Journal of Danish Archaeology vol. 2, 1983, pp. 90–101

Egehøj

A Settlement from the Early Bronze Age in East Jutland

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The following article will briefly present one of the earliest bronze age settlements so far excavated in Denmark.

The settlement was discovered during excavation of the Egehøj barrow, which contained a bronze age period IIbc/III central grave. The mound consisted largely of settlement material of flint, pottery, cooking stone etc. Similar material was found about 50 m south of the barrow, giving the location of the settlement (1).

The settlement lies some 4 km south of the modern coastline of north Djursland, a little to the northwest of Hemmed village in a hummocky morainic landscape, on a south-facing slope. The natural boundaries of the settlement's region are: to the north, the Kattegat; to the west, a flat lowland, formerly a bay of the Litorina Sea; and to the south and east the waterways of the Hemmed River and Brøndstrup River systems. The effects of windblown sand on the landscape are marked just to the east of the settlement. The soil varies abruptly from light sand (late glacial windblown sand) to very clayey morainic gravel.

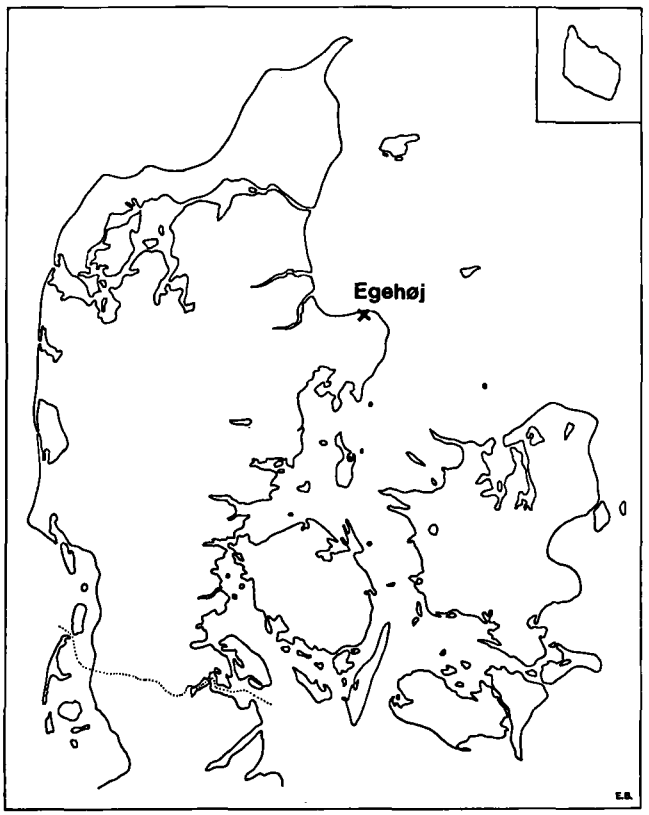

Fig. 1. The location of the Egehøj settlement.

The investigations were carried out on the basis of a small test excavation, phosphate analysis and an intensive survey, which limited the settlement to an area measuring 350 m NE–SW and 50–100 m SE–NW, a total of 15–20,000 m^2. 1225 m^2 of this was excavated.

THE HOUSES

Underneath three large areas of cultural deposits, the remains of three east-west oriented houses were found. They were rectangular and postbuilt, having a single row of roof-bearing posts spaced 4–5 m apart. The less massive wall posts were placed in a rather irregular line, at intervals of 1½ m. No clearly defined entrances were visible. But slight depressions where the ground was worn away indicated their position.

House I. The westernmost house was 21 m long and 6 m wide. Its area was 126 m^2. The western end appeared about 0.10 m below the topsoil as a rectangular depression measuring c. 9 × 6 m. After the cultural deposits that overlay this western depression were removed, about 100 postholes were seen to belong to the house. Of these, about 50 were from their positions regarded as outer wall posts, and 4 as roof supports. The lastmentioned appeared as large holes, in a straight line along the central axis of the house, set at 5 m intervals. The

Fig. 2. The situation of the early bronze age barrow 'Egehøj' and the excavated parts of the settlement. Contour interval 0.5 m. 1:2000. Drawn by Grethe Rasmussen.

roof-bearing posts were dug some 0.60 m into the underlying soil. The diameter of the individual holes was about 0.50 m. Basal support in the form of a stone lining appeared in and over the postholes. The walls were marked by rows of smaller posts. The distances between these postholes varied between 1 m and 2 m, occasionally a little more. The postholes were 0.30 m in diameter and 0.40 m deep. – two of them were, however, dug 0.75 m down into the soil. The row of postholes forming the northern wall varied in depth more than those of the southern, three of them being particularly deep. Some of the other posts forming the northern wall were so poorly dug down that the postholes could only just be recorded. The postholes of the southern wall were of uniform depth. Some postholes were scattered at random throughout the interior of the house. Between the two central roof-bearing posts, 4 smaller posts were placed in line; they might have formed a transverse partition wall. The dark feature covering the western end turned out to be a depression dug 0.30 m

into the subsoil. Within this feature, a relatively high frequency of fragments of burnt stone was observed in a zone 0.5 m wide along the inside of the western end of the house.

House II was placed immediately adjacent to house I's east end, but offset to the north so that the ends of the two houses overlapped each other. It was c. 18 m in length, c. 6 m in breadth, and had an area of 108 m^2. The eastern end appeared about 0.10 m under the topsoil as a rectangular feature, orientated E–W and measuring about 7.5 × 5 m. In the western end was another feature, somewhat irregular in outline, orientated E–W and measuring c. 6 × 5 m. After the overlying cultural deposits were removed, some 50 postholes could be ascribed to the house. 30 of these were, because of their positioning, regarded as forming the side walls. Four powerful posts located in a straight line along the central axis of the house were interpreted as those supporting the roof. The westernmost three were set at intervals of c. 4 m, the easternmost one c. 2 m from the nearest of these. Average diameter of the postholes was c. 0.40 m, average depth 0.30 m.

