

Settlements from the Single Grave Culture in NW-Jutland

A Preliminary Survey

by JOHN SIMONSEN

The Single Grave Culture (EGK) was originally defined on the basis of the grave material when it was described by Sophus Müller in 1898. It was particularly the low barrows on the heaths in parts of Jutland, that called the attention of the archaeologists and several excavation campaigns were done, especially in the 1890's. These fundamental investigations of the Single Graves were not followed up by an equivalent search for the settlements.

Nearly half a century later, when P.V. Glob published his intensive study of the Jutish Single Grave Culture still only a few settlements were known. It was realized, however, that the mould in the gravemounds was often mixed with settlement material, indicating

that settlements were likely to be found in the neighborhood (Glob 1944: 245).

In his "Studies of the Prehistoric settlement of West Jutland" (1948) Therkel Mathiassen mentioned several settlements from the period. He enumerated 46 settlements from the Single Grave Culture. At all the localities flint tools were found: thick butted axes (at almost all localities), chisels, borers, round flake-scrapers, blade knives and firestones etc. In addition there were stone tools at many localities: Granite clubs, tongued wedges and battle axes. It was mostly surface finds and characteristically only a few potsherds were found, restricted to 4 localities.

During the last decades a few regular settlements from the Single Grave Culture in Jutland have been systematically investigated. Thus O. Marseen in 1953 published a coastal settlement at *Selbjerg*, and in the publication of *Myrhøj* in 1972 J.Aa. Jensen briefly discussed a few localities. Steen Hvass in 1977 published a small settlement at *Vorbasse* with a house from the Upper Grave Period. Finally S.H. Andersen in 1983 published a coastal settlement at *Kalvø* from the Ground/Upper Grave Period.

Some recent excavations of settlements from the Single Grave Culture in NW-Jutland (Viborg County) will be the subject of this article (Fig. 1). This is done in order to shed further light on the nature of the Single Grave Culture not least with regard to the chronology of the pottery and the regional development.

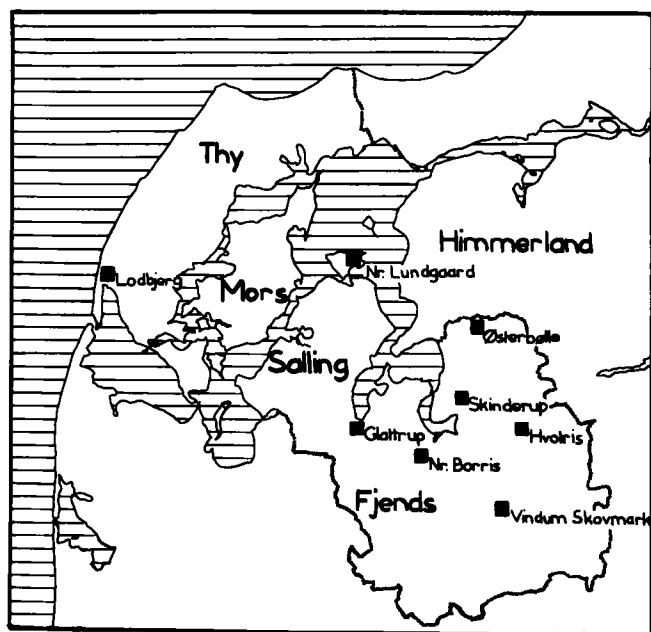


Fig. 1. Settlements from the Single Grave Culture in Viborg County. Drawn by Mette Nielsen.

GLATTRUP

In 1983 a small EGK-settlement was excavated as part of a larger rescue excavation by the author, Skive Museum, with assistance from H. Holck, O. Jensen and

A.N. Jensen at a building site in Glattrup. The locality is near the end of a sandy headland, delimited to the north by Skive Fjord and to the west and south west by a brooklet. The ground is flat, sloping slightly to the north. At this locality some settlement-pits and some postholes were found (Fig. 2). Some of the postholes seem to be traces of a structure, possibly a house or fence. The postholes are not very deep, most of them ranging from 8 to 15 cm. It is likely that they were deeper, before the area was cultivated. Some postholes had been destroyed by the removal of the topsoil before excavation. Only one of the postholes contained a tiny unornamented potsherd, which cannot be dated with certainty. Beside the postholes three settlement-pits were found.

The settlement pits are thought to be the remains of a small settlement. It is doubtful, whether all the postholes should be connected with the EGK-settlement. One of the postholes (no. 101) contained a potsherd belonging to a beaker from pit no. 100. A typical EGK-flint axe (no. 129) was found under the topsoil 15 cm east of the posthole no. 96.

The finds (Fig. 3)

Pit no. 113 was 2.5 m long, 0.8 m broad and 0.4 m deep. Its fill consisted of a greyish mould with charcoal-dust and a piece of burned flint. The pit cannot be dated.

Pit no. 100 was 1.3 m long, 1 m broad and 0.32 m deep, in section crescent-shaped. Its fill consisted of a greyish mould with charcoal-dust. The pit contained a saddle quern of granite. Also of granite are an 8 cm long, oval stone with two hollows, one on each side (presumably used with a bow drill), and a hammerstone. There were about 130 pieces of worked flint, but only a few artifacts: 12 scrapers/fragments of scrapers, a borer, a burin-like piece. Among the 219 potsherds were many small or unornamented pieces and fragments of at least 8 pots, 6 of them belonging to the curved-profile beaker type (the rest cannot be reconstructed). Three of the beakers are decorated at the neck with horizontal two-strand cord lines. One beaker has at the neck and under the rim horizontal rows of incisions consisting of two small crescents. Another beaker has triangular incisions on the rim and at the neck. Finally, the pit contained small pieces of charcoal and burned bones (not identified).

Pit no. 99 was 0.7 m long, 0.5 m broad, 0.12 m deep. The mould was greyish. It contained 12 pieces of worked flint. There were no tools apart from a blade with retouch along the edges. There were 32 potsherds in the pit. A potsherd, prob-

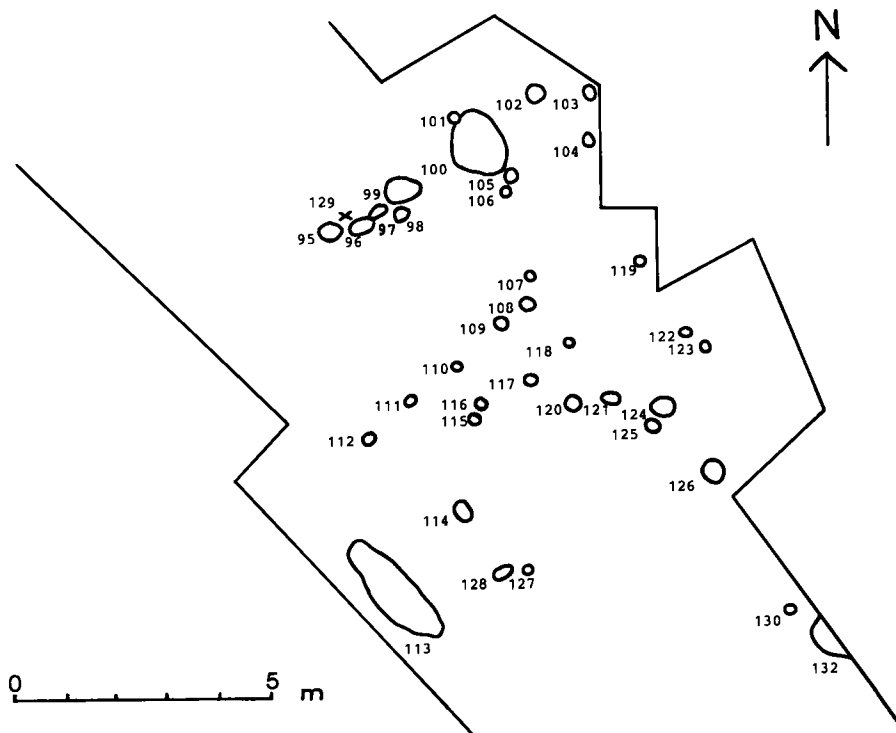


Fig. 2. Glattrup. Plan of the Settlement site.

