

Diverhøj

– A Complex Burial Mound and a Neolithic Settlement

by PAULINE ASINGH

Until 1985 one of the large barrows characteristic of the Danish landscape stood on the top of a hill near Trustrup in Djursland (fig. 2) (1). Its earlier name was “Digerhøj”, for which a rough English equivalent might be “Stout Hill”, and with its height of 5 and diameter of 25 m it certainly lived up to its name.

Diverhøj was the largest of 7 barrows situated at the western end of a broad ridge (fig. 1). It was highest, standing on a prominence, while the others lay 50 to 100 meters from one another on slightly lower terrain 50 m further south. Only one of these is still grass-covered, the others being ploughed over and visible only as slight rises in the ploughed field surface (2).

The National Museum’s records show that the southern part of Diverhøj was already destroyed at the end of the last century. This may explain why the monument was only placed in class C in the 1946 inspection and was not brought under protection. Under the revised law of 1978 these monuments acquired full protection unless their removal was demanded by the owner within a certain time. This demand was made in the case of Diverhøj, and was not to be altered.

The excavation – or demolition – was delegated to Djurslands Museum by the State Antiquary’s Archaeo-

logical Secretariat and was undertaken in the summer of 1983 (3).

It rapidly became clear that the monument was both complicated and well preserved and would require a large excavation budget. Indeed Diverhøj has been called the most expensive barrow in Denmark – but how can it be cheap to destroy a well-preserved grave mound?

There had been three main building phases (fig. 3). The latest was made up by a round-topped sod barrow. Under this lay a low disc barrow, also sod-built, containing an unusually well equipped man’s grave from the Early Bronze Age. The oldest part of the monument was a partly round cairn covering the remains of a burnt structure built over a grave dating from an early part of the Late Neolithic. Under the barrow were found two distinct arid cultivation systems and three long houses with occupation layer from the Late Neolithic.

YOUNGEST PHASE

This consisted of a large dome-shaped barrow built of sloping overlapping sods (figs. 4 and 5). Its height had originally been over 3.5 m. Owing to damage at the margins of the monument it could not be decided whether it had completely encapsulated or merely surmounted the underlying disc barrow. All that can be said is that the diameter was roughly 22–26 m. Owing to the destruction of the southern part of the mound only the northern two thirds were intact, and here the maximum surviving height was 2.15 m. The disturbed southern part ended near the original centre.

The barrow is a classic example of a bronze age sod construction. The outline of the individual turves was perfectly clear in the section, which looked like a fret-work of dark humic layers separated by yellow clay. They were 10–45 cm long and 10–25 cm thick, with

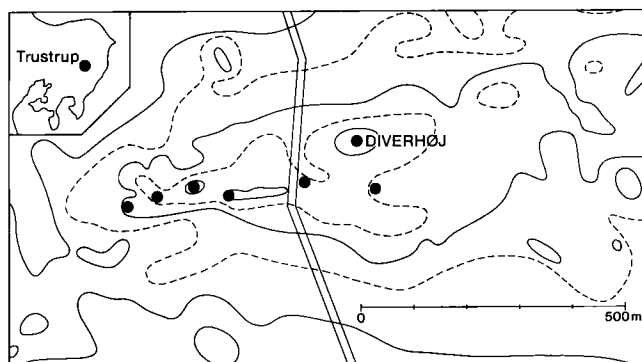


Fig. 1. Place of Diverhøj in Djursland and contour map showing the group of barrows.



Fig. 2. Diverhøj. The barrow from the south at the start of the investigation.



Fig. 3. Part of the barrow with the two sod-built phases in section and the cairn exposed from above. Seen from the south. The original centre was 4 m south of the section, where the southern baulk breaks off.



Fig. 4. Closeup picture of the section, fig. 3, dug to bottom.

large and small sods mixed together. Their dark upper sides lay downwards and the lighter root layer upwards.

The construction of this part of the barrow seems to have proceeded as domed layers of tilted turves starting in the middle of the underlying disc barrow. At the bottom was a core over $\frac{1}{2}$ m thick and about 8 m in diameter of very light-coloured sods. Then followed about two courses of more humic sods. The diameter and height were gradually increased in this way. Uppermost came a ca. $\frac{1}{2}$ m thick layer of highly humic sod which had encased the entire construction. Similar caps of clay soil have been observed on other barrows, and may have been put there so that their denser root system could hold the slope together (Thorsen 1977, 94).

The differences in the humic and mineral content of the turves in different layers of the barrow suggests that they were brought from different places, and the uniformity within the individual layers suggests that these were cut from one place at a time. There was not the slightest sign of renewed vegetation growth between the layers, and it may be assumed that the barrow was built in one process without interruption.

No structural features or datable material were observed relating to this part of the barrow, but part of the head of a flat-headed fibula was found in an area disturbed by animal burrowing above the central grave of the underlying phase. It is possible that the object came from higher up, being from a grave of the final barrow phase that had been placed on the surface of or inserted

into the intermediate barrow. Its central position supports such a suggestion.

The head of the pin is 1.2 cm long with flat underside and convex transversely-notched upper surface (4). The flat-headed fibula is dated to late period II of the Bronze Age (Lomborg 1969, 115), thereby giving a probable dating to the youngest barrow phase.

INTERMEDIATE PHASE

The intermediate barrow was represented by a flat sod-built disc barrow about 80 cm thick. Most of the northern part survived. It was recorded in the main N-S section for about 9 m, ending where it was cut off by the disturbance about 2 m north of the original centre (fig. 5).

The turves were rich in humus and 15–25 cm long by 10–20 cm thick, and were laid horizontally in horizontal layers with the vegetation surface downwards. Here the construction was distinct from that of the upper phase. It was difficult to distinguish the individual sods because of their uniform humic content, but in some places very thin lines of subsoil material could be seen between them.

Owing to disturbance caused by cultivation the disc barrow ended in a nearly 80 cm high almost vertical edge covered with slumped barrow fill. As the foot had not survived the diameter given as 24–26 m is only an estimate.



The uppermost of the horizontal layers of sods was sealed by a 6–15 cm thick turf line indicating the level surface of the barrow. This took the form of a dark brown strongly humic natural soil. No features were observed in the 65 m² surface that was exposed, apart from a small group of vertical sticks. The homogeneity of the sod structure suggests that the barrow was raised all at one time and with sod from a single locality.

Disc barrows occur occasionally as sub-phases of larger mounds, e.g. at Krudhøj in Tyregod parish, where the disc barrow was primary (Thorsen 1977), and

in a mound at Esbjerg, where two of the four building phases were composed by flat-topped barrows (Aner and Kersten 1986, cat. 4045). These were of small or intermediate size separated from the following phase by thin turf lines (5).

Disc barrows are also known without later additions. These are barrows of large diameter such as Bredhøj in Ringkøbing county, with a diameter of 49 m and a height of 2.5 m (Boye 1896, 24ff), and Fladhøj in Ribe county, with a diameter of 67 m and a height of 2 m (Brøndsted 1966, 34).

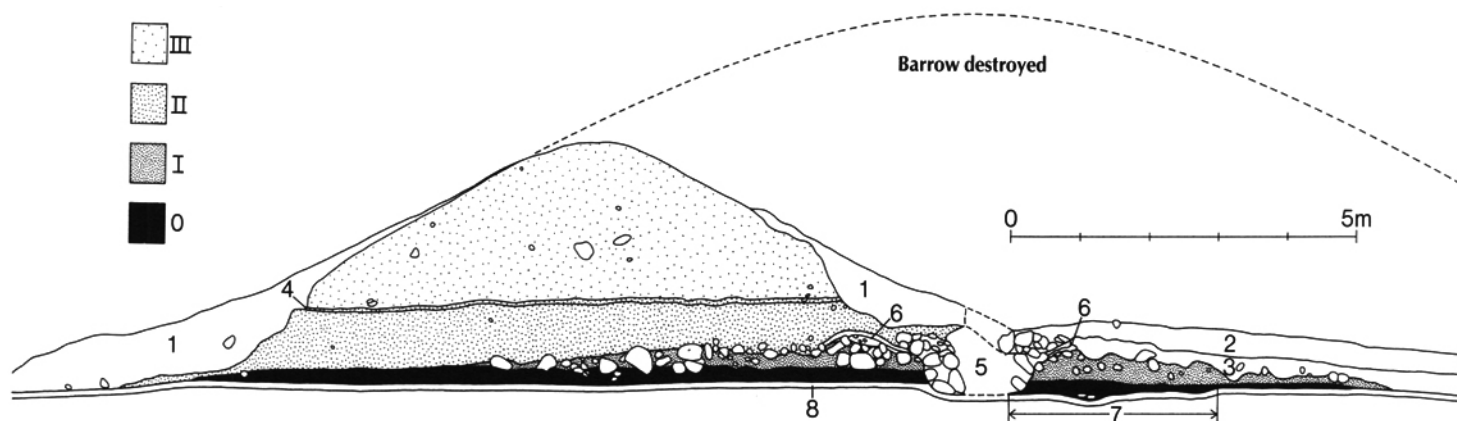


Fig. 5. The main N-S section from the west. 0—occupation layer; I—earliest phase of barrow; II—intermediate phase; III—youngest phase. 1—slumped fill; 2—plough layer; 3—slumped barrow fill mixed with upper part of earliest barrow phase and somewhat disturbed by cultivation. 4—turf line; 5—Bronze Age grave of intermediate barrow phase; 6—upcast from digging of Bronze Age grave; 7—indicates the sunken part of the floor in house I; 8—natural subsoil. Drawn by Orla Svendsen.

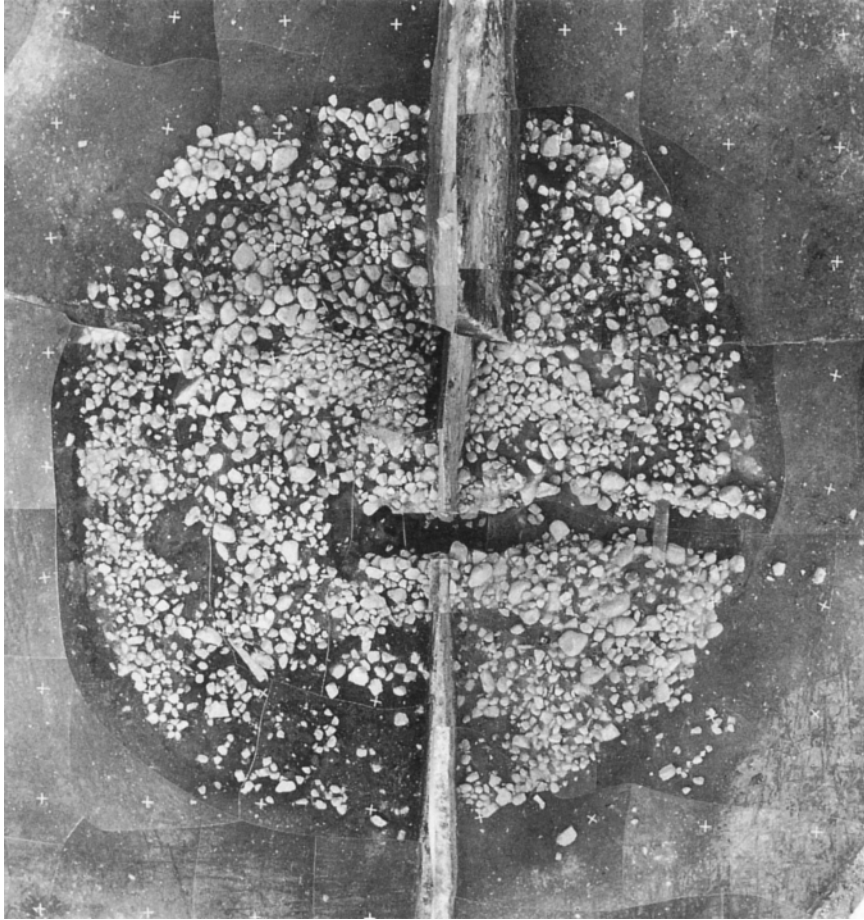


Fig. 6. General view of the cairn of the first phase and the Bronze Age grave. The Distance between the white crosses is 2 m. Vertical photo-mosaic by Erik Johansen and Jan Slot Carlsen. Photographic mounting by Søren Harboe Andersen.

