

The (De)Parted

Fragmentation and Redeposition of Human Bone in Viking Age Graves

Frida Espolin Norstein

Abstract

Viking Age graves across Scandinavia and the Scandinavian settlements in Britain, Ireland and Iceland frequently contain fragments of human bone that do not belong to the primary dead. Disarticulated, fragmented or redeposited, these additional remains have long been dismissed as traces of accidental disturbance. Drawing on evidence from over 85 graves across 23 sites, this article demonstrates that such bone was deliberately incorporated into new funerary contexts, and considers where it came from, how it was treated and what this reveals about Viking Age understandings of personhood and the body. The comparable treatment of human and animal bone – cremated and uncremated alike – suggests a practice less concerned with individual identity and more interested in the properties of bone as a substance and its capacity to act as a transformative material within the funerary sphere. Yet identity was not always irrelevant: in some cases, fragments appear to have retained a personal connection. The article argues that depositional context was central to ontological status. The boundary between person and material was not fixed in advance, but actively produced through the ways remains were treated, placed, and reused.

Keywords: Viking Age, mortuary practice, human bone, personhood, redeposition, fragmentation

Corresponding author: Frida Espolin Norstein, Stockholm University, Sweden
frida.espolin.norstein@ark.su.se | <https://orcid.org/0009-0002-7430-8895>

Published online: 29 July 2026

© the Author. This is an Open Access article distributed under the terms of the Creative Commons 4.0 International licence (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Norstein, F.E. 2026. The (De)Parted: Fragmentation and Redeposition of Human Bone in Viking Age Graves. *Current Swedish Archaeology*. Vol. 34 pp. 13–36. <https://doi.org/10.37718/CSA.2026.01>

Introduction

This study examines how fragments of human remains were incorporated into Viking Age graves alongside the newly dead, and what this practice of reuse reveals about how the boundary between persons and materials was understood, negotiated and produced through mortuary practice. The material examined spans Viking Age graves across Scandinavia and the Scandinavian settlements in Britain, Ireland and Iceland.

The presence of human bones in graves is hardly surprising – on the contrary, it is often seen as a prerequisite. Burial practices, and the graves they result in, are fundamentally concerned with managing the human body after death. However, in a number of cases, graves contain what is here referred to as *additional bone* – disarticulated, fragmentary or redeposited elements of other humans that have been incorporated into a burial (Puolakka 2020). The deposition of these remains differs from more conventional double or multiple burials in that they do not contain two or more equal interments, but rather remains that have been treated in different ways within the same grave. The additional bones occur as single elements, small clusters or dispersed fragments which are placed in the fill, beside the body or within the grave construction. Such deposits have often been interpreted as accidental results of ‘disturbance’ from earlier graves – a term used here only in that historiographical sense, since it carries assumptions about the integrity of graves and the proper treatment of the dead that may not have been shared in the Viking Age. This study explores examples of burials that suggest deliberate inclusion or reuse of bone rather than accidental displacement. While these contexts differ from typical multiple burials, it remains possible that they should be understood as graves containing more than one person.

Viking Age funerary practices are famously diverse (e.g. Price 2008), with varied use of cremation and inhumation from region to region. Cremation was more common in the eastern parts of Scandinavia, while inhumation was more prevalent further west, particularly in the overseas settlements in Britain, Ireland and Iceland (Norstein 2024). Yet neither category is internally consistent. In cremation burials, the body might be burned on-site, leaving the remains in a cremation layer on the ground. In some cases, parts of the cremated bone were then gathered into urns or other containers. Alternatively, the cremation may have occurred elsewhere, with the remains later deposited in pits, layers or containers. Some burials included ashes and charcoal along with bone; others consisted only of selected bone fragments. Burnt animal bones are also commonly found in cremation graves, indicating that animals were placed on the pyre alongside the deceased, and their remains were likewise collected and buried (e.g. Gräslund & Müller-Wille

1992; Price 2008, 2020). In contrast, inhumation graves typically contain primary burials of complete bodies. However, there are also examples of dismemberment before burial, in addition to cases where graves were reopened and parts of the body removed.

Based on the presence of additional bone in Viking Age burials, the research has three aims. The first is to evaluate whether the inclusion of additional bones should be understood as intentional deposition or the result of accidental disturbance, and what this reveals about the reuse of older graves. The second is to assess the possible origin of these remains, in order to improve our understanding of who they could have belonged to. The third is to consider how these remains were treated – including their correspondence with the treatment of animal bone – and what this suggests about how disarticulated and fragmented human bone was perceived in the Viking Age.

The article takes as its starting point recent theories on the ontology of mortuary remains and the relational nature of personhood in the Viking Age. It then reviews previous research on additional bone in Viking Age contexts, before examining the use of such remains in relation to their placement, treatment and likely origins. The discussion draws these strands together to consider how the reuse of human bone shaped the status of fragmented remains, as well as exploring the deliberate reuse of human and animal bone and what this reveals about distinctions between persons, bodies and materials in Viking Age mortuary practice.

Bodies and personhood

Recent archaeological scholarship has increasingly focused on the ontology of the body – how physical remains produced through different funerary practices were created and treated, and could in turn shape practices (e.g. Appleby 2013; Fahlander 2020a; Rebay-Salisbury 2017; Rebay-Salisbury et al. 2010; Sørensen & Rebay 2008). Cremation and inhumation, while often conceptualised as binary categories, are not uniform or mutually exclusive practices (Lippok 2020; Nugent 2017; Rebay-Salisbury 2015). Both encompass significant regional and contextual variation, a point especially clear in the highly diverse burial customs of the Viking Age. Each produces different material conditions: cremation immediately fragments the body, enabling its redistribution or transformation; inhumation preserves the body in a more recognisably human form, though one that remains accessible and subject to intervention over time (Appleby 2013; Brück 2017). These different practices afford distinct possibilities for interaction with the material remains of the dead. The variability in treatment of human remains

– whether preserved, dismembered, cremated or retrieved – raises important questions about how these remains were perceived. Did they retain the identity of persons, or were they reinterpreted as something else – ritual matter, relic, ancestor or object?

The concept of personhood is central to this discussion. In archaeology, personhood has increasingly been theorised as relational and variable across time and space, demonstrating that who and what can be considered to be a person is not constant (Fowler 2004, 2016; Harrison-Buck & Hendon 2018). Even within the same temporal and geographical area, there could be different and sometimes conflicting ideas of how bodies were viewed and what it meant to be a person (Robb & Harris 2013). Within Viking Age archaeology there have been discussions relating to the ways in which bodies were intertwined and interacting with other beings and materialities, creating different types of bodies and persons (Back Danielsson 2007; Ratican 2024). There have also been discussions of the personhood of animals (Hedeager 2010), as well as of the potential personhood of artefacts and their role in shaping the personhood of people (Klevnäs 2016; Lund 2017; Sayer et al. 2019). Most relevant to this study are those cases in which human remains themselves – especially in fragmentary form – appear to have been actively used in a range of settings. Eriksen's (2017, 2020) research is particularly relevant here, since she has argued that not all humans in the Viking Age were necessarily regarded as possessing personhood and that some human remains functioned as animated matter rather than representations of whole individuals. Similarly, Back Danielsson (2007, 2008) has demonstrated that cremated human and animal bone was sometimes used outside the context of formal burial and was imbued with transformative or regenerative properties. These studies suggest that personhood in the Viking Age encompassed a broad spectrum and also raise important questions about whether all humans and all human remains were considered as part of persons or possessed of personhood (Eriksen & Kay 2022).

Additional bones in previous research

The use of additional human bone in Viking Age graves has received limited attention within archaeology. Still, there are several important studies that have explored the significance of both cremated and unburnt bone beyond the primary burial, particularly in Denmark and southern Sweden.

