Counterpoint: Essays in Archaeology and Heritage Studies in Honour of Professor Kristian Kristiansen

Edited by

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BAR International Series 2508
2013
VIOLENT DEATH AND WETLANDS: SKELETAL REMAINS FROM GOTLAND

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Abstract: This article examines an overlooked area of research: the bog skeletons. The focus is on remains found in Alva Myr, a former wetlands area on the island of Gotland, Sweden. The results from osteological analyses of human remains are presented.

Keywords: Neolithic, Bronze Age, Iron Age, bogs, human remains, violence

Introduction

There is no find more enigmatic than that of the bog bodies. These human remains have achieved an iconic status and are known to a wider audience through the publications of, for example, Glob (1969) and Seamus Heaney’s poem (1973), ‘The Tollund Man’. Heaney captures the stillness of a human sacrificed to the goddess of the watery landscape and at the same time describes the social drama of violent action. The popularity of bog bodies has been long-lived, and can be seen in many publications, for example van der Sanden (1996), Asing and Lynnerup (2007), Fischer (2007) and Kelly (2006) or Manering and Lynnerup (this volume).

This paper draws on some of the initial results from two sister projects dealing with human remains deposited in waters in the Scandinavian area. The project Depositions of people in wetlands during the Bronze Age, with a particular focus on Southern Scandinavia is lead by Dr Sophie Bergerbrant, and studies an overlooked category in South Scandinavian Bronze Age research by focusing on human remains from wetlands. A number of oak-log coffins with human remains found in wetlands exist from the Early Bronze Age (1700-1100 BC), and there are also a number of human remains from all periods found in wetlands. It seems most likely that they ended up there for a variety of reasons. The project aims to broaden the discussion of the treatment of human remains in the Bronze Age, as there seems to be more variation than previously thought. The other project, lead by Dr Christina Fredengren, Tidens Vatten (The water of the times/ Human and nonhuman sacrifice in Late Bronze Age and Iron Age transformations), works to provide an overview of the Swedish human and animal remains deposits from wetary places and focuses on the periods from Late Bronze Age to the Viking period. With a basis in post-human theory, it investigates when the practices of depositing remains in water were common, who was deposited, how they were treated in life and death and how the relationships of the deceased with other human and non-human actors were expressed both in life and death. It focuses on the extent to which these deposits were different from burials on land. By investigating the networks of these individuals through a variety of laboratory techniques this study aspires to provide a meeting place for the Humanities and Science. The project will also explore commonalities between Celtic and Nordic traditions and draws on the project Islands of the Dead, which deals with human remains depositions and a re-reading of Celtic mythology dealing with death and water (Fredengren forthcoming).

Bog bodies have tended to be the main focus for research to the extent that bog skeletons have been left out. Pia Bennike distinguishes between bog bodies and bog skeletons, but has shown that this is often due to the conditions in bogs. Some bogs/wetlands preserve the skin while others are better for bone (Bennike 2003:39). The sole focus on bog bodies preserved as tissue has, according to the authors, led to a skewed understanding of the practice of the deposition of people in wetlands in prehistory. Ongoing studies in museum archives have shown that skeletal remains from wetlands have been noted from approximately 80 locations in Sweden (Fredengren 2011) and over 500 from Denmark (Ravn 2010). Due to a perceived lack of material, Sweden has not been a focus for research on bog body/skeletons to date, but this is something that this article intends to address.

This paper deals with a geographical area where the two projects intersect, the island of Gotland, located in the Baltic Sea on the east coast of Sweden (see Fig. 1). This paper will present some preliminary results and is based on osteological analysis and the results of an ongoing radiocarbon dating programme. The osteological analyses have been carried out by Dr Petra Molnar (the remains from Frigarsve) and Camilla Löfqvist (the remains from SHM 20224). Specifically, the paper deals with the case study from the area of Alva Myr, where the two projects physically coincide.

The map (Fig. 1) shows the location of human and animal remains depositions in wetlands on the island of Gotland that have been located so far in the collection of Statens Historiska Museum (SHM1). These range in date from the Middle Neolithic period to the Vendel period; the Roma myr, Stormyr and Lillmyr are not discussed here and will be dealt with further in the project Tidens Vatten.