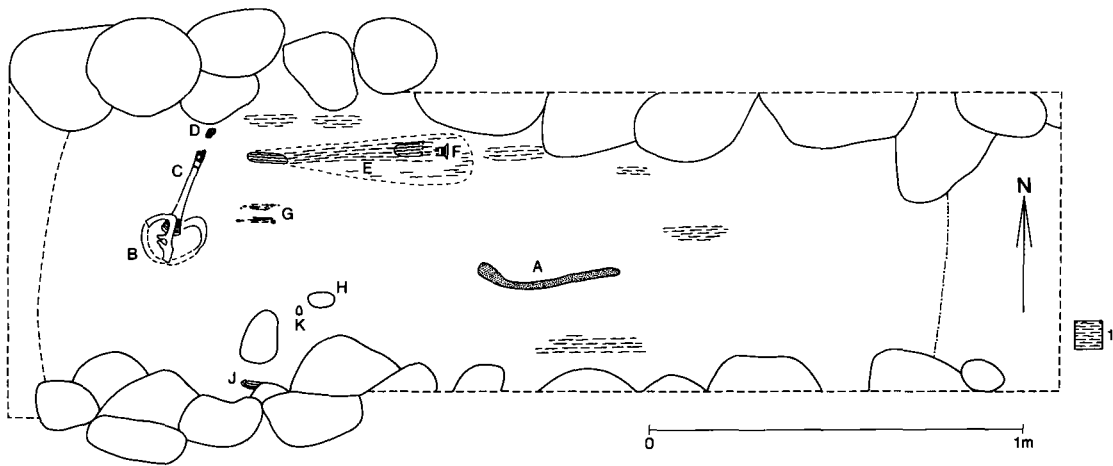


Fig. 7. The Bronze Age grave. 1 – traces of the coffin; A – traces of bone; B – remains of bark box; C – flanged axe; D – fragment of muff; E – traces of handle with pieces of bronze wire; F – ferrule; G – fibulae; H – iron pyrites; J – strike-a-light; K – indeterminate bronze fragment. Drawn by Orla Svendsen.

Sophus Müller described a disc barrow as “a normal round barrow, but without upper part, as the normal sloping sides terminate at a certain height in a horizontal plane”. He interpreted them as uncompleted round barrows, pointing out that they covered a large area and would therefore require much work to finish (Müller 1914, 196f.).

With a diameter of 24–26 m the disc barrow in Diverhøj was large. The thick turf line covering it shows that unlike Krudhøj and the Esbjerg barrow it stood open as a disc barrow for a substantial time. The round barrow was constructed much later and cannot be regarded as its completion. The small or medium disc barrows separated from later phases at most by thin turf lines could perhaps be regarded as unfinished round barrows, but monuments with a diameter of from 25 right up to 65 m in diameter can only be finished monuments. They may have served some other purpose than round barrows. The name “Dansehøj” inspired Johannes Brøndsted to interpret disc barrows as places for ceremonies connected with burial cult (Brøndsted 1966, 34).

This barrow had been raised over an inhumation grave inserted into the underlying cairn (fig. 6). This grave appeared as a 3.4×2.8 m heap of stones orientated E-W and situated 0.8 m south of the centre of the cairn. Though originally at the centre of the disc barrow, when excavated it lay near the middle of the southern side of the surviving mound, where it was partly disturbed by cultivation.

The up to 50 cm thick covering layer of hand-to-head sized stones rose 10–25 cm above the surface of the cairn. Upcast fill from the digging of the grave lay directly on the cairn. A cupmark had been hewn into one of the uppermost stones, and there were 12 cup-marks in a stone in the surface of the cairn 3.5 m NE of the grave (fig. 14).

The burial itself was indicated under the covering layer by two regular parallel stone settings about 3 m long, with the loam filled space for the coffin between. The settings were laid in 2–3 courses of head-sized and slightly larger stones and enclosed the sides of the original coffin. The west end was probably destroyed during recent disturbance. The grave pit measured 3.30×1.75 m and was 0.6 m deep, with sloping sides except in the east, where it descended in two stages with a 30–40 cm wide ledge between.

The coffin had measured 2.70×0.65 m, but was only

preserved in the approximately 8 cm thick basal find-bearing layer, where its outline was indicated by slight remains with the structure of wood (fig. 7).

The decayed bottom of the coffin, which survived in some places in the form of a cohesive sticky layer, was slightly concave, being about 5 cm lower along the middle than the edges. The underlying slabs on which the coffin had rested were similarly concave, so this was presumably a log coffin burial. In the interior space there were scattered crumbs of charcoal, perhaps indicative that the coffin had been superficially charred prior to burial.

All that remained of the corpse was a nearly 40 cm long decayed part of probably the right femur. Where the skull should according to the femur have been, i.e. at the west end of the coffin, was a milky white fungal vestige about 18 cm in diameter and 5 cm thick. This was found to contain highly decomposed remains of a bark box (6). Though no tooth enamel or other traces of the skull were found, the head of the deceased lay in all probability close to this box. In the Egtved coffin there was a bark box close beside the head of the corpse (Thomsen 1921, 183). The same could have been the case here, or the box, whose position in the coffin was approximately axial, could have stood at the neck. North of it, on the left side of the corpse, lay a flanged axe with spiral decoration. The last 6 cm of the blade lay under the fungus. Along the left side of the deceased's trunk and parallel with the north side of the coffin lay the almost completely decomposed remains of its shaft, which ended with a bronze ferrule, in the socket of which the end of the shaft was still preserved. The first 15 cm of the shaft had been destroyed by animal burrows. It ended with a more than 90° bend into which the butt of the axe had been wedged. Pieces of the shaft could still be seen on the butt, around which sat a fragment of the corrugated bronze muff that had secured it. Other fragments of the muff lay near by, and a piece 5 cm N of the butt still had wood in it. Three pieces of thin bronze wire lay across the axe shaft 5 cm from the ferrule.

Eight cm NE of the bark box two fibulae lay parallel to one another 3 cm apart. Judging from their position they had lain on the chest of the deceased and may have secured his clothing. Both were in a poor state of preservation. 35 cm SE of the bark box lay a lump of iron pyrites, and a further 30 cm to the SW a blade strike-alight. The latter may have been moved by the agency of

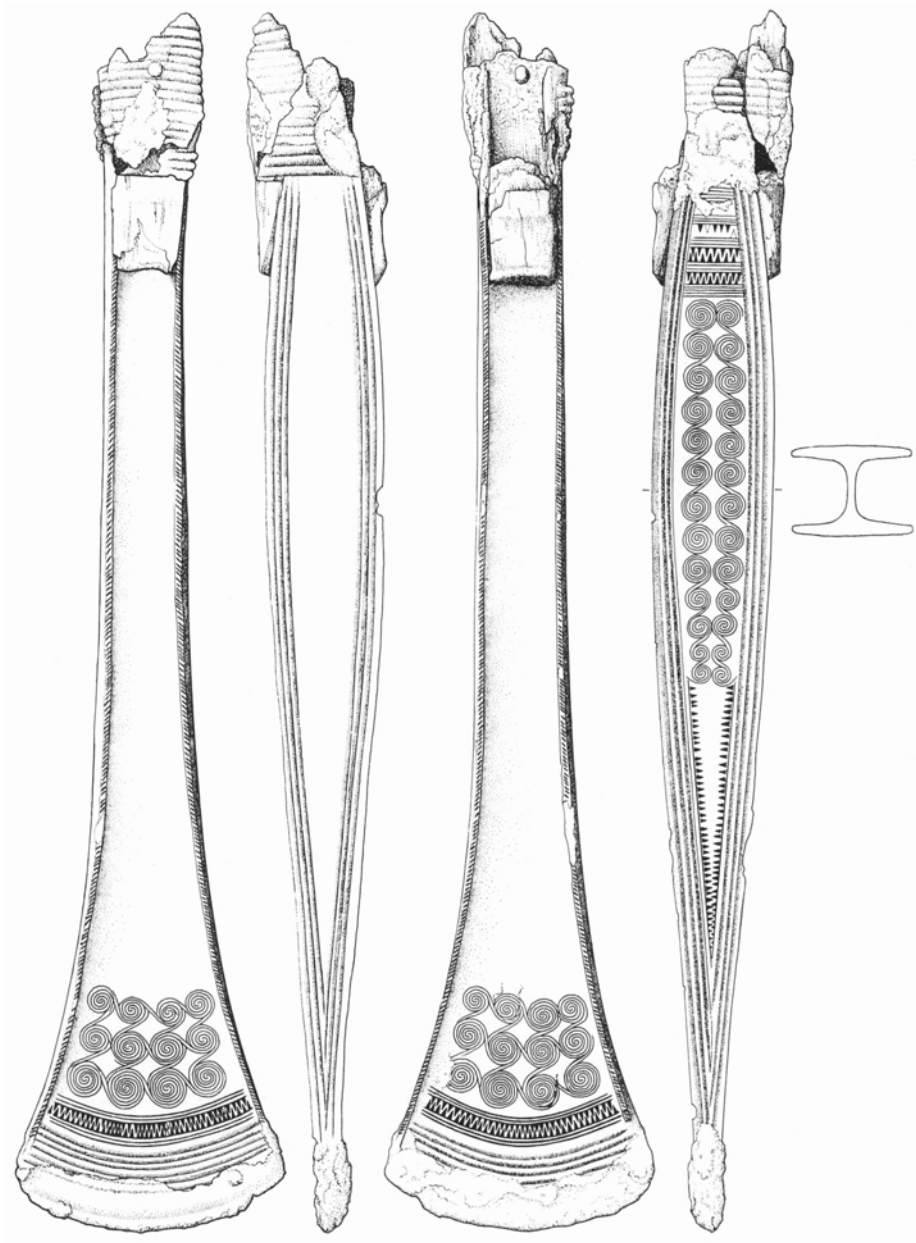


Fig. 8. Flanged axe. Drawn by Elsebeth Morville. 2:3.

animals in the grave from an original placing near the belt near the pyrites. Close to the pyrites was a small fragment of bronze.