In southwestern Scania, additional human bone in Viking Age graves has been extensively discussed by Satalecki (2014, 2016), who examines how complete bodies and more fragmented human remains related to one another, showing that both cremated and disarticulated unburnt bone

occurred relatively frequently in graves from the region. Cremated bone and other pyre-related materials are argued to foster kinship connections, being utilised by the living, but also serving to create relationships among the dead (Satalecki 2016:51). Moreover, fragmented human remains might not have been regarded as the remains of individuals, but as substances with a potentially transformative character (Satalecki 2014:62). Satalecki draws comparisons with Danish material, where the presence of cremated bone in inhumation graves has been noted at several sites, such as Køstrup (Lindblom 1993), Kjølvejen (Nielsen et al. 1985), Ottestrup (Eriksen 1992) and Lejre (Andersen 1995). It has even been suggested that the use of additional human bone was a relatively common occurrence in Viking Age funerary ritual (Lindblom 1993:148).

The use of burnt and unburnt remains in Viking Age graves has been discussed in further detail by Ulriksen (2011), who, based on analysis of the sites Trekroner-Grydehøj and Kirke Hyllinge Kirkebakke in Denmark, concludes that fragmented human bone was actively incorporated into Viking Age inhumation burials, most commonly in the grave fill. He argues that these were not incidental inclusions but deliberate, ritualised deposits. According to Ulriksen (2011:188–191), these remains may have functioned as companions or aids for the deceased in the afterlife, or perhaps played a part in ancestor worship. Deliberate deposits of additional bone – both cremated and uncremated – within inhumation graves are also known from Iron Age and early Medieval Finland, where it has been suggested as a method for making connections with the past and symbolizing kinship (Moilanen 2023:63), or possibly as a way of creating ancestry (Puolakka 2020).

Outside these regions, the presence of additional bone in Viking Age graves has received less attention, and has more often been dismissed as accidental. When discussed in more detail, such remains have generally been interpreted as evidence of human sacrifice (e.g. Eriksen 1992:187; Gräslund 1980:60; Strömberg 1968:39–40; Svanberg 1999, 2003:89, see also discussion in Satalecki 2016:49–50). Recently, Rundkvist (2025) has discussed the retrieval, use and deposition of skulls in Viking Age Scandinavia, arguing that many skulls in burial contexts may have belonged to enslaved individuals decapitated during the funerals of others.

Methods and material

The material considered in this study comprises Viking Age graves containing additional human bone – both cremated and unburnt – identified across Scandinavia, Britain, Ireland and Iceland. The examples have been gathered from secondary literature, published excavation reports and oste-

ological analyses. Southern Scandinavia is somewhat overrepresented, as the practice has been more frequently noted and discussed in this region. Beyond Denmark and Scania, sites were selected to provide a broader geographical spread. In addition to the southern Scandinavian sites discussed by Satalecki (2014, 2016) and Ulriksen (2011), I have reviewed Svanberg's (2003) catalogue of cemeteries from southern Sweden to identify further examples and have examined the well-documented urban cemeteries of Birka (Arbman 1943) and Kaupang (Blindheim & Heyerdahl-Larsen 1995), along with material from more recent rural excavations (see Table 1). Comparable, well-recorded cemeteries are lacking in Britain, Ireland and Iceland, and the examples included here have therefore been drawn from existing catalogues of graves compiled by Eldjárn and Friðriksson (2016), Harrison (2008), Harrison and Ó Floinn (2014), and Ratican (2024), supplemented by consultation of original excavation reports where possible. The practice is undoubtedly underreported, reflecting the uneven quality of documentation and the generally poor recording of human remains in many older excavations.

The analysis proceeds through close contextual reading of each burial, focusing on how and where additional bone occurs within the grave. Attention is given to the form and condition of the bone – whether cremated or unburnt – and its spatial relationship to other components, such as the primary body, the grave fill, artefacts or animal remains. These aspects are used to assess whether inclusion was deliberate or incidental and to explore how the treatment of additional bone relates to wider mortuary practices.

Certain limitations must be acknowledged, since identifying additional human bone in Viking Age graves is often difficult. Preservation conditions for unburnt bone are generally poor, particularly in parts of Norway and Sweden (e.g. Bryn et al. 2023; Wenn 2016). Moreover, many excavations were carried out in the late nineteenth and early twentieth centuries when osteological material was not always recorded, collected or retained (Blindheim et al. 1981:79). Larger unburnt fragments – such as skulls – are more likely to have been documented, whereas smaller pieces, particularly cremated bone intermixed with other remains, may have gone unnoticed. The difference between intentional deposition and accidental inclusion can also be difficult to determine in graves affected by later interference or in cases where the construction of new graves cuts through earlier ones. The examples presented here should therefore be regarded as a very conservative sample that highlights recurrent patterns rather than an exhaustive record of the phenomenon.

Over 85 graves with additional bone have been identified from 23 sites, with an additional 75 graves where the bones have not been osteologically identified to species. An overview of the sites is presented in Table 1. Details

of the individual graves containing additional human bone and additional unidentified bone can be found in the supplementary material, which outlines the archaeological context, the condition of the remains, associated material and possible interpretations.

Deliberate deposition and patterns of use

The presence of additional human bone in Viking Age graves is most often explained as the result of disturbance of earlier burials. While this may account for many occurrences, there are several cases in which such an explanation is unlikely. At Westness, Peel Castle, Balladoole, Claughton Hall, Skeiet, Gulli, Ljungbacka, Kirke Hyllinge Kirkebakke, Trekroner-Grydehøj and Køstrup, excavation reports and previous research have suggested that the deposition of bone was deliberate rather than accidental. In some cases, this is because cremated remains occur in inhumation graves with no nearby cremation burials from which they could be derived, as seen at Køstrup and Ljungbacka, while in other cases the additional bone was arranged or placed in distinct ways, as at Peel Castle, Skeiet and Gulli. Similar circumstances are found at several other sites where deliberate inclusion has not been explicitly proposed (see Supplementary Table 1). In these cases, the evidence therefore points to intentional inclusion during the funerary process rather than accidental intrusion from earlier graves.

In other graves, additional bones appear to derive from earlier burials, but their reuse does not necessarily imply an unintentional act. The displacement and relocation of remains could form a deliberate and meaningful part of the burial practice. At Birka, Kaupang, Lilla Ullevi and on the Isle of Man, earlier graves were reopened and older bodies or cremation deposits moved to make space for new interments. Yet the careful treatment of this material suggests purposeful reuse rather than chance displacement. At Lilla Ullevi, cremation graves were partly removed to accommodate later inhumations, and the cremated material was spread throughout the fills of the new graves (Hed Jakobsson & Lindblom 2011). As observed by Fahlander (2016:146), there was space for new graves elsewhere at the site, implying that the older graves were specifically chosen for reuse. Although the reuse may have been driven primarily by the significance of the graves' locations, the visible and recognisable cremation remains likely played a role as well, and we should not overlook the importance of accessing and engaging with them. Notably, it has been suggested that two urns from the site had their rims protruding above ground (Hed Jakobsson & Lindblom 2011:35), indicating that it may have been important to access and interact with earlier remains.

Table 1. Sites with additional bone.

Site	Country	Additional bone	Sources
1. Ytri-Garðshorn	Iceland	Inhumation with additional unburnt bone within the grave	Eldjárn & Friðriksson 2016:154–156
2. Westness	Scotland	Inhumation with additional unburnt bone above the grave	Kaland 1973:95–96; Sellevold 1999:27
3. Machrins	Scotland	Inhumation grave with additional cremated and unburnt bone	Becket et al. 2014:303–305
4. Peel Castle	Isle of Man	Inhumation grave with additional unburnt bone in the fill	Freke 2002:70
5. Balladoole	Isle of Man	Inhumation grave with additional unburnt bone below the grave	Bersu & Wilson 1966:12–13
6. Islandbridge	Ireland	Inhumation with additional unburnt bone within the grave	Harrison & Ó Floinn 2014:421–425
7. Claughton Hall	England	Inhumation with additional unburnt bone within the grave	Edwards 1998:15
8. Skeiet	Norway	Inhumation grave with additional cremated bone within the grave	Bryn et al. 2023:127; Sauvage & Lorentzen 2024; Kjellström et al. 2024:223
9. Gulli	Norway	Inhumation grave with additional cremated bone in the fill	Gjerpe 2005:49
10. Kaupang	Norway	Two inhumation graves with additional cremated and unburnt bone within the grave and in charcoal layer	Blindheim & Heyerdahl-Larsen 1995:26–27, 36–37, 127
11. Birka	Sweden	26 cremation and inhumation graves with additional cremated and unburnt bone, within the grave and in the fill	Arbman 1943
12. Lilla Ullevi	Sweden	Cremation grave with additional cremated and unburnt bone, several inhumations with additional cremated bone, within the grave and in the fill	Hed Jakobsson & Lindblom 2011
13. Spånga	Sweden	Several cremations with additional unburnt bone in the fill	Fahlander 2024:112–113
14. Lilla Smedby	Sweden	Inhumation with additional unburnt bone within the grave	SHM 1948:6
15. Råga	Sweden	11 inhumations with additional cremated and unburnt bone in the fill	Strömberg 1968
16. Stävie	Sweden	Five inhumations with additional unburnt bone within the grave and in the fill	Nagmér 1979

