

## *The Bog Find from Sigersdal*

Comment by the excavator

by SVEND TH. ANDERSEN

In August 1949 the author examined for the National Museum a human skeleton found by peat diggers in Sigersdal Mose near Veksø, northern Sealand. Various other objects including a second skeleton found by the peat diggers were also saved for the museum. A detailed account was deposited at the National Museum. The author had at that time been trained in bog geological and excavation techniques at the then Bog Laboratory of the museum, whose leader was J. Troels-Smith. The find was not examined further.

It is to be welcomed that the Sigerdal find has once again been brought to the light of day and placed in its context with other finds (Bennike and Ebbesen 1987). There was at the time of the investigation little doubt that the excavated skeleton belonged to the early neolithic. This has been confirmed by the radiocarbon dating (Bennike and Ebbesen 1987).

The author gave in his account a detailed description of the position of the various parts of the excavated skeleton (skeleton 'A' by Bennike and Ebbesen), supported by photographs, plan and sections, descriptions of the sediments and an explanation of the position of the body. Unfortunately this information was not used or was misinterpreted by the above mentioned authors (Bennike and Ebbesen 1987). The misinterpretation appears immediately if one compares the figures 4 and 7 in that article. According to the excavator's drawing (fig. 4), the right foot stuck deep into the sediment, whereas the reconstruction in fig. 7 shows head and feet lying on the lake bottom at the same level. Based on the reconstruction these authors assume that a dead individual was lowered into the lake and that the highest parts of the body disintegrated quickly due to contact with the open air. These bones could then have become displaced by current or "the displacement of the bones may have been caused by ice or faults in the bog". (p. 88). Why the bones from other parts of the body lying in the water were not displaced is not explained. This new interpretation by Bennike and Ebbesen (1987) casts doubt on the origin of the body as a human sacrifice. It might in that case just as well be that of a person who drowned accidentally or died from natural causes and was then put into the lake. The circumstances

under which the skeleton was found leave no doubt that the skeleton represents a human sacrifice; however, in order to elucidate this, a thorough description of the sediments and the position and preservation of the various skeletal parts is necessary.

Two sediment columns from the vicinity of the find were described, one near the finding place of the lugged vessel (see fig. 3 in Ebbesen and Bennike 1987), and one at 0,65m south of the cranium. The pertinent sediments were lowermost light calcareous gyttja, above it brownish calcareous gyttja, and then a dark coloured coarse-detritus gyttja. The calcareous gyttja and the detritus gyttja were separated by a sharp erosional boundary, which was somewhat uneven. The skeletal parts occurred in all of the three sediment units mentioned above. Skeletal parts derived from the detritus gyttja were distinguished from those derived from the calcareous gyttja by a darker colour.

It was noticed that the bones from those parts of the body that were found in the calcareous gyttja were either in natural order (head and the neck, the upper part of the chest, the right arm and scapula, the left hand, the shin-bones and feet), or somewhat displaced (the lower part of the chest, and parts of the lower abdomen). The left part of the pelvis and the right thigh were also displaced. They were later partly uncovered by erosion of the calcareous gyttja (see figures 1 and 2). To one of these groups also belongs the left arm, which had been removed by the peat diggers. This shows that those parts of the body which were not lodged in the calcareous gyttja were somewhat displaced during the formation of the upper part of that sediment. Skeletal parts found in the detritus gyttja (manubrium, sacrum, some vertebrae and a rib) were further displaced (see figures 1 and 2). To this group also belong some bones removed by the peat diggers (some ribs and vertebrae, the left half of the pelvis and the left femur). The interpretation of these observations must be that parts of the body sunk into the calcareous mud were protected against displacement, whereas other parts were somewhat displaced during formation of the upper part of the calcareous gyttja. The left part of the pelvis and the right thigh were partly uncovered by erosion and then incorporated in the detritus gyttja, whereas other bones were further displaced. There is no evidence that parts of the body or the sediments were ever exposed to the air or subjected to movement by faults in the bog.

