

# Ring Out Your Dead

Distribution, form, and function of iron amulets in the late Iron Age grave fields of Lovö





## Abstract

The purpose of this study is to analyze the distribution, forms, and function(s) of iron amulets deposited in the late Iron Age gravefields of Lovö, with the goal of ascertaining how (and so far as possible *why*) these objects were utilized in rituals carried out during and after burials. Particular emphasis is given to re-interpreting the largest group of iron amulets, the iron amulet rings, in a more relational and practice-focused way than has heretofore been attempted. By framing burial analyses, questions of typology, and evidence of ritualized actions in comparison with what is known of other cult sites in Mälardalen specifically– and theorized about the cognitive landscape(s) of late Iron Age Scandinavia generally– a picture of iron amulets as inscribed objects made to act as catalytic, protective, and mediating agents is brought to light.

**Keywords:** Iron Age, Viking Age, burial, amulets, Thor’s hammer ring, *torshammarringar*, practice theory, ritual studies, New Materialism, cognitive archaeology, archaeology of ritual

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Cover illustration: Iron amulet ring found in grave A10, Lunda/Berga 34, image taken from the Lovö Project’s report on Lunda/Berga 34.

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**1.1. Selection of Material:** This project is based on a very specific collection of material, consisting of all iron amulets discovered in the late Iron Age grave fields of Lovö. Lovö (Figure 1) is located in the eastern end of Lake Mälaren (part of Ekerö Municipality, Stockholm County and the *landskap* of Uppland). The amulets are all finds excavated by members of the Lovö Project from Stockholm University. The question of how the term ‘amulet’ should be demarcated - and what identifies an object as an amulet as apart from the often closely related and/or overlapping categories of cult objects or items for personal adornment - is a notoriously ambiguous one (Jensen 2010: 7). Nonetheless a general consensus is discernable among archaeologists and other scholars currently working with on the religious/magical culture of Iron Age and Early Medieval Scandinavia that certain types of objects were used as amulets at this time. At least in terms of the conceptualization of ‘amulet’ as it is most often defined; that is as a portable object carried or worn by an individual- or placed in a designated space - for the purposes of accruing positive numinous effects of some kind and/or dispelling negative magical influences from that person or area.

In the Iron Age material from the Lovö grave fields are dozens of finds that *may* be identified (more or less securely) as amulets. That is, as belonging to typologies of portable objects generally considered amulets, and whose forms and usages suggest they did have magical/religious purposes (as discussed at length later in this paper). Of these finds a number are natural objects (see section 3.4.1), while others are manmade metallic articles that appear to have been specifically manufactured as amulets (or perhaps in a few cases reused as such after previous lives as tools). This study is confined to the latter group. A database of over 50 manmade amulets (included here as Appendix 1) was compiled, from which it was apparent that amulets made of iron dominated. This observation is in line with that of Bo Jensen, and others, that amulets made (wholly or partially) of iron have a statistically significant connection with grave sites (Jensen 2010: 72). Two types of iron amulets were present in the Lovö graves: pyrite and iron-wire pendants known as lightning protection amulets, and (typically ca15 cm diameter) circles of iron rod with attached iron pendants of various shapes –iron amulet rings.

Information on the iron amulets from Lovö is readily available. The results of the modern investigations of the grave fields are published in a series of reports put out by Stockholm University’s Department of Archaeology and Classical Studies that document the excavation of the sites by their Lovöprojekt from 1958 to 2008 (Petré 1984, 1999, 2010, 2011). These reports are very thorough and include detailed catalogues, maps, and drawings. However, within the five decade time span in which the excavations were carried out there were many changes within archaeology. Consequently, the reports from earlier decades are of course reflective of methods and theory prevalent at the time, some of which has since been questioned or evolved, and which some of which may have resulted in the loss or overlooking of some artifacts.

Nonetheless comparisons with the current number of known iron amulets excavated in Mälardalen as a whole support the assumption that the breadth of the university’s excavations and the extensive amount of material uncovered have resulted in a reasonably representative selection of what was originally interred, with some allowance made for the tendency of iron to

deteriorate in the ground. Overall the very well-documented contexts the fifty-five objects central to this study come from provides an excellent foundation for research. The author has also had the opportunity to supplement the information from the excavation reports with first hand observations of some (unfortunately not all, as much of the Lovö material is currently in a state of cataloging and storage limbo) of the iron amulets in the collection of Historiska Museet in Stockholm, and visits to the actual grave fields.