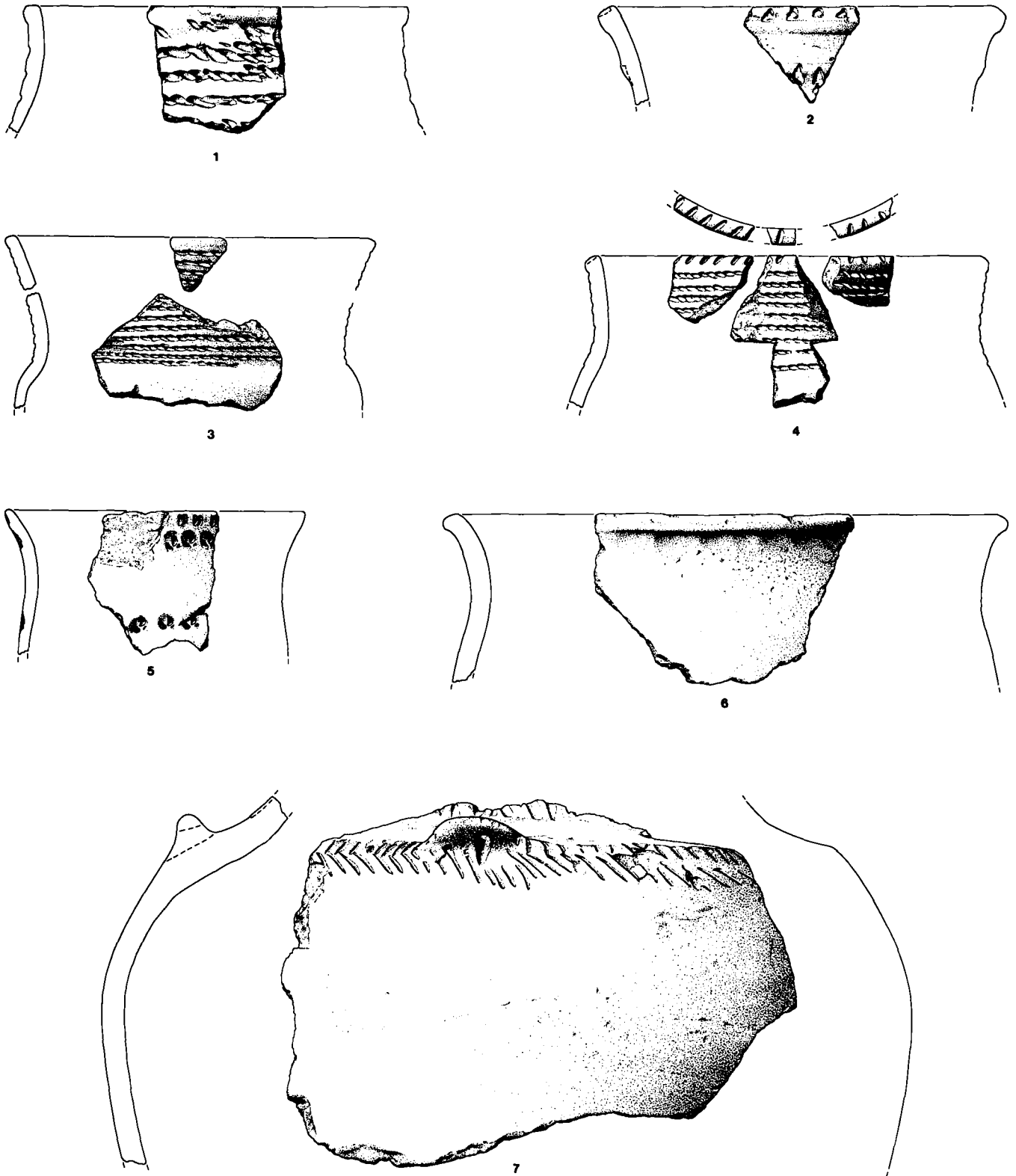


Fig. 3. Glattrup. Pottery from pit no. 99 and 100. Drawn by Orla Svendsen. 2:5.

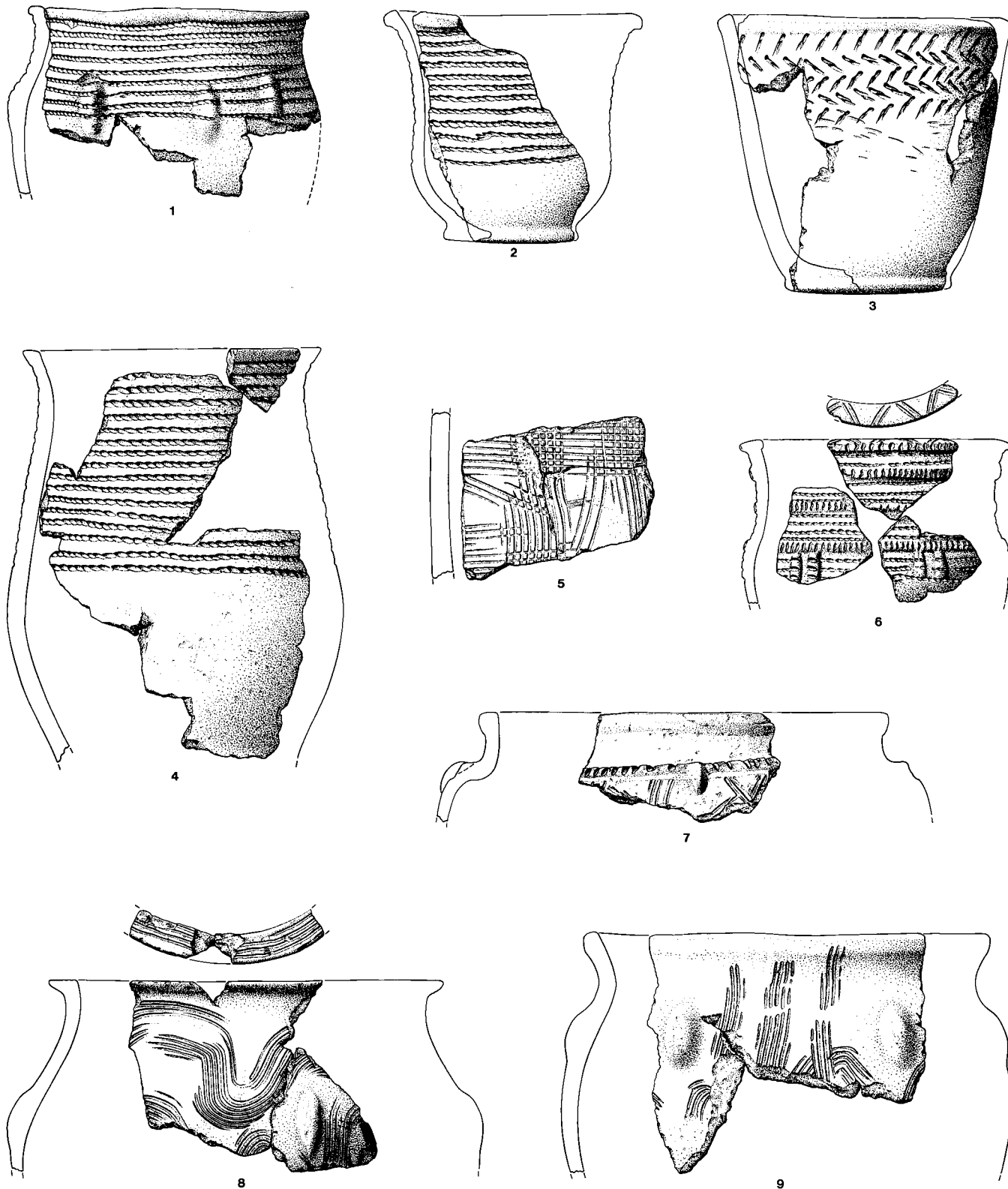


Fig. 4. Hvolris. Pottery. Drawn by Orla Svendsen. 2:5.

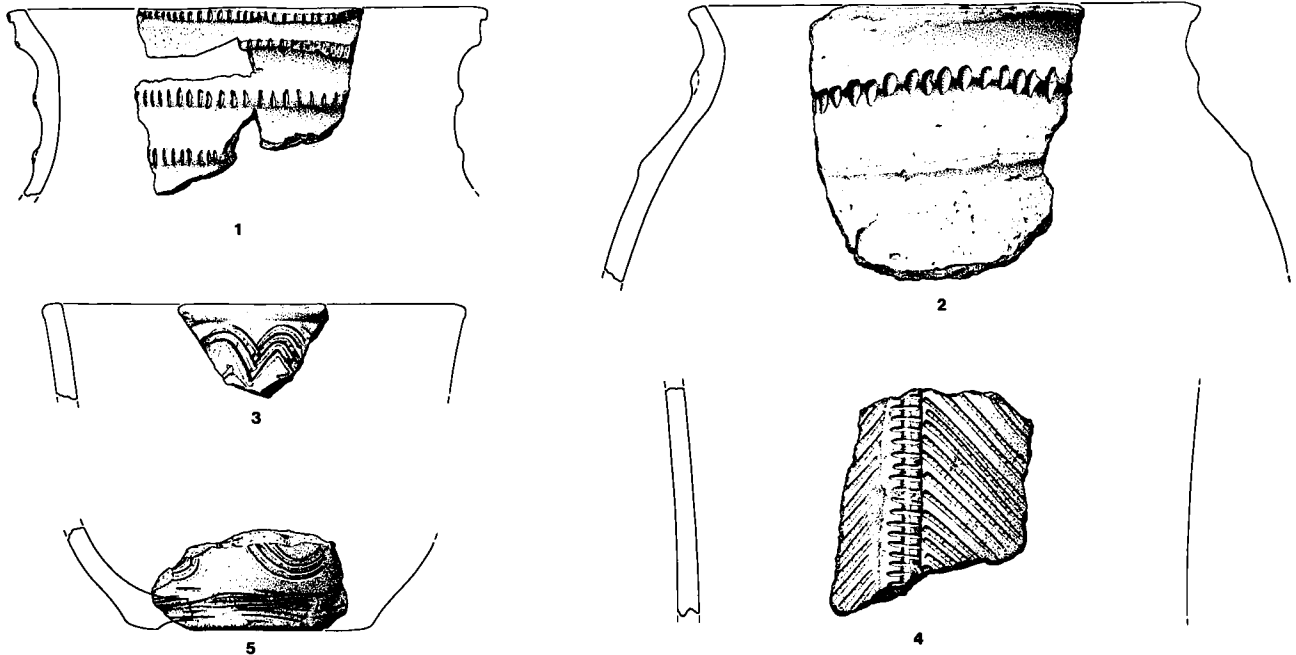


Fig. 5. Hvolris. Pottery. Drawn by Orla Svendsen. 2:5.

ably from a curved profiled beaker, has remains of incised cord lines. Another potsherd has deep vertical grooves. Fragments of a large round-bellied jar can be partly reconstructed. At the shoulder there is a horizontal herring-bone motive left and right of and partly under the lug. On the neck there are traces of a horizontal row of vertical furrows.