An understanding of which skeletal parts were in a primary position and which were later moved is necessary for a reconstruction of the original position of the body and how it was placed in the lake. In this connection it is crucial to notice that the right foot and shin-bone stuck into the light calcareous

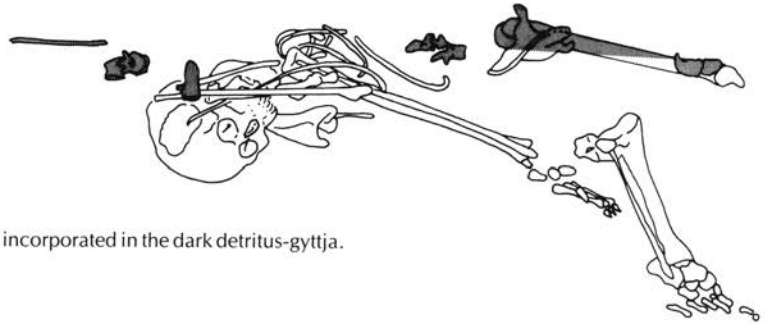


Fig. 1. Excavation drawing of the skeleton from Sigersdal showing the vertical position of the bones. Black: Skeletal parts incorporated in the dark detritus-gyttja.

gyttja 20cm below the head, whereas the left foot was placed beneath the upper part of the right shin-bone (figures 1 and 2). Lumps of the brownish calcareous gyttja occurred in the light gyttja near the right foot; one of them actually under the heel-bone. The explanation must be that the individual was placed vertically in the lake and that the feet sank into the light calcareous gyttja, and pushed some of the brownish calcareous gyttja downwards. The individual then fell over on its right-hand side, whereby the left foot moved across the right knee and the left leg was bent up in front of the body (see fig. 2). During the fall, the right arm was bent upwards so that the hand was placed in front of the face. The left arm presumably fell on the chest, as parts of the left hand were found in the chest cavity. The head fell on its right side with the face partially downwards and sank partly into the mud due to its weight. During disintegration of the body, bones from its highest part (thighs,

the lower abdomen and presumably the left arm) were dislodged, spread on the lake bottom and incorporated in the brown calcareous gyttja and some of them were later spread further away and incorporated in the detritus-gyttja.

This sequence of events, which is fully documented by the position of the bones, indicates that the body of the individual was sufficiently strong to remain in a vertical position while the feet sank into the mud due to its weight. If the individual was dead and the muscles still flexible, the legs would rather have bent and the body have fallen over approximately in the position indicated in fig. 7 in Bennike and Ebbesen 1987. If *rigor mortis* had occurred, the feet could have been pushed into the mud with the body in a vertical position, however, the body could not have crumpled up in the way shown by the position of the bones, but would have fallen in a straight position on the lake bottom. It must be concluded, accordingly, that the live



Fig. 2. Excavation drawing of the skeleton in fig. 1 showing the horizontal position of the bones.

individual was placed in a vertical position in the lake and then met with sudden death, which caused it to fall on its right side. As there were no other foot tracks in the calcareous sediment, it can be concluded further that the individual did not walk to the place but was transported there, probably in a boat.

In the original report from 1949, the excavator suggested that the cause of death was a vigorous blow on the left side of the cranium, which produced the large lesion seen on Fig. 13 in Bennike and Ebbesen 1987. The skull itself was not investigated in detail by him, because the cranium was brought to the museum in an intact state and was later examined by others. As mentioned by Bennike and Ebbesen 1987, only a few splinters of bone occurred in the cranial cavity and a large piece of the tempolar region including a part of the cheekbone was missing. Bennike and Ebbesen 1987 conclude that the cranial lesion had been caused by the peat diggers using a fork and that the large missing bone fragment was removed by them. They also found that the edges of the lesion partly follow the sutures and that the lesion therefore was inflicted after death, and they maintain that a displacement of the jaw could not have happened before or shortly after death (p. 94).

