Age (Kaul 1998: 95-96).

A snake-horse from Alta

In close proximity to the ships of the Nordic Late Bronze Age style, two snake figures are represented. Following closer examination of one of the heads, it appears that it is not a 'normal' snake's head, but a horse's head (Fig. 31). In a most elegant way, the attributes of a horse, the ears and the mane, were created using only a very small number of peck marks. Even though there are only two 'dots' for each ear and four 'dots' for the mane, the equine form of the head seems obvious. The mouth is open slightly. The artist knew exactly how to intentionally accentuate certain features, in order to skilfully create the likeness of a horse that conformed to the conventions of the 'Bronze Age style or fashion'. In this in-

Fig. 30. Detail, stern of ship at Hjemmeluft, Alta, Finmark, Norway. Photo: F. Kaul.

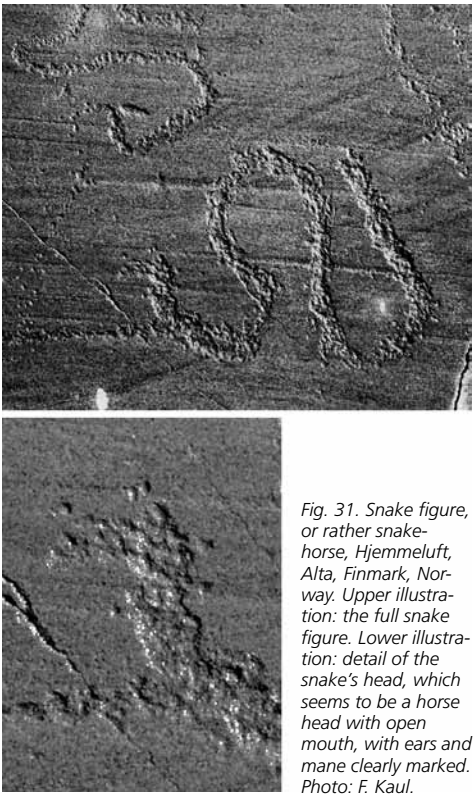


Fig. 31. Snake figure, or rather snake-horse, Hjemmeluft, Alta, Finmark, Norway. Upper illustration: the full snake figure. Lower illustration: detail of the snake's head, which seems to be a horse head with open mouth, with ears and mane clearly marked. Photo: F. Kaul.

stance, we are dealing with a snake that has a horse's head, the *snake-horse*.

The snake is a well known motif within the iconography of the South Scandinavian Late Bronze Age. It is also represented in the rock carvings of Leirfall and Stjørdal, North Trøndelag, Norway (Sognnes 1999: 44). Even fantastic animals taking the form of a mixed creatures, such as the snake-horse, occur regularly in South Scandinavia. A rock carving of a snake figure from Simris, Scania, Sweden, probably belongs to the Early Bronze Age, testifying the longevity of the snake within Nordic Bronze Age iconography. The snake from Simris seems to possess certain equine characteristics, since some strokes on its neck could be interpreted as a mane (Kaul 2009: 82). Snakes, with what seems to be a horse's head with prominent ears, which are characteristic of Late Bronze Age, is known from the carvings at Bro, at Tegneby and at Slänge, all within Tanum Parish, North Bohuslän, Sweden (Högberg 1995: 103; Kaul 1998: 230-231). A particularly distinctive snake with a horse's head is seen over a ship on the Lökeberg rock art panel, Central Bohuslän (Andersson & Toreld 2012: 9; Foss 6.1 yta B). Another noteworthy example which should be mentioned, can be found at Flyhov, Västergötland, Sweden.