The postholes of the walls were biggest along the southern side, where they were 0.30–0.40 m in diameter and 0.20–0.30 m deep. In the northern wall they were rarely above 0.25 m in diameter and 0.20 in depth. A narrow ditch, 5.50 m long and 0.14–0.22 m wide, started at the northeastern corner of the house and ran along just inside the northern row of postholes. At its western end it turned through almost 90° in towards the middle of the house. This feature defines the eastern end of the house, making internal subdivision visible. The western end of the house also seems to be divided off from the rest. About 1 m west of the second roof-supporting post from the west, three postholes were placed in a straight line across the house. Taken together with a slightly offset post near the northern wall, these probably represent an internal partition wall.

The feature forming the eastern end turned out to be a 0.30–0.40 m deep depression. A layer of burnt stones (»cooking stones«) was found in this area. The layer was in the form of a compact, slightly uneven heap, which diffused out towards the sides of the house. The western feature turned out to overlie two large and a few small pits; apart from these, the depth of the feature was 0.10–0.15 m.

House III was positioned parallel to house II, c. 3 m from it, and was connected with its east end by a transverse feature 1 m wide. It was 19 m long, 6 m wide, and encompassed 114 m^2. About 0.10 m under the topsoil, the eastern end appeared as a large feature, c. 7.5 × 5 m in extent and bounded to the north and east by a charcoal zone 0.30–0.50 m wide. At the western end was a feature measuring 5.5 × 3.5 m. After the removal of the cultural deposits, about 40 postholes were seen to belong to the house. About 25 seemed from their positioning to be wall posts, 4 to be roof supports. The rest were scattered apparently at random throughout the interior of the house. The roof-supporting posts were placed in a straight line down the middle of the house. The distance between the three westernmost ones was c. 4 m, between the two western ones c. 5 m. Their diameter was 0.30–0.40 m, their depth 0.30–0.60 m. The wall posts were about 0.25 m in diameter and 0.30 m deep.

A rectangular area of burnt stones, 1.50 × 0.40 m, was placed along the northern wall in between the postholes. Due to an absence of postholes, the southwestern edge of the house was indistinct.

The feature at the east end of the house revealed itself as a depression 0.30 × 0.40 m. At a height of 0.10–0.20 m above the bottom appeared a layer of burnt stones (»cooking stones«). This took the form of a compact, uneven heap which spread diffusely out towards the sides of the house.

Along the north side wall and the eastern end wall of House III was a zone of charcoal, and high concentrations of charcoal seen in some postholes suggest that the house was burnt in antiquity. The lower 0.1–0.2 m of the cultural deposits overlying the depression in the east end of the house contained carbonised grains of wheat and barley.

PITS AND FEATURES INSIDE THE HOUSES

Between the northern wall and the westernmost roof support of house I was a roughly circular pit, 1 m in diameter and 0.4 m deep. The bottom was covered with a 0.05 m thick layer of compressed, unfired clay. Small postholes were visible near the edge of the pit; together with finds of a loom weight under a metre from the pit (fig. 9), this suggested that the feature should be interpreted as a weaving area. Near the second roof support, two complete pots were found, dug down into the sub-