Because of its condition most of the grave goods was taken up as blocks (7). At the laboratory two bits of textile were found on the axe (8). At the base of the find-bearing layer in the western half of the coffin were observed patches of a sticky red-brown fibrous material that may be the remains of clothing or of a cowhide the deceased had been laid to rest on (Thomsen 1921, 176; Brøndsted 1966, 46).

In the eastern part of the cairn was a 0.40 m deep sod-filled hollow measuring 2.40×0.55 m. It lay in approximate continuation of the grave with a southwards deflexion of 10° , and extended to the eastern edge of the cairn (fig. 6). Its sides were lined with the stones taken up when it was dug, and above a basal layer of waterlain sand it was filled with turves like those of the disc barrow. There were no further finds or structural information concerning this feature, but a connection with the grave is clear. Both were inserted into the cairn prior to the construction of the disc barrow, and the hollow must have been filled with sods at the same time as the barrow was erected over the grave.

There are several possible interpretations – a cenotaph, a burial without coffin or grave goods, preparation for a burial that was never carried out. Yet another possibility is that it was a practical feature, a “passage” for bearing the coffin to the grave. Here perhaps is also the explanation of the two “steps” at the east end of the grave.

The finds

Flanged axe, fig. 8. A narrow axe with high flanges, slightly splayed edge, surviving length 26 cm. Where the flanges end at the butt there is a break, showing that the axe was originally longer. The axe narrows from the 4.5 cm wide cutting edge, 10.5 cm from which it is 1.4 cm wide and parallel-sided. The flanges start at the corners of the blade and reach their maximum height $\frac{2}{3}$ of the way towards the butt, where the implement is 2.4 cm thick from flange to flange. Two mm below the broken butt there is a hole 0.1 cm in diameter. The axe was originally wedged 4–5 cm into a shaft, parts of which still survived as two 2.3 cm long fragments of wood between the flanges. The butt was encircled by the remains of a tubular muff of ribbed bronze about 2

cm in diameter. It survived about $\frac{3}{4}$ of the way around the butt and had a maximum width of 3.3 cm. The loose fragments of it lying near by could not be joined together. The fragment lying 5 cm N of the axehead seems to have had a larger diameter, and the wood grain in it bent slightly (fig. 9). It probably came from near the bend of the shaft; it had been held in place by a bronze rivet. Inside the muff and the wood surviving in it remained parts of the bronze pin that secured axe and shaft more firmly together through the hole in the butt.

The blade is decorated with curved grooves running parallel with the cutting edge. Their outermost 4.5 cm is virtually obliterated by corrosion. Further up come 6 grooves followed by a zig-zag band bordered on each side by 3 lines. Then follow three rows of four running spirals joined by paired lines. The ornament is identical on both faces. On the narrow sides of the axes three marginal furrows follow the edge of each flange. One side has two zig-zag bands followed by two rows of 13 running spirals. The size of the spirals increases and decreases with the width of the space to be filled. Above follows a 2.5 cm wide field consisting of transverse zig-zags separated by groups of three transverse lines. The tops of all four flanges were decorated with closely-spaced oblique notches.

The cylindrical ferrule was 1.5 cm long with a flat annular collar (fig. 10). The collar is 4 cm in diameter and $\frac{1}{3}$ of its edge is broken away. The central hole is 1.6 cm in diameter, and from it extends a 1.1 cm high tubular flange. The collar is decorated above with 2 concentric grooves along the margin and 2 around the central hole; along these grooves sit little triangles facing the reserved central zone. A furrow runs around the outside of the collar, and the socket is ribbed with 5 circumferential furrows.

In the socket remains a 2.2 cm long piece of the end of the wooden shaft, in which there are two crossing wooden wedges 0.1 cm wide and 0.7 cm long corresponding to the socket's diameter.

The axe may be dated to late period I, the Valsømagle horizon, of which it is a leading type (Lomborg 1969, 101). The position of the hole only 2 mm from the break shows that the butt was originally longer, and as the flanges end at the break, the butt must have ended in an extension without flanges, which is one of the characteristic traits of the Valsømagle type, as is also the only moderate splay of the cutting edge, and in a number of cases the groove ornament of the blade (9). Running



Fig. 9. Fragment of the bronze muff containing remains of the shaft.
 Drawn by Elsebeth Morville. 3:4.

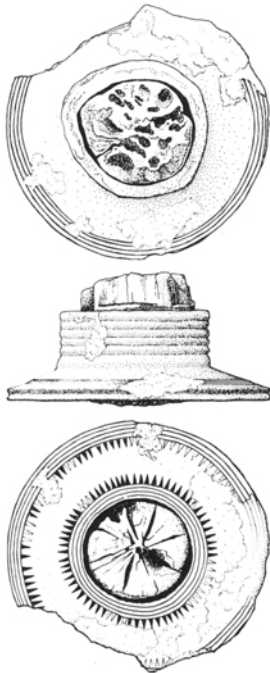


Fig. 10. Ferrule from the axe. a – from above; b – from side; c – from below.
 Drawn by Elsebeth Morville. 3:4.

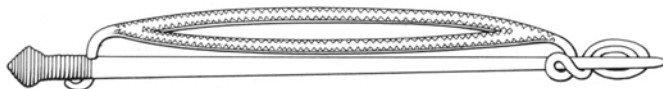
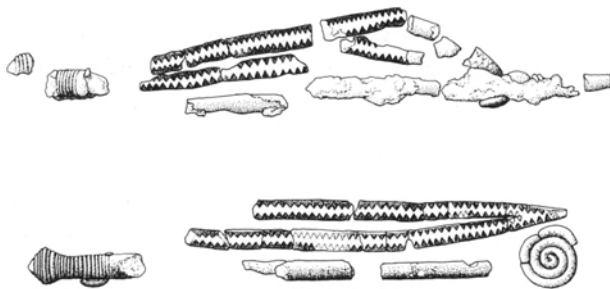


Fig. 12. The two fibulae (a-b) and a reconstruction of their original appearance (c).
 Drawn by Elsebeth Morville. 3:4.

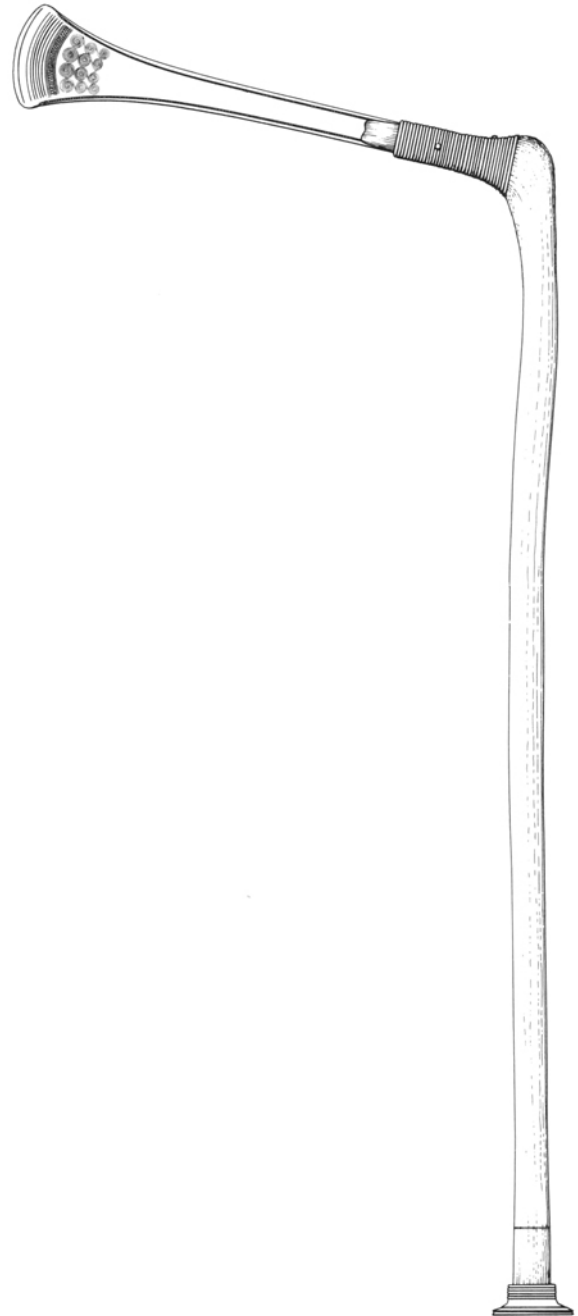


Fig. 11. Reconstruction of the hafted flanged axe, based on the position of the objects in the grave.
 Drawn by Elsebeth Morville. 1:4.

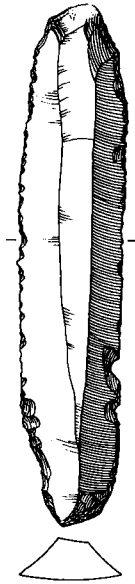


Fig. 13. Strike-a-light from the Bronze Age grave. Drawn by Orla Svendsen. 3:4.

spirals are a further typical element in the decoration of this phase. Ferrules with round terminal plate are especially connected with the flanged axes and do not follow the typology of the contemporary sword pommels (10).

A few examples of flanged axes with ferrule are known in finds from late period I and early period II (11). None of the others is properly excavated, and only one was found *in situ*, and even in this case the circumstances are unsure (Broholm 1943, vol. II, 46). It is an axe from Gislum herred, Ålborg county, where according to the finder the shaft continued in the same direction of the axehead (*ibid.* 33, grave 82). This led to the interpretation that these axes were hafted as thrusting weapons (12). Diverhøj shows that flanged axes were hafted as striking weapons (fig. 11). Hafting is by wedging into a knee-shaft and the mounting angle comes from a bend in the haft close to the head. This way of hafting resembles that of palstaves in period II (Broholm 1943, vol. II, 102 ff; Broholm 1966, vol. II, 51). There is however the important difference that the palstaves seem to have been hafted at an angle of less than 90°, which underlines their practical purpose compared with the Diverhøj axe, which seems to have been hafted at an angle of over 90°.

The bronze muff which secured the shaft is known both from flanged axes and from palstaves (13). The shaft itself could not be preserved. The three pieces of

bronze wire which lay across the handle end must have been inlaid, probably as a small part of the decoration.

Only a few of these flanged axes are ornamented. That the axe from Diverhøj is decorated on the outside of the flanges on one side only is hardly accidental. When hafted only the two faces and one of the sides would have been seen directly. The axe from Hune is similarly decorated, while the “thrusting axe” from Gislum herred was decorated with spirals on all four sides (Broholm 1943, vol. I, 33, grave 82).