Within the miniature art of the Late Bronze Age bronze razors, the snake-horse also appears. Probably the finest expression is seen on a Danish razor without find provenance, where two, antithetic, fantastical animals have the rhomboid head of a snake, the mane of a horse, the narrow, curled body of a snake, and the four legs of a horse (Kaul 1998: cat. no 357; 2009: 84). Another snake-horse is seen in front of a ship on a razor from Fjelsted, Funen, Denmark (Kaul 1998: cat. no: 132). Yet another six-legged snake-horse is seen on a razor from Vistoft, North Jutland, Denmark (Kaul 2004: 325 ff; 2009: 84-85), and what could be called a double snake-horse from Vammen, Central Jutland, Denmark, has six legs (Kaul 1998: cat. no 237; Kaul 2004: 255). Possible double snake-horses are seen on a Late Bronze Age wooden head-stool, from Bynesset, in Trondheim (Kaul 2009: 85-86). A female belt ornament from St. Dalby on Öland, Sweden, is decorated with fantastical, whirling patterns. Spiraling snake bodies tend to have a horse head at one end, and a snake's head at other. Interestingly, ship stems also seem to be have been part of this intriguing pattern (Sprockhoff 1936; Kaul 1998: 192).

The ship images from Alta. Comparisons with ships from South Scandinavia.

At first glance, the ship images in question do not seem to conform to the expected trends for South Scandinavian rock carvings. With their tower-like stem projections, and their prominent, pointed-looped stems, they do look a little bit odd when compared

to the 'mainstream' of Late Bronze Age ship types. For an instant, one could consider these 'peculiar' Alta ships the reflection of an amalgamation of traits, from both the South Scandinavian Bronze Age tradition and the Arctic Stone Age tradition. Within the Arctic tradition, boats and ships also occur, including at Alta itself, but here they seem to be of an earlier date (Helskog 2000; 2012). However, upon examination of the details of the ships, close parallels can be found with South Scandinavia, and, when considering more general features, such as the closed or loop-shaped stems, this feature occurs in most of the rock carving regions, from Bornholm (Kaul 2005; 2006) and Småland (Burenhult 1973: 82-83) in the south, to Trøndelag in the north (Sognnes 1999).

In Bohuslän, West Sweden, parallels with the Hjemmeluft ships can be seen, particularly within Bottna parish, Central Bohuslän, around 1500 km from Hjemmeluft as the crow flies (Fredsjö *et alii* 1975: 148; Strömberg & Strömberg 1983: 17) (Fig. 32). Here, it is not just one or two ships which share characteristics with the ships at Alta, which include, the pointed, loop-shaped stems and spiralling horse's heads, or spirals on contour-drawn tower-like projections, but a concentration of such ships (Fredsjö *et alii* 1975: 33-36, 49, 130-133 & 137). A little break or kink in the carved line at the base of the towering stem, topped with either a spiral or a horse head, is a peculiar shared detail (Fig. 33; Fig. 34). Ships of a similar design have also been found in northern Bohuslän, for instance at Hamn, in Kville (Coles 2005: 16).

Ships comparable to those at Alta are also found on a number of rock carving localities in southern and western parts of Norway. For instance, the high, almost tower-like, stem construction is seen among carvings at Åmøy near Stavanger (Fett & Fett 1941: Pl. 11, 14, 20 & 22). Here in Rogaland, there is a concentration of ships with closed, loop-shaped stems, not only at the Åmøy locality, but also at other sites within the district, such as at Harastad, Rudio and

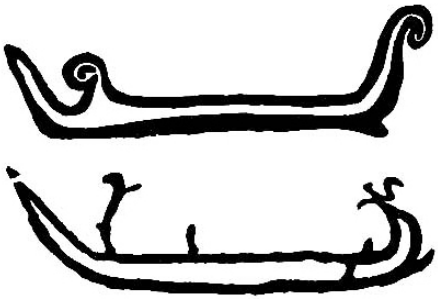


Fig. 32. Ship images from Gisslegärde and Bottna, Bottna Parish, Bohuslän, Sweden. T. Bredsdorff drawing after Fredsjö et alii 1975.

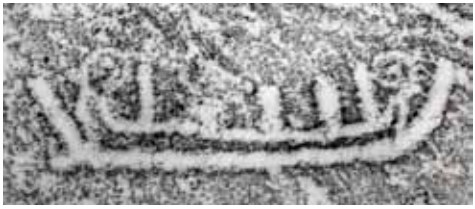


Fig. 33. Ship carving, Bottna, Bohuslän, Sweden. Rubbing: G. Milstreu, Tanums Hällristningsmuseum.