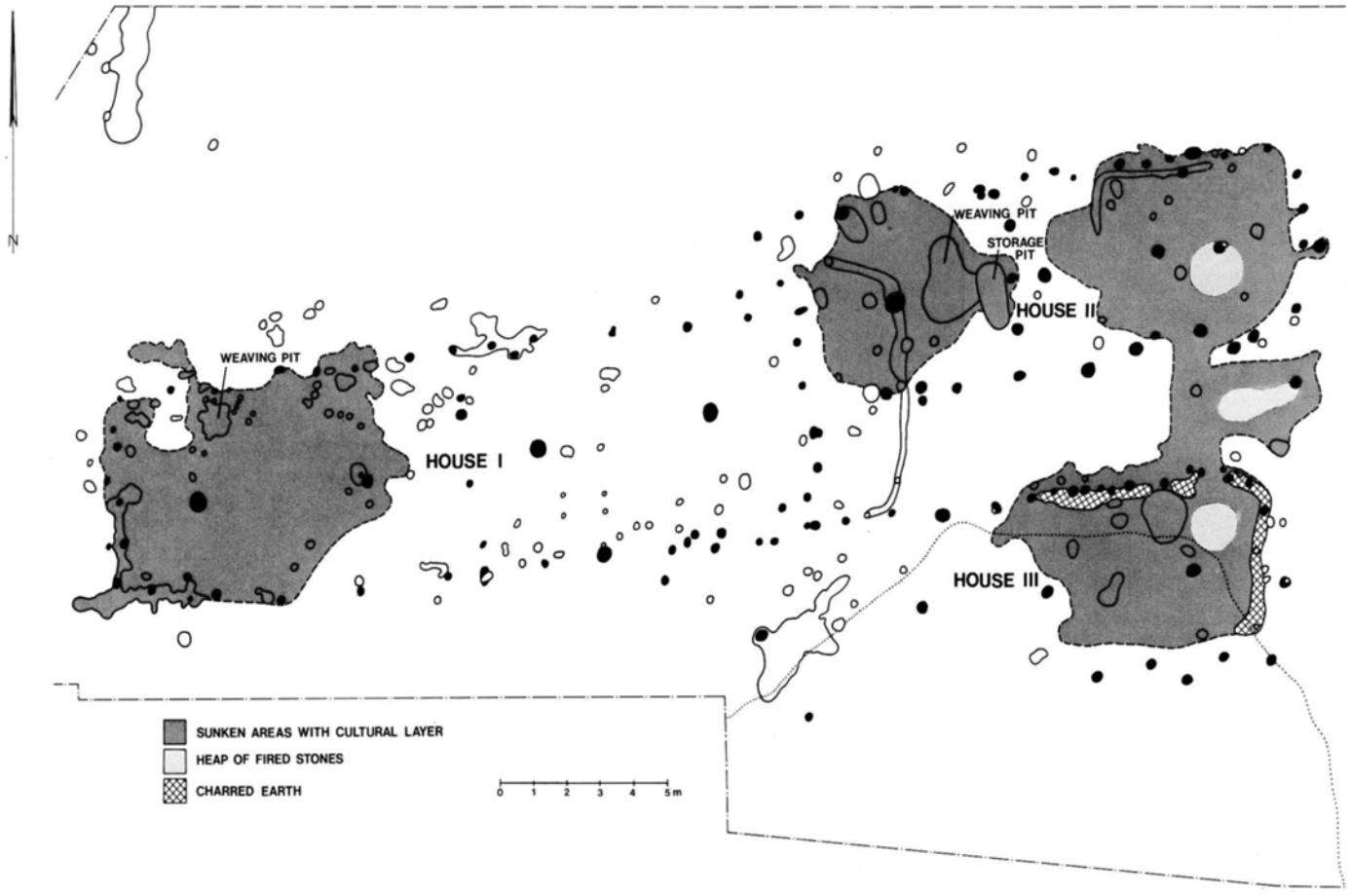

Fig. 3. Plan showing the three early bronze age houses at Egehøj. The fine dotted line in the southern part of the area indicates the limit of the clayey subsoil. Drawn by Grethe Rasmussen.

soil. In the weaving pit and in one posthole large sections of pottery vessels were uncovered.

Two metres within the eastern gable walls of houses II and III were two similar, low circular mounds of cooking stones; these were 2 m in diameter and about 0.3 m thick, and were positioned in the cultural deposits c. 0.1 m above the subsoil.

Between the first and second roof supports in house II was a pit similar to the weaving pit in house I, but somewhat less regular. Just to the east of this pit and almost touching it was a regular oval pit with roughly vertical walls. Two brown circles inside this pit might be traces of wooden containers. Several sherds were also found.

A little to the southeast of the first roof support in house III was an irregular pit, 4 × 2 m in size and filled with stones. It was 0.3 m deep and contained some derived, burnt pottery and a dagger-shaped strike-a-light.

FEATURES OUTSIDE THE HOUSES

Between the eastern ends of houses II and III and connected with the narrow depression between the houses was a 2.5 × 1 m oval pit, oriented E–W. One large post had been set into it, and the fill contained much pottery and many cooking stones as well as burnt fragments of bone.

4–5 m east of house II, two pits were investigated; these were regular and circular, contained cooking stones, and had flat, rounded bottoms. They were 1.2 m in diameter and 0.4 m in depth. From the bottom upwards, the fill consisted of the thin layer of sand with charcoal fragments; then a layer of fractured, burnt stones; and finally a layer of cultural deposit similar to that overlying the houses.

Two wells were excavated at the eastern and southern edges of the excavated area, some 20 m east and