17. Ljungbacka	Sweden	Six inhumations with additional cremated and unburnt bone within the grave and in the fill	Winge 1977; Samuelsson 1998; Wilhelmson & Magnusson in Mühlemann et al. 2020:18–22
18. Trelleborg	Sweden	Inhumation with additional bone in the fill	Hansson 1993:4–5
19. Kirke Hyllinge Kirkebakke	Denmark	Five inhumations with additional cremated and unburnt bone in the fill	Ulriksen 2011
20. Lejre	Denmark	Six inhumations with cremated and unburnt bone in the fill	Andersen 1995
21. Trekroner-Grydehøj	Denmark	Seven graves with additional cremated and unburnt bone within the grave and in the fill	Ulriksen 2011
22. Ottestrup	Denmark	Several graves with additional cremated bone in the fill	Eriksen 1992
23. Køstrup	Denmark	Two graves with additional cremated and unburnt bone within the grave and in the fill	Lindblom 1993:147–148

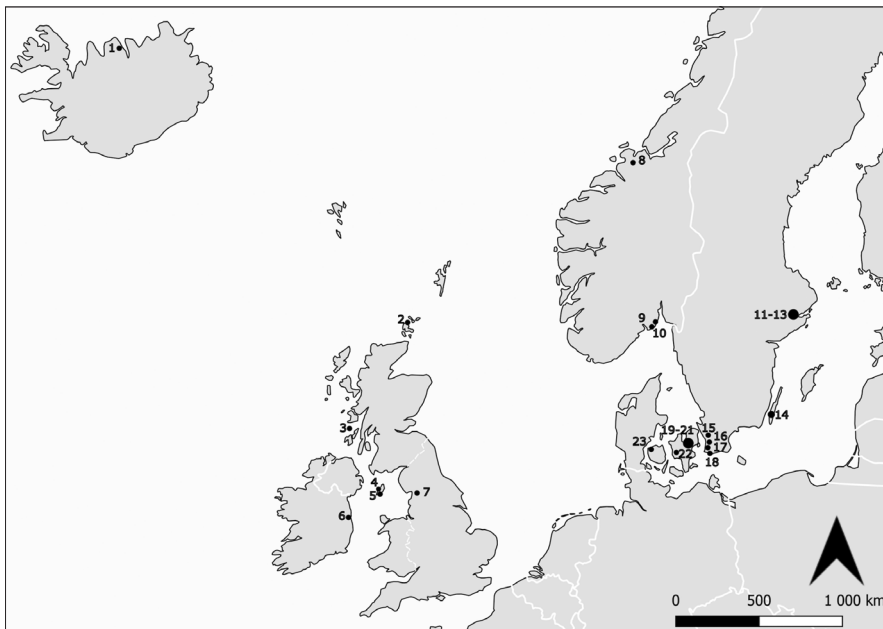


Figure 1. Map of sites with additional bone from Table 1.

Several graves in the study show evidence of reopening and rearrangement (see Supplementary Table 1 for details). At both Birka and Kaupang, chamber and boat graves were reopened, bodies moved and new interments added. In certain examples, such as Kaupang grave K/V, the primary occupant was shifted from the centre of the boat to the side, with parts of the body left behind (Blindheim & Heyerdahl-Larsen 1995:26–27). At Birka, graves including Bj. 573, Bj. 627 and Bj. 823 contained the remains of multiple individuals, with bones from earlier burials incorporated into later ones (Arbman 1943:186, 207–208, 226, 296–297). These examples indicate that the physical presence of earlier remains was an accepted, perhaps even desirable, part of new burial construction. It is also likely that parts of bodies were removed from burials, as at Gulli and Langeid in Norway, where graves appear to have been reopened and skulls removed (Gjerpe 2005:144–145; Wenn 2020:148).

PLACEMENT AND USE

Additional bone is not only found within burials when older graves have been reused, but also appears to have been deliberately placed with the deceased body or cremated remains. At Skeiet, a cremated skull fragment was positioned near the head of the inhumed body (Bryn et al. 2023:127; Kjellström et al. 2024:223), forming a close physical association between the two. At Peel Castle, unburnt bones were arranged around the dead body, a practice compared with the use of older bones at Balladoole, where unburnt remains from earlier graves were spread beneath the boat burial (Bersu & Wilson 1966:5–7, 12–13; Freke 2002:70). Although this has been interpreted as a display of dominance, Ratican (2024:43) has argued that the phenomenon does not differ significantly from Scandinavian examples, and it may have been the bones themselves that held significance rather than the individuals to which they once belonged.

The incorporation of bone into grave fills was another frequent practice. Additional bone is most often found scattered throughout the fill or occasionally in small concentrations, reflecting inclusion during the back-filling process. The common occurrence of cremated bone in Danish and Scanian inhumations suggests this was a regular part of local funerary traditions (Eriksen 1992; Satalecki 2016). At Kirke Hyllinge Kirkebakke, Ljungbacka and Køstrup, cremated or unburnt bone was dispersed in the fill or placed beside the deceased, sometimes together with animal remains. Importantly, Ulriksen (2011) has argued that at Kirke Hyllinge Kirkebakke and Trekroner-Grydehøj, the deposition of these bones was deliberate and formed part of the burial rite, not the result of incidental mixing.

Burnt layers containing cremated human and animal bone also formed part of burial mound and chamber construction. At Kaupang, several

graves included cremation layers incorporated structurally into the burial itself, though there is only one case of the bone being identified as human (Blindheim & Heyerdahl-Larsen 1995:26–38). At Triberga on Öland, burnt layers – quite different from those found in nearby cremation graves – capped stone-cist inhumations, although it is uncertain whether these layers included human bone (Bæhrendtz 1901; Hagberg 1996:298). On the Isle of Man, cremated remains were deliberately placed over inhumations: a mound at Ballateare contained cremated animal bone overlying an unburnt body, while at Balladoole a ship burial cairn was sealed with a layer of cremated animal bone (Bersu & Wilson 1966:10, 47–51). In neither case was the deposit burned in situ, indicating that the cremated bone was deliberately included during the mound's construction. Comparable sequences occur at Birka (e.g. Bj. 855, 894), where cremation deposits were found above chamber graves, though these are generally interpreted as later additions (Arbman 1943:330–349). As Cannell (2021:695–697) has discussed, the use of cremated bone and charcoal in mound construction at sites such as Borre, Haugar and Myklebostad in Norway, and on the Isle of Man, involved the deliberate use of layers of contrasting colour and texture. These formed part of the visual and performative aspects of burial mound construction.

There are also instances of deliberate and ritualised use of additional bone that are less common, but nonetheless noteworthy. There are two cases where a human tooth was discovered in direct association with grave goods. In Birka Bj. 585, a human tooth was found inside, or possibly on, a box in the foot end of the grave, together with artefacts such as scissors, a needle case and silver thread (Arbman 1943:191–192). At Claughton Hall, a molar was enclosed within two oval brooches placed back-to-back and apparently wrapped in cloth, together with beads and a repurposed Carolingian mount (Edwards 1998:15). The brooches were clearly not worn, and the objects inside them appear to form a deliberately prepared bundle. The grave has sometimes been interpreted as a double burial of a man and a woman due to the presence of both weapons and jewellery, but Edwards (1998:15) has argued that the brooch bundle is more likely to represent a memento of a woman. In both of these cases, the close association between tooth and artefacts suggests that the tooth could have been seen as *pars pro toto* for a person.