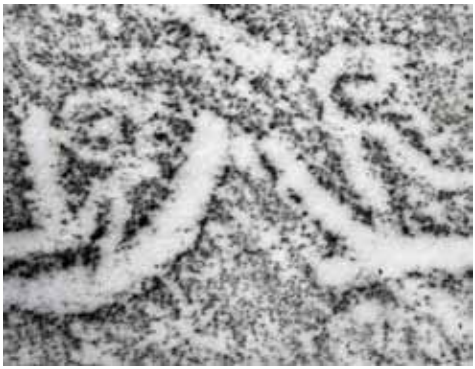


Fig. 34. Detail of the prows and sterns of two ships Bottna, Bohuslän, Sweden. Note the projection inside the ship carrying a spiralling (horse) head figure, in this case, somewhat shorter than similar features within ships at Alta. Rubbing: G. Milstreu, Tanums Hällristningsmuseum.

Bru I (Høgestøl *et alii* 2006: 54, 65 & 74). Similar ships are also known at Utbjoa, Ølen, Hordaland (Mandt Larsen 1972: Pl. 26), in addition to some, belonging to the same 'family', from Begby, Bilet and Borge Lille in Østfold (Vogt 2012: 105-122).

Discussion, Alta, Finmark

The presence of the ship images at Alta, Finmark, related to the Scandinavian Bronze Age tradition, poses some challenging questions as to our understanding of far distance communication and contact during the Late Bronze Age. They are found in an area where there are few finds with connections to the Nordic Bronze Age Culture (see below). This is in contrast to the rock carvings of Flatøy and Tro, in Helgeland, where there are finds of bronze objects, from burials and votive deposition (see above).

Observations of similarity between the ship images from Alta and ship images from South Scandinavia can be viewed in different ways. A population, with roots in the societies of the circumpolar region, could, somewhere in the area, have seen ships belonging to bearers of the Scandinavian Bronze Age culture, or they could have imitated the style of the stems of such ships. However, the ships in question seem to have been executed in such a formally and technically correct manner, conforming to the Nordic Bronze Age style, that consequently, this possibility can be ruled out. This is also supported by the presence of the snake-horse at Alta, which should be interpreted as a signature iconographical feature of the Nordic Bronze Age culture. Another possibility is that parts of the population could have had more than one cultural identity, belonging to different communities of practices within the overall cultural group, a phenomenon not unknown by anthropological observations. In this case, some members of the community may have been related to communities further south, and were well acquainted with their practises and iconography (Helskog 2012: 225). The rock carvings themselves may demonstrate a mixture of what appear to be local – e.g. reindeer – and external influences – boats of South Scandinavian types (Helskog 2000: 13).

Another explanation, is that the ship images from Alta could reflect occasional visits of travellers, long distance contacts or expeditions, stemming out from South Troms, or even ultimately from Southwest Norway or Bohuslän.

However, we should not rule out the possibility of a small Late Bronze Age and Early Pre-Roman Iron farming and pastural population (Myhre & Øye 2002; Helskog 2012). In that case we might allow ourselves to reverse the communication scenario: It was from Alta that people from time to time went south, paddling for a month or more (Kaul 2012 b; 2012 c). The places where the best parallels with the ship images from Alta are found could have been the destinations for their journeys. It was there they had family connections – it was there they carved their specific ship-images together with their family-members. Another reason for such a long journey, could be the wish to join Pan-Nordic cult festivals that, probably, took place at regular intervals in Bohuslän, particularly around 800 BC, in Per. V (and Period VI), when we see a peak of rock carving activity. Bohuslän may have functioned as a central sacred location, or place of pilgrimage for the surrounding regions, if not for the whole of Scandinavia (Kaul 2004: 103). Through such cult festivals, where people from all over Scandinavia met, even the most distant parts, a common ideology and religion related to farming was maintained. When back at Alta, the creation of the ship images would reinforce the feeling of social connections with the South. We need to consider such scenarios as serious possibilities, if we want to explain the common iconography, covering huge areas, evidenced within the rock carvings of the Nordic Bronze Age (Kaul 1998: 274; Kaul 2004: 409; Kaul 2012 b).