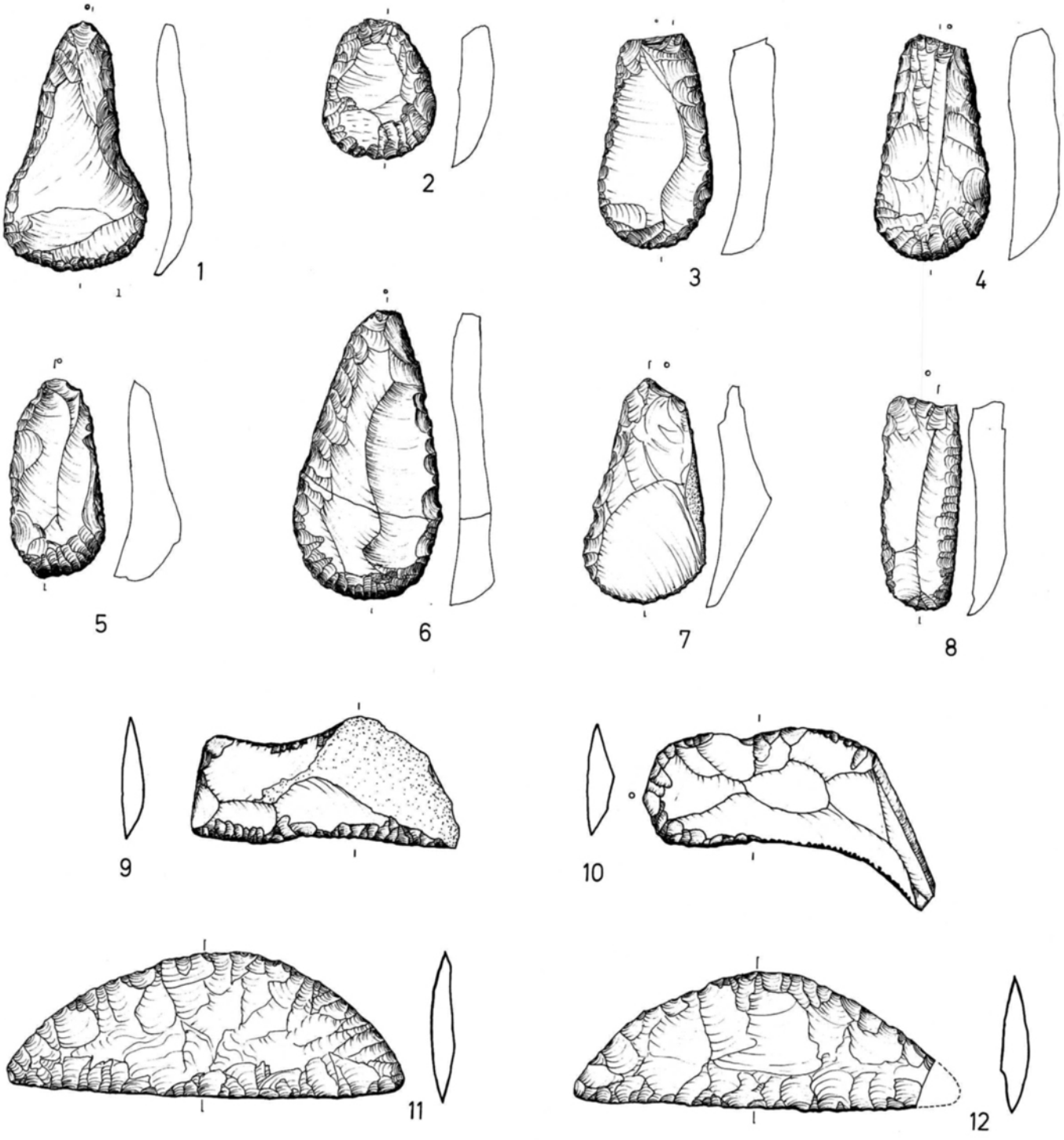

Fig. 4. Scrapers (1–8), knives (9–10), and sickles (11–12). 1–3, House I; 4–6, House II, 7–8, Huse III. 1:2.

southeast of house III. They were above 2 m in diameter, 1½ deep, and more or less funnel-shaped. Both dug through the sand, down to the surface of the morainic clay, and would therefore hold water periodically. They contained many finds. In the southeastern well was a black, charcoal-filled layer of rubbish with fragments of cooking stone; this could represent clearance from house III.

FINDS

The cultural deposits over the houses and the features described above contained an even scatter of finds. Of the 120 kg of *flint*, 100 fragments are of cores, more than 20,000 are waste flakes, and 13 are hammer stones. Almost all flint tools and roughouts were fragmentary, as was to be expected from a settlement. The largest category was the hollow-based arrowhead, of which 90 examples were recovered (including roughouts) (fig. 5). Hafted scrapers (fig. 4) dominate with 27 examples the scraper category, which contains 50 tools all told. Flakes with edge retouch total 35. There are 21 daggers (including roughouts), some of which are probably strike-a-lights. Three of the daggers were complete; these were recovered from houses II and III. They are all of the small variety (i.e. under 13 cm) (fig. 6).

Different types of strike-a-lights, on flakes, blades and pressure-flaked pieces, total 19 pieces (fig. 6). Over 20 symmetric, crescent shaped sickles were recovered, including fragments and roughouts. Two unused sickles (fig. 4: 11–12) were found together, lying crosswise in contact with each other, near the northern wall of house II. Groups such as burins (most of which are on pressure-flaked pieces), knives, and borers (both drills and on flakes) are each represented by about 10 examples. Finally, two hollow-based spearheads (fig. 6: 12–13) and two rough, unpolished thick-butted axes were also found (fig. 6:11).

The flint is of high quality when compared with e.g. that from the early late neolithic settlement of Myrhøj in western Himmerland (Jensen 1973). Roughouts are found at all stages of manufacture. The weight of barely worked nodules is above 1 kg. The degree of utilisation is 8% by weight, but only 2% by numbers of pieces, a percentage which is however similar to that on mesolithic settlements (Blankholm *et al.* 1967). Much high quality flint was apparently available – only 18% of the scrapers, for example, have any cortex on their dorsal surfaces, while at Myrhøj 80% did. Flat polishing did not occur, while basal wear was common. Blades do not seem to have been produced on the settlement. The proportion of burnt flint is high, being 14% as opposed to only 3% at Myrhøj. This might be due to several reasons, but is not an integrated part of the technological process.

The short, wide flakes which are characteristic of the waste products from axe manufacture, form under 1% of the waste on the settlement. At Myrhøj this type formed 26%, corresponding to the high number of axes found.

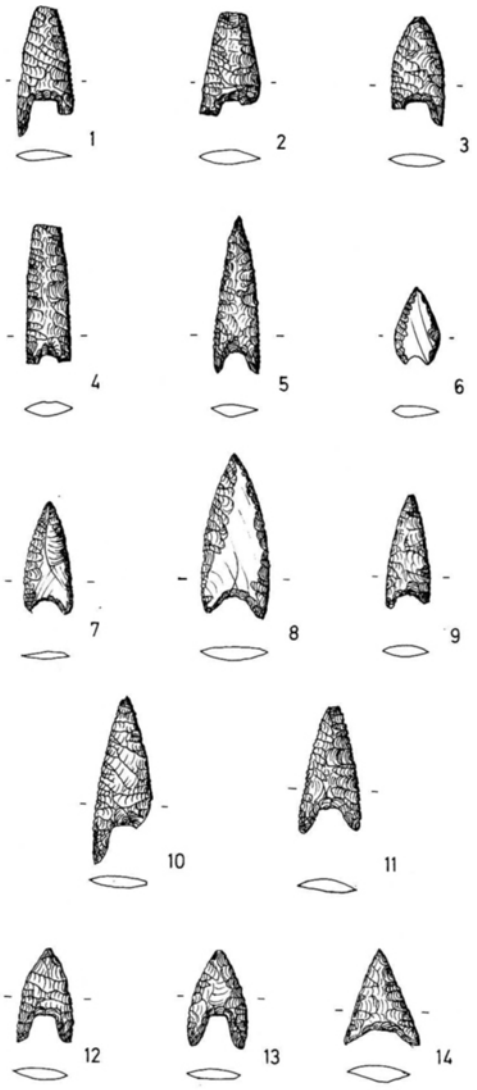

Fig. 5. Barbed arrowheads. 1–6, House I; 7I–9, House II; 10–14 House III. 1:2.