HVOLRIS

In 1962 an excavation at Hvolris was initiated by Peter Seeberg, Viborg Stiftsmuseum, and continued during the 60's and 70's (in the later years headed by Hans Langballe). Besides an EGK-settlement there were also settlements from other Neolithic periods and the Bronze Age and not least the Iron Age (Seeberg 1968). The starting point here is a new interpretation of the find. In the view of the author the site is a regular settlement with fragments of pottery, flint and stone tools. The locality is situated on sandy ground on a terrace near a brooklet.

The excavators operate with an upper culture layer and a lower culture layer. These layers are separated by other layers (1). All is covered by a sandy topsoil. The Neolithic finds are from the lower layer.

The finds (Figs. 4-5)

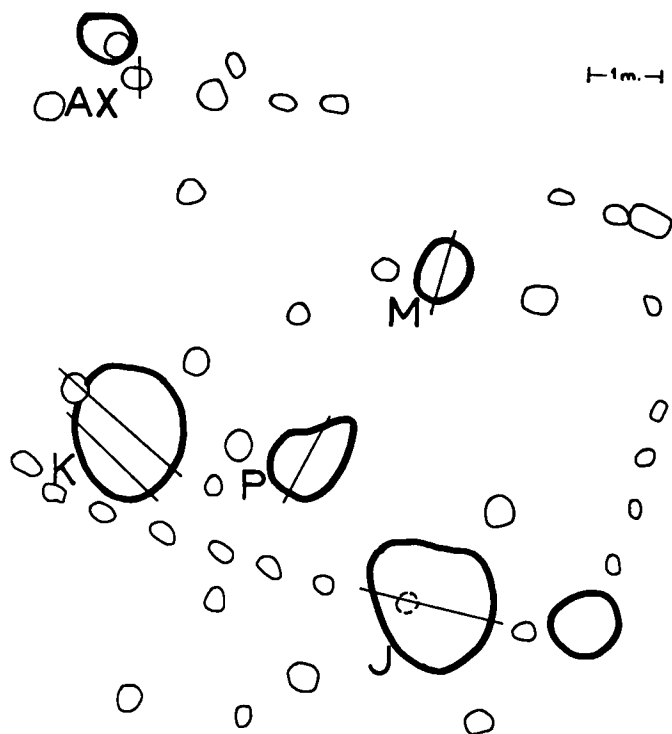
For artifacts of flint and stone reference may be made to Seebergs publication (2). The pottery from campaigns of excavation over many years is quite voluminous and in the attempt to sort out the potsherds from the Single Grave Culture it has sometimes been difficult visually to distinguish unornamented neolithic from Iron Age ware. Common for both groups is a finegrained ware.

Three ceramic forms are prevailing: round-bellied, curved-profile and straight-walled beakers. Ornamentation with two-stranded cord is common. One curved-profiled beaker has 17 horizontal cord lines from the middle of the belly to the rim. Another beaker has nine horizontal cord lines from the middle of the belly to the rim combined with short vertical projections at the shoulder.

Another technique of ornamentation is incised straight or waving lines. These lines are found in sets of from 3 to 10. A round-bellied pot has a combination of such waving lines and short vertical projections. A potsherd shows sets of nearly straight parallel lines crossing at almost right angles.

A straight-walled beaker has a herringbone motive on the upper part below the rim. This beaker has a fine-grained ware mixed with coarse granite-grains.

A group of beakers has horizontal cordons at the shoulder and neck. In profile some of these beakers are quite close to those found at the *Tastum* site (Simonsen 1982). A beaker has three horizontal cordons with small vertical incisions. Another beaker has two horizontal cordons, one of them with



short vertical incisions. A beaker with a horizontal cordon has a very complex design. The top of the rim is decorated with short lines meeting nearly at right angles. The outer part of the rim and the horizontal ribs have a dense pattern of vertical incisions. The space between and under the cordons is filled up with horizontal two-stranded cordlines. Pairs of vertical projections are placed below the lower cordon.

Potsherds with dentated spatula incisions are almost absent. On a straight-walled beaker this ornament is divided by a vertical list with horizontal incisions.

LODBJERG

An EGK-settlement has recently (1985) been excavated by David Liversage, the National Museum, Copenhagen. The settlement is preliminarily dated to the Ground Grave period. It will later be published by the excavator.

SKINDERUP

In 1985 an EGK-settlement was excavated by Jytte Nielsen, Viborg Stiftsmuseum, as a rescue excavation before laying down a gas pipeline. The locality is situated on sandy ground south of Skinderup brooklet. The terrain is slightly sloping to the west. Near the eastern end of a long-house from the Late Bronze Age, four pits were found (K, M, J, P) with EGK-pottery and worked flint (Fig. 6). Some meters south of the house three other pits with EGK-potsherds and worked flint were found. The pits are more or less round in plan. In section they have different shapes. Some (J and K) are quite deep (about 1 m deep) while others (G and F) are quite shallow, about 0.15 m. In diameter the pits vary from 1.6 m (J) to 0.6 m (F).

The finds (Fig. 7)

According to the excavator the 8 pits together contained 339 pieces of worked flint including a possible flake scraper and a few other pieces with retouch. Quernstones of granite, clubs of granite and a grind stone are also represented in the pits.

85 EGK-potsherds were found in the pits. Straight-walled and round-bellied pots are represented. Decoration with furrows, spatula impressions, and two-stranded cord lines is common.

A possibly straight-walled beaker has a flat, thickened rim with furrows and dentated spatula impressions under it. A round-bellied beaker has an oblique row of spatula incisions under the thickened rim.

Fig. 6. Skinderup. Plan of the settlement site. 1:100.

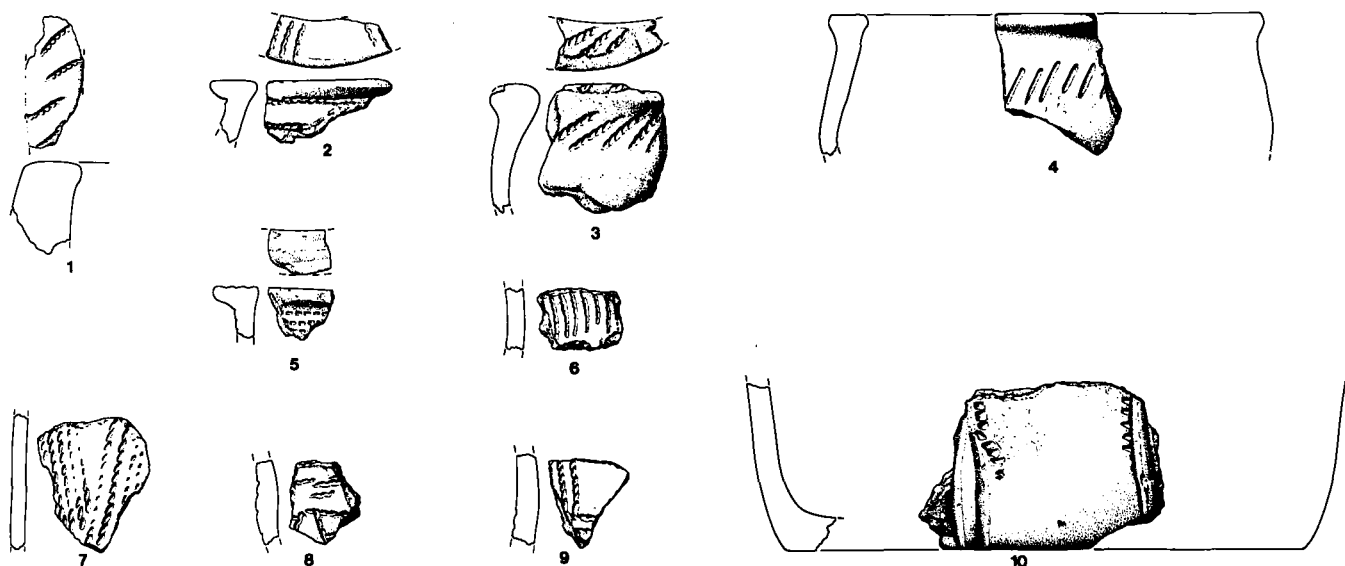


Fig. 7. Skinderup. Pottery. Drawn by Orla Svendsen. 2:5.

NR. BORRIS

In 1984 an EGK-settlement was excavated by Jesper Hjerminde and the author, Skive Museum, as a rescue operation before laying down a gas pipeline. The locality is situated on sandy ground east of the river Fiskbæk Å. The terrain is flat, sloping a little to the east and south. A large pit 5.4 m long, 4.8 m broad and 0.2 m deep was excavated. Within the pit there were a few postholes and shallow depressions. Whether the postholes had a connection with the construction is unclear. The bottom of the pit is quite level and it seems likely that it should be interpreted as a small house with sunken floor (Figs. 8–9).

It is possible that further traces of the Single Grave Culture may survive in the same field, as the pit (the house) was found in an only 20 m broad excavation area. Surface finds east and south of the excavation area indicate so.