Osteological method

During the osteological investigations, methods for age and sex estimation used were those presented in Standards (Buikstra & Ubelaker 1994). Traits for sex estimations were from the cranium and pelvis. Morphological traits for the age estimations were used from the pelvis (Buikstra & Ubelaker 1994) as well as dental wear (Brothwell 1981). Where possible, measurements were made of the long limb bones for stature approximations according to Trotter and Gleser (1952) and Sjövold (1990). Few bone elements were complete and therefore some measurements were estimated. Due to this, and to the fact that the two methods used produce slightly differing results, the statures should be considered as rough approximations.

1 All short forms SHM and a number show the objects/skeletons museums number.
Alva Myr

While the human remains depositions from this locality has been noted in various publications there has never been an overview of the material. The dating has been insecure and mainly based on artefacts associated with the remains. This is problematic, as relying on object associations only runs the risk of understating the multi-period nature of various depositional sites thereby underestimating their significance. While Alva Myr is best known for the Bronze Age oak-log coffin burial from Frigserve (Fleredus 1931), there were also other human bones retrieved from these general wetlands. These were found in a location described in the museum record as located c. 1200 m south-west of Rone church in the same bog as the coffin (SHM 20224). The remains were retrieved from a disturbed deposit located in what seems to have been a marl/mud layer (Swedish: kalkavja). Due to the association with artefacts found nearby the human remains which date to the Iron Age, the skeletal remains were registered as belonging to the Iron Age, possibly to the Migration period (c. AD 375-550). The artefacts found were a circular bronze clasp, an amber ring and eight beads of glass (SHM 20224). Our osteological analysis has shown that the remains derive from up to five individuals, four adults and a juvenile. The state of the bone such as colouring, condition and fragmentation indicated that the bone assemblage

Fig. 1 Location of Gotland and map of locations on the island with depositions of human and animal remains (Roma myr, Alva myr, Stormyr, Lillmyr).
could be divided into two groups, which is also supported by the radiocarbon dating, with what may be an earlier group of bone representing four individuals and a later deposition represented by at least one, better preserved individual.

**Neolithic (4000-1700 BC)**

The first radiocarbon date of one of the human remains from the collection of bones of SHM 2022 points to a much earlier period than the artefact depositions. The oldest dated deposition of human remains from Alva Myr belongs to the Neolithic period (3370-3090 BC) and consists of fragmented skeletal bones of an adult. This is an individual of indeterminate sex, with a slight possibility of being a female based on the measurement of the humerus. There are traces on the distal diaphysis of the left radius (lower part of the bone shaft) which possibly indicates gnawing (animal), but the preservation of the bone makes this hard to further estimate. If there are indeed traces of gnawing this suggests that the bones would have decayed in such a place where scavenging animals might have had access to the bone or easily could have recovered them from the soil. It is possible that this reveals a practice where these human remains were moved from a land location to a secondary position in a watery environment.

One individual was represented by a left clavicle, left and right humerus, radius and ulna. The remaining three individuals were represented by skull fragments, one tooth, vertebrae, clavicle, scapula, humerus, radius, ulna, ribs, hands, coxae, femur, tibia, fibula and feet with all the remains being in a deteriorated and fragmented condition. The analysis suggests that one of these individuals was a juvenile while one recovered tooth suggests the presence of an individual of 25-35 years of age. Some of the fragmented vertebrae exhibit traces indicating degenerative changes which might be associated with heavy work/activity stress. Two rib fragments displayed grey bone deposits and fine pitting possibly associated with a chronic respiratory condition.

There are no definite signs of violence or the cause of death visible on the bone fragments. However, one long bone fragment displayed a very questionable cut, the rough edges of the cut indicating probable postmortem damage. Further, the rather sharp and pointy appearance of a second long bone fragment might suggest it had been cut but this is very uncertain. A couple of bone elements displayed pointy depressions that suggest gnawing (animal), but as with the possible cut marks these traces are hard to estimate due to the very deteriorated condition of the bone.