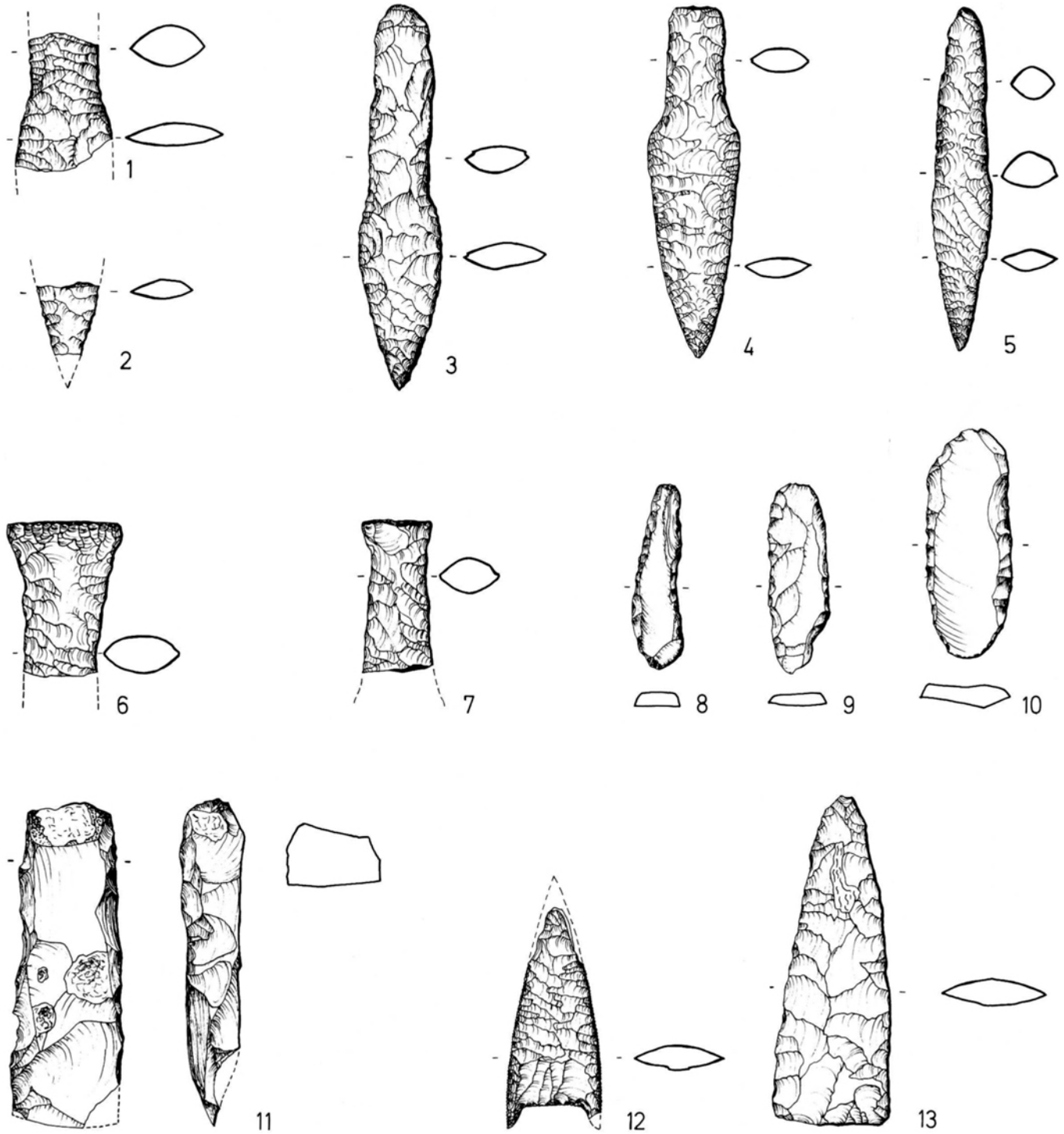

Fig. 6. Dagger fragments (1–2, 6–7), strike-a-lights (3–5, 8–10), axe preform (11), and spearheads (12–13). 1, 2, 8, 11, House I; 3–7, 9–10, House II; 12–13, House III. 1:2.

Some of the hammerstones are of *stone*, as are two whetstones, 1 drill, 1 grinder and 5 fragments of querns. Two unworked fragments of *amber* were also found.

Pottery (fig. 7–11). In a total of over 2000 potsherds, 60 rim sherds and 30 basal sherds were found, as well as sherds of 7–8 beaded pots. Nine tenths of the sherds are coarsely tempered with sharp-edged fragments of stone (1–3 mm), similar to the large amounts of pulverised cooking stone found throughout the cultural deposits. The colour is red to golden brown. Blackening occurs on the inner surfaces. The pottery fragments either have greyish black cores, or are of uniform coloration. Rim diameter of the vessels is between 0.10 and 0.35 m. The height of the nearly complete pot from house I (fig. 7) is 0.16 m, and the weight over 1.5 kg. Shapes vary between bucket type pots with almost straight or slightly convex sides, and vessels with more pronounced bellies, which either have a slightly offset »direct rim« or a proper lip flared outwards beyond the vertical. The latter type of mouth is about 1–2 cm high, and appears in both strongly and weakly developed variants. A slight thickening often occurs just above the point where the tangent of the curve is vertical, sometimes combined with a slight concavity on the inner surface. 15 of the 25 basal sherds show a slight foot. In general there is no decoration, apart from the probably functional addition of beading. Three sherds have beading actually on the rim, while four more have it a centimetre or more below.

