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Larsson, Lars

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Lars Larsson

Summary

A survey to find coastal sites with possible cemeteries discovered find sites at Skateholm in southernmost Sweden. Many years of subsequent work identified a combination of occupation layer and interrelated cemetery at two sites, Skateholm I and Skateholm II. There is evidence of yet another settlement site combined with a previously destroyed cemetery – Skateholm III – and possibly yet another cemetery at Skateholm IX.

This article deals with other aspects of Mesolithic mortuary practice that are not usually considered, such as the grave pit and its form. Special interest is focused on the fill in the graves and the material found in it. The question of what can be perceived as grave goods and what are consciously or unconsciously added finds in the fill is discussed. The occurrence of carrion-eating animals such as wild boar meant that the graves must have been kept under constant supervision.

Introduction

The reason the find site at Skateholm came under investigation was the find situation demonstrated at Bøgebakken on the west coast of Zealand, where a cemetery was discovered on the slope above a Late Mesolithic settlement site (Albrethsen/Brinch Petersen 1977). It was by pure chance that the cemetery at Bøgebakken was found. The question was then whether the Bøgebakken phenomenon was anything other than unique. It would be possible, by the simple expedient of broadening the scope of the excavated area, to establish whether constructions existed not only in the form of graves, but also in the form of a range of other features which might equally contribute to our knowledge of the Late Mesolithic society.

A survey to find coastal sites with possible cemeteries discovered a find site at Skateholm on the south coast of Scania in southernmost Sweden. Years of subsequent work identified a combination of occupation layer and interrelated cemetery at two sites, Skateholm I and Skateholm II. There is evidence of yet another settlement site combined with a previously destroyed cemetery – Skateholm III – and possibly yet another cemetery at Skateholm IX (Fig. 1). Since the sites at Skateholm were discovered, several new sites with graves and cemeteries have been found. However, Skateholm is still the area which gives the best and most varied examples of how grave customs and mortuary practice are related to the Late Mesolithic society of southern Scandinavia (Larsson 1984; 1988; 1989; 1994; 1993; 1995).

The object of the Skateholm project was to study the Late Mesolithic settlements around an ancient lagoon. This was formed as a result of transgressions during the late Atlantic and early Subboreal (Gaillard et al. 1988; Lemdahl/Göransson 1988). The area which was the object of archaeological investigation and research comprises flat, low-lying terrain and was subject to changes in the relationship between land and water during the Late Mesolithic and Neolithic oceanic transgressions and regressions. At its greatest extent during the latest part of the Mesolithic and the Early Neolithic, the lagoon was almost 4 km long and about 1 km wide, more or less parallel to the present coastline (Fig. 1).

The oldest of the main sites, known as Skateholm II, is situated on the westernmost part of the southern slope of a raised area. During an early part of the Late Mesolithic period, this raised area was a long and narrow island in the shallow lagoon (Fig. 1). Twenty-two graves were found. As
its highest point was situated no more than 3 m above the present-day sea level, the site became completely submerged during a later phase of the Late Mesolithic. The site was abandoned at c. 5200 cal BC.

The Skateholm I site was situated on the southernmost side of a slope (Fig. 1). When the water level was 3 m above the present-day sea level Skateholm I was situated on a small spur of a roughly rectangular island. Altogether 65 graves have been excavated at Skateholm I, which is dated to a more recent part of the Late Mesolithic than Skateholm II (c. 4800 cal BC). Skateholm I was also affected by the rising sea, as attested by the absence of refuse layers, which have been completely washed away. Both are so far the largest Mesolithic cemeteries that have been excavated in southern Scandinavia. To avoid misunderstanding about the numbering of the graves, Arabic numerals were used for those from Skateholm I and Roman numerals for the graves at Skateholm II.

Several other Mesolithic sites were found around the perimeter of the ancient shoreline, and one – Skateholm III – was discovered only 300 m west of Skateholm I (Fig. 1). At Skateholm III skeletons are known to have been found in the course of gravel extraction during the 1930s. Several graves were recognised but just one was excavated. The Skateholm III site was located on the easternmost part of a long and narrow headland of sand. A radiocarbon date for the skeleton indicates that the cemetery at Skateholm III was younger than Skateholm I.

The research at Skateholm was concentrated mainly on the Skateholm I and Skateholm II sites. Studies of changes in sea level indicate that they were islands at the time of their settlement, and that the inhabitants were forced to leave them and move to higher ground after a few centuries. All three sites feature settlement remains as well as interrelated cemeteries. The sites were found within the compass of an area no greater than 300 m across.