Even though palaeological evidence for Bronze Age and Early Iron Age agriculture in Finmark is debated, it should not be unrealistic to assume that, around 500 BC, agriculture and pastoralism was incorporated into the economy – even here, hundreds of kilometres north of the Arctic Circle, at 70 degrees north – of course, still supplement by fishing. The climatic conditions here, at the ultimate borderline of agriculture, are highly variable, and agriculture should be

considered as the most vulnerable subsistence base, susceptible to small climate changes (Helskog 2012: 230). Today, at some places within Alta Fjord, a particularly mild climate enables barley to ripen in good summers. Probably climate conditions for cereal cultivation were even better in the Bronze Age. In sheltered inland areas, a few kilometres from Hjemmeluft, farms with byres for cattle can be seen today, surrounded by large grass fields. Small horizontal water mills reveal that barley could ripen and be milled into flour for baking flat bread (Fig. 35). It is possible to speak of arctic agriculture, almost as far north as you can get, hundreds of miles north of the Arctic Circle, at 70 degrees north (Kaul 2012 a: 84-85).

Admittedly, the distances are large between Alta and the nearest area with an agricultural potential and Late Bronze Age finds, such as the Harstad/Kvæfjord area, in South Troms. When considering the test sailings with a replica of the Pre-Roman Iron Age Hjortspring Boat, which probably shared the same qualities at sea as the Bronze Age ships, then regular contacts between, for instance, the Harstad area and Alta would not have been impossible. As mentioned above, even much longer distances should not been seen as unrealistic. The test sailings with the replica of the Hjortspring boat demonstrated that under good conditions – fair weather in the summer – a well-trained crew can cover 100 kilometres in a day's voyage (Kaul 2003: 201).

Fig. 35. A horizontal mill located within a large farm, a couple of kilometers from the head of Alta Fjord. Photo: F. Kaul.

The maintenance of regular connections was probably a decisive factor in order to maintain a relatively small population with a definite agricultural basis, and closely related Nordic Bronze Age culture (Mahler 2012). If contact for some reason faded away, then such a population would gradually lose its connected identity, or, if agriculture failed, people simply moved back to areas further south. Here at the border of agriculture, even small climatic changes could have been critical. Consequently, we should not imagine a stable population of long durance Bronze Age farmers, but rather talk about one or some episodes, of a few generations, where the conditions for farming and pasture were most favourable. Furthermore, a certain surplus, both here and further south, was needed in order to maintain frequent (long distance) contacts.

Alta, Finmark
Other finds related to the Nordic Bronze Age Culture

As we have seen, the ship images from Alta imply the presence, around 500 BC, of people connected to the Nordic Bronze Age culture. No bronze objects related to the Nordic Bronze Age culture have appeared in Finmark (even though some very few bronzes related to the eastern Ananjino culture, reflecting another contact network have been found in this region).

However, a couple of finds indicate that episodes of visit or settlement had taken place already during the Early Bronze Age, though only to a limited extend. At Isnestoften, circa 20 kilometres from Hjemmeluft, two 'flint daggers' of South Scandinavian type have been found. At least one of the

'daggers', which we have had the opportunity to study at the museum in Alta, is not a dagger, but a dagger-shaped strike-a-light (also known as a fire striker). O. S. Johansen mentions both Late Neolithic daggers and fire strikers from a number of find-spots in Northern Norway, and it is clear from his find lists, that he regards fire strikers as objects attributable to the Late Neolithic (O.S. Johansen 1979, 30). However, the type of dagger-shaped strike-a-light from Isnestoften is, without doubt, an Early Bronze Age type, well documented from dated burial context in Southern Scandinavia. The strike-a-light from Isnestoften can be assigned to Lomborg's type C, belonging to Per. II and III of the Nordic Bronze Age (1500-1100 BC) (Lomborg 1960, 160-163). Flint is not a material that occurs naturally in any part of Norway. It can be found as small pieces along the coast, but such minute pieces would only be suitable for small artefacts. There is no doubt that the flint came from Denmark, or Scania, Southern Sweden. Thus, we are dealing with a Bronze Age find that connects the Alta area with South Scandinavia. The strike-a-light should be regarded as a personal item, and, when complete, it is usually found alongside burials. There is no accurate record of the find's context, but, there are a number of small cairns at Isnestoften. The possibility should not excluded that this is an item of grave goods. A person closely connected to South Scandinavia may have ended his days here.