**Bronze Age (1700-500 BC)**

In June 1929, while ploughing land that had recently been transformed from wetland to farmland, an oak-log coffin was found in Frisgarve (SHM 19099). The artefact dating suggests a PRI/PIII date (Floderus 1931; Hallin 2002:27). The find contained an almost complete skeleton. The osteological analysis showed that it was the remains of a man. The artefacts found in the coffin comprised a sword typologically dated to Montelius Period II and a fibula typologically dated to Period III (1300-1100 BC), and close to the tip of the sword was a smaller resin cake, however this was probably not its original position (Floderus 1931:284-287). The artefacts were removed and taken for safe-keeping before the archaeologist came to the site, although there were traces of patina on the bones from the bronze on the left side of the hip suggesting that the sword had probably been placed there (Floderus 1931:284). There are parallels between this burial and that of the more well-known oak coffins burials in Denmark. Unfortunately, the oak-log coffin has not been preserved (Bergerbrant 2007:18), so exact details of the coffin can only be studied from the drawings and photos taken by Floderus, nor is it possible to conduct dendrochronological dating. The majority of the Danish oak-log coffins date to a short period of 150 years, from the fourteenth and beginning of the thirteenth centuries BC (Christensen 1998, 2006:187; Holst, Breuning-Madsen & Rasmussen 2001:128-131; Jensen 1993:187-189). Hornstrup et al. (2012) has come with new chronological dates for the Montelius Bronze Age periods, based on radiocarbon dates from the Danish Bronze Age do they date the transition PRI/PIII period to c. 1360-1270 BC, indicating that the coffin from Frisgarve is contemporary with the Danish oak-log coffins. Despite the fact that it was found by a farmer and had been tampered with prior to the arrival of the archaeologist (Floderus 1931:285), one can see similarities with the more well-known male oak-log coffin burials (cf. Bergerbrant 2007: chapter 4).

The osteological analysis showed that there were several perimortem injuries present and these were investigated and recorded closely under the microscope. The calotte and the frontal bone were preserved from the cranium. All teeth from the lower jaw and two teeth from the upper jaw were present. There were no skeletal parts from the visceral cranium. The remains were relatively well preserved. A few vertebrae were found, some of which were discoloured with traces of green, indicating that an object of bronze had been placed in this area. The skeleton was that of a man between 40 and 50 years of age with an estimated stature of 168-175 cm. There were degenerative changes in the vertebrae, scapulae and sacrum including eburnation in the vertebrae. However, this is not an unusual trait in older individuals. The cranium exhibited both blunt and sharp force trauma. On the frontal bone was a healed rounded impression, about 1.5 cm, caused by blunt force trauma. Several sharp force injuries were noted on both cranial and postcranial skeletal elements. These are all perimortem cuts as there are no signs of healing. The cranial injuries consist of a fan-shaped cut-mark. The shape of the mark is consistent with a sharp cut into soft bone tissue with a sideways sliding and twisting motion of the cutting implement. It is located laterally and superiorly to the healed blunt force injury on the left side of the frontal bone. Further smaller cut marks are present in this part of the skull. On the inferior portion of the mandibular rami there are numerous slight cuts barely visible macroscopically. Further sharp trauma has been recorded on a rib, the humerus, tibia and clavicle. The rib shows cut marks as well as modifications with a sharp instrument on the inferior rim. This injury is consistent with the insertion and twisting of a sharp implement between two ribs, prizing them apart. The right humerus and left tibia show a cut/scrape injury each along the posterior mid-shaft. Both are between 10 and 12 cm long. The cut on the clavicle was also placed posteriorly on the shaft.

Both Floderus (1931:288) and Lindsten (1933:321) mention the now lost oak-log coffin found in Aaseberga, Västergötland as a parallel to this find. This find was judged as Early Bronze Age by Hildebrand due to its similarities with the oak-log coffins from Borum Eshøj. The coffin contained a skeleton, textile remains and a chip-box3 (Hildebrand 1879; Floderus 1931: 288; Lindsten 1933: 321). That it is unusual in the context of oak-log coffins from the Bronze Age found in wetlands is true, however it is not as uncommon as Floderus and Lindsten believed. There is

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3 Unfortunately a search for this oak-log coffin, skeleton, textile or chip-box in the museum has not produced results, despite the fact that it has a museum number, SHM 6366.