The finds (Fig. 10)

The pit contained greyish mould and some stones, worked flint and potsherds. There were a few hammerstones of flint and quartzite and some so-called cooking stones of granite. Most of the worked flint is waste, including 92 flakes. There was a borer, a possible strike-a-light and 4 pieces with retouch.

112 potsherds were found in the pit. Two profiles could be

partly reconstructed. They are both of a round-bellied type with marked shoulder, concave neck and outfalling rim. One of them is ornamented with a horizontal row of oblique cardium stamps. Under the shoulder the other is ornamented with hanging triangles with lines of dentated spatula. At the rim there are short oblique lines also. Most of the other potsherds seem to belong to the round-bellied type. Beside ornamentation with cardium and dentated spatula there are a few sherds with two-stranded cordlines.

NR. LUNDGAARD

In 1970 a trial excavation was made by Jens Aarup Jensen, Forhistorisk Museum. The settlement is located in the bottom of a valley of the island Fur about 300 m from the Northern coast (Jensen 1973). The settlement was found in connection with quarrying work. Some postholes of varying size and depth and some areas with a mould colored by charcoal-dust were found (3). The postholes did not seem to form a regular pattern.

The finds (Fig. 11)

Only some of the potsherds belong to the Single Grave Culture, others being clearly Late Neolithic. This accords well with the information that Late Neolithic flint tools are found immediately north of the valley. The pottery forms are straight-walled and round-bellied beakers. A straight-walled beaker has a combination of multiple chevrons and short obli-

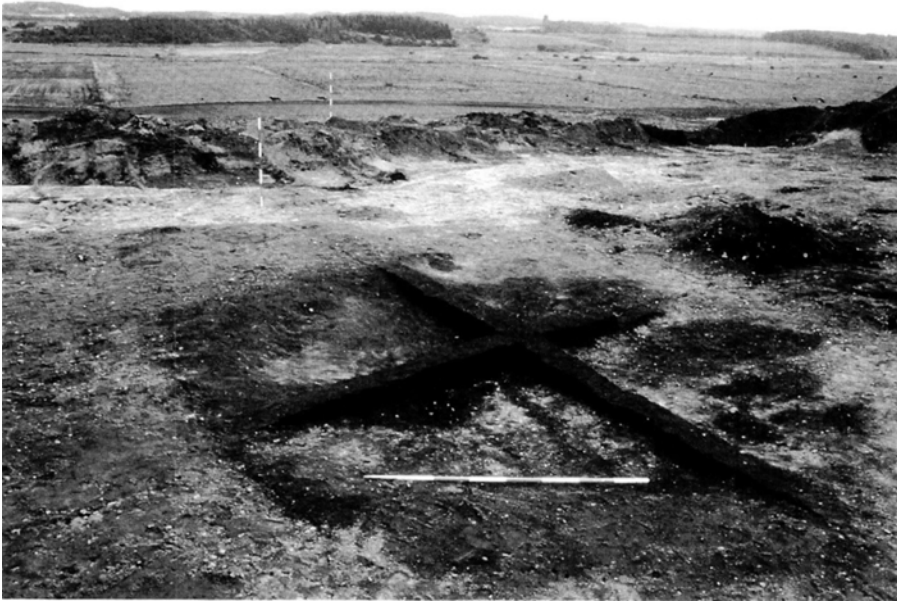


Fig. 8. Nr. Borris. Excavation of the house, seen from NW. In the background the valley with Fiskbæk å (river). Photo by the author.

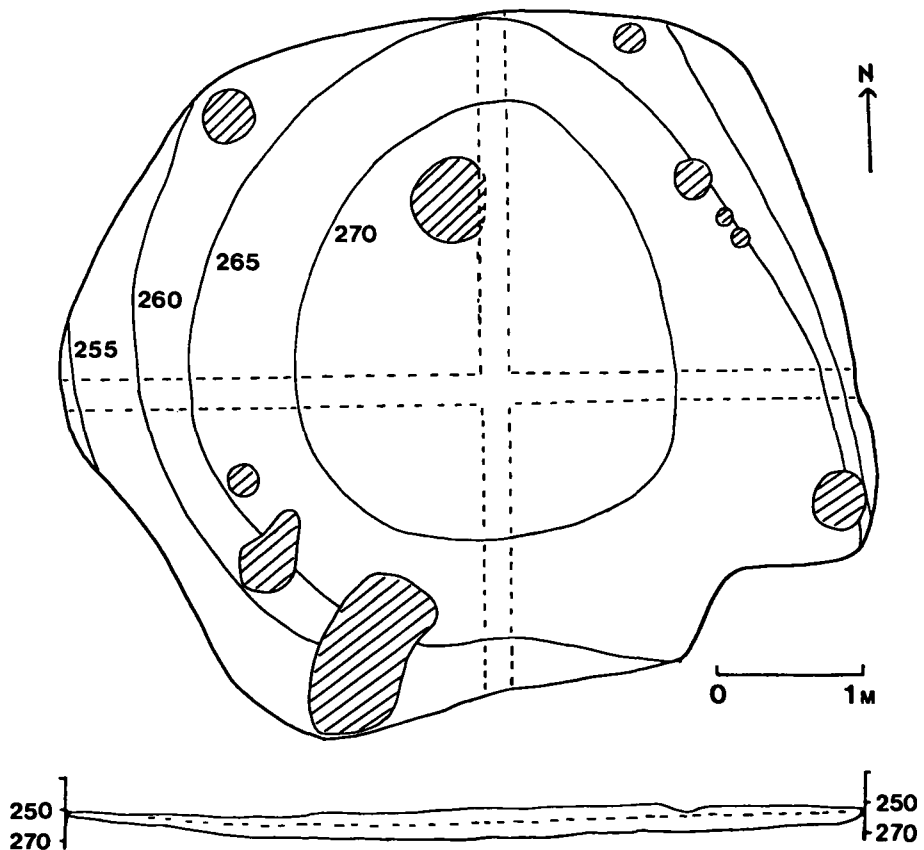


Fig. 9. Nr. Borris. Plan of the house. Drawn by the author.

que cardium lines a bit below the rim. Another straight-walled beaker is ornamented with oblique dentated spatula lines below horizontal dentated spatula lines. A round-bellied pot is ornamented with spatula incisions at the shoulder and at the outer side and at the rim. Another beaker has dentated spatula incisions at the neck (horizontal) and at the shoulder (oblique).

Sherds of other straight-walled beakers are ornamented with short cardium lines or comb-lines. A possible straight-walled beaker has below the rim a decoration of lines crossing each other. A round-bellied pot is decorated with short horizontal comb-lines on the neck a bit below the rim. This ornamentation seems to be continued at the shoulder with oblique comb-lines. Another round-bellied pot has short vertical incisions at the outer side of the rim and at the shoulder. On another beaker, probably of the same form, this ornamentation is varied at the shoulder with cardium lines. From the shoulder of a possibly round-bellied pot is a sherd with two horizontal cordons with short vertical incisions.

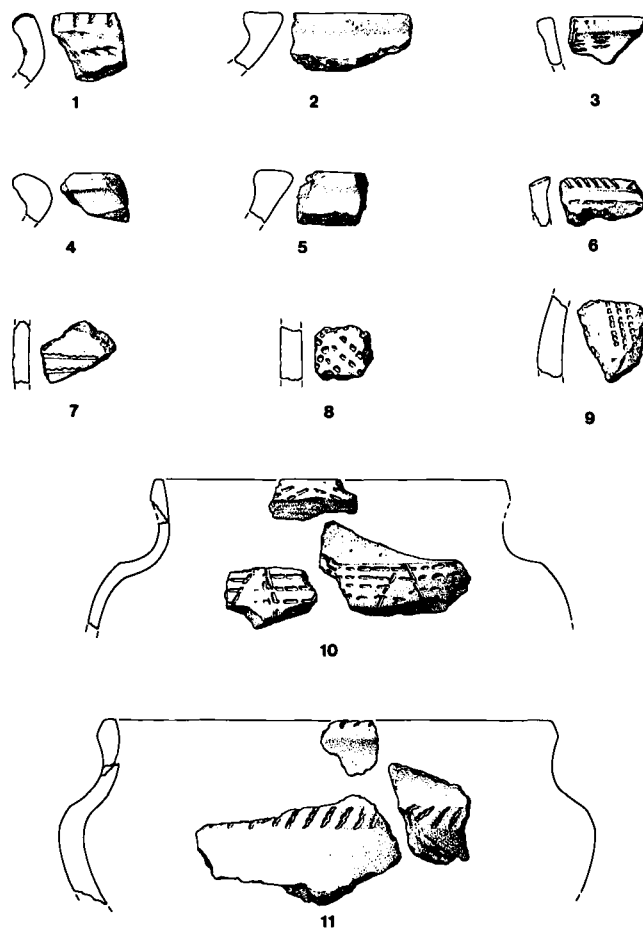


Fig. 10. Nr. Borris. Pottery. Drawn by Orla Svendsen. 2:5.

VINDUM SKOVMARK

In 1973 Viborg Stiftsmuseum made a small trial excavation at a locality where some stones were found by ploughing. The excavation showed that there was an irregular cluster of granite stones under the topsoil. Under the stones was found a culture layer with worked flint and EGK-potsherds. The locality is at the highest point of an almost plane, sandy area delimited to the north and east by a valley and its brooklet. To the south there is a bog. It is likely that the culture layer extends over a somewhat larger area than the 12 square meters investigated during the trial excavation.