**1.2. Purpose:** The purpose of this master's thesis (or *mastersuppsats*) is to investigate how iron amulets were utilized in late Vendel and Viking period graves on the island of Lovö, an area whose rich excavated material has not been explored nearly as extensively as many neighboring sites such as Birka and Helgö. This entails both finding and assessing patterns to answer the questions of when, where, and with/by whom iron amulets were employed, and interpreting this data in light of what is known of rituals of contemporary life –and death- in Mälardalen with the goal of understanding how these objects functioned within the socio-religious networks of late Iron Age/earliest medieval Lovö. Particular emphasis is given to (re)interpreting the large number of iron amulet rings found in the grave fields in a more relational and practice-focused light than has heretofore been attempted.

**1.3. Questions at Issue (or frågeställning):** This - perhaps deceptively simple, but in fact very complex - issue of how iron amulets were used in the grave fields of Late Iron Age Lovö is approached by addressing a number of more specific problems, as follows:

1. What is the spatial and temporal distribution of iron amulets within the (relevant) grave fields on Lovö?
2. Can any patterns of distribution correlating to other variables such as type of grave, grave form, and/or sex of the individual(s) they were interred with be discerned?
3. What types of iron amulets are found in graves on Lovö, and what trends in design and/or manufacture do they display?
4. How were iron amulets placed within the grave contexts, and what does their placement suggest about their use in burial and/or other mortuary cult ritual?
5. What do the answers to the above questions suggest about the general function(s) and meaning(s) of iron amulets in the late Iron Age communities of Lovö, if anything?

**1.4. Theory:** As Bo Jensen states in his 2010 dissertation *Viking Age Amulets in Scandinavia and Western Europe*, “Amulets can be understood as material symbols...as a source for those practical, ritual actions that constituted an important part of the period's world of ideas” (Jensen 2010: 14). Jensen proposes that the investigation of how Viking Age amulets functioned as material symbols within specific physical contexts, such as graves or cult places, is best carried out using a theoretical approach he terms ‘post-structuralist semiotics.’ This approach emphasizes that the representational content of a sign (in this case a material object, not a linguistic abstract) is never fixed, but is rather dependent on its relationship to other signs, and

especially to the specific situation in which the sign is being deployed. Therefore, amulets must be investigated not only in terms of particular types but in the context of the particular circumstances in which they are found, and what else they are found with. This approach is of obvious use to this study as in essence what is being done here is in many ways replicating what Jensen attempts to do for analyzing and interpreting a much larger body of material (all groups of amulets from late Iron Age north/western Europe) on a much smaller scale (a single group of amulets from one island).

The amulets found on Lovö most likely did *symbolize* things to the late Iron Age Scandinavians who made and used them. But this is not *all* they did. The amulets are material signs, by definition both sign *and* material. Material culture has in much of processual and post-processual archaeology (among other disciplines) often been regarded as an inert reflection or representation of somehow pre-extant cultural concepts, rather than the means through which culture is actually constructed (Latour 2005: 85). The theories of ‘symmetrical’ archaeology that have been advanced in the last decade seek, however, to challenge this privileging of their meanings over the things themselves, and thus upset the false inequality previously set up between materiality and language, discourse and embodied experience.

As Bjørnar Olsen states it, “Things, materials and landscapes possess real qualities affecting and shaping both our perception of them and our cohabitation with them.” (Olsen 2010: 4). Olsen emphasizes that we act on things, but things also act on us, an assertion that is - as pointed out by Latour in his argument for the agency of things in actor network theory - already suggested (if not always consciously) in any discussion of what things *do* (Latour 2005: 71). This assertion is especially relevant in regards to any discussion of how an artifact or class of artifacts may have *functioned* in the past; if we are talking about what an artifact ‘does’ or ‘did’ we are already acknowledging that things ‘do’ as well as ‘mean’ in a real sense – that they effect an impact on the world - and that they can ‘do’ certain things (and not do other things) because of their particular material qualities. Therefore symmetrical archaeology and the other strands of what is commonly termed the ‘New Materialism’ in archaeology (other relational approaches, the consideration of the medium itself as a component of the message, etc.) are also major influences on this thesis, as one of its major aims is to consider iron amulets in how they were involved in and facilitated specific ways of acting, and in turn provoked specific reactions and modes of thought. In other words, in their roles as what Alfred Gell famously termed ‘secondary agents’ (Gell 1998), possessing their own social force.