At the bottom of house III was a lump of kneaded and tempered fired clay. Its weight of 1.6 kg corresponds to that of the larger of the two nearly complete pots deposited under house I. Other clay finds consisted solely of the abovementioned loom weights in house I.

Burnt bone and *charcoal* appear throughout the cultural deposits. The bone fragments were most common in the pit between houses II and III and in the southern well. Most informative is the high frequency of *carbonised cereals* in house III. A provisional analysis of material from a small sample of earth by H. Helbæk shows that the grains were distorted by a violent fire, so only a few could be identified. Most of the grains seem to be of naked barley. Emmer and bread wheat were present in the proportions 1:2, the latter type in different forms (*Triticum aestivum*, *T. compactum* and *T. vulgare*) which are hard to distinguish as no rachis fragments are present. All the small seeds were apparently completely destroyed in the fire, and the only weeds found were of black bindweed (*Bilderdykia convolvulus*) and pale persicaria (*Polygonum lapathifolium*). Flotation of a large part of the collected soil samples has recently been undertaken by P. Rowley-Conwy. This has produced much material, details of which will shortly be available. The large amount of material may result from an accident during drying, which is necessary to free emmer and einkorn from their glumes. Perhaps the heaps of »cooking stones« in houses II and III should also be viewed from this perspective?

FIND DISTRIBUTION AND ACTIVITY AREA ANALYSIS

The flint items can be divided up into three groups on the basis of primary functional criteria, in order to make possible an examination of specific activities. A comparison between the three houses is possible, because the volume of cultural deposits over them is about the same in each case, namely 18 m^3. *The first group* consists of »simple« tools on flakes. These include what one might call everyday items. These scatter relatively evenly inside and outside the houses. The only noteworthy concentration is of hafted scrapers in the east end of house II and around the third roof-bearing post in house I. *The second group* consists of »finished« pressure-flaked tools. Clearer clustering is visible. Daggers (mainly miniature daggers or strike-a-lights of Lomborg's type A and B) concentrate strongly in house II, arrowheads in the west end of house I and the east end of house III. *The third group* may be called »workshop« flint and in this group of raw materials and unfinished tools emerge the clearest clusters. If these are taken together with the distribution of waste flakes, quite clear production areas or workshops are visible. One of the biggest concentrations is in the gable end region of house I; this consists almost entirely of arrowhead roughouts. Just inside the end of the house is a corresponding scatter of small fine waste flakes. A group of large, coarse flakes can also be seen a couple of metres further east inside the house. This, therefore, seems to be an example of specialised arrowhead production, with rough shaping taking place near the first roof-bearing post, finer working between this post and the gable wall, and the apparently rejected examples of roughouts being disposed of against the end wall itself. To this may be added the high frequency of completed arrowheads in this whole part of the site.

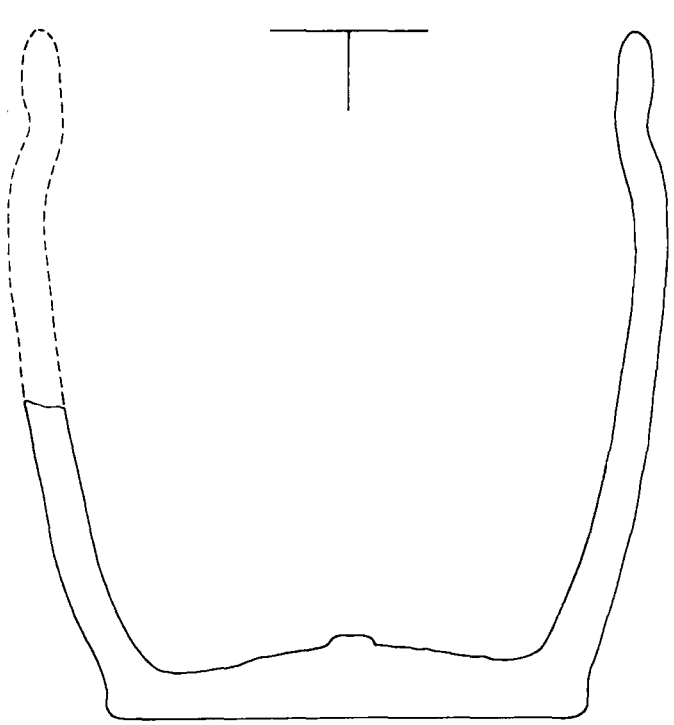

Fig. 7. Pottery vessel from House I. 1:2.

Fig. 8. Lower part of pottery vessel from House I. 2:3.

A similar situation is visible in the west end of house II, and traces of specialised production of daggers and sickles can be seen in the east end of this same house.

Whether or not production and use was regulated by age or sex, there is a clear tendency for scrapers, borers and strike-a-lights to avoid the area where arrowheads were produced. Workshop flint is clearly restricted to particular loci, more so than either finished tools or

everyday implements. The amount of cultural deposits remaining outside the houses is little more than that associated with any one of the houses themselves. Despite this, many flake scrapers, borers and sickles were found, which must be regarded as evidence of »outdoor activities«.

Use of the hafted scrapers seems to be closely connected with house interiors, from where 5/6 of the total of 27 pieces were recovered. More than 1/3 of the flake scrapers (oval scrapers) were found outside houses. Differences in the usage of the two types of scrapers seem thus to be visible.