More evidence of activity related to the Bronze Age of South Scandinavia has come to light close to the rock carvings at Hjemmeluft/Jiepmaluokta, a long time before the rock carvings were discovered, making Alta and Hjemmeluft world famous. In 1925, A. Nummedal carried out a research survey along the east shore of Alta Fjord. Along a 2.5 kilometre stretch, he found a number of Stone Age and probable Bronze Age settlements. On some of the sites, he collected the lithic material, and at other sites he carried out excavations (Nummedal 1927; 1929). Nummedal concluded that the lithic assemblage had the same shape, and was made in the same technique, as objects from the Late Neolithic of South Scandinavia (Nummedal 1927: 260). There is no doubt that pressure-flaked artefacts should be regarded as a phenomenon related to the Late Neolithic and Early Bronze Age of South Scandinavia, for instance the flint daggers. On the other hand, there was also a tradition of pressure flaking in the Siberian region. Nummedal categorized the material as flint, but it has turned out that the lithic material is chert, which has almost the same flaking properties as flint. Chert occurs in several places in Finmark. Open queries have now been discovered close to Alta, with evidence of Prehistoric chert extraction (Hood 1992).

The largest of the settlements excavated by Nummedal is located at Hjemmeluft, in the area where Alta Museum and its car park are now situated. Here, he found a culture layer containing debitage from chert artefact production. A number of broad based pointed artefacts and scrapers are represented. Of greatest importance, within the present context, are two complete half-moon-shaped objects, which today are determined as sickles (Fig. 36).

While Nummedal underlined the South Scandinavian connection of these Alta finds (Nummedal 1927: 260), G. Gjesing rejected such a connection, within his analysis of the sickles (Gjesing 1942: 185-189). Gjesing's main argument against these objects being sickles was that there was no evidence of Late Neolithic and Bronze Age agriculture or cattle breeding from North Norway. As has been demonstrated by the evidence presented within the present article, such arguments are no longer valid. There ap-

Fig. 36. Two sickles from a settlement at Hjemmeluft, Alta, Finmark. After Nummedal 1929.

pear to be numerous finds, confirming Bronze Age agricultural activity within North Norway, at least between Helgeland and South Troms, in addition to connections with South Scandinavia, and beyond.

When the morphology is considered of the two sickles from Hjemmeluft, Alta, they can easily be compared with sickles from South Scandinavia. They can be determined as a variant of the asymmetrical sickle, belonging to the Early Bronze Age. This relatively rare variant is slightly asymmetrical, with a rounded end. An extremely close parallel with the Hjemmeluft sickles comes from a find from a burial within from a barrow at Billegravsgård, Bornholm, Denmark (Fig. 37). The burial is dated to the second half of the Nordic Period II, 1400-1300 BC (Aner & Kersten 1977: 19, No 1466 D). From Norway, similar sickles can also be pointed out, such as a specimen from Bjørnerem, Akerø, Møre og Romsdal, Central Norway. In a field close to a lake, probably as part of a votive deposition, a sickle of Danish flint (Vitenskapsmuseet, Trondheim, T13232 a) was found together with two scrapers and two flakes.

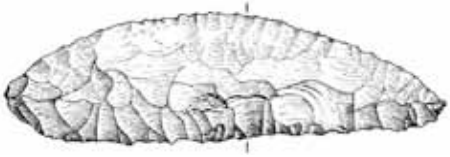
Amongst the chert material from Hjemmeluft, there are many fragmentary pieces which should not be considered as used, broken or finished products. Some of the broken pieces, including fragments of sickles, seem to represent roughouts – mishaps in the course of the production (The part of the lithic material which is in Universitetets Oldsakssamling, Oslo, has been studied by Preben Rønne and Lasse Sørensen). This indicates that we are dealing with a centre for the production of sickles and other artifacts, related to the rich local sources of chert.