The finds (Fig. 12)

About 40 uncharacteristic flakes of flint and a supposed roughout for a flint axe were found in the culture layer.

About 1400 potsherds were found including many small or unornamented pieces. Apart from sherds of a few possible straight-walled beakers, the round-bellied form dominates. Generally, they have a marked shoulder, concave neck and thickened outfalling or T-shaped rim. Decoration with dentated spatula is common. On top of the rims there are several examples of oblique dentated spatula lines. Also the shoulders are decorated with dentated spatula. One round-bellied pot has a combination of oblique dentated spatula lines on the top of the T-shaped rim, 4-6 horizontal similar lines at the shoulder, and oblique bands of the same in combination with unornamented areas in a metope-like arrangement below. Short oblique lines are another ornamental motive. It occurs on the top of a T-shaped rim and at the shoulder. One round-bellied pot has groups of oblique incisions separated by raised

vertical ribs with horizontal crosslines. Two-stranded cord-lines appear as ornament on top of the rim and on the belly of another potsherd.

ØSTERBØLLE

During the excavation of a locality with graves from the Roman Iron Age under the direction of Gudmund Hatt in 1933 a pit (no. VII) with granite stones, a saddle quern, and some EGK-potsherds was found. The pit was 2.6 m long, 2.3 m broad and 0.6 m deep. As there were also potsherds from the Iron Age the excavator regards it as a Stone Age grave disturbed in the Iron Age (Hatt 1938: 203). More correct is probably the interpretation by C.J. Becker (1957), who suggests that it was a stone Age settlement-pit disturbed in the Iron Age.

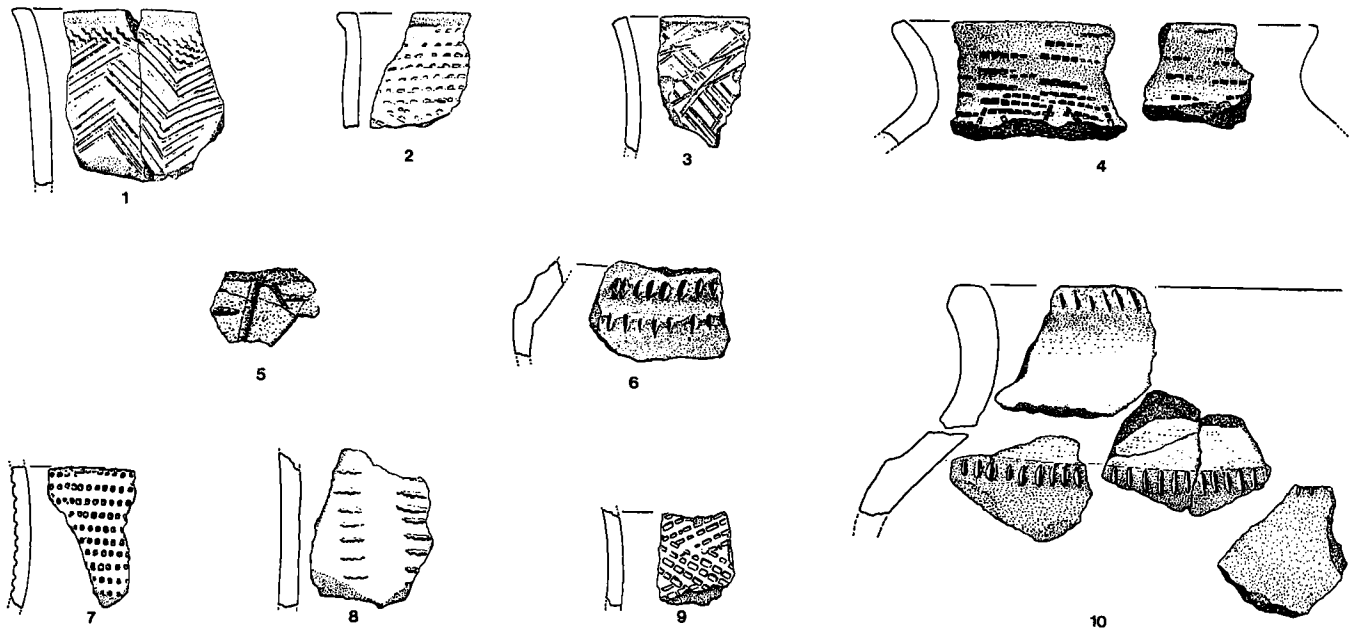


Fig. 11. Nr. Lundgaard. Pottery. Drawn by Jens Aarup Jensen. 2:5.

The finds (Fig. 13)

Sherds belonging to 3 round-bellied pots and a probably straight-walled beaker were found. Two round-bellied pots have the same ornamentation with two-stranded cordlines at the top of the rim and respectively 6 and 7 horizontal lines of the same ornament at the neck and the shoulder. Below that short vertical cordlines on the shoulder. Sherds of the third round-bellied pot have an ornamentation with dentated spatula lines, which are oblique at the top of the rim, horizontal on the neck below the thickened rim, and vertical at the shoulder. The straight-walled beaker has dentated spatula lines on the top of the rim.

THE SETTLEMENTS AND THEIR DATING

The settlement sites from Viborg county described in the foregoing have some topographical features in common. They have been placed on naturally well-drained, sandy ground (apart from *Nr. Lundgaard*) near fresh water (rivers, brooklets etc.). Pits, postholes, (thin) culture layers and, possibly, a small house at one of the localities constitute the traces left at the settlements. Compared to many localities from the Funnel Beaker Culture the EGK-settlements are relative small in respect of quantity of finds. The scanty material consists of fragments of pottery, worked flint with few

tools, clubs of granite or flint, and saddle querns of granite. Organic material has decayed (apart from small pieces of burned bone and charcoal).

The dating of the settlements is dependant mainly on the pottery. Fine-dating the settlement pottery, however, is a difficult task and for the moment it seems appropriate to deal with datings in more general terms and not to be too specific. It must be stressed that the datings suggested in the following are preliminary.

The earliest settlement is *Glattrup*. It probably belongs to the younger Under Grave Period. This dating – on typological grounds – is based on the form of the beakers and their ornamentation with two-stranded cordlines and spatula incisions. This accords well with the herringbone motive at the shoulder of the large round-bellied pot (and also with the flint axe in the find).

The *Hvolris* find seems to be constituted of more than one occupation in the EGK-Period, possibly two occupations. To the older settlement belong the cord-ornamented beakers and probably also the round-bellied pots with wavy scoring. A dating to the Ground Grave Period seems reasonable.

The *Lodbjerg* settlement is also preliminarily dated by the excavator to the Ground Grave Period.

The pottery from *Glattrup* and the older *Hvolris* settle-

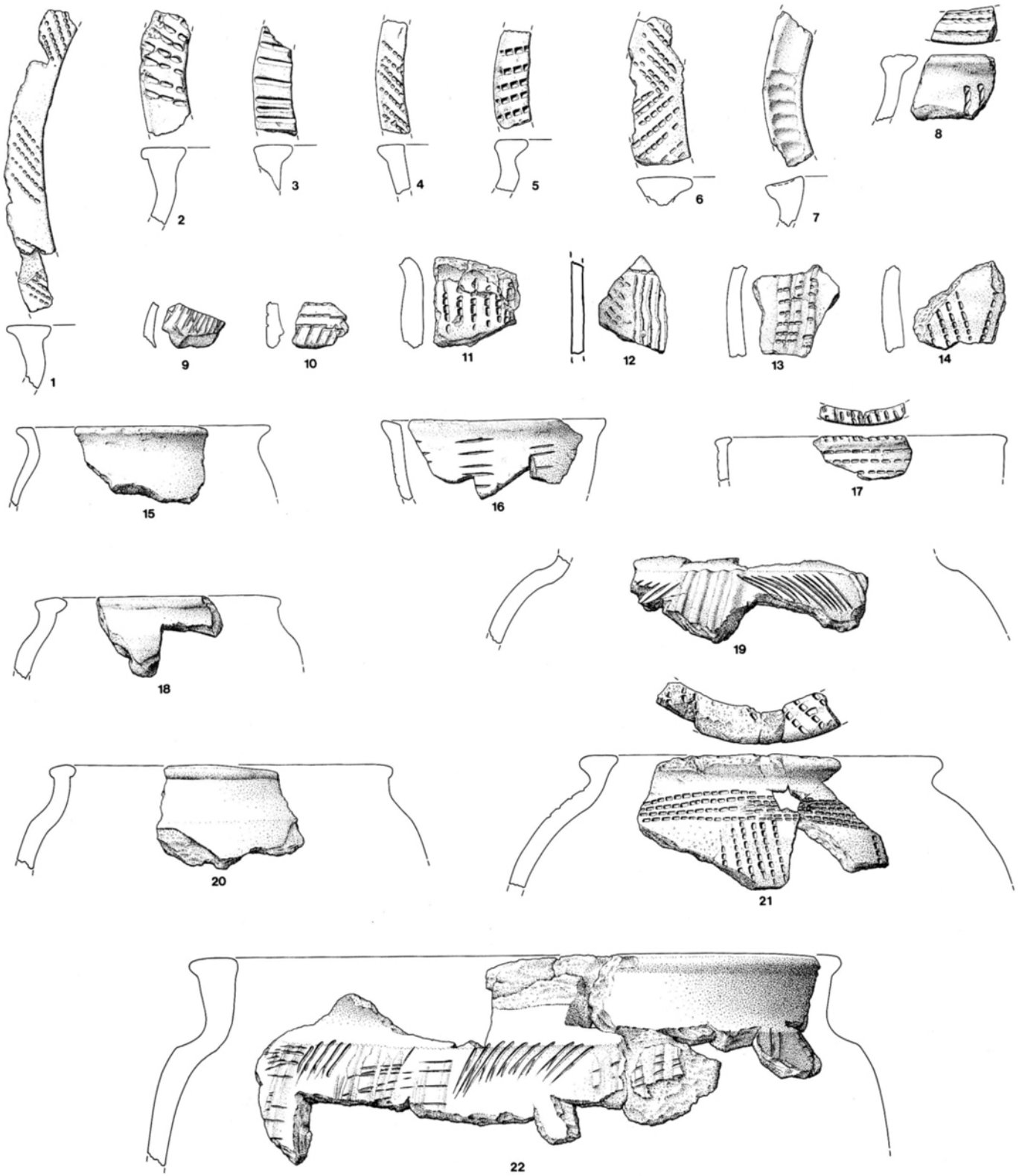


Fig. 12. Vindum Skovmark. Pottery. Drawn by Orla Svendsen. 2:5.