Yet another site, Skateholm IX, situated in the eastern part of the lagoon, is of interest in this perspective (Fig. 1). The site is large and of about the same age as Skateholm I. However, due to restrictions by the landowner, the extent of the excavated area had to be limited. Parts of a pit with human bones have been excavated, indicating the existence of a grave and presumably a cemetery.

The cemeteries at Skateholm can be considered from a number of interesting aspects. In this context it will chiefly be aspects other than the buried individuals and the grave goods that will be considered. It should be borne in mind that mortuary practice does not solely concern the deceased and the gifts placed in the grave, but the whole chain comprising events and activities from the point when the individual was seen to be dying until the memory of the dead person had faded so that he or she was wholly integrated in the anonymous group of ancestors. Through the considerable number of graves found in Skateholm, it is possible to perceive tendencies, for example in the form of the grave pit.

**Digging the grave**

By no means insignificant in the investigation of the graves is the question of the manner in which the grave was planned, i.e. the practical work of digging the grave, placing the corpse in it and refilling. This aspect of burial proceeds from the modus operandi employed in the investigation of the individual graves. Although there are so many different ways of positioning the dead, it was, in the majority of cases, to remove the fill while leaving the contour of the grave intact. In most instances there was an excellent possibility of studying the construction method. The excavated grave was left open for at least a couple of weeks in order to facilitate a study of the erosion phenomena which often took place shortly after the grave had been re-dug.

An important factor in the study of how the graves were originally dug is that there was considerable variation in granular composition across the research area. A small number of graves were situated in an area of almost pure, loose...
sand. The majority, however, were buried in material consisting of a mixture of sand, gravel and pebbles. A distinct stratification of the various fractions is often documented, with horizontal or somewhat diagonal layers of varying thickness, reflecting the conditions of deposition underwater during the re-glaciation. In some cases this material was difficult to excavate, even with the use of steel trowels. A method of easing this work would obviously have been to initially loosen up the soil with the aid of strong, pointed sticks or antler hatchets and then shovel the material either with a spade, a large shoulder blade or the hands into some sort of container, of which the simplest form would have been a hide bag. Practical tests show that two people would have been able to dig a grave at almost the same speed as with the use of a modern spade.

No artefact has been found at Skateholm that can be identified with any certainty as a tool suitable for use in digging or scooping out a grave. Certain observations were also made in regard to the form of the graves, which indicate that mattocks were employed in digging them. Thus, some graves display a concave wall on one or both sides.

Another observation made in the investigation of the graves is that the great majority of graves were dug quite shortly before the actual inhumation of the deceased took place. The shape of the walls combined with the composition of the material into which the grave was dug indicates that only a short time passed between the digging and filling of the grave. One example is Grave 22, located in an area where the ground consisted of gravel, which repeatedly collapsed from the sides when excavated, in spite of all attempts to retain the original form. One explanation would be that the grave was dug during the winter when frost held the soil together. The upper part of some graves occupied a greater area than that taken up by the lower level of the grave. The irregular form and colour variation of the upper fill might indicate that the upper part of the grave was not filled in directly, and was consequently affected by erosion and sand drift or other processes caused by human activities.

**The grave pit**

In both cemeteries, graves with parallel sides and rounded ends are the most usual. The round-oval shape is somewhat less common, while graves with a clearly-marked rectangular or trapezoidal shape are much fewer. In a small number of cases a layer of fine sand was added to the bottom before the body was placed in the grave.

There is considerable variation in the length of the grave, from 1 m to 3.1 m. This variation can partly be explained by the position in which the body was placed. Graves with a length between 1 m and 1.5 m contain the remains of individuals placed in either a crouched or a sitting position. Those interred in a supine position required a grave at least 1.6 m long, all depending on age and build. On the other hand, there is no great variation in the width of the grave.

Quite a number of graves have a length out of all proportion to the space required by the corpse. The clearest example is Grave 33, which, moreover, is one of the deepest graves recorded (Fig. 2). A space measuring as much as 0.8 m lies empty at the foot of the grave, in spite of the fact that the head of the interred was forced up against the head of the grave – and at an awkward angle. No colouring or finds indicate that the »empty space« had any special function. The body had been placed in prone position and the
skull showed traces of scalping (Ahlström 2008). In another grave, Grave 59, the human remains were badly preserved. However, tooth enamel and small fragments of bones show the location of the body. An empty space of about 0.5 m in front of the body included a pit filled with black soil, containing molars of wild boar and red deer along with a number of fish bones.