Other examples suggest a distinct type of deposition. At Lilla Ullevi, a cremated skull fragment was placed on a burnt plank above the cremation layer (Hed Jakobsson & Lindblom 2011:48), while at Skeda on Bolmsö in Sweden, burnt bone – though not identified as to species – was found on a flat stone described as a table or altar (Palmgren 1874:219). In both cases, the bone may have belonged to the same individual interred below, but they demonstrate that the bone, in some cases human, played a deliberate and visible role during funerary practices.

TREATMENT AND ROLES

Throughout the material considered for this study, human and animal bones occur together and are used in comparable ways. Both appear scattered in fills, arranged in small concentrations or incorporated into burnt layers. At Ljungbacka, cremated deposits found across many graves contained human bone, animal bone or both (Samuelsson 1998:16–17), suggesting that these materials fulfilled similar roles within the funerary process. Likewise, at Lilla Ullevi, an unburnt human tooth was placed in a cremation layer (Hed Jakobsson & Lindblom 2011:48). While this is the only example of a human tooth used in this way at the site, unburnt animal teeth – mainly sheep/goat or cattle – are relatively common in cremation layers at this site and in eastern Sweden more broadly (Fahlander 2024). In both cases, the inclusion of human remains followed the same practices as the inclusion of animal remains, indicating that they were not regarded as fundamentally different materials, but were treated within a shared repertoire of funerary actions.

Cremated and uncremated bones were also often used in corresponding ways, both within graves and in their surrounding fills. In some cases, they are even found together – for example, at Ljungbacka and Birka (Arbman 1943:32; Samuelsson 1998:14–16, 60–61; Winge 1977), suggesting that cremated and unburnt remains were not always viewed as fundamentally different. Nevertheless, the material properties of the two are distinct, and cremated bone – being more brittle and fragmentary – can be distributed more easily. This characteristic was clearly utilised in burials, for instance in the cases where cremated bone was combined with charcoal and ash to form burnt layers in superstructures.

Additional human bone is most often recognised when it contrasts with the treatment of the grave's primary body. The most noticeable examples include cremated bone in inhumation graves and unburnt bone in cremation contexts. These combinations are most frequently encountered in regions where mixed burial practices were in use, often at the same cemetery. Cremation, for example, was very rare in the western settlements (though see Maldonado 2024; Ó Ríagáin 2024), as was the inclusion of cremated bone in inhumation graves – Machrins being a rare exception (Becket et al. 2014:303–305). While recognition bias may play a role, the pattern suggests that additional bone had been treated following prevailing funerary norms.

Acquiring human bone

Although cremated and uncremated bones may have been used in similar ways, they were the result of fundamentally different processes. To under-

stand the significance of these fragmented remains, it is necessary to consider their origins.

CREMATED BONE

Fragmentation is an inevitable outcome of cremation. Viking Age cremation graves often contain low weights of human bone. While this is partly due to taphonomic processes, it is evident that not all remains were interred in every case (e.g. Holck 1997:82–83; Kjellström et al. 2024; Sigvallius 1994:28–31). In a Bronze Age context, Brück (2017:139) has proposed that cremation was adopted because it enabled bodily fragmentation, producing a material suited for use in other settings. A similar rationale could apply to the Viking Age, where part of the cremated bone from the funerary pyres may have been retained for subsequent reuse. Gansum (2004) has suggested that cremated human bone might have been used in steel production, where bone-coal aided in the carbonisation of iron. Cremated bone has been found in so-called smith's graves and smithies, although whether it was human is unclear (Gansum 2004). Burnt, as well as unburnt, bone is sometimes found in constructional elements of houses, such as post holes, wall ditches, thresholds or under floors, and has been interpreted in these contexts as a ritual deposit (Carlie 2004; Eriksen 2019). Back Danielsson (2007:245–252) has emphasised the transitional character of many of these places, suggesting that burnt bones had transitional and transformative properties.

Cremated bone may also have been deliberately produced for ritual purposes. The large quantities of ash and charcoal used to build burnt layers in burial mounds may have been created specifically for that purpose. Whether these layers included the remains of humans, animals or both is uncertain. It is also possible that older graves were reopened to retrieve cremated bone (Gansum 2004:45). Although it is generally easier to detect reopenings and interactions in inhumation graves (Klevnäs 2013:32–33), the reopening of cremation burials remains a possibility. The two cremation urns protruding above ground at Lilla Ullevi suggest that their content could be added to or removed after initial deposition.

UNBURNT BONE

Inhumation is a very different practice from cremation. There has been a tendency to regard Viking Age inhumation as a step towards Christian practice, with whole bodies ready for resurrection (see Lund 2013 for a discussion). However, as this research has shown, unburnt human bodies were not always left intact.

It is frequently suggested that not everyone in the Viking Age received formal burial, as the number of known graves appears insufficient to represent the population (e.g. Price 2008:259). Some of the disarticulated unburnt

remains may therefore derive from individuals who were never formally interred. These ‘missing’ dead are often interpreted as belonging to people of low status, sometimes assumed to be enslaved. Similar interpretations have been proposed for multiple burials and additional skeletal elements within graves, either as evidence of sacrifice or as remains of the enslaved (see Ratican 2024:15–33 for a recent overview). Suggestions of human sacrifice are particularly prevalent where skeletal remains bear signs of trauma. This has not been identified in the present material, but has been seen on a skull deposited with animal bone in a pit at the cemetery of Ingiríðarstaðir in Iceland (Roberts 2013), as well as from a female skeleton in the upper part of the mound at Balladoole (Bersu & Wilson 1966:5–7). Recent discussions on personhood in the Viking Age have raised the possibility that not all humans were necessarily regarded as persons (Eriksen & Kay 2022), and it is possible that the remains of these individuals were being used in a similar fashion to those of animals. At the same time, Raffield et al. (2023) have cautioned against overly simplistic readings, in which unconventional treatment of bodies is automatically equated with marginal status (see also Gardeła 2013; Lund 2013; Ratican 2024). A notable example is the double inhumation at Gerdrup in Denmark, where a woman buried with grave goods was placed next to a hanged man. While previously interpreted as a human sacrifice, aDNA analysis revealed that the two were mother and son, potentially complicating such interpretations (Kastholm & Margaryan 2021).

While it remains possible that some disarticulated bones came from unburied individuals, this should not overshadow the frequent evidence of grave reopening. Reopenings are often interpreted as incidental or practical, but there are numerous cases suggesting that the intention was to access the dead or the grave goods (e.g. Brendalsmo & Røthe 1992; Klevnäs 2016). Gjerpe (2005:144–145) has suggested that skulls were deliberately retrieved from reopened graves at the site of Gulli, a possibility also raised for Langeid (Wenn 2020:148). In a Merovingian context, van Haperen (2013) has suggested that the bones retrieved from reopened graves could have functioned similarly to relics of saints, and that by retrieving remains, the ancestors could be made physically present among the living. Discussing skulls in Iron Age Scandinavian domestic contexts, Eriksen (2020:112) proposed that removing and dispersing skulls might have removed and/or dispersed the personhood of the deceased.

It is likely that much of the additional unburnt bone in Viking Age burials is coming from reopened graves. Sites such as Birka, Ljungbacka, Kaupang, Skeiet and several sites in Iceland show signs of interactions with bodies (with parts of the body moved or removed), alongside the deposition of additional bone. I suggest that accessing bone – perhaps along with artefacts – was a motivating factor in these reopenings. These bones were

retrieved then, in order to be reused, either in graves or in other contexts. Inhumation does not preserve the body in a fixed state, the fragmentation is only slower and hidden from view; that this was known and utilised is supported by the recurrence of such practices. Both burial and reopening often took place within the Viking Age, as seen for instance in the graves from Kaupang, Ljungbacka and Birka, though determining whether this occurred within decades or centuries is challenging. It is plausible that reopenings in some cases happened within living memory, suggesting interaction with a known individual. Yet moving or removing body parts does not seem to have been a problem, perhaps because they were no longer regarded as persons, or because fragmenting and distributing people did not conflict with Viking Age understandings of personhood.