ment have the curved-profiled beakers with cordlines in common. The rest of the settlements (*Skinderup*, *Vindum Skovmark*, *Nr. Lundgaard*, *Nr. Borris*, *Hvolris* (the younger settlement), *Østerbølle*) belong to the time of the straight-walled beaker, that means the second part of the Ground Grave Period and the Upper Grave Period (the type continues in LN).

Curved-profiled beakers, straight-walled beakers and round-bellied beakers known from the graves also constitute important pottery-types at the settlements. It is worth noting, however, that while the curved-profiled beakers and not least the straight-walled beakers seem to dominate in the grave finds, the round-bellied pots are generally very common at the settlements.

There are relatively many sherds of straight-walled beakers represented at *Nr. Lundgaard*, while the round-bellied beakers are prevailing at *Vindum Skovmark*. Whether this has a chronological significance is unclear.

Thickened rims are present in all six finds. In some finds, like *Vindum Skovmark*, the T-formed rim is a dominating feature. For the moment it is not possible to define the time of T-formed rims more precisely than to the Upper Grave Period (and the beginning of LN).

Ornamentation in dentated spatula technique is present in all six finds belonging to the time of the straight-walled beaker. Decoration in different techniques like cardium impressions, applied bands, plain spatula incisions, and cordlines is present at some of the settlements, but apparently not at all of them. The relative frequency of the patterns may have some chronological significance, which for the moment is unclear.

The pattern on the round-bellied beaker with dentated spatula impressions from *Østerbølle* probably suggests a late dating since almost the same motive seems to be present at the LN-settlement at *Tastum* (Simonsen 1982, fig. 7,1). This may give a late dating also for the *Vindum Skovmark* find, where this motive also is represented. (This accords also well with a probable source of inspiration in beakers like the Dutch Veluwe beakers with metopes, see below). As a late feature in *Vindum Skovmark* a beaker (probably belonging to the straight-walled type) with vertical rows of short horizontal lines a bit below the rim should also be mentioned. A round-bellied beaker with fragments of a characteristic hanging triangle motive (dentated spatula technique) probably suggests a dating to the middle or the later part of

the Upper Grave Period for the *Nr. Borris* settlement.

It is worth noting that settlements from the older Under Grave Period were not represented. Regular settlements from this phase have so far not been found in other parts of Jutland either. A recent find, however, must be mentioned. A circular house found beneath a barrow at *Lustrup* dated to the very early Single Grave Culture has recently been excavated (Rostholm 1982). It was about 11 m in diameter and a dark culture layer containing worked flint, potsherds and charcoal was partially preserved. This find is from an area of Central Jutland where some of the oldest battle axes in EGK-graves are found.

In *Glatstrup*, about 60 km North of Lustrup, the situation is already different. Apart from finds from *Kobberup* (Becker 1954: 73) it is the time of the D/E axes, which constitute the first clear period of the Single Grave Culture in the area. In *Salling*, the peninsula North of Glatstrup, no battle axes of type A–D are recorded by Glob, while the E-type is well represented. The number of battle axes of EGK-type is so large that it does not seem probable that the distribution will be changed significantly by future finds (4).

Probably the Funnel Beaker Culture (TRB) existed in this area until the gradual take-over by the Single Grave Culture. In certain coastal regions the TRB-settlements seem to contain some tools of the north-eastern so-called Pitted Ware Culture as an integrated part: flint arrowheads of type A–C and cylindrical cores (Becker 1982). This is documented by the *Kainsbakke* settlement (Rasmussen 1984) which has several arrowheads of type A, cylindrical cores, and a pottery which is based on a TRB tradition both in the shape and in the ornamentation of the pottery (5). Radiocarbon dates from another settlement (*Kirial Bro*) in the same area show that it is contemporaneous with the Under Grave Period (Rasmussen and Boas 1982: 113).

POTTERY DEVELOPMENT AND FOREIGN INFLUENCES

The absence of an elaborately documented, pottery-based chronology is an obstacle for a detailed dating of the settlements. However, the classification and chronology of the pottery suggested by P.V. Glob still has a value on the general level. The EGK-pottery was divided into 15 groups: A–E curved profiled beakers, F globular pots, G bowl-shaped pots, H Beakers (many

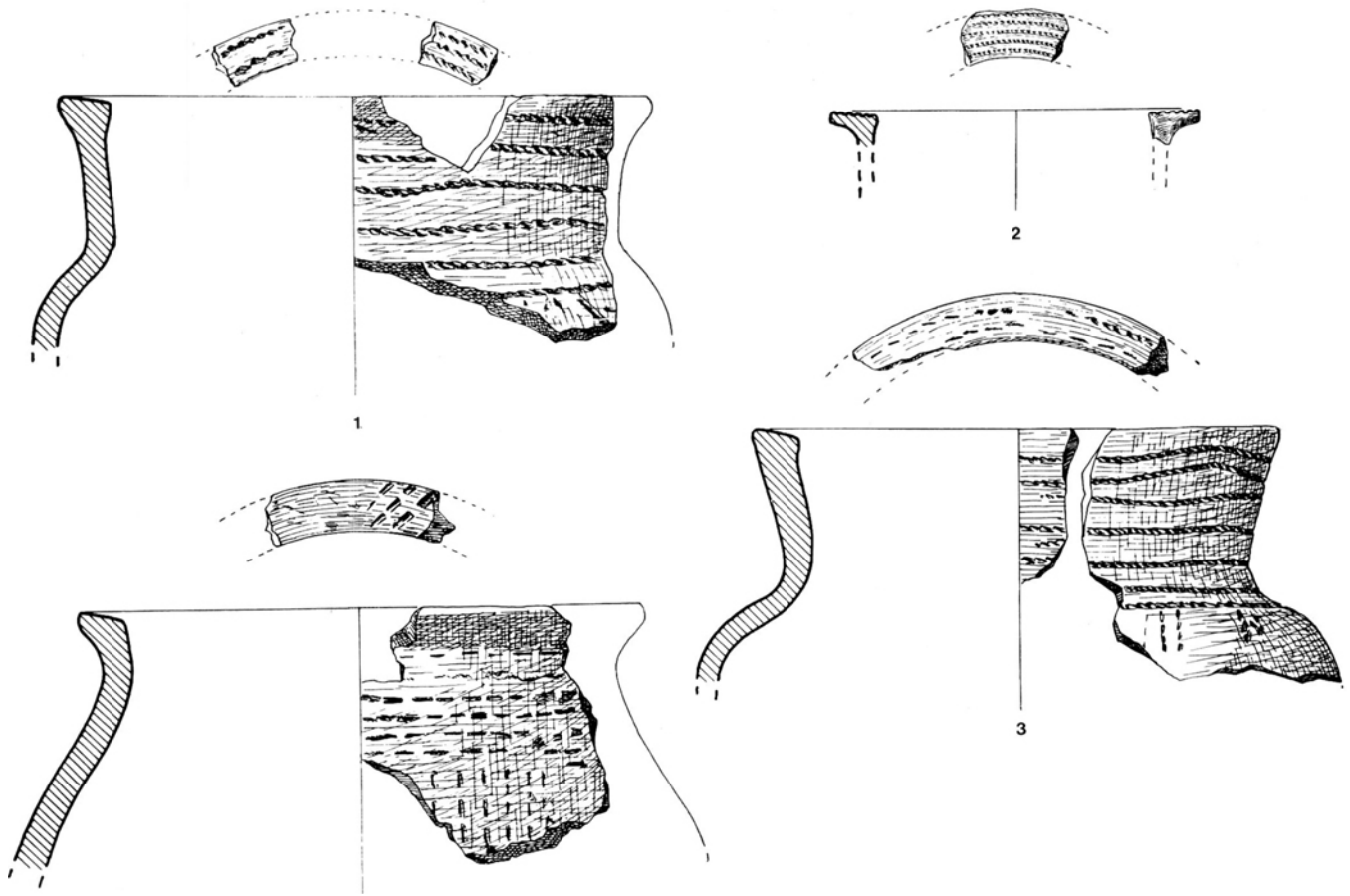


Fig. 13. Østerbølle. Pottery. After Becker 1957, drawings by Henning Ørsnes. 2:5.

straight-walled) with hollow collar, I round-bellied beakers, K–P (except K_{1-2}) straight-walled beakers. Even though the study was carried out more than 40 years ago, only minor modifications have been made in Glob's chronology.