It is most unlikely that the Diverhøj axe was used as a working axe. There seems to be general agreement that so impressive a piece of workmanship had its function in the process of demonstrating power and status (Kristiansen 1983; Randsborg 1975). The angle of hafting by itself seems to preclude that the axe had practical uses; nor would it have been suitable as a weapon as supposed of Bronze Age swords and many of the axes, as indicated by the traditional expression “weapon axes”.

Fibulae, fig. 12. The two fibulae of identical form were badly broken, but to judge from the lie of the fragments they had been 12 cm long. On the more complete of them 1.9 cm of the head was preserved. There was a perforation 1.4 cm from its end, in which there still remained part of the pin. The head was 0.4 cm in diameter and closely ribbed; at the end it widened to a carination and then came to a point. The bow was preserved for 6.6 cm, but its original length had been 7.5 cm. It was pointed oval and about 1 cm wide, with an open slit down the middle. The two strips into which the bow is divided were ornamented with a reserved zig-zags band. By the end of the bow, where the pin had originally come to a point, lay a coil of bronze wire 1 cm in diameter with four revolutions.

The remains of the other fibula include the end of the bow nearest the point of the pin. The damaged coil with only two revolutions lay broken off near by.

These fibulae are of the round-headed type representing the earliest Bronze Age pins (Broholm 1943, vol. 2, 124; Lomborg 1969, 115). The type is dated to period II and is present in its initial phase, the Løve horizon. The construction of the bow as two strips with slit between has to my knowledge no parallels in South Scandinavia (15). Pointed oval bows, however, occur regularly in period II, as does zig-zag ornament (Broholm, *op.cit.* 124). What is more unusual, however, on round-headed fibulae is the spiral coil, which at Diver-



Fig. 14. Stone with 12 cup-marks. From the north side of the cairn.

høj lay at the end of the bow nearest the point of the pin. Normally the pin of the round-headed fibula is held in a hook and only the later broad-headed type, dating to late period II, has terminal spirals to support the pin. Under the flat head is a second coil which works as a spring (*ibid.*, 124ff.; Lomborg 1969, 115f.). The Diverhøj fibulae may perhaps be seen as a transitional form with only one coil. Only after the development of the flat head of the pin was there any purpose in placing a coil there.

Bronze fragment measuring 1.0×0.8 cm and 0.05 cm thick, possibly from a knife or razor.

Lump of iron pyrites with a dry weight of 72 g. The surface is yellow ochre in colour and uneven.

Strike-a-light, fig. 13, 9.3 cm long and 1.6 cm wide. Both ends are strongly worn.

Cup-marked stones. There were two of these. One had 12 cupmarks and measured $30 \times 40 \times 34$ cm (fig. 14). The decorated side is sub-triangular, and near its top there are two nearly parallel rows with four and five cupmarks respectively. Over the fifth in the lower row is an extra one. These cupmarks are 2–3 cm in diameter and 3–4 cm deep. 12–24 cm below these come two slightly larger and less regular cupmarks 15 cm apart. The other smaller stone had a single 5 cm deep cupmark with a diameter of 3 cm. Its placing in the stone packing over the grave makes it reasonably sure that it was contemporary with the latter. There is less evidence in the case of the stone with 12 cupmarks, which

had lain on the surface of the underlying cairn without being covered by the Bronze Age packing. As cup marks are also known from the Late Neolithic, these could theoretically have been made anywhere from Late Neolithic A (when the cairn was built) to period II of the Bronze Age (Glob 1969, 125; Thorsen 1977, 104; Rostholm 1972, 36).

Dating

It may be concluded that the disc barrow with its grave and adjacent cenotaph or passageway, together with one or perhaps both cup-marked stones, together date from period II of the Bronze Age. This dating is indicated by the fibulae from the grave, but the flanged axe points to an early part of the period. The few available Valsømagle and Løve flanged axes differ considerably in splay of the blade, and the butts also differ. Though our axe agrees best with the definition of the Valsømagle type, it should give no surprise that it occurs in a reliable period II context.

The decoration of the axe, the ferrule, and the fibulae have the same elements, for instance lines and triangle/zig-zag bands in very uniform execution. It is well known that bronzes from a single deposit often occur as sets (Asingh and Rasmussen 1987).

EARLIEST PHASE

The cairn, into which the Bronze Age grave had been inserted, comprised the earliest building phase of the monument. The cairn was slightly convex, and rounded-quadratic in plan with a diameter of 12.5 m and a maximum depth of 0.5 m. It consisted of 2–4 layers of stones varying from the size of a fist up to 75 cm (fig. 6), with very little earth between them. Many of the stones had been cloven, and many were missing after many years of cultivation of the area originally covered by the southern part of the monument.

Flat-flaked flint was found in the cairn, which strongly recalled the Late Neolithic barrow cairns, so its surface was thoroughly examined for possible features. In the central part were found parts of a stone setting of rounded quadratic shape measuring a little over 7×7 m. It was built of larger stones and rose 10 cm above the cairn surface. To the south the stones had been removed during cultivation but a curved nearly stone-free zone could be observed. The setting had two



Fig. 15. Plan of the remains of the burnt wooden structure. 1 – posthole; 2 – marks of burnt wooden planks; 3 – carbonized plank. Drawn by Orla Svendsen.

to three courses of large stones, packed in some places with smaller ones, and could be followed through the cairn. Its lowest stones sank ca. 10 cm into an occupation layer, upon which the cairn rested.

Among and below the stones of the cairn was a strongly carbonaceous deposit, which turned out to be the remains of a burnt wooden structure. The layer was 5–15 cm thick and concentrated mainly inside the quadratic setting. Near the centre of the cairn was an area with loose humic material containing charcoal in smaller quantity. This 10 cm thick deposit was cut by the Bronze Age grave. Under the cairn it separated into four roughly rectangular slot-like features joined in pairs 2.6 m apart with a posthole midway between them at the centre of the cairn (fig. 15).

These features were 0.8 to 2.1 m long, 20–30 cm wide, and about 25 cm deep, and were joined in pairs as two U-shaped figures facing in opposite directions. They were all lined with stones, and in one of them there were marks of four vertical carbonised planks. At the base of the carbonaceous layer lay seven up to 0.8 m wide and 2–5 cm thick burnt oaken planks, of which the longest was 2 m. Partly overlying the planks was a 5 cm thick humic red-flecked layer with some subsoil in it.

Most of the way around under the stone setting were postholes (fig. 15). They were about 20 cm in diameter, and several were roughly oval and 5–10 cm deep with a little charcoal in them.

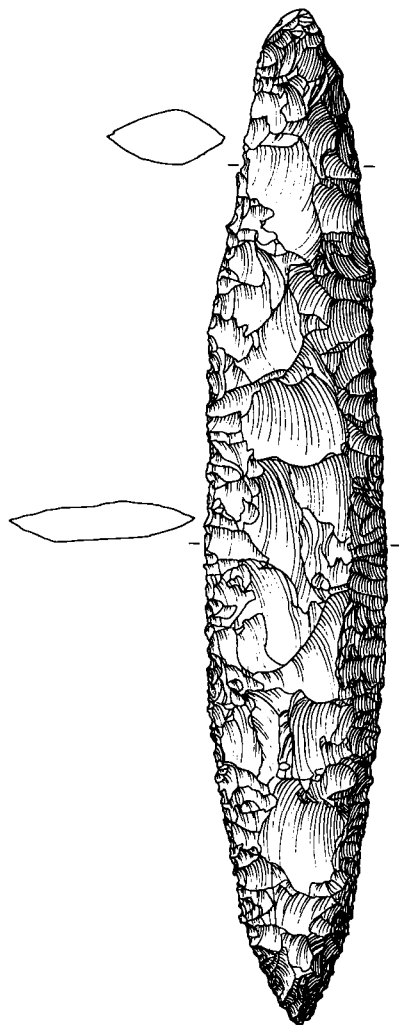


Fig. 16. Dagger from supposed grave accompanying the burnt wooden structure. Drawn by Orla Svendsen. 3:4.

Interpretation and dating

The relationship between the cairn and the carbonaceous deposit indicates that the cairn was erected in connection with a conflagration. The carbonised planks, the stone-lined slots with traces of vertical planks, and the postholes under the stone setting all indicate a wooden structure that had been destroyed by fire. The slots probably held planks which were a roof-bearing element to which the carbonised planks also belonged. The subquadratic stone setting, which antedated the cairn, no doubt supported the foot of smaller posts or rafters whose other end could have rested on a

ridge-beam held up by the vertical planks and perhaps also by the central post. Thus the whole structure would have amounted to a tent-shaped sub-quadratic building. During the fire the structure collapsed. The lenses of subsoil clay and the humic material could be remains of wall or roof material that smothered the burning planks, whereas the rafters burned away.

The burnt remains covered by the cairn were probably erected in connection with a burial. About 2 m from the centre of the cairn were found a lanceolate flint dagger and fragments of amber beads (fig. 16) in fill thrown out when the Bronze Age grave was dug. The dagger (fig. 16) and fragments of amber beads in fill cm long. It derives in all probability from a Late Neolithic burial destroyed when the Bronze Age grave was dug.

The finds from the carbonaceous deposit included pottery, dagger and arrowhead roughouts, and broken type I daggers similar to material from the Late Neolithic A occupation layer below the cairn. As half the finds lay in the carbonaceous deposit it is possible that some of the flint-working took place after the end of the settlement and in connection with the fired structure. In all events no great time elapsed between the abandonment of the settlement and the construction of the cairn. The archaeological date of the cairn is Late Neolithic A. The radiometric dating of one of the carbonised planks to 1920 bc agrees with this, but the uncertainty is increased by the fact that the sample came from a large plank (16).

Several Late Neolithic burial cairns are known from Djursland (Boas 1986, 318ff; Madsen 1975), and similar discoveries from other area shows that they were a common form (Andersen and Kjærsum 1968, 37ff; Aner and Kersten 1978, cat. 2294; Vorting 1977, 109ff.) There is often no indication of the grave itself in the cairn, and a stone perimeter would be hard to distinguish among the many stones. The graves are therefore often only noted when the grave goods appear (Andersen and Kjærsum 1968, 44; Madsen 1975). Several of the cairns were the primary structures in Bronze Age barrows, while others were never covered over.

A cairn was the first stage of a Bronze Age barrow in Serridslev parish in Vendsyssel (Vorting 1977, 109ff.). It had been erected over a grave from Late Neolithic A containing two lanceolate flint daggers. The grave was inserted into the natural ground under the centre of the cairn. In Bronze Age II this was covered by a barrow,

whose central grave lay on the cairn surface straight above the Neolithic grave. This provides a striking analogy to Diverhøj, where however the Bronze Age grave was inserted into the cairn, thereby probably destroying the Late Neolithic grave.

A cairn under the barrow, Marshøj, in northern Djursland contained an early Late Neolithic central grave and also two Late Neolithic flint axe hoards laid in its outer part (Madsen 1975). The central grave of the following phase from Bronze Age II was placed acentrally on top of the cairn.