Poor preservation conditions for unburnt bone at many Viking Age burial sites make it difficult to detect the removal of bones. Nonetheless, we should not assume that maintaining bodily integrity was essential. I argue that in most cases, additional human bone – whether cremated or uncremated – had undergone funerary rites, but had been collected or retrieved at different stages of the ritual process. Despite this distinction, the similar ways in which cremated and uncremated human remains were used in funerary practices suggests they served similar purposes.

Discussion: Were the human bones persons?

In archaeological interpretations of human bone used in ritualised contexts, there has been a prevailing assumption that these remains belonged to individuals of lower social status, such as enslaved people or human sacrifices. It is possible that, in certain instances, these remains did belong to individuals who were regarded as having a different relationship to personhood than other members of their community, and that this is reflected in the comparable treatment of human and animal bone in these graves. At the same time, studies suggest that cremation deposits containing the commingled remains of more than one individual are relatively rare (Holck 1997:115–116; Sigvallius 1994:115), suggesting that the additional cremated bone found in these graves was not typically produced by cremating multiple people together. The deliberate killing and cremating of humans alongside animals on the same pyre does not appear to have been a widespread practice. The cremated bone was more likely retained from separate pyres and then redeposited, rather than being produced specifically for inclusion in another's grave.

The notion that these remains belonged to individuals denied formal burial is further complicated by the evidence of reopened graves. Such

reopenings have sometimes been interpreted as acts of hostility or attempts to neutralise the power of the dead (e.g. Bill & Daly 2012; Brøgger 1945). Yet alternative perspectives view these actions as part of the funerary rites, specifically for retrieving bones and artefacts to be used by the living (Brendalsmo & Røthe 1992; Klevnäs 2016; Noterman 2023; van Haperen 2013). This interpretation challenges the notion that human remains found outside of formal burial contexts in the Viking Age necessarily belonged to the socially marginalised. Within this interpretation, the identity of the deceased remains the most significant factor; their remains were used because of who they were.

Identity and perceived personhood have understandably been central to interpretations of bone retrieval, with the recovery of remains seen as reflecting either positive or negative associations with the deceased (e.g. Rundkvist 2025; Ulriksen 2011). Either or both explanations may well be true, but it is also worth considering that the motivations may have been less about individual identity and more about the material produced by the burial process itself. Fahlander (2020a) has suggested that, instead of seeing graves as the final resting place of the dead, we should rather focus on what they do, and part of what they do is create skeletonised material which can be easily fragmented, dispersed and reused. From this perspective, it was not necessarily the identity of the person that imbued the remains with value, but the properties of the remains themselves. This approach is more commonly applied to cremated bone (though see Eriksen 2017, 2020), which is often interpreted in terms of its generative or transformative qualities, with less emphasis on the specific individual from whom it came (Back Danielsson 2007, 2008; Fahlander 2020b, 2024; Gansum 2004).

The corresponding use of human and animal bones in ritual contexts suggests that they were regarded as suitable for similar purposes, regardless of whether they were burnt or unburnt. Several scholars have proposed that bones – both human and animal – possessed transitional and transformative properties, which may have made them powerful elements in funerary rites. Rather than being viewed primarily as the remnants of specific individuals, these remains could have functioned as active agents, helping the deceased move from one state of being to another (Metcalf & Huntington 1991; Robb 2013; van Gennep 1960). While it remains possible that some bones were selected for use because of the identity or status of the individual, the widespread and varied use of both human and animal bone suggests that personal associations were not always the primary consideration.

Determining whether remains were suitable for reuse was related to the burial practice itself. Graves are not only resting places for the dead, they are also formed of processes that transform remains into material available for reuse (Fahlander 2020a). Cremation and inhumation are not opposing

practices so much as different routes to that same outcome: both transform the body into something that can be fragmented, distributed and reincorporated into new contexts (Brück 2017; Rebay-Salisbury et al. 2010). The distinction between them is primarily one of temporality (Appleby 2013). Fire accomplishes this transformation immediately, while the inhumation grave does so over a longer period of time, but in both cases the process moves remains across a threshold to where they are neither a full person nor merely inert matter (Fahlander 2016). It is at this point that they seem to become available for reuse. That this threshold could be reached through inhumation as well as cremation is supported by the evidence examined here: uncremated bone was retrieved from reopened graves and incorporated into new burials in ways that closely parallel the use of cremated material. A similar parallel is seen in the treatment of human and animal bone, which appear to have been used in comparable ways across different mortuary contexts. This suggests that the power of these remains was not contingent on the personhood of the being they came from, but on the properties of bone as a substance and its capacity, as Back Danielsson (2007, 2008) has argued, to act as a transformative and generative material within funerary practice.

Not all of the evidence, however, points towards material properties as the primary factor. Previous studies have suggested that personhood in the Viking Age could be relational and distributed, present not only in a whole body but potentially dispersed across fragments and the objects associated with them (Eriksen 2020; Klevnäs 2016; Lund 2017). The two cases in which human teeth were found in direct association with distinct sets of grave goods – Bj. 585 at Birka and Claughton Hall – suggest that in some instances fragmented remains could still constitute a person. At Claughton Hall, the molar enclosed within the brooch bundle was not scattered in a fill or incorporated into a layer, but carefully placed with a coherent set of objects that appear to belong together. Edwards (1998:15) has interpreted this as evoking the symbolic presence of an absent individual, but the inclusion of the tooth could also suggest that the person was physically present in the grave through the combination of their fragmented remains and associated belongings. A similar logic may apply at Bj. 585, where a tooth was placed inside or on a box with a carefully selected group of artefacts. In both cases, personhood may have been distributed across body part and objects. These cases do not undermine the broader pattern but suggest that material-properties-based and personhood-based understandings of bone could have coexisted within the same practice, and that the distinction lay not necessarily in the remains themselves but in how they were used. It is perhaps also noteworthy that both cases involve teeth. Unlike other skeletal elements, teeth could be separated from the body – during life or after

death – far more easily than other parts of the body. They may, therefore, not have gone through the mortuary process that transformed other remains.

Conclusions

Fragments of additional human bone appear in Viking Age graves across Scandinavia and the Scandinavian settlements in a range of forms and contexts – in fills, in grave constructions, beside bodies, associated with artefacts and mixed with animal remains. This study has examined that phenomenon across a broad geographical range, and the picture that emerges is consistent enough to require interpretation. These patterns of deposition are difficult to explain as disturbance alone. The placement, selection and treatment of the remains instead point to a practice in which fragments of the dead were deliberately brought into new funerary contexts. The material points not to a single source, but to several possible routes of reuse, whether drawn from earlier burials, from pyres or from graves reopened specifically to retrieve them.

The article therefore argues that the additional bone in these graves should not be understood as the remains of sacrifices or the socially marginalised, but of the already dead, encountered again and put to new use. The comparable treatment of cremated and uncremated bone, and of human and animal bone, suggests that what mattered was not necessarily the identity of the being from whom the remains derived. In many cases, the significance of the bone may instead have lain in its material properties: its capacity to act within the funerary sphere in ways that benefited the newly dead.

At the same time, the interpretation suggests that identity was not irrelevant. In a few cases, remains appear to have retained a connection to a specific person, while in others they seem to have functioned as powerful material detached from its relation to a specific individual. Both possibilities could exist within the same practice, and even at the same sites. This not only suggests that Viking Age personhood was variable, but that the boundary between persons and materials was actively produced through the ways in which remains were treated, placed and reused. Deposition context was therefore central to the ontological status of bone: the same fragment, handled differently, could be something different.