At that time peat diggers did not use a fork, but rather spades or shovels, which could not have caused the indentations mentioned by Bennike and Ebbesen 1987. The peat diggers carefully saved all bones found by them including even very small specimens. It is therefore inconceivable that they should have discarded the large bone fragment from the skull. The effect of a vigorous blow on the cranium could easily have caused a dislodgement of a fragment along the sutures, as the individual was still quite young, whereas the indentations mentioned by Bennike and Ebbesen 1987 may or may not have been inflicted in recent time. The missing cranial fragment could have become displaced by water movement further away than other parts of the skeleton, and therefore not recovered during the excavation. The jaw was displaced by pressure of the sediments as its support on the chin-bone was missing. The present author therefore finds no evidence that the cranial lesion was not inflicted during life, but rather, that a blow caused the individual to collapse whilst standing with its feet sunk into the mud.

The present author therefore adheres to his original opinion that the individual was transported to the finding place in the lake and was sacrificed by a vigorous blow on the side of its head whilst standing in the water, probably by the side of a boat, which supported the killer.

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#### REFERENCES

- BENNIKE, P. and EBBESEN, K. 1987: The Bog Find from Sigersdal. Human Sacrifice in the Early Neolithic. *Journal of Danish Archaeology* vol. 5, pp. 85–113.

## Reply to a Review

by AXEL HARTMANN

*As an exception, the editors have accepted a reply to a review. Whether this is fairness or not, the reader will have to decide. We think, however, there is one good reason to publish the following comments by Axel Hartmann: they demonstrate the importance of a close cooperation between the archaeologist and the natural scientist, be it fifteen years ago, or at all times.*

In volume 4 of *Journal of Danish Archaeology* H. Thrane has reviewed my book "Prähistorische Goldfunde aus Europa II. Spektralanalytische Untersuchungen und deren Auswertung". I would like to comment on some points in this review.

It is obvious that as a natural scientist I cannot be expected to possess the whole specialized archaeological knowledge necessary to come anywhere near exhausting the potentialities for new insights latent in the results of the analysis of prehistoric gold objects. This is all the more the case when their geographical and chronological range is as wide as it is in the present case. It seemed therefore a very promising start when in 1970 I was able to embark in the company of H. Thrane and K. Randsborg on a study of the gold objects in the collection of the National Museum in Copenhagen. It hardly seems worth investigating today what reservations may later have arisen at the National Museum, but 1½ years after the agreement reached in October 1970, both colleagues abandoned the study of the Copenhagen gold – Thrane for fresh fields in Odense, and Randsborg to devote himself to other researches. Being aware of the difficulties that would arise, I wrote first to E. Lomborg requesting collaboration – unfortunately without success. After the National Museum in October 1974 made the astonishing suggestion that the analyses should be published without any Danish participation at all, I was lucky enough to get P.O. Nielsen to work through and check the already existing list of provenances on a private basis. This happily corrected a number of inaccuracies and mistakes. P.O. Nielsen is also to be thanked for many of the references to publications. As the National Museum was unable to provide either drawings or photographs owing to pressure of work on its photographic laboratory, I was obliged as a last resort to make use of the inadequate private working photographs in the publication – "a poor example of international collaboration" indeed, as Thrane remarks. However it is odd to hear such vigorous complaints about the volume's lack in archaeological weight coming from Denmark in full knowledge of the circumstances.

At this stage, however, it would have been an irresponsible procedure to abandon the project or leave the existing analyses unpublished, so I was forced to the decision of presenting the results attained, linking them together with a conclusion of the more general kind that was all I as a natural scientist without specialist knowledge was capable of. Obviously this is unsatisfactory for experts in Danish prehistory, for it leaves many important questions and problems untouched. The aim, how-