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for example an oak-log coffin with skeleton found in a bog in Hagestadts mosse, Scania, but unfortunately the finder immediately returned it to the bog so we have no further datable information about this find (Bergerbrant 2007:14). There is also a find from Hove å, Zealand, Denmark, of an oak-log coffin containing a skeleton that has been radiocarbon dated to the Early Bronze Age. There are number of skeletons from bogs that might fit into this category, some which have been found in connection with coffins or boats from Denmark, but more radiocarbon dating needs to be conducted (Bergerbrant ongoing work in Depositions of people in wetlands during the Bronze Age). Lindsten (1933) has discussed burials in oak-log coffins in wetlands, arguing that this is probably a secondary burial of the deceased as a way to hinder him from returning from the dead (Lindsten 1933:331).

It is difficult to compare this group of depositions to the oak-log coffins found in the mounds prior to being studied in greater detail. It seems that most burials in mounds have been in oak-log coffins even if we have evidence of burials containing half oak-log/half planks, i.e. Charlottenlund, Gentofte parish (Aner & Kersten 1973: cat. nr. 366B). The existing ones that are fully preserved, some with complete clothing (see for example Boye 1896; Broholm & Hald 1940; Bergerbrant 2007), have been found in special circumstances. The mounds were built in a special way that created an iron-pan that locks in water, creating a waterlogged environment (Holst, Breuning-Madsen & Rasmussen 2001). It could be said that the mounds performed a function similar to that of deposition in a bog. At this stage, however, it is impossible to say if this was intentional or happened by chance. It is possible that it was a conscious choice to slow down time and decay for these special burials.

What makes Frigsarve special, separating it from the known mound burials, except for its place of deposition, is the clear evidence of trauma, both the healed trauma and the cut- and scrape marks on the skeleton. This might indicate that these are the remains of a man who was a warrior or who was possibly still active despite belonging to an older generation in the Bronze Age. These either indicate a violent death or some kind of body treatment, such as de-fleshing. It is difficult to make a fair comparison with the mound burials for two main reasons: first, we have very few burials with preserved bones, and secondly, most of the skeletons were studied a long time ago when evidence for trauma was not investigated in the same manner as it is done now. Therefore, modern studies on the mound material might change this picture. However, to our knowledge there is no dry-land burial with any evidence for scrape marks from this time period. The smaller resin cake presents an interesting connection between burials and wetlands. In Southern Scandinavia a number of resin cakes have been found in bogs, and these are often found in groups of two to six, and are round with a whole in the middle. In Early Bronze Age burials smaller pieces of resin cakes are sometimes found (Broholm 1944:133). It is therefore interesting that a complete resin cake was found at Frigsarve (Folderus 1931:284), as this group of find is normally connected with wetlands.

\footnote{K-6301 3020±85 BP (1392-1191 BC) (Arkæologiske udgravninger i Danmark 1994:282).}

Fig. 2 The oak-log coffin found in Frigsarve, Alva Myr. Photo: Floderus, ATA.
Iron Age

The second radiocarbon date from the collection of SHM 20224 indicated a death in the Vendel period (AD 610-770). The remains from this individual, an adult female, were both more complete and better preserved than that of the earlier/Neolithic group and also included both scapulae, right clavicle, both humerus, radius, ulna, coxae, femur, right tibia and bones from the left hand. As in the case of the human remains at Frigsarve this person had been exposed to violence.

The skull was dark brown in colour, which indicates that it derived from a wetland context. It was fairly complete but missed visceral/facial bones, teeth and lower jaw. Traits on the skull suggested this was a female. Age could only be estimated from the sutures of the skull as no teeth were recovered, thus giving a wide age span of 28-44 years. The examination of the skull revealed several intriguing marks. Mostly fine, short and narrow cuts on the frontal bone and both parietals but also a more substantial cut running from the left parietal, across to the suture to the right parietal. These cut-marks could be interpreted as the result of scalping. The sharp cut and the ‘flaking out’ of bone along the edges suggest this was done in fresh and/or soft bone, suggesting it might have occurred perimortem or later/post-mortem but in still soft and moist bone.