The prior history of the remains may also have mattered. Funerary rites may have played a role in transforming bodies into reusable material, gradually dissolving or altering personhood, while remains that had not passed through such processes may therefore have retained their connection to a specific person in ways that cremated or exhumed bone did not. The evidence is not yet sufficient to determine exactly how far these distinctions

extended, or whether particular skeletal elements were more likely than others to retain personal associations. Even so, this article suggests that future work on additional bone should attend not only to where remains were deposited, but also to the mortuary processes through which they had already passed. Cremation, decomposition, exhumation and redeposition may all have transformed human bone in different ways, altering whether it was treated as part of a person, as powerful material, or as something between the two.

Acknowledgments

This research is part of the project ‘Bodies of Objects: The role of grave goods in Viking Age funerary practices’ funded by Riksbankens Jubileumsfond (P23-0495). I would like to thank the editors and anonymous reviewers for their valuable feedback, as well as Erik Solfeldt and Irene Selsvold for commenting on earlier versions of this article.

References

- Andersen, S.W. 1995. Lejre: Skibssætninger, vikingegrave, Grydehøj. *Aarbøger for nordisk Oldkyndighed og Historie*. Vol. 1993 pp. 7–142.
- Appleby, J. 2013. Temporality and the Transition to Cremation in the Late Third Millennium to Mid Second Millennium BC in Britain. *Cambridge Archaeological Journal*. Vol. 23(1) pp. 83–97. doi:10.1017/s0959774313000061.
- Arbman, H. 1943. *Birka: Untersuchungen und Studien*. 1, *Die Gräber: Text*. Stockholm: KVHAA.
- Back Danielsson, I.-M. 2007. *Masking Moments: The Transitions of Bodies and Beings in Late Iron Age Scandinavia*. Stockholm: Department of Archaeology and Classical Studies, Stockholm University.
- Back Danielsson, I.-M. 2008. Bodies and Identities in the Scandinavian late Iron Age. In: Jones, A.M. (ed.), *Prehistoric Europe: Theory and Practice*, pp. 312–329. Blackwell Studies in Global Archaeology. Malden, MA: Blackwell.
- Bærendtz, F.J. 1901. Hulterstad, Triberga: Arkeologiska undersökningar, verkställda sommaren 1901 å Öland af F.J. Bærendtz. Unpublished report, ATA.
- Becket, A., Batey, C.E., Duffy, P.R.J., Miller, J. & Rogers, P.W. 2014. A Stranger in the Dunes? Rescue Excavation of a Viking Age Burial at Cnoc nan Gall, Colonsay. *Proceedings of the Society of Antiquaries of Scotland*. Vol. 143 pp. 303–318. doi:10.9750/PSAS.143.303.318.
- Bersu, G. & Wilson, D.M. 1966. *Three Viking Graves in the Isle of Man*. London: The Society for Medieval Archaeology.
- Bill, J. & Daly, A. 2012. The Plundering of the Ship Graves from Oseberg and Gokstad: An Example of Power Politics? *Antiquity*. Vol. 86(333) pp. 808–824. doi:10.1017/s0003598x00047931.

- Blindheim, C. & Heyerdahl-Larsen, B. 1995. *Kaupang-funnene bind II. Gravplassene i Bikjholbergene/Lamøya undersøkelsene 1950–1957. Del A. Gravskikk*. Oslo: Universitetets oldsakssamling.
- Blindheim, C., Heyerdahl-Larsen, B. & Tollnes, R.L. 1981. *Kaupang-funnene bind I*. Oslo: Universitetets oldsakssamling.
- Brendalsmo, J. & Røthe, G. 1992. Haugbrot eller de levendes forhold til de døde: En komparativ analyse. *Meta*. Vol. 1992(1–2) pp. 84–119.
- Brück, J. 2017. Reanimating the Dead: The Circulation of Human Bone in the British Later Bronze Age. In: Bradbury, J. & Scarre, C. (eds), *Engaging with the Dead: Exploring Changing Human Beliefs about Death, Mortality, and the Human Body*, pp. 138–148. Oxford: Oxbow.
- Bryn, H., Lorentzen, A.B., Rantala, K.R., Sauvage, R. & Østmoe, E. 2023. NTNU Vitenskapsmuseet arkeologisk rapport 2023:22. E39 Betna–Stormyra. Gravfelt og bosetningsspor i Vinjeørå.
- Brøgger, A.W. 1945. Oseberggraven – haugbrottet. *Viking*. Vol. 9 pp. 1–44.
- Cannell, R.J. 2021. What Makes a Mound? Earth-Sourced Materials in Late Iron Age Burial Mounds. *Cambridge Archaeological Journal*. Vol. 31(4) pp. 687–703. doi:10.1017/S0959774321000299.
- Carlie, A. 2004. *Forntida byggnadskult: Tradition och regionalitet i södra Skandinavien*. Riksantikvarieämbetet arkeologiska undersökningar. Stockholm: Riksantikvarieämbetet.
- Edwards, B.J.N. 1998. *Vikings in North West England: The Artefacts*. Lancaster: Centre for North-West Regional Studies, University of Lancaster.
- Eldjárn, K. & Friðriksson, A. 2016. *Kuml og haugfé: Úr heiðnum sið á Íslandi*. 3rd ed. Reykjavík: Mál og menning.
- Eriksen, L.B. 1992. Vikingetidsgrave fra Ottestrup: Et sjældent smukt trefliget spænde. *Aarbøger for Nordisk Oldkyndighed og Historie*. Vol. 1991 pp. 185–196.
- Eriksen, M.H. 2017. Don't all Mothers Love their Children? Deposited Infants as Animate Objects in the Scandinavian Iron Age. *World Archaeology*. Vol. 49(3) pp. 338–356. doi:10.1080/00438243.2017.1340189.
- Eriksen, M.H. 2019. *Architecture, Society, and Ritual in Viking Age Scandinavia: Doors, Dwellings, and Domestic Space*. Cambridge: Cambridge University Press.
- Eriksen, M.H. 2020. 'Body-Objects' and Personhood in the Iron and Viking Ages: Processing, Curating, and Depositing Skulls in Domestic Space. *World Archaeology*. Vol. 52(1) pp. 103–119. doi:10.1080/00438243.2019.1741439.
- Eriksen, M.H. & Kay, K. 2022. Reflections on Posthuman Ethics: Grievability and the More-Than-Human Worlds of Iron and Viking Age Scandinavia. *Cambridge Archaeological Journal*. Vol. 32(2) pp. 331–343. doi:10.1017/S0959774321000561.
- Fahlander, F. 2016. The Materiality of the Ancient Dead: Post-burial Practices and Ontologies of Death in Southern Sweden AD 800–1200. *Current Swedish Archaeology*. Vol. 26(1) pp. 137–162. doi:10.37718/csa.2016.10.
- Fahlander, F. 2020a. Becoming Dead: Burial Assemblages as Vitalist Devices. *Cambridge Archaeological Journal*. Vol. 30(4) pp. 555–569. doi:10.1017/S0959774320000116.
- Fahlander, F. 2020b. Unruly Bones and Efficacious Stones: Materialities of Death in Early Christian Post-Burial Interactions in Central Eastern Sweden. In: Aspöck, E., Müller-Scheeßel, N. & Klevnäs, A.M. (eds), *Grave Disturbances: The Archaeology of*