Recently Late Neolithic wooden mortuary houses have begun turning up. At Løsning near Vejle the remains of a tent-shaped wooden structure were found over a grave with i.a. a lanceolate dagger (Ethelberg 1982, 10). The structure was rather different from the one at Diverhøj, and had not been burned down. In Ulkebøl parish, Haderslev county, were found remains of an apparently rather complicated wooden structure. A rectangular outline measuring ca. 3.5×2.0 m of steeply sloping posts and planks around a fill change with possible coffin traces was interpreted as the remains of a burnt tent-shaped structure over a Late Neolithic or Early Bronze Age grave (17).

These mortuary houses have an interesting resemblance to the tent-shaped mortuary houses of the Aunjetitz culture, but so far the latter are only known from a period corresponding to south Scandinavian Late Neolithic C (Piggott 1965, 127ff.; Harrison 1980, 40; Lomborg 1977, 35).

ARD MARKS

A pre-mound occupation layer covered the whole of the area excavated. Where not covered by the cairn it was cut by a system of ard furrows, and when the layer was excavated another set made its appearance (fig. 17).

The marks appeared first when the area around the cairn was being cleaned. Closer than 1.5 m from the cairn they mostly took the form of narrowly spaced lines, roughly parallel and 2–3 cm wide, following the edges of the cairn. The closer to the cairn the closer the lines, and right in at its foot they sometimes ran together as a belt. In several places it could be seen that the plough had “slipped” and struck a stone in the cairn, breaking off the furrow. At the corners only the innermost furrows followed the cairn, the outer ones

crossing each other in different directions. At 1.5 m from the cairn the marks formed a criss-cross pattern. The furrows went down about 5 cm below the bottom of the occupation layer and were U-shaped in section (fig. 18).

As a whole it could be seen that the furrows resulted from ploughing a larger area. Cultivation was normally two-directional, but near the foot of the cairn furrows were deflected along its side before turning out again, and sometimes even continued around a bend. Cultivation may indeed have contributed to the somewhat rectangular surviving shape of the cairn. The many N-S and E-W furrows show, however, that the ard was not always brought in close to the cairn at all, whereby a rectangle was left with the cairn in the middle.

An earlier system covered the whole excavation with furrows in various directions. Outside the cairn these survived only as short lines clearly cut by the younger furrows, but under it they became increasingly clear as the excavation progressed, and in the end they showed up against the subsoil surface as 2–3 cm wide furrows a good 5 cm deep. The distance between parallel furrows varied from 5 to 15 cm, and at least 4 different ploughing directions could be distinguished. A few curved to avoid the stone setting of the funerary house, and may have been made immediately prior to the construction of the cairn.

Ard marks from the Stone and Bronze Ages have been found virtually only under barrows, etc., and their purpose has often been set in connection with these. The question is whether the ploughing systems were of ritual character (Pätzold 1960) or in some other way connected with the construction of the barrow (Wiell 1976), or whether they are preserved as a result of having been accidentally covered by these structures (Nielsen 1971; Thrane 1984).

With the older system under Diverhøj there are clearly several ploughings that cannot be separated stratigraphically. Therefore it is not possible to determine whether the last ploughing occurred when the cairn was constructed or not (Thrane 1984, 114), but as furrows are by no means confined to the area covered by the cairn, they must indicate normal agriculture. Admittedly there was no trace of a field boundary, but continuous ard traces over areas as large as 250 m^2 are not unusual (Thrane 1984, 116). As no renewed turf growth was observed below the cairn, this was probably erected soon after cultivation was brought to an end.

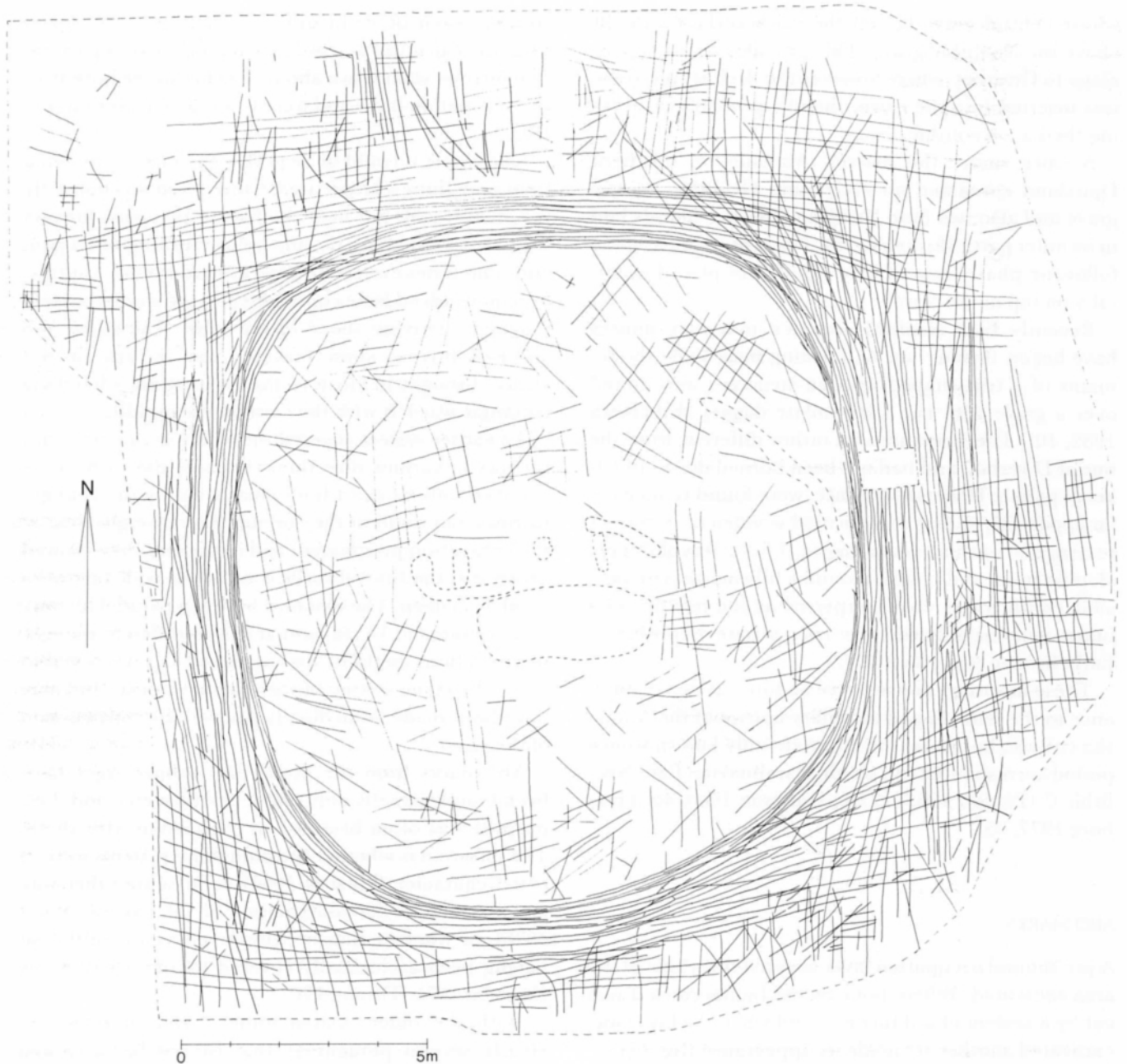


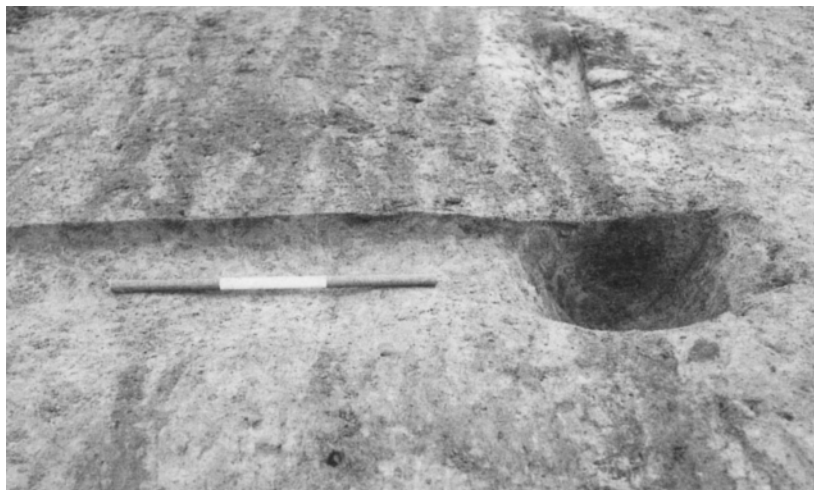
Fig. 17. Ard marks on subsoil surface under the occupation layer. Drawn from vertical photo-mosaic by Pauline Asingh.

Probably also the later system with cultivation around the cairn covered a considerable area, and though it cannot actually be shown to have extended outside the disc barrow, everything favours its being the result of ordinary cultivation.

Three barrows in German Schleswig show partial cir-

cular ploughing around the outside of a primary barrow (18). At all three sites earlier settlements had been ploughed over. At Süderschmedeby the primary structure was a cairn with a Late Neolithic grave. Just as at Diverhøj, there could outside the cairn be seen parallel furrows, which belonged to a continuous criss-cross

Fig. 18. Section through ard marks outside the cairn, seen from the south. On right section through posthole of a wall post in house I.



system in the surrounding area (Aner and Kersten 1978, cat. 2294).

In a cultivation system under Vesterlundshøj barrow near Give there were furrows going around a heap of field stones (Thrane 1968, 26).

In none of these cases is there any suggestion that the curved furrows had anything to do with the construction of the monument.

The situation is different in the case of complete circular ploughings. Here ploughing was carried out in a circle only, without covering a larger area. This kind of ploughing occurs always under the foot or kerb of a barrow, often directly under the ring of kerbstones (19), and is therefore interpreted as a practical device for marking out the circle on which a mound or stone ring was to be erected (Wiell 1976, 94f).

THE PRE-MOUND SETTLEMENT

Settlement layer

Under the cairn was found a homogenous, light grey-brown occupation layer up to 15 cm thick, containing scattered charcoal, much worked flint, and pottery (fig. 20–22). In a cleaned plane surface it looked homogenous, and all that could be seen apart from features belonging to the earliest barrow were ard marks and indications of two vague rectangular depressions containing beating stones, etc. These became clearer as excavation progressed.

The layer was dug in squares with trowels and sometimes shovels, and most of the finds were planned in.

The houses

After excavation of two cultivation systems and an occupation layer we thought Diverhøj had been dug all the way to the bottom. But after removal of 5 cm of natural clay with ard marks about 50 postholes and pits appeared, and were found to belong to three longhouses with partly sunken floors (fig. 19). These were uniform in construction, parallel, and oriented E-W. The roof-bearing element was a row of large posts standing 3.5 to 4 m apart along the central line of each building. Along the course of the walls, which appeared to be straight, smaller posts had been set at intervals of 1–2 m. Rectangular soil changes indicated limited sunken parts of the floors. No house is known to be fully excavated, and no entrances were found.