Fifty-seven per cent of all graves have a depth of less than 0.3 m. Graves shallower than 0.1 m constitute 6%. Only one grave has a depth of 0.8 m. There were shallow graves located close to deep ones. There is some difference in depth between different kinds of graves. Those containing dogs are usually shallower than the human graves. Grave depth refers to the distance between the point at which the feature was first documented and the highest level at which undisturbed earth is encountered beneath the burial. This certainly cannot be claimed to represent the original depth of the grave. Aeolian processes may have caused accumulation but to an even greater extent reduction of the level of the ground surface, compared with the level from which the grave was originally dug. Later agrarian activities have also removed a layer, as some graves had been destroyed by ploughing. If we consider those graves that were found below occupation layers then we find that the depth of the graves was between 0.70 and 0.90 m. One has to be aware that a body placed in a sitting position extended at least 50 cm upwards from the floor of the grave.

In a small number of graves the floor of the grave corresponds to a markedly horizontal layer of small stones. There are other examples, which show that a layer of stones was broken through in order to achieve the desired, or required, depth. The fact that a stone layer occurs at a level intended to constitute the floor of the grave may, however, have been exploited in order to obtain a level, stable foundation.

As regards large cemeteries like Skateholm I, the problem of grave markers must be considered. In Skateholm I there is only one case of a grave having been dug straight through another. On the other hand, there are a couple of cases where a grave cut into an earlier one without damaging the interred. This may be pure chance, but it is more likely to have been a deliberate intention to place a later grave in relation to an older one. The diffuse marking seen when several graves were first observed is a hint that the grave was not originally completely filled in. It may thus have been visible on the ground for some time after the burial.

At the time of the burial, there may have been some form of marking, as exemplified by a grave at Dragsholm where fragments of a red deer antler suggest that it was sticking up above the surface of the ground (Brinch Petersen 1974). Another form of marking could be that the surface of the grave was covered with stone. The problem is that almost all graves in southern Scandinavia are found in areas which have later been cultivated, destroying any markers. An area that lacks this secondary damage by agriculture is northern Sweden, where precisely this form of stone covering has been documented on top of Late Mesolithic graves (Halén 1994). The limited number of stones in the filling in Skateholm in relation to surrounding layers may be an indication that the surface of the grave was enclosed or covered with stones. If so, they were small stones.

Containers for the dead

In the course of excavation, attention was paid to identifying and documenting traces of possible containers for the dead. Just a few examples were found. In Grave IV marked soil discolouration was seen already above the level of the skeleton forming parallel lines that ended at a point above the head (foreground).
the skeleton, ending at the level of the feet (Fig. 4). The discolouration has been interpreted as the stern part of a canoe. In the excavation of the submerged site of Mollegabet II in southern Funen a grave was found consisting of part of a canoe, which had been anchored at some depth in the waters in front of the settlement (Grøn/Skaarup 1991; Skaarup 1995). A marked soil discolouration was also identified in Grave XX, forming a rectangular frame around the burial, probably made of planks (Fig. 5).

As regards soil discolouration, small darker areas of different shapes have been identified. Some might be remains of some kind of wrapping around the body, for instance made of bark. Others are probably remains of containers. Other organic materials might have been placed in graves. Samples were taken for pollen analysis and examined for flowers, but nothing was preserved.

Grave 20 consisted of a pit, about 2 m in diameter and with a depth of more than 1.5 m. A small amount of cremated human bone was found at the outer edge of the pit. The shape of the feature corresponds to a huge posthole. One cannot avoid drawing parallels with the mortuary poles of the North American Pacific coast (Malin 1986). These poles had a cavity in which the cremated bones were placed. That huge poles might have been of ritual significance is suggested by the large postholes found close to Stonehenge and dated between 9200 and 8100 BP (Allen 1995).

The fill of the grave

The fills of the graves vary considerably, from fills that can hardly be distinguished from the surrounding material to fills similar to an occupation layer. In no case did the fill correspond to the original layers of the location where the grave was dug. The sand and gravel were mixed. However, the amount of stone in the surrounding layers was larger than in the fill, showing that some kind of sorting of the fill had been performed, affecting the stones. Could it be that these stones were finally placed at the top of the fill to mark the grave?
Another aspect of the grave fill which deserves to be discussed further is the presence of artefacts in the fill that cannot be directly related to the burial as primary grave goods. The colour of the fill is usually related to the amount of artefacts – the larger the number of artefacts, the darker the fill. The number of flints per unit of volume of fill – in this case per cubic metre – has been calculated in order to obtain a usable measure of relative artefact content. Waste in the form of splinters has been excluded from this calculation, since these can vary in number from grave to grave for reasons relating to excavation technique. The range of variation is from one to 2990 artefacts per cubic metre. It is clear, however, that a distinct pattern can be discerned. Predominant are graves with fewer than 100 flints per cubic metre of fill, after which the number of graves falls off until we reach 350 flints per cubic metre. Just a small number of graves have a denser content of flints. There is a tendency that graves in the uppermost part of the cemetery have a larger number of flints than those further down the slope. Graves with a high number of flints can lie close to graves with a small number.