- Post-Depositional Interactions with the Dead*, pp. 27–41. Oxford: Oxbow Books. doi:10.2307/j.ctv13pk784.4.
- Fahlander, F. 2024. In Sheep's Clothing? Humans and Other-Than-Humans in Iron Age Cremation Assemblages in North Spånga, Sweden. *Current Swedish Archaeology*. Vol. 32 pp. 99–128. doi:10.37718/CSA.2024.5.
- Fowler, C. 2004. *The Archaeology of Personhood: An Anthropological Approach*. London: Routledge.
- Fowler, C. 2016. Relational Personhood Revisited. *Cambridge Archaeological Journal*. Vol. 26(3) pp. 397–412. doi:10.1017/S0959774316000172.
- Freke, D. 2002. *Excavations on St. Patrick's Isle, Peel, Isle of Man, 1982–88: Prehistoric, Viking, Medieval, and Later*. Liverpool: Liverpool University Press.
- Gansum, T. 2004. Role the Bones: From Iron to Steel. *Norwegian Archaeological Review*. Vol. 37(1) pp. 41–57. doi:10.1080/00293650410001199.
- Gardela, L. 2013. The Dangerous Dead? Rethinking Viking-Age Deviant Burials. In: Ślupecki, L. & Simek, R. (eds), *Conversions: Looking for ideological change in the Early Middle Ages*, pp. 96–136. Vienna: Verlag Fassbaender.
- Gjerpe, L.E. 2005. *E18-prosjektet Vestfold. Bd 1, Gravfeltet på Gulli*. Varia. Oslo: Kulturhistorisk Museum, Universitetet i Oslo.
- Gräslund, A.-S. 1980. *Birka IV. The Burial Customs: A Study of the Graves on Björkö*. Stockholm: KVHAA.
- Gräslund, A.-S. & Müller-Wille, M. 1992. Burial Customs in Scandinavia During the Viking Age. In: Roesdahl, E. & Wilson, D.M. (eds), *From Viking to Crusader: Scandinavia and Europe*, pp. 186–187. New York: Rizzoli Publishers.
- Hagberg, U.E. 1996. *Ölands järnåldersgravfält. Vol. 3, Vickleby, Resmo, Mörbylånga, Kastlösa, Sandby, Stenåsa och Hulterstad*. Stockholm: Riksantikvarieämbetet.
- Hansson, M. 1993. Neolitiska boplatsslämningar och vikingatida gravar. Arkeologisk för- och slutundersökning 1990. Skåne, Trelleborg sn, Västervång 2:97, (kv Verkstaden), Osteologisk rapport Caroline Arcini. Riksantikvarieämbetet UV Syd rapport.
- Harrison-Buck, E. & Hendon, J.A. 2018. An Introduction to Relational Personhood and Other-Than-Human Agency in Archaeology. In: Harrison-Buck, E. & Hendon, J.A. (eds), *Relational Identities and Other-Than-Human Agency in Archaeology*, pp. 3–28. Boulder: University Press of Colorado.
- Harrison, S.H. 2008. *Furnished Insular Scandinavian Burial: Artefacts and Landscape in the Early Viking Age*. Ph.D. thesis, Department of History, Trinity College, Dublin, Ireland.
- Harrison, S.H. & Ó Floinn, R. 2014. *Viking Graves and Grave-Goods in Ireland*. Medieval Dublin Excavation, Ser. B., Vol. 11. Dublin: National Museum of Ireland.
- Hed Jakobsson, A. & Lindblom, C. 2011. Gård och gravfält vid Lilla Ullevi. Arkeologisk undersökning. RAÄ 40, Skällsta, Bro socken, Upplands-Bro kommun, Stockholms län, Uppland. Arkeologikonsult.
- Hedeager, L. 2010. Split Bodies in the Late Iron Age/Viking Age of Scandinavia. In: Rebay-Salisbury, K., Sørensen, M.L.S. & Hughes, J. (eds), *Body Parts and Bodies Whole*, pp. 111–118. Oxford: Oxbow.
- Holck, P. 1997. *Cremated Bones: A Medical-Anthropological Study of an Archaeological Material on Cremation Burials*. 3. Revised edition. Oslo: Universitetet i Oslo.
- Kaland, S.H.H. 1973. Westnessutgravningene på Rousay, Orknøene. *Viking*. Vol. 37 pp. 77–102.

- Kastholm, O.T. & Margaryan, A. 2021. Reconstructing the Gerdrup Grave: The Story of an Unusual Viking Age Double Grave in Context and in the Light of New Analysis. *Danish Journal of Archaeology*. Vol. 10 pp. 1–20. doi:10.7146/dja.v10i0.126750.
- Kjellström, A., Gummesson, S., Storå, J. & Sauvage, R. 2024. Cremation and Depositional Practices of Cremated Remains at Skeiet. In: Sauvage, R. (ed.), *From Life to Death in Iron Age and Medieval Vinjeffjord*, pp. 219–238. Oslo: Cappelen Damm Akademisk. doi:10.23865/noasp.218.ch9.
- Klevnäs, A.M. 2013. *Whodunnit? Grave Robbery in Anglo-Saxon England and the Merovingian Kingdoms*. BAR International Series, Vol. 2582. Oxford: Archaeopress.
- Klevnäs, A.M. 2016. ‘Imbued with the Essence of the Owner’: Personhood and Possessions in the Reopening and Reworking of Viking-Age Burials. *European Journal of Archaeology*. Vol. 19(3) pp. 456–476. doi:10.1080/14619571.2016.1190202.
- Lindblom, C. 1993. Køstrup: En nordvestfynsk vikingetidsgravplads. *Fynske minder*. Vol. 1993 pp. 143–168.
- Lippok, F.E. 2020. The Pyre and the Grave: Early Medieval Cremation Burials in the Netherlands, the German Rhineland and Belgium. *World Archaeology*. Vol. 52(1) pp. 147–162.
- Lund, J. 2013. Fragments of a Conversion: Handling Bodies and Objects in Pagan and Christian Scandinavia AD 800–1100. *World Archaeology*. Vol. 45(1) pp. 46–63. doi:10.1080/00438243.2012.759511.
- Lund, J. 2017. Connectedness with Things: Animated Objects of Viking Age Scandinavia and Early Medieval Europe. *Archaeological Dialogues*. Vol. 24(1) pp. 89–108. doi:10.1017/S1380203817000058.
- Maldonado, A. 2024. Burning Questions: Learning to See Cremation in the Long Iron Age of Northern Britain. In: Williams, H. & Lippok, F. (eds), *Cremation in the Early Middle Ages: Death, Fire and Identity in North-West Europe*, pp. 243–259. Leiden: Sidestone Press.
- Metcalf, P. & Huntington, R. 1991. *Celebrations of Death: The Anthropology of Mortuary Ritual*. Second edition. Cambridge: Cambridge University Press.
- Moilanen, U. 2023. Bonded by Pieces: Fragments as Means of Affirming Kinship in Iron Age Finland. In: Sörman, A., Noterman, A.A. & Fjellström, M. (eds), *Broken Bodies, Places and Objects: New Perspectives on Fragmentation in Archaeology*, pp. 55–68. London: Routledge. doi:10.4324/9781003350026-5.
- Mühlemann, B., Vinner, L., [...] Jones, T.C. & Sikora, M. 2020. Supplementary Material for Diverse Variola Virus (smallpox) Strains were Widespread in Northern Europe in the Viking Age. *Science*. Vol. 369(6502). doi:10.1126/science.aaw8977.
- Nagmér, R.B. 1979. Gravfält från yngre järnålder–vikingatid samt boplatser från groppkeramisk tid, bronsålder och äldre järnålder. Stävie 4:1, Stävie sn, Skåne. Arkeologisk undersökning 1973–1975, 1977, 1978. Rapport. Riksantikvarieämbetet och Statens historiska museer Uppdragsverksamheten, 0348-6818; 1979:47.
- Nielsen, B.H., Kristensen, I.K. & Stidsing, E. 1985. Kjøllevej: En vikingetidsgravplads ved Over Hornbæk. *Historisk Aarbog fra Randers Amt*. Vol. 79 pp. 5–14.
- Norstein, F.E. 2024. Change and Continuity: Cremation and Inhumation During the Christianisation Period in Scandinavia. In: Norstein, F.E. & Selsvold, I. (eds), *Archaeological Perspectives on Burial Practices and Societal Change: Death in Transition*, pp. 53–67. London: Routledge. doi:10.4324/9781003441557-6.
- Noterman, A.A. 2023. Revisiting, Selecting, Breaking and Removing: Incomplete and Fragmented Merovingian Reopened Graves in Western Europe. In: Sörman, A., Noterman, A.A. & Fjellström, M. (eds), *Broken Bodies, Places and Objects: New*