One important aspect of the growing concern with materiality in current Swedish archaeology is an increasing focus on questions of practice, on what was actually done by people and with objects. The wish to know what people in the past were actually doing is at the heart of what Åsa Berggren and Liv Nilsson Stutz term a “practice theory perspective” of ritual studies. This states that the greatest way archaeology can contribute to our understanding of prehistoric ritual life is to focus on the concrete traces of specific ritualized actions. Berggren and Nilsson Stutz assert that, “because of the nature of our sources, we need to start our analysis with the traces of what people in the past were actually *doing* rather than what those actions ‘meant’ or

signified” (Berggren and Stutz 2010: 173). They point out that this is not a weakness or limitation of the discipline but rather can be a strength that provides an ability to escape an eternal circle of speculation, and to pose new and important questions based on the direct connection that material evidence gives us to the real actions of people in the past. Practice theory is thus well suited for investigating how the placement of iron amulets in graves on Lovö relates to their use in burial rituals and/or rites carried out later at burial places.

Whereas Berggren and Stutz are very firm in the declaration that practice, not meaning, is the only proper topic for archaeological studies of rituals, other archaeologists such as Neil Price (Price 2002, 2014), Ing-Marie Back Danielsson (Back Danielsson: 2007), and Leszek Gardela (Gardela 2009, 2013), to name but a few, make the case for studying both in concert. Several argue that the thoughts and feelings of prehistoric peoples can be perceived by studying their material culture through the lenses of “cognitive archaeology” (Price 2002: 15), which asserts that the mind of the past can be accessed *to an extent* through thoughtful interpretation of the archaeological record with the addition of a judicious use of other types of sources. These may include applicable documentary and/or literary material, careful application of ethnographic analogies, and theories borrowed from anthropological and psychological perspectives, such as phenomenology (the latter approach has been particularly fruitful for new materialists interested in the study of embodied experience in the past, i.e. Hamilakis, Pluciennik & Tarlow eds. 2002), with the caveat that physical archaeological evidence *must* still always take priority. This type of cognitive archaeological viewpoint can be a reasonable compromise between a wholesale rejection of ‘interpretation’ in the usual post-processual tradition of the word on the one hand, or an over-privileging of the ‘textual’ aspects of an artifact over its material qualities and actions as an agent on the other. So it has also been brought in when appropriate here to inform discussions of what may be deduced about not just how, but also *why* iron amulets (and why *iron* amulets?) were used in the ways they were (and not in other ways, e.g. Joy 2009: 550) in the late Iron Age grave fields of Lovö.

Some of the approaches outlined above - certain of which have as their main goal accessing past ideas while others are strictly concerned with matter – may at first glance seem antithetical, but this is not necessarily the case. They can function complementarily. All of them are concerned in different ways with the connectivity of the human (mind, body, and actions!) and the material, with the physical and/or mental interplay of people and things. After all objects both mean things *and* do things - amulets especially are (as Anders Andréén recently pointed out to the author) a perfect example of this fact as representative physical objects that are employed as inherently having active magical agency. Objects both express facets of culture and are involved in their construction, and human beings both really inhabit and are affected by a material world, and think and symbolize with and about it. It might be argued that this dialectical reality is the foremost implication of the *symmetrical* part of the term symmetrical archaeology. Therefore, orienting ourselves from the standpoint of materiality and practice need not preclude also exploring what these concrete aspects can tell us about more abstract realms of thinking and meaning; though these different levels of interpretation do unquestionably engage varying

degrees of evidentiary certainty, which must be addressed if we are to be honest about the weight of our conclusions...or lack thereof.