A strightforward cumulative division of tools and roughouts over a schematic east-west section, with cultural deposits marked in, shows that the quantity of finds is not directly proportional to the thickness of the cultural deposits. In houses I and II, clear drops in frequency occur over the partition walls. The extremely low values for the west end of house III cannot be explained only by a lack of cultural deposits. Could the house have had grain storage space or a threshing area here?

It is thus possible to distinguish specific activity areas by a simple analysis of distribution. Unfortunately the results are somewhat limited by the thinness of the cultural deposits outside the houses. It is also difficult to be sure how much of the cultural deposits in the houses might have been transported in from outside, and how much the original workshop or activity areas might have been moved as a result.

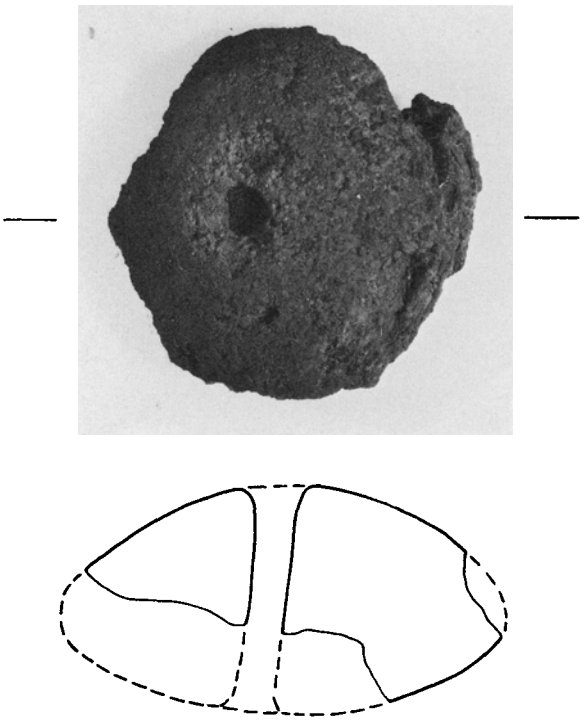

Fig. 9. Loom weight from House I. 2:3.

CHRONOLOGY

If we examine the internal relative chronology of the settlement, there is a notable constructional synchroneity between all three houses. The stratigraphic separation of more recent elements was simple and sure. These elements consists largely of remains from the later bronze age (2) and they are excluded from the plans and figures of this publication.

If we return to the positioning of the houses, it is clear that houses II and III are contemporary. This is emphasised both by their placing, and by the details of features such as the depression connecting the two houses. A slight depression, which runs along the eastern end wall of house I, is clearly cut by the first roof-support of house II, which must therefore be later. On the other hand, there is such a degree of parallellism between the walls and rows of roof supports of all the houses when viewed together, that the most likely explanation is that the eastern end of house I was pulled down, and replaced by (or rebuilt as) houses II and III. It is not unlikely that all three houses are partially contemporary.

The undisturbed layers of cooking stones in houses II and III, together with the certainty with which disturbances in the cultural deposits could be separated out, enable the finds from here to be regarded as »pure« and uncontaminated. The corresponding artifact groups may thus be used for a typological dating of the site. An established flint typology for most types is unfortunately lacking.

Three complete miniature daggers from houses II and III are daggershaped strike-a-lights of type A and B (Lomborg 1959; for dagger chronology in general see Lomborg 1973). They are all copies of type VI daggers (fig. 6: 3–5). The remaining dagger handles from the houses are all miniature daggers of type V. They must thus be placed in the typology before the dagger-shaped strike-a-lights of type A. The only regular type V dagger