The frequency of artefacts in the fill has previously been regarded as a yardstick for estimating the extent of the occupation layer and its density in that particular area at the time of burial. Graves with an insignificant frequency of artefacts may, for example, indicate that at the time they were dug, the graves were located within an area that constituted the periphery of the settlement, while graves with a higher artefact content indicate that the area in which these were situated had been, or still was, a zone of activity within the settlement area. This would thus mean that adjacent graves with markedly different numbers of artefacts in the fill would be separated in time and that those graves with the greatest number of artefacts would be the younger ones. One would also in such cases expect to find a comparable difference in the colour of the fill.

Although the majority of graves have a homogeneous fill, there are graves with a markedly heterogeneous mixing of colour and finds. One such example is Grave IX. Within a 0.2-m-thick zone at the periphery of the grave, the fill corresponded to the colour of the occupation layer. It also contained a large number of artefacts. In the central part the fill is made up of light sand with a small number of artefacts. The inner part of the fill corresponds to the surrounding sand. This division must be deliberate and the different kinds of fill must have been separated by skin or bark. In this grave as well as in other graves the grave fill is genuine occupation material that was intentionally placed in the grave.

The fill of Grave XV (Fig. 6) contained the highest number of artefacts recorded within the two cemeteries. All artefacts, including those of organic material, were measured in three dimensions. Figure 7 shows all artefacts within a 0.3-m-wide section within the centre of the grave and along the long axes of the grave and of the burial. Within a 0.3-m-wide zone no artefacts were documented. It is the same for the head area. Within an area from the skull to the knees almost no artefacts were registered. However, a large number of artefacts was found at the top of the fill and down to and beside the lower extremities. This also means that it is uncertain how two artefacts found by the left foot should be perceived – as grave goods or as part of the fill. The fill of the grave was built up in separate stages. First, artefact-free sand was laid down behind the head and covering the body. Later the rest of the grave was filled with another material. Another possibility is that some of the original artefact-free material was dug up and replaced with occupation material. The position of the artefacts, more than half lying at an angle of 30 degrees or more to the horizontal plane, indicates that the material has been disturbed.

The question is whether this is material from the occupation layer close to the grave at Skateholm I. The reason for this question is that the fill of the graves includes a number of bladelets that, according to the date of graves and the grave goods, should not be represented in the occupation material. There are very few examples in the occupation layer, but a considerable number in the grave fills. This might mean that the occupation material was removed from an older site and used as grave fill at a site several centuries younger.

Problems concerning the interpretation of objects as grave goods

An example was cited above from Grave XV where it was uncertain whether two flint artefacts should be perceived as grave goods or as belonging to the fill. There are several other finds in the fill where the relationship to the interred should be considered.

Animal bones are found in the majority of grave pits where flint artefacts are also present. The bones are, however, extremely fragmentary in most cases, or else very badly preserved. Both conditions render positive identification difficult, for the most part. It can, however, be said that the bone finds in some grave constructions – such as Grave 33 – distinguish themselves greatly from most others by virtue of their numbers. Other graves whose fills contain a large amount of flint artefacts by no means display such an abundance of bone material. Here, however, it must be said that a source of error may be present, namely the preservation conditions, which naturally do not affect the graves’ mineral content. In so far as there are considerable differences in the degree of preservation of the interred themselves, it is reasonable to expect a similar degree of decomposition of the animal bone content in the fill. This agreement between low profiles for bone in the fill combined with a badly preserved skeleton is well-documented in the Skatelholm graves.

This source of error appears, however, to be of minor significance in the majority of graves. Even the opposite circumstance may be present, where an object relative to a badly-decomposed skeleton may be interpreted as a grave good, even though its presence in the grave can have other connotations. A prime example is Grave 13. This contained the non-anatomically-correct remains of a mature male. Certain of the skeletal parts were reasonably well-preserved, while others were in an advanced stage of decay. An arrowhead was documented in conjunction with a partially-decomposed section of the pelvic bone (Fig. 8). In spite of the fact that the bone-section relative to the arrowhead was in a state of dissolution, it could nonetheless be identified as a comprehensive mass and the arrowhead’s relationship to
this could be clearly established. It had sat wedged in the pelvic bone. It might very well have been interpreted as grave goods in a situation where the degree of decomposition was more advanced and where the arrowhead’s relationship to the skeletal parts could not be as well-documented as in this case.