- Perspectives on Fragmentation in Archaeology*, pp. 69–85. London: Routledge. doi:10.4324/9781003350026-6.
- Nugent, R. 2017. Two of a Kind: Conceptual Similarities between Cremation and Inhumation in Anglo-Saxon England. In: Cerezo-Román, J., Wessman, A. & Williams, H. (eds), *Cremation and the Archaeology of Death*, pp. 72–87. Oxford: Oxford University Press. doi:10.1093/os019780198798118.003.0011.
- Ó Ríagáin, R. 2024. Early Medieval Cremation Burials in Atlantic Northern Britain. In: Williams, H. & Lippok, F. (eds), *Cremation in the Early Middle Ages: Death, Fire and Identity in North-West Europe*, pp. 261–280. Leiden: Sidestone Press.
- Palmgren, L. 1874. Fornlemningar i Vestbo härad, Småland, på Svenska Fornminnesföreningens bekostnad undersökta år 1873. *Svenska fornminnesföreningens tidskrift*. Vol. 1873–74(3:2) pp. 207–233.
- Price, N. 2008. Dying and the Dead: Viking Age Mortuary Behaviour. In: Brink, S. & Price, N. (eds), *The Viking World*, pp. 257–273. London: Routledge.
- Price, N. 2020. Death Ritual and Mortuary Behaviour. In: Schjødt, J.P., Lindow, J. & Andrén, A. (eds), *The Pre-Christian Religions of the North: History and Structures*, pp. 853–896. Turnhout: Brepols. doi:10.1484/M.PCRN-EB.5.116960.
- Puolakka, H. 2020. Ancestors and Additional Bones: Mixing of Burial Traditions in Late Iron Age Finland. In: Aikas, T. & Lipkin, S. (eds), *Entangled Beliefs and Rituals: Religion in Finland and Sápmi from Stone Age to Contemporary Times*, pp. 16–34. Helsinki: Archaeological Society of Finland.
- Raffield, B., Fredengren, C. & Kjellström, A. 2023. Narratives of Inequality: Towards an Archaeology of Structural Violence in Late Iron Age Scandinavia. *Archaeological Dialogues*. Vol. 30(2) pp. 137–162. doi:10.1017/S1380203824000011.
- Ratican, C.F. 2024. *Bodies, Beings, and the Multiple Burial Rite of the Western Viking World*. London: Routledge.
- Rebay-Salisbury, K. 2015. Neither Fish nor Fowl: Burial Practices between Inhumation and Cremation. In: Devlin, Z.L. & Graham, K. (eds), *Death Embodied: Archaeological Approaches to the Treatment of the Corpse*, pp. 18–40. Oxford: Oxbow Books.
- Rebay-Salisbury, K. 2017. Rediscovering the Body: Cremation and Inhumation in Early Iron Age Central Europe. In: Cerezo-Román, J., Wessman, A. & Williams, H. (eds), *Cremation and the Archaeology of Death*, pp. 52–71. Oxford: Oxford University Press.
- Rebay-Salisbury, K., Sørensen, M.L.S. & Hughes, J. 2010. *Body Parts and Bodies Whole*. Oxford: Oxbow.
- Robb, J. 2013. Creating Death: An Archaeology of Dying. In: Nilsson Stutz, L. & Tarlow, S. (eds), *The Oxford Handbook of the Archaeology of Death and Burial*, pp. 441–457. Oxford: Oxford University Press. doi:10.1093/oxfordhb/9780199569069.013.0024.
- Robb, J. & Harris, O.J. (eds) 2013. *The Body in History: Europe from the Palaeolithic to the Future*. Cambridge: Cambridge University Press.
- Roberts, H.M. 2013. Ingirðarstaðir 2012: An Interim Statement. Fornleifastofnun Íslands, Reykjavík.
- Rundkvist, M. 2025. Human Skull Manipulation in Vendel-Viking Period Sweden and Denmark. *Praehistorische Zeitschrift*. Vol. 101(1) pp. 281–291. doi:10.1515/pz-2024-2041
- Samuelsson, B.-Å. 1998. Ljungbackagravfältet: Studier av ett sydvästskaanskt gravmaterial från sen järnålder. Student thesis, Lund University.

- Satalecki, F. 2014. Death as an Architect of Societies: Burial and Social Identity During the Viking Age in South-Western Scania. MA thesis, Department of Archaeology and Ancient History, Lund University.
- Satalecki, F. 2016. Pyre-Related Material in Inhumation Graves: Investigating Traces of Viking Age Biritualism in South-Western Scania. *Lund Archaeological Review*. Vol. 22 pp. 39–60.
- Sauvage, R. & Lorentzen, A.B. 2024. Late Iron Age and Viking Age Local Burial Practices: The Cemetery at Skeiet, Vinjeøra. In: Sauvage, R. (ed.), *From Life to Death in Iron Age and Medieval Vinjeøra*, pp. 131–160. Oslo: Cappelen Damm Akademisk. doi:10.23865/noasp.218.ch5.
- Sayer, D., Sebo, E. & Hughes, K. 2019. A Double-Edged Sword: Swords, Bodies, and Personhood in Early Medieval Archaeology and Literature. *European Journal of Archaeology*. Vol. 22(4) pp. 542–566. doi:10.1017/ea.2019.18.
- Sellevoid, B.J. 1999. *Picts and Vikings at Westness: Anthropological Investigations of the Skeletal Material from the Cemetery at Westness, Rousay, Orkney Islands*. NIKU Fagrapport. Norsk institutt for kulturminneforskning, Oslo.
- SHM 1948. Tillväxten 1946. *Statens Historiska Museum och Kungl. Myntkabinettet. Samlingarnas Tillväxt 1946–1948*. Vol. 1946–1948.
- Sigvallius, B. 1994. *Funeral Pyres: Iron Age Cremations in North Spånga*. Theses and Papers in Osteology. Stockholm: Stockholm University.
- Strömberg, M. 1968. *Ett gravfält från sen järnålder i Råga Hörstad i Skåne*. Antikvariskt arkiv, Vol. 35. Stockholm: Almqvist & Wiksell.
- Svanberg, F. 1999. *I skuggan av vikingatiden: Om Skåne, Halland, Blekinge och Själland*. Lund: Institute of Archaeology, Lund University.
- Svanberg, F. 2003. *Decolonizing the Viking Age. 2, Death Rituals in South-East Scandinavia AD 800–1000*. Acta Archaeologica Lundensia Series in 4°. Lund: Lund University.
- Sørensen, M.L.S. & Rebay, K. 2008. From Substantial Bodies to the Substance of Bodies: Analysis of the Transition from Inhumation to Cremation During the Middle Bronze Age in Europe. In: Borić, D. & Robb, J. (eds), *Past Bodies: Body-Centered Research in Archaeology*, pp. 59–68. Oxford: Oxbow Books.
- Ulriksen, J. 2011. Vikingetidens gravskik i Danmark: Spor af begravelsesritualer i jordfæstegrave. *Kuml*. Vol. 60 pp. 161–245.
- van Gennep, A. 1960. *The Rites of Passage*. Chicago: University of Chicago Press.
- van Haperen, M.C. 2013. The Distributed Dead: Personhood from the Perspective of Reopened Graves. In: Ludowici, B. (ed.), *Individual and Individuality? Approaches Towards an Archaeology of Personhood in the First Millennium AD*, pp. 89–93. Hannover: Niedersächsisches Landesmuseum.
- Wenn, C.C. 2016. RV. 9 Krokå–Langeid del II: *Gravfelt fra vikingtid, Langeid Øvre, 2/1, Bygland k., Aust-Agder*. Rapport arkeologisk utgravning. Kulturhistorisk Museum. Oslo: Oslo University.
- Wenn, C.C. 2020. What Happened at Langeid? Understanding Reopened Graves after Time has Taken its Toll. In: Aspöck, E., Müller-Scheeßel, N. & Klevnäs, A.M. (eds), *Grave Disturbances: The Archaeology of Post-Depositional Interactions with the Dead*, pp. 137–156. Oxford: Oxbow Books. doi:10.2307/j.ctv13pk784.9.
- Winge, G. 1977. Rapport över arkeologisk undersökning av gravar, kulturlager, gropar och hårdar vid Lockarp 8, Ljungbacka och Mariedal i Lockarp, Malmö, Skåne, 29 juni–19 oktober 1976. Malmö museer.