It is noteworthy, however, that the beakers of type B3 have found their correct context in a Late Neolithic milieu (Becker 1957). Recently it has been suggested that also beakers of types $E_2 - E_3$, $K_1 - K_5$ and some beakers of the P group should be dated to the Late Neolithic Period (Lomborg 1977; Ebbesen 1978).

It is not the idea here to discuss the views of pottery development and foreign contacts presented in classical works about the Battle Axe/Corded Ware Cultures by authors like Glob (1944), Struwe (1955), Malmer (1967), and Clarke (1970). The aim is only to give a brief survey of the recent studies of importance for understanding of the chronological development of EGK-pottery in Jutland and to stress the fact that the

European pottery may be of great value in establishing an EGK-chronology.

The development of the beakers in the central and north European continent and in the British Isles is interesting in relation to the Jutland pottery. According to the radiocarbon dates, the phenomenon "Bell Beaker Culture" (now considered by some archaeologists not as a separate culture but constituted by a cross-cultural movement connected with social status (Harrison 1980: 14) was introduced after the first third of the lifetime of the Corded Ware Cultures and chronologically covers the last two thirds (Pape 1979). There is no doubt that several changes in the shape and ornamentation of the Jutland pottery have a connection with the development in the areas mentioned.

After the first relatively uniform horizon of the cord-ornamented beakers, many later changes in pottery forms and ornament seem more or less to follow similar lines of development, most likely due to a well estab-

lished network of contacts in these parts of Europe. In Jutland the introduction of the herringbone pattern (apparently in the late Under Grave Period), and later of dentated spatula decoration (apparently in the late Ground Grave Period) seem to be in close contact with the Continent.

The publication "Beaker Culture relations in the Lower Rhine Basin" by J.D. van der Waals (1976) offers a good comparative working basis from a chronological point of view. It is important that the grave forms and the grave rituals and not least the pottery and axes have proved to be to some degree related in the Netherlands and Jutland. It is also important that some of the types

of battle axes and flint daggers known from Jutland are found in combination with pottery in the Lower Rhine Basin and that some elements of the Dutch beakers occur on the Danish pottery.

The protruding foot beakers (PFB) seem to be contemporary with the Under Grave Period and a part of the Ground Grave Period (PFB-graves in combination with battle axes of Glob's type A-H). The All Over Ornamented beakers (AOO) seem to be contemporary with the Ground Grave Period (AOO beaker in combination with a battle axe of Glob's type H). The partly later Maritime Beakers seem to be contemporary with later parts of the Ground Grave Period and parts of the

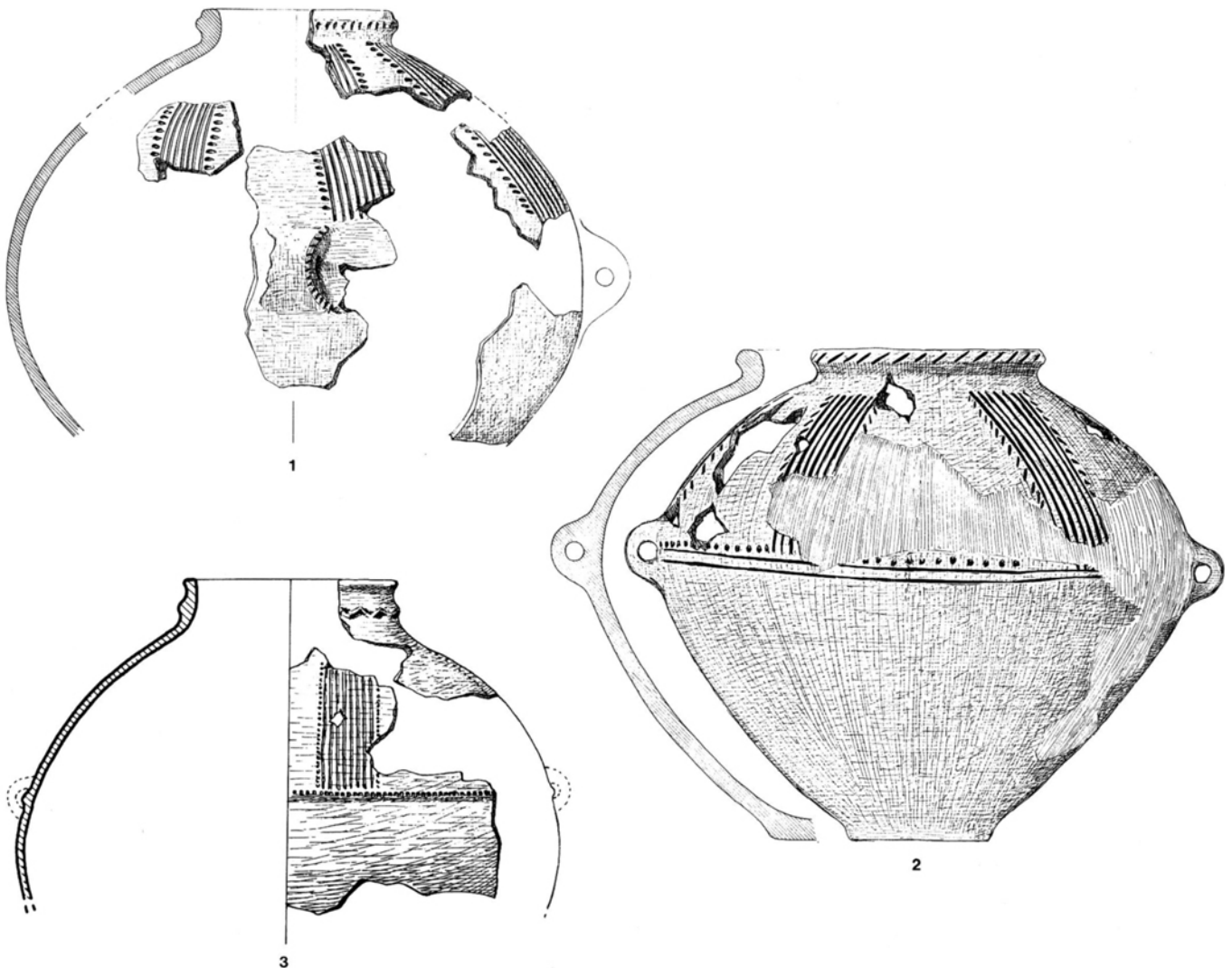


Fig. 14. Amphorae from Vroue (1), Kokholm (2), and Dollerup (3). After Jørgensen, 1977; Davidsen, 1976; Becker, 1957; drawings Henning Ørsnes. 1:5.

Upper Grave Period (combination with a Glob type K₁ axe).

The later stages of the beaker-development, Veluwe Beakers, take place during the Upper Grave period and the Late Neolithic Period A (LN A) and maybe LN B (Veluwe Beakers in combination with battle axes of Glob's type K₄, flint daggers of type 1 (Lomborg), and maybe type 2 (Lanting and van der Waals 1976: 12 ff).

In an article about influences of Bell Beakers and later beakers it has been suggested, that there are two horizons with beaker influence in Denmark (Lomborg 1977). The first horizon brings influences from the true beakers (and maybe the partly older AOO beakers) in the Ground Grave and Upper Grave Period. The second horizon brings influence from later beaker developments.

The straight-walled beaker has a characteristic development in Jutland from about the middle of the Ground Grave Period through the Upper Grave Period to the beginning of the Late Neolithic Period. It has been suggested that this beaker maybe has its origin in the lower Oder areas (Brøndsted 1957: 306 f.). It has also been suggested that the straight-walled beaker is generated from pots of bark. The ornamentation of these beakers, however, seems to have contact with the continent both in style and technique.

The development of the straight-walled beakers in SW-Jutland has recently been studied by M. Hansen (1986). Their development is divided into 3 phases (OI, OII, OIII) based upon falling index values between length and height of the vertical angle ornaments. Also straight-walled beakers with horizontal angles can be attributed to each of these phases. In each phase there are dominating additional features like unthickened rim (OI), thickened rim (OII), furrow technique (OI) and dentated spatula technique (OII and OIII). The phases are documented through combinations with pottery, battle axes and through stratigraphical finds. M. Hansen mentions that this development is in accordance with the changes of angle-motives both in the Swedish-Norwegian Battle Axe Culture and in Central Germany.

An example of the European contact in the ornamentation of straight-walled beakers is mentioned by L. Hvass (1986). The very common motive (horizon III see below), horizontal lines under the rim combined with zig-zags below, is referred to as a parallel to the Central German Mansfelder Style.

In her study of the pottery chronology L. Hvass has established 5 pottery horizons (I, IIa, IIb, III, IV) independent of Glob's system and occupying to the entire Single Grave Culture (and the beginning of the Late Neolithic). This paper represents the first serious step in establishing a pottery-based chronology. Methodologically, the horizons are based on the combination of selected ornamental details with different shapes of pots, and supported by combinations with pottery and battle axes, and through stratigraphical evidence.

The bowls which have a rich development, especially in the Ground Grave Period, have been carefully studied by L. Hvass. As an Example (horizon III) a bowl from Viborg County, ornamented with rows of spatula incisions under the rim and with some wavy lines on the side, is compared with the Central German Schönfelder-Ammensleben group.