House I. The southern house was recorded for a length of 18 m and was 6 m wide. its orientation was approximately ENE-WSW. The holes for five roof-bearing posts were recorded along the central axis. The closer spacing of the two western ones may indicate the end of the building. A tree pit had destroyed one of the eastern postholes. Parallel with the roof-bearing posts and 3 m from them came slighter and more closely spaced wall posts in straight lines. The traces of the northern wall had been partly disturbed by the burnt structure of the first barrow phase. About 8 m of the southern wall line remained. The eastern posts had lain outside the area protected by the cairn and were no doubt ploughed out already in prehistoric times.

A ca. 4 × 6 m roughly rectangular feature made its appearance at the top of the occupation layer, and is re-

corded in the main N-S section. In the north it was truncated by the Bronze Age grave (fig. 5). Ten cm below the top of the occupation layer it separated into five irregular pits about 20 cm deep. This feature lay axially between the rows of postholes in house I, and is interpreted as a sunken part of the floor. Further west, between two roof posts, was found a roughly oval patch of burnt natural clay measuring ca. 1.5×1 m. It was probably the bottom of a fireplace.

The hollow contained much settlement material, including the almost complete side of a decorated Bell Beaker (fig. 21). Some postholes contained waste flint and pottery.

House II. The middle house lay about 1 m north of house I, deviating from E-W by 10° in the direction of NE-SW. It was recorded over a length of 13.5 m and was 5 m wide. Five holes from roof-bearing posts lay in a line down the middle. The two eastern ones were less large than the others and stood only 1.5 m apart. The lines of wall posts ran parallel with the roof posts, and the 10 m long southern row continued eastwards into what may be a rounded house end. The postholes in the northern wall lay at irregular intervals, and a number had probably been ploughed out in the course of prehistoric cultivation around the cairn. A floor depression measuring 3×4 m could be seen as soon as the top of the occupation layer was reached. It was axially placed and 15 cm deep with an irregular bottom. Both this hollow and the postholes contained pottery and flint.

House III. Only the southwestern 13.5 m of the northern house was investigated. It lay 1 m north of house II with an approximately E-W orientation. There was a 10 m long line of posts belonging to the south wall. Of the two roof-bearing posts one lay 1 m south of its expected position. It is not known whether the row continued westwards or whether the eccentric post marked the end of the house. If the eastern roof-bearing post stood in the central line, the house was originally 6 m wide. The rest of the building lay outside the barrow, where modern ploughing furrows were visible in the subsoil. There were a few flint implements, and some flint waste and pottery in the postholes.

At various places there were shallow pits, which probably had some connection with the settlement.

All in all the features were not very distinct in a clean surface. Their fill was grey-brown, slightly humic, and contained a certain amount of charcoal and burnt granite.

The roof-bearing postholes were 30–50 cm in diameter and on the average 25 cm deep. The wall posts were about 25 cm in diameter and 10–25 cm deep. Remains of the posts themselves were not observed.

Considering the size and construction of the buildings, it may seem surprising that the postholes were so shallow, but apparently this was sufficient in the stiff clay. Several postholes were stone lined. Prehistoric cultivation has certainly caused some injury.

As will be shown below, the whole settlement can be dated to Late Neolithic A, and there is no difference in the archaeological ages of the three houses, as also shown by their uniform construction and orientation. The presumed eastern end of house II shows that regardless of length none of the houses can have overlapped. However considering that they were only one meter apart, it is hard to believe all three houses were in simultaneous use.

We are still not quite sure of their original lengths and how they relate to other excavated Late Neolithic houses.

Though the latter share a number of basic details they appear at first sight to fall into two groups. Characteristic of north Jutland houses are sunken floors, whose sizes range from 5×5 to 14×7 m (Jensen 1973, 1984; Simonsen 1983; Skov 1982). The placing of both roof and wall posts is somewhat irregular but in principle the same as at Diverhøj, which Myrhøj house GAB shows well (Jensen 1973, 72). None of the north Jutland houses have clear gable ends. All are dated to early in the Late Neolithic.

The regularly built houses from Limensgård on Bornholm stand in clear contrast to these. With length reaching over 40 m and widths of 6.5 to 7.5 m and in places double lines of wall posts, they were clearly larger and more substantial. In only one house (house S) was there a sunken area, which measured 4.5×5.5 m and was 10 cm deep, dividing at the bottom into smaller irregular pits (21). The date of these houses is Late Neolithic/Earliest Bronze Age (Nielsen and Nielsen 1985).

Of the north Jutland houses those from Diverhøj with their shallow sunken floor areas and regular post construction are the ones that most resemble those from Bornholm. Also the possible rounded end of house II recalls the end of Limensgård house AB (Nielsen and Nielsen 1985, 109). With their smaller proportions and single lines of wall posts the Diverhøj houses are un-

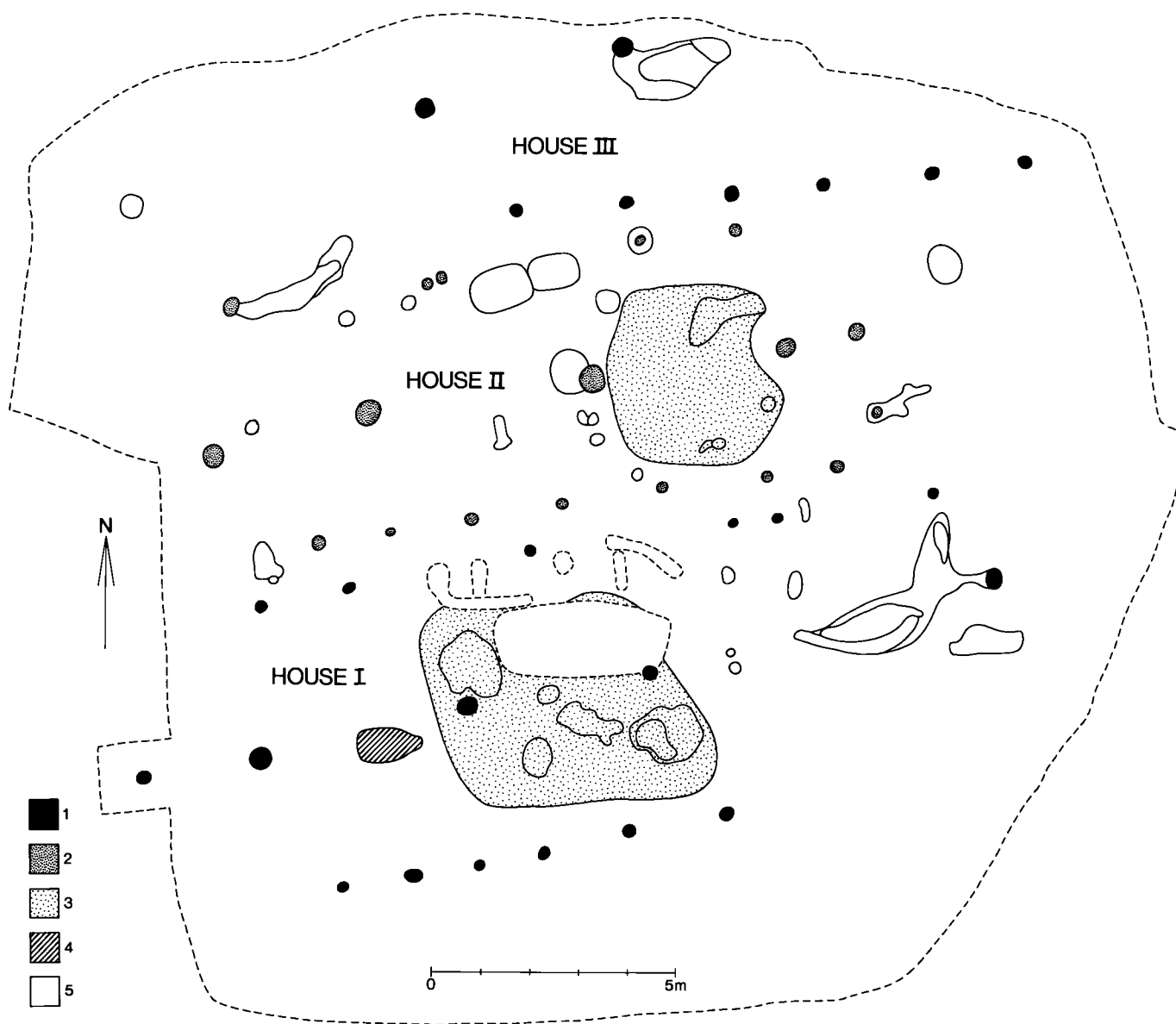


Fig. 19. Plan of houses under the barrow. 1 – posthole in house I or III; 2 – posthole in house II; 3 – sunken floor areas; 4 – base of hearth; 5 – other feature. Drawn by Orla Svendsen.

likely to have been as long as those from Bornholm, even if house II exceeded the 18 m that was recorded.

As the ends of none of the north Jutland houses have been reliably recorded, it is possible that they were longer than indicated by the sunken floors, and were sunken at one end only. They could have had a post construction corresponding to Diverhøj's at the other end,

as already implied of house D at Myrhøj (Jensen 1973). Indeed they may all have been the same type, differing only in the size of the sunken part of the floor. The size and depth of the sunken floors varies considerably, and most have irregular sides and base. There is a positive correlation between area and depth (Simonsen 1983, 86), which suggests not that the hollows were dug be-

fore the houses were built, but that they resulted from activity in the houses and its duration.

It is tempting to see the hollows as the result of repeated clearing up of the habitation area with resultant deposition of settlement material elsewhere. Repeated clearance would increase the size and depth of the depressions and bring about the correlation observed. The depth of the floors varies from 0.25 to 0.60 m, deepest in Myrhøj house EAB, in which three central postholes were recorded. As the sunken floors seem to be a fixed practice, the roof construction and the depth of the postholes must have been designed accordingly.

This interpretation does not answer the questions whether the sunken floors were placed at only one end of the houses, and whether the irregular or deficient patterns of postholes often observed reflects a reality or is due only to poor preservation. Before this question is answered it will not be possible to come to a final conclusion whether all these Late Neolithic longhouses really were a single house type or not.

THE FINDS

As well as scattered cooking stones, charcoal, and a few quern fragments the 5–15 cm thick occupation layer produced a large quantity of flint and pottery, amounting in all to 16,991 objects (Table I). As there were no chronological distinctions in either the flint and pottery or the excavated features, the whole material will be treated together. About half the flint and a smaller proportion of the pottery came from the charcoal-rich part of the layer between and under the lowest stones of the cairn, and because of its similarity with the rest of the material is not treated separately.