Aside from the cut-marks on the skull there were further, but more inclusive, indications of cuts. At least two of the right and two of the left rib fragments looked like they had been cut from the interior but not all the way through and then the fragment was broken off. It seems to have been done with a rather blunt instrument as the edges appear chipped. It is a very vague and uncertain interpretation to suggest these fragments might have been cut. On the left scapula, at the inferior angle (posterior), are a few very thin, fine, shallow possible cuts. However, when viewed through a microscope these cuts are difficult to determine. The distal end of the left ulna displayed a sharp, straight cut across the boneshaft following the curve of the bone. The sharp cut, the straight edges and the ‘lifting’ of the bone along one edge suggest this was done in ‘fresh’ or soft bone. The other human remains from SHM 20224 have not been radiocarbon dated yet, but these three individuals show no definite and conclusive signs of violence and are therefore left out of further discussion.

Discussion

The remains from Alva Myr show some common traces despite the wide separation in time. The Neolithic cranium could only be aged to adult but the two others discussed here all belong to the adult/mature category. Due to the fact that we only have one more or less preserved skeleton, it is difficult to see other common traits, such as height etc. However, two of the remains (Ffrigsarve and the Iron Age skeleton) both exhibit interesting similarities.

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Fig. 3 Alva Myr: cuts and modification with a sharp instrument on the rim of a rib. Photo: P. Molnar.

1 Ua-44019 Sk39.5, FID 785746 1364±30
in after-death treatment. Both crania show signs that indicate scalping or possibly de-fleshing. The Frigsarve wounds are not as numerous as might be expected. A possible scenario is a partial, ritual defleshing act, maybe part of a ceremonial activity and/or part of a burial ritual. As shown above traces of violence can be seen on some of skeletons found in the Gotlandic bogs. They include both traces of warfare and possible ritual actions.

The Frigsarve skeleton also displays other types of trauma, possibly sustained during combat of some kind, that healed during the person’s life. Is there other evidence that connects warfare with wetlands? The most famous victims of warfare/raids from the Bronze Age all come from multiple burials, such as: Wassenaar, Netherlands (Louwe Kooijmans 1993; Smits & Maat 1993) and Sund, Norway (Fyllingen 2003, 2006) or from pits on/near settlements such as in Wallburg von Stillfried an der March, Austria (Lochner 1994:216ff). There are sites of single male skeletons that are dated to the Bronze Age without any associated features or artefacts found in connection with different forms of former wetlands from the Early Bronze Age such as Kräkerøy, Norway (Holck 1987:37f), and from the Late Bronze Age, the man from Granhammer, Sweden (Lindström 2009:356-362), Everöd, Sweden (Molnar & Bergerbrant in prep). The Scandinavian examples, however, seem to have more varied reasons and life histories that this, and a single explanation cannot apply to all of them. For example, the Granhammer man does not seem to have left this life voluntarily, as there are many traces that he did his best to defend himself (Lindström 2009:356-362). These seem to have been single individuals who ended up in wetlands after a violent end. In the Irish material, depositions of males are particularly common in the Late Bronze Age. The deposition in wetlands could be seen as a ritualized act as it is separated from the more common burial practices where the corpse was cremated and disposed of in token burials. However, the boundary between what was a death resulting from a sacrificial act and final combat may not be clear. These individuals were adults, which shows that they would have lived and functioned in society for a longer period of time. One possibility is that they were warriors who no longer functioned in their role and could not be given ordinary funerary treatment, but due to their persona and role in life had to be given an unusual, yet honorable, ending (Fredengren forthcoming). On the other hand we have the newly excavated sites of Tollense, Mecklenbug (Janzen et al. 2011; Krüger et al. 2012) that seem to hold the remains of one or a numbers of battles from a short time period in the Early Bronze Age, and the site Alken Enge, Denmark (Holst & Hertz 2012) which is a site with skeletal remains from another probable battle, this time dating to around the birth of Christ. These, however, all differ widely from the oak-log coffin found in Frigsarve. Both Tollense and Alken Enge are on a completely different scale from the other sites mentioned on Gotland. The Bronze Age individuals from Kräkerøy (Holck 1987:37f), Granhammer (Lindström 2009:356-362), and Everöd are similar in all being of single males of a mature age (none seems to be under the age of 35 and some could be as old as 60 years old). The majority of the people in Tollensen (Jantzen et al. 2011:424-425) and Alken Enge (Sellevold et al. 1984: 139, 245-247) seem to be younger males, even if a few exceptions exist within the material. The wetland deposit of human remains which seems to indicate a larger scale conflict seems to be mainly of younger males, even if both women and children exist in the material (Jantzen et al. 2011:424-425), and this is well in line with the dry-land find of mass burials, where both men, women and children have been found at Wassenaar (Louwe Kooijmans 1993; Smits & Maat 1993), Sund (Fyllingen 2003, 2006) and Wallburg von Stillfried an der March (Lochner 1994:216-219), where we find all of these categories buried. This differs clearly from the known single individual Bronze Age wetland skeletons which all seem to be male of a more mature age. The Frigsarve oak-log coffin appears to be very much in accordance with the skeletons found in Kräkerøy, Granhammer and Everöd concerning sex, age and the violent end, but differ in that this man has been given a burial that in many ways is very similar to the mound burials. He has been placed in an oak-log coffin, given his fibula and sword as well as a resin cake, and probably underwent some kind of bodily burial treatment before his final deposit.