Yet another difficult case concerns the find of a bone point in Grave 34. This was found beside the interred’s right rib-cage region and lay somewhat obliquely in relation to the axis of body length. Certain parts of the point were wholly decayed, but it was nonetheless possible to document that some of its sections lay underneath the level of the ribs. This observation gives rise to alternative explanations for its presence. Its position may suggest that it represents an arrowhead or pike with which the man was killed and which was allowed to remain sitting in the wound. On the other hand, it is also possible that the point was deposited in the form of a grave good in the region of the right chest. The process of decomposition may well have had the effect of allowing the point to penetrate between the ribs, so that we, today, might draw incorrect inferences.

Examples also exist where the relationship between finds of organic material and the interred should be questioned. These apply primarily to those whole or fragmentary bones encountered along with the interred. As an example we may take the half of a mandible of a grey seal that was encoun-
tered adjacent to the female’s shoulder in Grave 3. A number of graves with bones more or less close to the interred contain nothing which is traditionally regarded as a grave good.

Another group of finds that gives interesting insight into mortuary practices, and is relevant to the discussion of what can be classified as grave goods, is fish bones. These are found in the fill of several graves. Fish bones from graves have been noted in three different find contexts – in the skeleton area, as concentrations close to the interred and in the grave-pit fill.

Concentrations of fish bones have been observed especially in the lower part of the fill, but without direct contact with the interred. The position of bones is governed by an intentional act at the burial, but it might in some cases be a result of processes active before, in conjunction with and after the burial. If the person ate fish before death, the bones might have ended up in different positions depending on the time interval between the consumption and the time of death. The food remains in the fill could originate from feasting activities related to the mortuary practice. The feasting might have taken place hours, or days, after the death during a time interval of liminal existence for the interred. In a small number of graves fish bones as stomach content as well as deposition close to the body have been identified. In most cases the composition of species in both find categories of the same grave is similar (Jonsson 1986, Tab. 1). This might indicate that the same dish consumed by the dying person was later placed in the grave (Larsson 2002). Comparisons between the combination of fish from the stomach region, the depositions of fish in the grave and in the fill show few differences, but they are verified. In comparison with the finds from the occupation layers, some types of fish are not represented in the graves, such as cod, dab, mackerel, garfish and wels (Jonsson 1988). They represent saltwater species as well as freshwater ones.

Wild boar and graves

When dealing with primary and perhaps secondary disturbance of the fill, yet another factor should be taken into account, namely the activities of animals in the surroundings. This may be exemplified by an interesting experiment. An archaeologist who also owned a farm with enclosures for wild boars dug a number of pits varying in depth from 0.6 to 1 m (Rausing 1991). In each he carefully placed a beef steak without touching the walls of the pit. In order to register whether red ochre was of any significance, three meat parcels were covered with this material. The digging took place in March. Eighteen days later the shallowest pit had been emptied of its contents. After less than three weeks all the pits were empty. No special smell could be documented, because it was early spring, with a temperature of about five degrees.

The finds in the occupation layers show that wild boar was frequently hunted in the Skateholm area (Jonsson 1988). In today’s environment in southern Scania there are considerable populations of wild boar close to settlements, and they cause great damage in fairly well built-up areas, despite intensive hunting and the presence of dogs. It seems unlikely that wild boar during the Mesolithic would have failed to intrude on settlement sites and cemeteries if they had the opportunity. This indicates that the graves had to be protected for several weeks, if not months, after they were filled in. Even if the people living at Skatetholm left the site.
during certain parts of the year, the presence of wild boar and other carrion-eating animals must have required that some people stayed on to protect the graves.

Conclusions

Many years of subsequent work identified a combination of occupation layer and interrelated cemetery at two sites, Skateholm I and Skateholm II with altogether 87 graves. There is evidence of yet another settlement site combined with a previously destroyed cemetery – Skateholm III – and possibly yet another cemetery at Skateholm IX.

Aspects of Mesolithic mortuary practice that are not usually considered, such as the grave pit and its form, provide interesting features such as empty spaces in the grave pit and the depth of the pit. Special interest is focused on the fill in the graves and the material found in it. There is a marked difference between the numbers of flint artefacts in some graves. In a number of graves the fill was built up in separate stages.

The question of what can be perceived as grave goods and what are consciously or unconsciously added finds in the fill is discussed. The occurrence of carrion-eating animals such as wild boar means that the graves must have been kept under constant supervision.

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Address

Lars Larsson
Department of Archaeology and Ancient History
LIUX
Lund University
Box 192
221 00 Lund
Sweden
Lars.Larsson@ark.lu.se