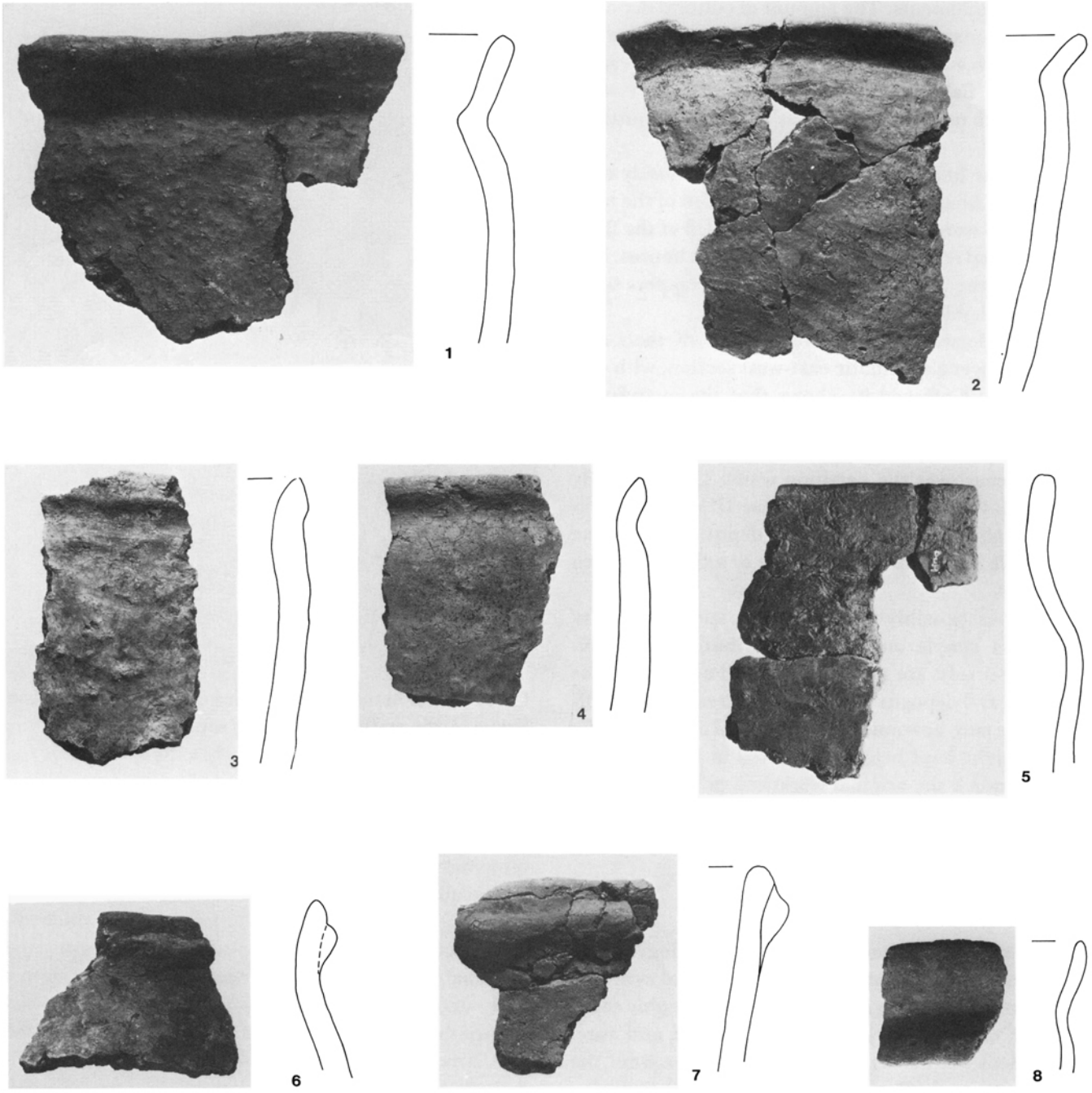

Fig. 10. Pottery. 2:5. (Kirsten Nijkamp photo).

handle (fig. 6: 6) has much basal wear. The combination of type V dagger handles, miniature daggers of type V and VI, and dagger-shaped strike-a-lights of type A and B must date the settlement to period I of the early bronze age; perhaps even to an early part of this, as daggers of type V have not yet been found together with metal items of period I. Associations of type V daggers and miniature daggers of type VI are known from graves (Lomborg 1959: 159).

None of the Egehøj flint sickles resemble the long,

narrow, denticulate type which occurs most frequently in period II grave contexts such as Ballermosen (Lomborg 1956). The sickles are morphologically very like those found from e.g. Schleswig-Holstein in period I grave contexts (Hachmann 1957, find 212, with a hafted scraper). Association of sickle, hafted scraper and dagger such as that from house II is also known from the Gjerå hoard (Brøndsted 1957: 333). Hollow based arrowheads occur in graves throughout the early bronze age. Those from Egehøj do not differ from those from period I graves in N.W. Germany and Denmark (Laux 1971: 90).

No pottery typology has been established for the early bronze age, so all that can be said is that pots and sherds from the settlement do not differ from the very few pots known from period I graves.

In summary, we have three long houses, all of which can be dated to period I of the early bronze age. In terms of construction, the houses are closer to Myrhøj, Stendis (Skov 1982), and Tastum (Simonsen, this volume) than to Vadgård (Lomborg 1973) or the Trappendal house (Andersen & Boysen, this volume). In terms of flint technology, Egehøj is at a level no worse than what is known from the late neolithic. Production of true axes, and polishing of stone, do however seem to have more or less stopped.

The typological dating to period I is supported by C14 dates from house III and the two wells (3).

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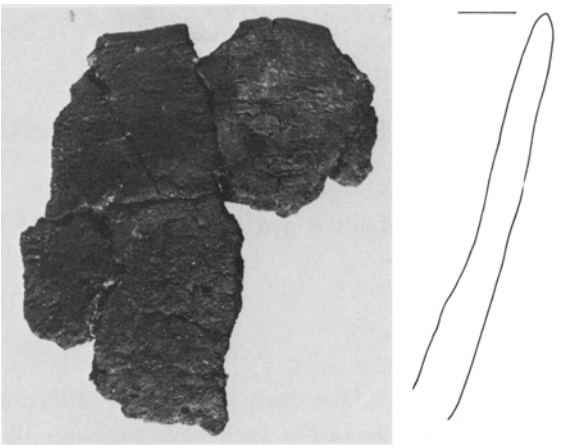

Fig. 11. Fragment of bucket-shaped vessel. 2:5. (Kirsten Nijkamp photo).

NOTES

[1] The barrow and settlement were excavated under the direction of the author in 1969–1973 with the support of the Danish Research Council for the Humanities. Culture Historical Museum, Randers, J. no. 160/69. Hemmed s., Djurs Nørre h., Randers amt.

[2] The secondary features are:

a. Oven bac, cut down through the cultural deposits in house I. The pottery dates from the later bronze age periods V–VI, C 14 dated to 450 bc (see note 3).

b. Burnt pit cir, cut down into house III's cultural deposit. The pottery dates from period V–VI of the later bronze age.

c. Cooking pit bzå, a double pit with among other things a large blade sickle. C 14 dated to 600 bc.

d. Small ship-shaped stone setting, built over the southeastern well. Pottery dated to period V–VI of the later bronze age.

e. Four postholes cut down into house I and two into house III, together with a group of postholes around the cooking pit bzå and the stone setting. Distinguishable from the older postholes by their dissimilar fill and finds of pottery dating to the later bronze age.

[3] The following radiocarbon dates are available:

K–2238 charcoal from posthole in house III	1210 ± 100 b.c.
K–2239 charcoal from bottom of well I	1390 ± 100 b.c.
K–2240 charcoal from bottom of well II	1290 ± 100 b.c.
Secondary features (cf. note 2):	
K–2223 charcoal from oven bac	450 ± 100 b.c.
K–2241 charcoal from cooking pit bzå	600 ± 100 b.c.

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