Flint

This was the largest category. The raw material consisted of shiny light grey to black flint and a smaller amount of grey calcareous flint. The flakes were generally longer than they are wide, and consisted of irregular flakes from roughing out and small thin flakes from flat working. Blades were irregular and few.

The cores were generally irregular and dominated by pieces with three or more striking platforms. These were so far as could be seen generally made on large thick flakes, but also round cores with scattered striking platforms occur, as did a single little conical core.

	HOUSES AND FEATURES	OCCUPATION LAYER
FLINT		
flake with notch or denticulation	2	123
flake with edge retouch	1	29
burins		1
scrapers	2	72
borers		68
arrowheads	1	64
daggers, strike-a-lights	2	22
sickles		1
roughouts	1	11
axes		2
miscellaneous		93
hammerstones	6	24
total implements	15	510
cores	14	528
flakes	165	15,041
total flint	194	16,079
POTTERY		
rim sherds	22	21
body sherds	161	505
base sherds		9
total pottery	183	535

Table I

Flakes with notch or denticulation were usually irregular with one or more notches, sometimes retouched.

Flakes with edge retouch were generally irregular, large, often thick flakes with partly or completely retouched sides. A few are retouched across the end.

Of burins there was only a single irregular median burin.

The scrapers were mostly on irregular, often rather large flakes with or without lateral retouch. There is a single pear-shaped tanged scraper (fig. 20:g).

The borers were mainly on irregular flakes and occur both with and without shoulder. In addition there were a considerable number of slender borers on narrow blade-like flakes, several of them with propellor retouch (fig. 20:k). The conical cores could have provided blanks for such borers.

Nearly half the arrowheads were triangular or pointed oval with complete or partial edge and surface retouch. They occur with straight, convex, tanged base (fig. 20:a-f). Both short, wide, convex-sided and narrow,

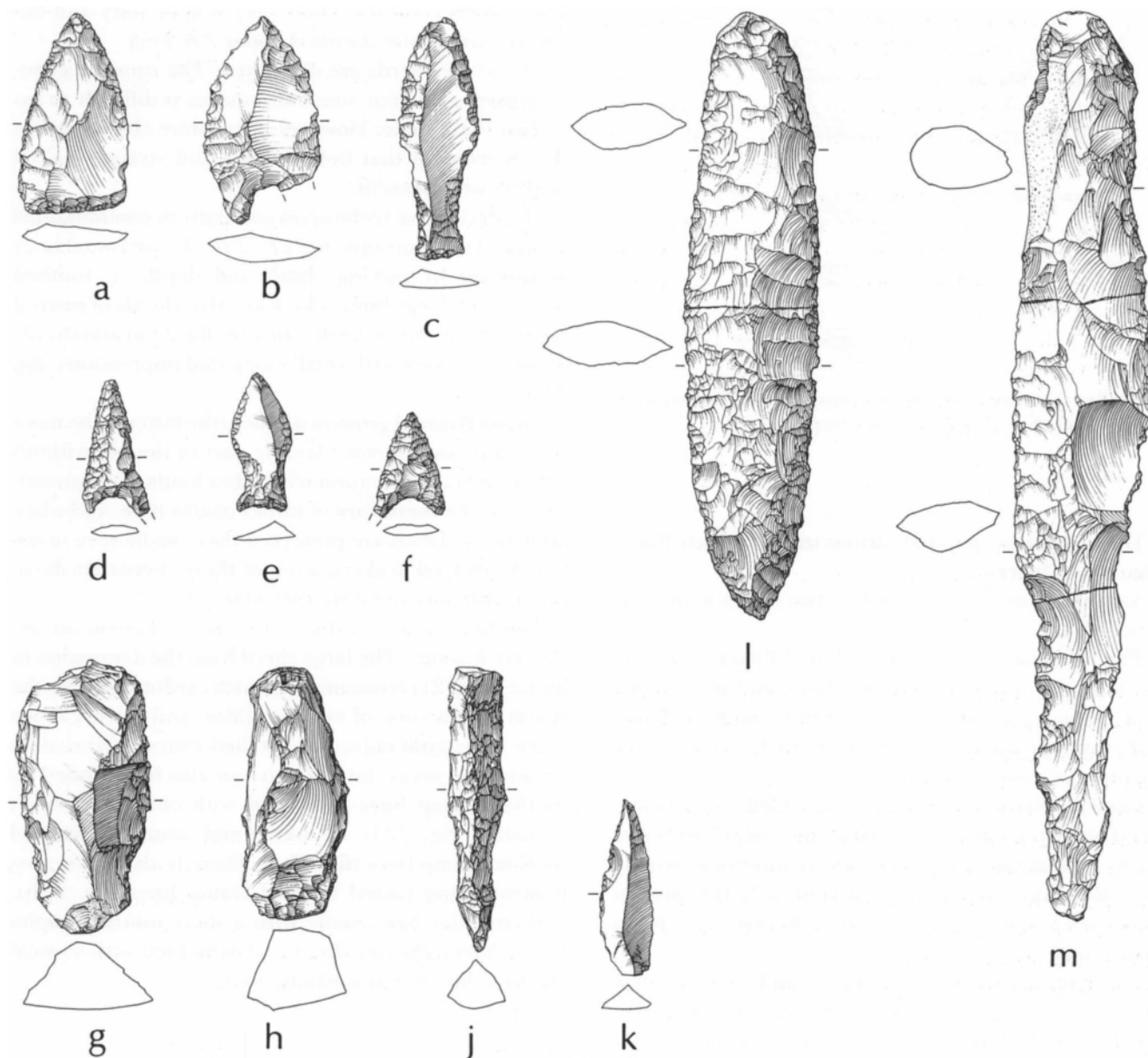


Fig. 20. Flint implements from the pre-mound settlement. a–f, arrowheads (c and e with tang and slightly narrowed base); g, tanged scraper; h, hammerstone; j, core struck from three sides; k, borer; l–m, daggers found separately. Drawn by Orla Svendsen. 3:4.

straight-sided arrowheads occur. Two have pairs of re-touched lateral notches near the base (fig. 20:c and e). Over half are thin irregular or triangular flakes with partial edge or surface retouch and can be regarded as roughouts.

Daggers and dagger-shaped strike-a-lights were found only as fragments, but a few could be fitted to-

gether to make whole implements. These were lanceolate daggers of type I, and one was of type Ib (fig. 20:l) (Lomborg 1973, 38). There is an irregularly flaked strike-a-light (fig. 20:m). Most are roughouts and broken pieces, of which several had in all probability been lanceolate daggers.

Of sickles there is only a single fragment.

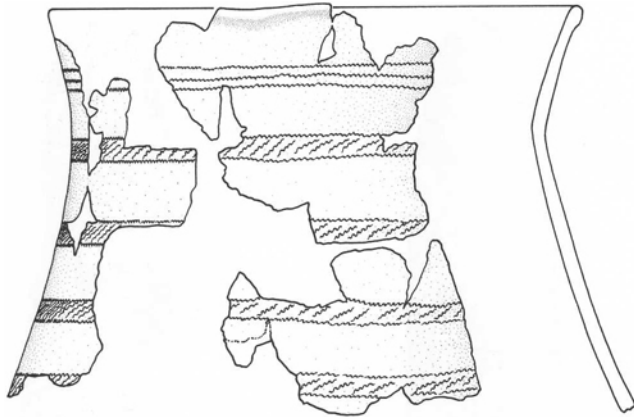


Fig. 21. Parts of a zoned vessel from the hollow in house I. The decoration is applied in cardium. Drawn by Elsebeth Morville. 1:3.

The roughouts included various indeterminate flat or edge flaked pieces.

Axes were only represented by two flakes with signs of polishing.

The miscellaneous group included flakes with continuous edge retouch. This is a large and unhomogeneous group, consisting largely of thin, irregular flakes with varying amounts of edge retouch, which often seems to be work-retouch.

The miscellaneous group also included 5 small elongated nuclear pieces retouched along 3 edges and coming to a point (fig. 20:j). They are symmetrical around their long axis, and may be a kind of borer. Similar pieces are known from the earliest Bronze Age (Jæger and Laursen 1983, 111).

The hammerstones are either round or elongated. The latter include three mutually very similar pieces which are flaked from 2 or 3 edges and converge at one end, where there are marks from striking (fig. 20:h). All are of grey calcareous flint like other similar pieces from Late Neolithic and Older Bronze Age contexts (Jensen 1973, 76; Jæger and Laursen 1983, 111).

Pottery

The majority of the sherds have an even and frequently smooth surface. The temper varies considerably and includes broken rock. The average thickness is 0.6 cm. A minority have an uneven surface, grits consisting of large stone fragments, and a thickness of around 1 cm.

The pottery is on the whole very fragmentary and the average size of the sherds is about 2×2 cm.

19% of the sherds are decorated. The rims are generally plain and their small size makes it difficult to ascertain their angle. However a few more characteristic sherds indicate that both swayed and straight-walled beakers were present.

The decorative techniques and pattern combinations fall into 3 main groups (fig. 22) (20):– 1. horizontal lines or grooves of varying width and depth, 2. toothed stamp, and 3. cardium. There are also sherds of swayed beakers with cordon under the rim (fig. 22:a) and sherds of the thick ware with small elongated impressions (fig. 22:b).

The horizontal grooves or lines (the latter is the more common) cover a considerable part of the pot without zonation or combination with other kinds of ornament. Many of the sherds are of rather coarse type, and when large body sherds are preserved they can be seen to belong to swayed beakers; a few of these sherds are decorated with horizontal toothed stamp lines.

Toothed stamp, cardium, and line ornament are arranged in zones. The large sherd from the depression in house I (fig. 21) is ornamented with cardium. Under the rim is seen a zone of cardium lines, and further down come horizontal obliquely hatched zones separated by broad plain areas. Such zones can also be bounded by toothed-stamp lines and filled with oblique cardium hatching (fig. 22:f), or horizontal zones of parallel toothed stamp lines (fig. 22:g). There is also zig-zag ornament using paired toothed stamp lines (fig. 22:h), and irregular lines made with a three-toothed implement. A straight rim-sherd is ornamented with vertical stacks of horizontal cardium lines.