Two characteristic types of EGK-pottery are the amphorae and the beakers with short-wave moulding. They have not been found at the settlements from Viborg County. When found elsewhere, they are often considered to belong to the settlement-pottery. The amphorae (fig. 14) (possibly belonging to the Under Grave Period) also have European counterparts, with nearest geographical parallels in Lower Saxony (Davidson 1976). The beakers with Short-Wave Moulding, which for the moment are difficult to date precisely (Becker 1956, Andersen 1983, L. Hvass 1986), have European parallels too.

CONCLUSION: REGIONAL POTTERY CHRONOLOGIES

Within the Danish or Jutish area it is not possible to speak of a common development. Within the Single Grave Culture it is evident that some areas in Jutland quite readily adopted the new influences from the continent while some other areas in the initial period were more conservative and maintained traditions from the preceding cultures in contact with northern/eastern areas of Scandinavia. Parts of NW-Jutland seem to be a sphere of interest for both the Single Grave Culture and the Pitted Ware/Funnel Beaker Culture in this period. The tendency that Jutland can be divided into ceramic regions continues in the later phases of the Single Grave Culture; thus for instance the pottery of the Vi-

borg area has its own character compared with neighbouring regions.

To cope with these problems it will be necessary to work out regional chronological systems. The basis for such systems would be to work out chronologies in which the pottery development is paramount. The pottery from the settlements, which are more representative of the total variation in pottery than the grave finds are, is important. In order to follow up this line of argument it would be necessary to publish already existing material from museums and private collections.

In the examples mentioned above it has been shown that there is reason to believe that the development of EGK-pottery in Jutland should not be considered as an isolated phenomenon, but as a part of a European development, and that this may be a valuable help when working out pottery-based chronologies.

Also the excavation of new settlement-finds should be given priority. Many settlements with finds belonging to the Single Grave Culture have been recorded, and it seems to be very common that the settlements are on sandy ground on terraces near fresh water (lakes, rivers, brooklets). The excavator will very often have to face another typical characteristic of the Single Grave Culture: that the settlements are usually small and very few remains of things like pits and postholes survive.

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Acknowledgements

For friendly assistance I am indebted to Niels Andersen, John Berthelsen, Mogens Hansen, Lone Hvass and Svend Nielsen. I would also like to thank the excavators Jesper Hjerminde, Mette Iversen, Jens Jeppesen, Jens Aarup Jensen, Hans Langballe, David Liversage, Jytte Nielsen and Peter Seeberg for their interest and for permission to use unpublished material.

NOTES

1. See for instance Seeberg 1968, the section fig. 3, top, where a dark layer without potsherds separates the upper culture layer from the lower culture layer. For details of the excavation see this publication.
2. Among the finds from the settlement is an triangular arrowhead probably of D-type.

3. J.Aa. Jensen points out that it may possibly be interpreted as a kind of dump-layer (pers. comm.). Notice that "Nr. Lundgaard" is identical with the settlement "Fur" in Jensen 1972.
4. In some areas the distribution of the EGK-graves does not seem to be geographically representative. Thus in Salling the grave-finds with battle axes seem to be over-represented on former heath areas (Simonsen 1982).
5. The question of cultural identity of "The Pitted Ware Culture" in Denmark has recently been discussed in several articles after the paper by C. Malmros (1979). He suggests that the term Single Grave Culture should also comprise the Pitted Ware Culture. It is not possible to agree with this view, see for instance the argumentation by S. Nielsen 1982.

REFERENCES

- ANDERSEN, S.H. 1983: Kalvø – A Coastal Site of the Single Grave Culture. *Journal of Danish Archaeology*. 2.
- BECKER, C.J. 1954: Die mittel-neolithische Kulturen in Südsandinavien. *Acta Archaeologica*. 25. Copenhagen.
- 1956: Coarse Beakers with Short-Wave Moulding. *Proceedings of the Prehistoric Society*. Vol. 21, 1955. London.
- 1957: Nogle keramikfund fra det jyske enkeltgravsområde. *Studia Neolithica in honorem Arne Åyräpää. Finska Fornminnesföreningens Tidskrift*. 58. Helsingfors.
- 1982: Om grubekeramisk kultur i Danmark. Korte bidrag til en lang diskussion (1950–1980). *Aarbøger f. nordisk Oldk. Hist.* 1980. Copenhagen.
- BRØNDSTED, J. 1957: *Danmarks Oldtid I, Stenalderen*. Copenhagen.
- CLARKE, D.L. 1970: *Beaker Pottery of Great Britain and Ireland*. Cambridge.
- DAVIDSEN, K. 1976: Single Grave Pottery from Danish Bogs. *Acta Archaeologica*. Vol. 47. 1976. Copenhagen.
- 1978: *The Final TRB Culture in Denmark. A Settlement Study*. Arkæologiske Studier Vol. V. Copenhagen.
- EBBESEN, K. 1977: Sikar og klokkebægerkultur. *Holstebro Museum. Årsskrift* 1977.
- GLOB, P.V. 1945: Studier over den jyske Enkeltgravskultur. *Aarbøger f. nordisk Oldk. hist.* 1944. Copenhagen.
- HANSEN, M. 1986: Enkeltgravskulturens gravmateriale fra Sydvestjylland. (In press).
- HARRISON, R.J. 1980: *The Beaker Folk. Copper Age Archaeology in Western Europe*. London.
- HATT, G. 1938: Jernalders Bopladser i Himmerland. *Aarbøger f. nordisk Oldk. Hist.* 1938. Copenhagen.
- HVASS, L. 1986: Keramikken i den jyske enkeltgravskultur. (In press).
- HVASS, S. 1977: A House of the Single Grave Culture excavated at Vorbasse in Central Jutland. *Acta Archaeologica*, Vol. 48, 1977. Copenhagen.
- JENSEN, J. AARUP 1973: Myrhøj, 3 hustomter med klokkebægerkeramik. *Kuml*, 1972. Aarhus.
- JØRGENSEN, E. 1977: *Hagebrogård – Vroue – Koldkur. Neolithische Gräberfelder aus Nordwest-Jütland*. Arkæologiske studier vol. IV. Copenhagen.

- LANTING, J.N. & J.D. VAN DER WAALS 1976: Bell Beakers in Continental Northwestern Europe. In: *La Civilisation des Vases Campaniformes*.
- LOMBORG, E. 1977: Klokkebæger- og senere Beaker-indflydelser i Danmark. *Aarbøger f. nordisk Oldk.Hist.* 1975. Copenhagen.
- MALMER, M.P. 1962: *Jungneolitische Studien*. Acta Archaeologica Lundensia, Ser. in 8°, nr. 2. Lund.
- 1975: *Stridsyxekulturen i Sverige och Norge*. Lund.
- MALMROS, C. 1980: Den tidlige enkeltgravskultur og stridsøksekultur. *Aarbøger f. nordisk Oldk.Hist.* 1979. Copenhagen.
- MALMROS, C. & TAUBER, H. 1977: Kulstof-14 dateringer af dansk enkeltgravskultur. *Aarbøger f. nordisk Oldk.Hist.* 1975. Copenhagen.
- MARSEEN, O. 1953: Fangstfolk på Selbjerg. *Kuml*. Aarhus.
- MATHIASSEN, T. 1948: *Studier over Vestjyllands Oldtidsbebyggelse*. Nationalmuseets Skrifter, Arkæologisk-historisk række, II. 1948. Copenhagen.
- MÜLLER, S. 1898: De jydske Enkeltgrave fra Stenalderen. *Aarbøger f. nordisk Oldk.Hist.* 1898. Copenhagen.
- NIELSEN, S. 1982: Den grubekeramiske kultur og stridsøksekulturen. *Aarbøger f. nordisk Oldk.Hist.* 1980. Copenhagen.
- PAPE, W. 1978: Histogramme neolithischer ¹⁴C-Daten. *Germania* 57. 1979.
- RASMUSSEN, L.W. 1984: Kainsbakke A47: A settlement Structure from the Pitted Ware Culture. *Journal of Danish Archaeology* 3. 1984.
- RASMUSSEN, L.W. & BOAS, N.A. 1982: Kainsbakke og Kirial Bro. *Antikvariske studier* 5. Copenhagen.
- RÖSTHOLM, H. 1982: *Oldtiden på Herring-egnen*. Herning Museum.
- SEEBERG, P. 1969: Hvolris. Et neolitisk kompleks. *Kuml*. 1968. Aarhus.
- SIEMEN, P. 1981: Enkeltgravshøje fra Redsted sogn på Mors. *MIV* 10, 1980. Viborg.
- SIMONSEN, J. 1982: En analyse af geografisk repræsentativitet i fund fra enkeltgravskulturen i et jysk regionalområde. *Om yngre stenalders bebyggelsehistorie*. Skrifter fra Historisk Institut, Odense Universitet, 30. 1982. Odense.
- 1983: A late Neolithic House Site at Tastum, Northwestern Jutland. *Journal of Danish Archaeology* 2. 1983.
- 1986: Nogle NV-jyske bopladsfund fra enkeltgravskulturen og deres topografi. (In press).
- STRUWE, K.V. 1955: *Die Einzelgrabkultur in Schleswig-Holstein und ihre kontinentalen Beziehungen*. Offa-Bücher 11. Neumünster.