The remains from the collection of SHM 20224 may be the result of a series of different events. At some stage the Neolithic remains were moved from a keeping place on land, either in a megalithic tomb or they were left to decay on open ground for an unknown time before being deposited in the wetlands, indicated by the traces of gnawing. At some stage these skeletal parts were assembled with the artefacts and Iron Age remains in the bog, as discussed above these comprised the remains of an adult, mature female that could have been subject to partial or complete de-fleshing. This example points to a distinct interaction with human remains and the possible re-use of remains from earlier time-periods in the Vendel period. Recent contract excavations at, for example, Ströja in Norrköping have revealed four skull fragments found outside a hall building. The radiocarbon dates indicate death dates in around AD 700 and 800 (Hjulström 2012). Awaiting the final publication of the dates and find, these suggest a rough contemporaneity with the find from Alva Myr.

It is not uncommon that a bog or a wetland contains human remains from an extended time period. For example, this can be seen in Vimose, Denmark, a site that is most famous for its Iron Age war booty sacrifice, although less well known is the fact that 5-6 skulls have come from the bog, one of which dates from the Early Bronze Age and the rest from the Iron Age (Pauli Jensen 2008), and Skedemosse, which has remains of c. 38 individuals, some of which show traces of violence. Fourteen of these have been radiocarbon dated and the results range from the pre-Roman Iron Age to the Viking period (Monikander 2010: 86-88). Together the material points to an intriguing variation in the treatment of the dead during this part of the Iron Age, where violence directed towards a dying person or a corpse were important aspects. Human bone was used to build up relations, both with the wetland landscape, with central places, as well as with materiality from other time-periods, and these practices require further exploration.

Conclusion

This area around Alva Myr has received depositions of human remains dating to a minimum of three different periods. The oak-coffin burial seems to be most intact. One possibility is that the wetlands have been a traditional location for the placement of both human remains and artefacts, albeit the sequence of dates provide a series with large time-gaps. Another possibility is that the human remains, particularly the collection in SHM 20224, were deposited assemblages that contained human remains from earlier burial(s) that were composed with heirloom artefacts. What has been shown here with the special case of Alva Myr, but also with the added examples, is that there are human remains deposited in wetlands from all prehistoric time periods. Most of these can be classified as bog/wetland skeletons. Comparing this with the new dendrochronological dates from the Danish bog bodies, which in contrast have a much smaller time range, they all seem to date to the pre-Roman Iron Age (Mannering et al. 2010). This shows the importance of detailed studies and a radiocarbon
programme to date these skeletons for us to better understand this phenomenon. Some might have drowned or been the victims of violence, while others may have been sacrificed. It is therefore urgent and essential that meticulous studies should be undertaken to elucidate this overlooked material.

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