Dating

The material from the houses and occupation layer dates the settlement to the Late Neolithic, and the type I daggers point clearly to Late Neolithic A (Lomborg 1973, 68). This is reinforced by the zone-ornamented pottery, which is already dated by closed finds with these daggers to Late Neolithic A and is not known in later association (Lomborg 1977, 31). Horizontal groove ornament, which is present for example at Myrhøj, is dated to early in the Late Neolithic, (Ebbesen 1978, 60; Jensen 1973, 92ff.), while pots with cordon are dated to the Late Neolithic in general (Simonsen 1983, 84). A

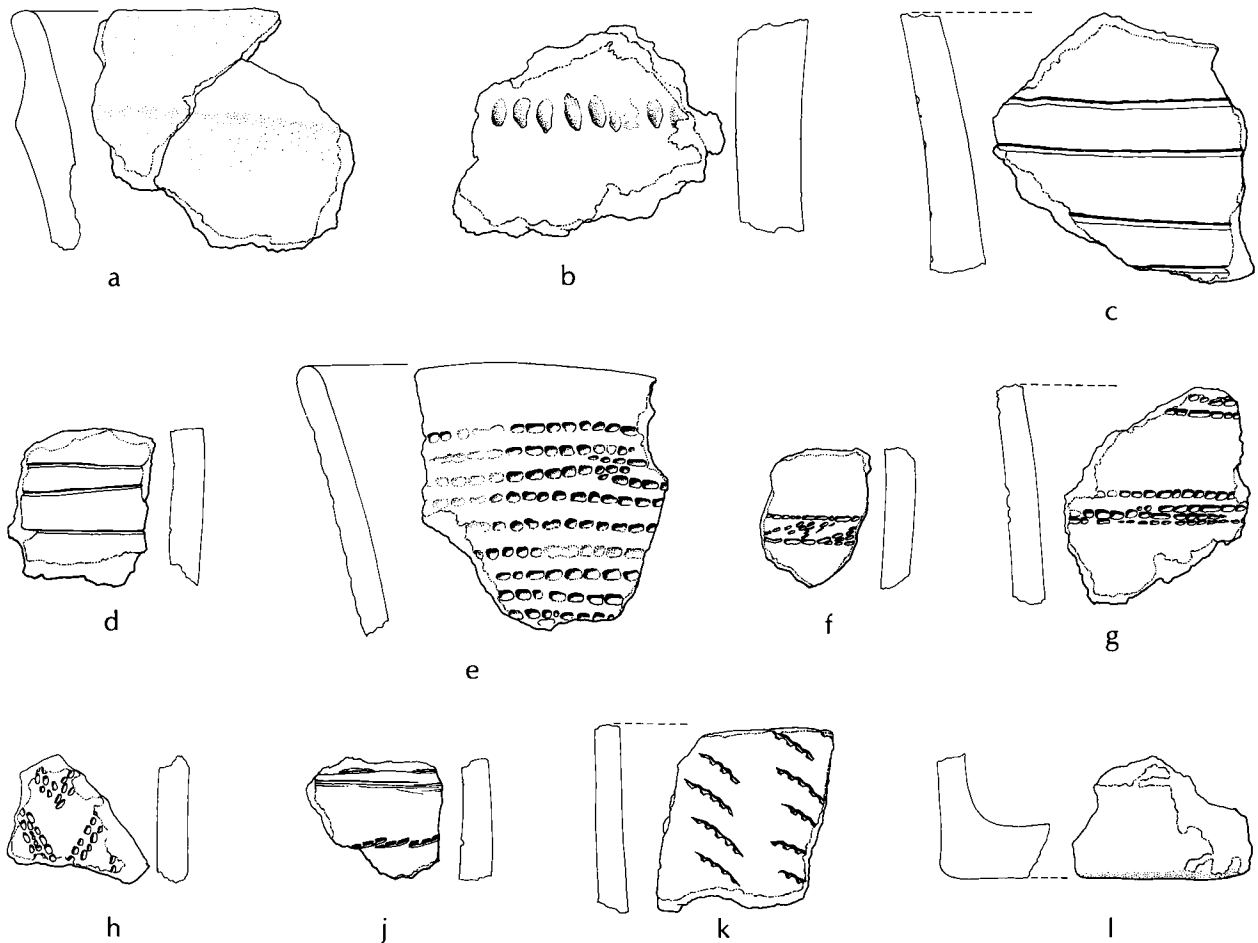


Fig. 22. Pottery from the pre-mound settlement. a – cordoned rim; b – sherds with impressed pits; c–d – horizontal grooves; e – rim with horizontal toothed stamp lines; f – zones outlined with toothed stamp and filled with oblique cardium impressions; g – zones of parallel toothed stamp lines; h – zig-zag decoration in toothed stamp; j – lines and three-toothed impressions; k – rim with vertical series of cardium impressions; l – base sherd from straight-walled beaker. Drawn by Elsebeth Morville. 3:4.

rim with vertical cardium lines is from a straight-walled beakers like Glob's group P, type 2–3 (Glob 1945, 103ff.). None of Glob's examples was found in dating context, but an early Late Neolithic dating was later proposed (Ebbesen 1978, 62; Hansen 1986, 82f.).

The material has striking similarities with Myrhøj (Jensen 1973). Though there is much less pottery, some of the forms and most of the decorative techniques and combinations are the same. Also the flint types are much the same, though no axes were found at Diverhøj, whose many borers and arrowheads are noteworthy. The difference also shows in the flint waste, in that the short and wide little flakes characteristic of axe production are nearly absent (Jensen 1973, 80).

A radiometric date of charcoal from the sunken part of house I is 1740 bc (uncalibrated), which is 200 years later than the datings from Myrhøj (Jensen 1973, 113). Two datings of 1610 and 1680 bc (uncalibrated) are from samples from the burnt wooden structure which is also dated archaeologically to Late Neolithic A. There remains the dating of 1920 bc of the plank from the burnt structure. In this case the wood could, as already said, be up to a couple of centuries older than the structure itself, so there need not be any conflict between the two datings (see note 16). A similar date of 1780 bc was obtained at Stendis, which is dated archaeologically to the Late Neolithic, and at the Barrel Site a layer containing Bell Beaker pottery is dated to 1770 bc (uncali-

brated) (Skov 1982, 43f, Liversage & Singh 1985, 70). Although the close parallels to Myrhøj, then there is no reason to wonder about the late Diverhøj datings, and we may conclude that Diverhøj belongs to the late Late Neolithic A.

RESUMEE

We may end with a short summary of the history of the site: The first stage was a settlement with 3 longhouses and an occupation layer from Late Neolithic A. The area was brought under cultivation immediately after settlement ceased. Later in Late Neolithic A a wooden structure was erected. Probably it covered a grave with a lanceolate dagger among the grave goods. The structure was burned and an impressive cairn erected over its remains. Subsequently the area was again brought under cultivation. At the beginning of period II of the Bronze Age an opulent male burial was inserted into the centre of the cairn. A possible cenotaph and two cup-marked stones belonged in all probability with this burial. A flat topped barrow was thrown up over it. Subsequently, probably in late Bronze Age II, the disc barrow was surmounted by a round barrow built for yet another burial (22).

Translated by D. Liversage

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NOTES

1. Djurslands Museum jr. nr., 1925. National Museum topographical register Homå parish sb. 18, Djurs Sønder herred, Århus amt.
2. Sb 16–17 and 19–22. Sb 19 is still under grass.
3. Excavated May to September 1985. Taking part were Peter Bertelsen, Niels Aksel Boas, Niels Oscar Boas, Gert Hougård Rasmussen, Ole Christian Sørensen, and the author.
Samples for pedological examination were taken by Kristian Dalsgård and Per Nørnberg, Laboratory for Physical Geography, Geological Institute, Aarhus University (for method see Dalsgård and Nørnberg 1980, 135ff.).
4. The fragment is rather like the end of the head of D.O. no. 152 (Broholm 1952).
5. The disc barrow in Krudhøj was 3 m high and 18 m in diameter (Thorsen 1977, 92). The mounds of two out of four phases in the Es-

- bjerg barrow were flat-topped. The oldest disc barrow was 1 m high and 9 m in diameter. It was enlarged in the following phase to 3 m high and 10 m in diameter (Aner and Kersten 1986, 100).
6. In the opinion of Ann Willemose, conservator at Kulturhistorisk Museum, Randers, the cause of the fungal growth was oxidation of the surviving organic material, probably as a consequence of the modern disturbance close west of the box.
 7. The bronze objects were taken up by Ann Willemoes, conservator at Kulturhistorisk Museum. The condition of the objects is probably due to having been exposed to downward movement of water for a long time after the barrow was disturbed.
 8. Lise Bender's appendix on the textile fragments.
 9. Valsømagle axes are distinguishable from typologically and chronologically later axes, which are somewhat narrower with higher flanges and strongly splayed edge (Lomborg 1969, 113f.).
 10. The pommels of the Valsømagle horizon are usually rounded pointed-oval (Lomborg 1969, 102).
 11. Only 8 flanged axes of Valsømagle type are known: found in graves 72 and 83 of Broholm (1943) vol. 1 and cat. 66, 1098, 2237, 2182, 2343, 4216 of Aner and Kersten (unpublished). Information kindly provided by Helle Vandkilde.
 12. In accordance with the finder's description, C. Neergaard suggested that the axe had been shafted as a thrusting weapon (Broholm 1943, vol. 2, 46). This was also accepted by Johannes Brøndsted (1966, vol. 2, 52).
 13. Fragments of such muffs or bindings of bronze wire are known from other flanged axes and late palstaves (Broholm 1943, vol. 2, graves 72 and 82; Aner and Kersten 1973–, cat. 2713b).
 14. It is a widely held opinion that Bronze Age swords and axes were intended as fighting weapons (Broholm 1943, vol. 2, 46; Brøndsted 1966, vol. 2, 51; Kristiansen 1982, 66ff.), but more peaceful ways of demonstrating power have also been suggested (Asingh and Rasmussen 1987a).
 15. Fibulae with split leaf-shaped bow appear to be otherwise unknown in south Scandinavia (Aner and Kersten op. cit.; Broholm op. cit.; Oldeberg 1974; Johansen 1981).
 16. The sample could be of old wood in a large tree, so the dating need not be so different from the others. The following ¹⁴C dates are from Diverhøj:
K-4717: 3630 ± 80 before 1950. 2140–1890 B.C. ca. ± 1 standard deviation. From stone-lined posthole between the two U-shaped features under the cairn.
K-4718: 3870 ± 80 before 1950. 2470–2205 B.C. ca. ± 1 standard deviation. From carbonized plank under cairn.
K-4719: 3560 ± 80 before 1950. 2030–1775 B.C. ca. ± 1 standard deviation. From charcoal-rich deposit under cairn.
K-4720: 3690 ± 75 before 1950. 2200–1975 B.C. ca. ± 1 standard deviation. From the same deposit as K-4719.
 17. Haderslev Museum jr. nr. 1712. Grundtvigs Allé, Ulkebøl parish, Haderslev amt. National Museum sb. 342. Information kindly provided by the excavator, Ole Grøn.
 18. Aner and Kersten, op. cit. cat. 2188 (Flensborg), cat. 2251 (Wesby), cat. 2294 (Süderschmedeby). The last is the one described in the text.
 19. Hjørpsted (Wiell 1976), Circular ploughing inside the kerb. Kokkedalsmark, Thorslev parish, National Museum sb. 19, circular ploughing under the kerbstones. Owschlag (Aner and Kersten cat. 2530), circular ploughing around the foot of the mound. Informa-

tion kindly supplied by Henrik Thrane and Erik Johansen, Fyns Stiftsmuseum and Ålborg Historiske Museum.

20. The groups correspond to 3 of the 4 groups distinguished for the Myrhøj pottery (Jensen 1973, 92).
21. Information kindly supplied by P. O. Nielsen, National Museum.
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