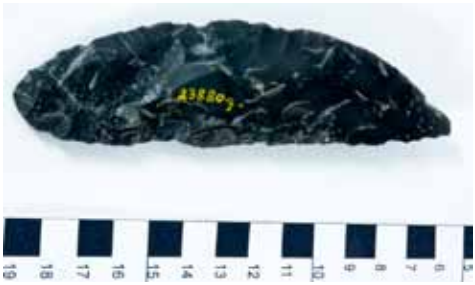
From the perspective of the authors' present article, it should be seen as much more interesting that the production of flint sickles took place at Alta using local chert sources, rather than imported material. Up here, as far north as you can travel, some people, well acquainted with the desirable shapes as well as flint and chert knapping skills, produced sickles in accordance with the South Scandinavian tradition styles between around 1400-1300 BC. The strike-a-light from Isnestoften may be closely related to this activity, perhaps reflecting the presence of such persons close to Alta.

Some questions naturally arise. We are dealing with the production of sickles, an artefact related to agriculture. However, we do not know the scale of this production. When the scientific (and other evidence) for an agrarian economy is so scarce from the Early Bronze Age, how can we speak of agriculture? Could the mining of chert and the production of sickles have served purposes in relation to agrarian societies south of Alta? Could chert be a lithic resource 'competing' with Danish flint? Was the primary goal of expeditions to exploit the chert resources, and to bring the products back to warmer regions? Perhaps it was a combination of both early use of chert in addition to a first wave of agriculture?

The search for, and the use of, lithic resources may have opened the eyes of travelling groups to the agrarian potentials of the lands near the relatively mild Alta Fjord. Perhaps the finds from Alta reflect a first wave of pioneering farming, albeit with

Fig. 37. Comparison of one of the sickles from Hjemmeluft, Alta, Finnmark, with a Bronze Age sickle from a burial at Billesgravgård, Bornholm, Denmark. After Aner & Kersten 1977.





limited duration and impact – an episode of agriculture at the uttermost border of the Nordic Bronze Age Culture. When considering such a model, the ship images of Alta, circa 500 BC, may reflect yet another episode of agrarian activity, though longer, reaching into the Early Iron Age.

Concluding remarks

As we have seen, the rock carvings can contribute toward our understanding of the expansion of the agrarian economy in Northern Norway. From North Trøndelag to Alta we can follow some of the steps of agriculture, reflected in each of the different find categories including rock art. The rock carvings at Alta may reflect the last step in the long history of the 'neolithization' of Scandinavia. The evidence of sickle production from Alta, prior to this, does not conform to the expected trend, being much earlier than expected.

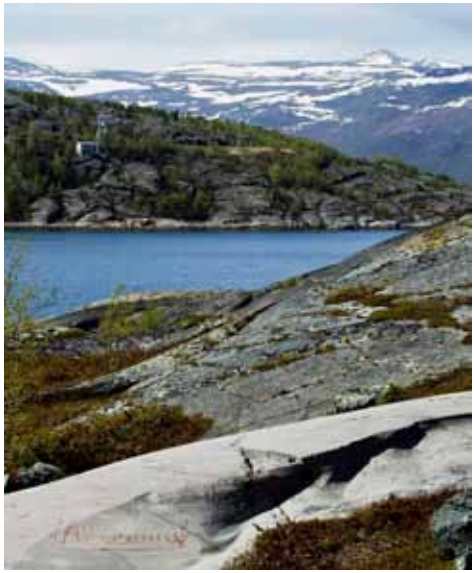
If we incorporate earlier episodes of shorter durance within our explanatory models, then finds such as the sickles from Alta make sense. Not only at Alta, but also further south, at an earlier time, when there seems to have been minor incidences of agriculture, before a larger push forward. For instance, during the battle axe culture, around 2400-2300, there are finds from Trøndelag indicating limited agrarian activity, here perhaps reflecting local assimilation rather than expeditions covering large distances (Asprem 2012: 144-149; Kaul & Sørensen 2012: 275-280).

All the way from Trøndelag and Helgeland, along the coasts of Nordland and Troms, as far north as Alta in Finmark, we find evidence of the Nordic Bronze Age Culture, and in each case the sites are situated where there are patches of land suitable for agriculture. Today these places, favoured by a mild local climate, yield possibilities for farming, cattle breeding and milk production. We may envisage these patches, where agriculture was carried out at the border, as small islands of arable land surrounded by mountains and the sea. In fact, many of the sites are located on islands, where the only possible vehicle of transport and contact was the ship (Fig. 38).

Addendum

The reader will find no references to unpublished papers, including unpublished dissertations. Unfortunately, the important and comprehensive doctoral thesis from 2010 by Ø. Engedal, remaining unpublished, belongs to this category (Engedal, Ø. 2010: *The Bronze Age of Northwestern Scandinavia*. Upubl. Avhandling til graden dr.philos, Universitetet i Bergen). Engedal's work comprises a detailed study of the bronzes of the Norwegian Bronze Age, and the bronze objects mentioned in our present article are treated thoroughly here. Generally, Engedal's results and conclusions are in agreement with those of the authors of the present article, including when the details are taken into consideration. For instance, Engedal has placed the flange hilted sword from Vinje, Vesterålen, later than Period III, while Sjøvold suggested Period III (1952).

Fig. 38. Ship image at Alta Fjord, almost as far north as you can travel. Photo: F. Kaul.



Moreover, Engedal mentions that an expansion took place northwards during the Late Bronze Age along the Norwegian coast. He also points out that people seem to have been engaged in long distance maritime journeys.

Engedal suggests that there were also connections with the Swedish Baltic face of the Scandinavian Peninsula. For instance, the decoration of the sword from Våg, Dønna, points at connections with the Eastern Swedish coastal areas, where two swords with a similar decoration have been found. On the other hand, related decoration is seen on swords south of the Baltic Sea, as well as in North Jutland. 'Eastern bronzes' and the connections further east are also considered by Engedal. In our present work, the reader will find no references to these bronzes. It has not been our aim to present and discuss the evidence for eastern connections within Middle and North Norway, since it is the finds related to the Nordic Bronze Age culture that have been our point of departure.

Since one of the authors (PR) has recently been considering the 'eastern bronzes' of Northern and Central Norway, ultimately related to the Ananino Culture, we shall here shortly recapitulate. A recent find of a bronze celt (socketed axe) from Tustervatnet, in the inland areas of Nordland, has led us to study the problems concerning the 'Eastern Bronze Age' (Rønne 2008, 14-17). Other finds related to the Aninino Culture, such as a mould for an 'eastern' spearhead from inland North Trøndelag, Grong, are also worth considering (Petersen 1947, 66-69).

These finds of 'eastern bronzes' and moulds, as well as others from neighbouring Northern Sweden, occur in inland areas (Bakka 1976; Pl. 16; Rønne 2008). Thus, the North Norwegian Bronze Age is divided by two lines of influence from two large Bronze Age cultures. In the coastal zone, with patches of land suitable for agriculture, the Nordic Bronze Age Culture related to Southern Scandinavia is well evidenced, while, in northernmost Norway and in the forested or mountainous inland areas where cereal growing was no option, we find objects of 'eastern' type related to the Ananino culture. The same scenario seems to emerge in Finland, even though the picture does not seem to be as clear as in Northern Norway, since a few 'eastern' bronzes are found close to the coast, and some finds belonging to the Nordic Bronze Age Culture have been found deep within inland areas (Huurre 1986; Lavento 2009). The economic potential of the lands of the North – and the different lines of contact through the different landscapes – seems closely related to the general picture of material culture. It is worth noting how the finds belonging to the two different cultural traditions 'crystallize' within their particular geographical environments, and to recognize the emergence of contrasting distribution patterns related to quite divergent landscape types.

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