**1.5. Methodology:** The methodology employed in this investigation in large part follows what Howard Williams once termed ‘the new orthodoxy’ in burial analysis: data is collected on a number of variables concerning a set of graves and their contents, and then analyzed for patterns which might indicate various trends in burial rituals, and in turn implicate certain conclusions regarding socio-cultural realities in the past (Williams 2004: 89). All of this hinges of course on a core assumption in burial archaeology: that by using the evidence of objects deposited in a grave and their depositional contexts we can then say something about their societal context and “infer aspects of the performances in which they participated” (Joy 2009: 544). By beginning with the collection of data on the iron amulets from the Lovö Projects reports, which was then collated in a database laying out how many have been discovered, of what types, of what date, in which graves with which type of forms and what sex of buried individuals, and so on, a good foundation of ‘hard’ archaeological data was created. This has allowed for both the analysis of questions of distribution throughout space and time on the island, and provided a basis for moving towards reconstructing how these objects functioned. This latter task was carried out in the framework of the theories outlined above, with comparisons to the use of iron amulets at other sites around Mälardalen (i.e. Birka, Helgö, and Lilla Ullevi, among others) also acting as an important element in contextualizing the data and informing this interpretation

## 2. Spatial and Temporal Distribution

Figure 2: Grave fields excavated by the Lovö Project at Berga, Lunda, and Söderby

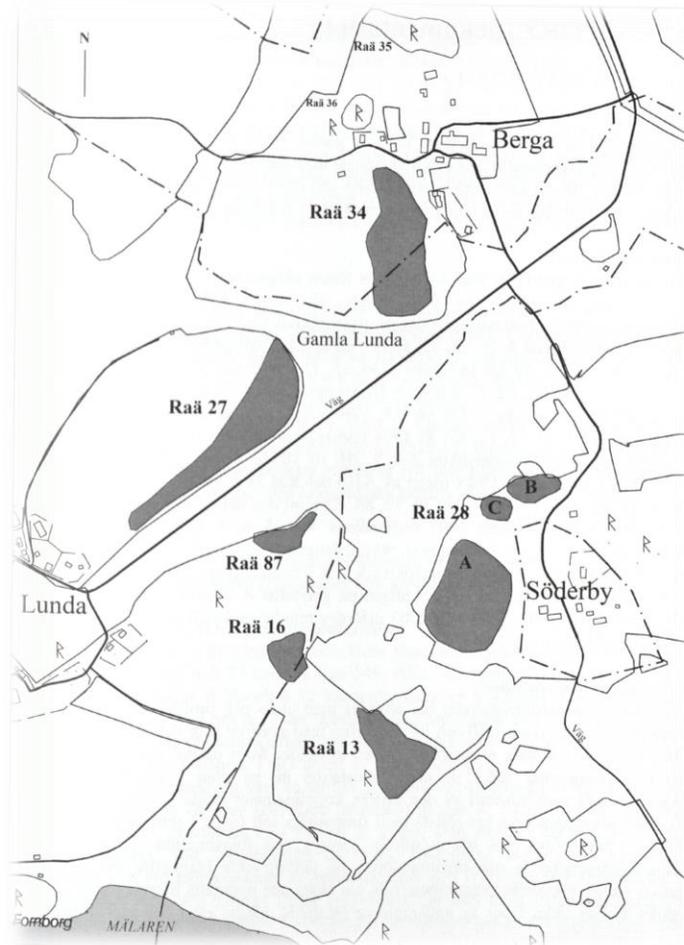


Image taken from the Lovö Project's report on Lunda/Berga 34, edited by Bo Petré

Not every grave field excavated by the Lovö Project included graves containing iron amulets. Figure 2 shows the south-western portion of Lovö where Lunda, Berga, and Söderby (all areas named for the large late medieval/early modern farms who owned the respective land) are located, with the archaeologically investigated grave fields shaded in grey. The grave fields from which material pertinent to this thesis derive are Raä 13, Söderby; Raä 16, Söderby; Raä 27, Lunda; Raä 28, Söderby; and Raä 34 Lunda/Berga (Raä 87 had no graves with relevant amulet types). Of the approximately four hundred graves excavated on south-west Lovö, forty-six, or approximately 12%, contained iron amulets. In the two most amulet rich Lovö grave fields, Raä 28 Söderby and Raä 34 Lunda/Berga, most of the graves containing iron amulets form a network of tight, roughly circular clusters (see Figure 3). This is consistent with Petré's observation that the grave fields of Lovö tended to develop in radial patterns, with family groups building graves outwards around older and/or more significant graves (Petré 2010: 407), a practice common throughout late Iron age Europe (Giles 2013: 77)

Figure 3: Distribution of graves containing iron amulets in Raä 28, Söderby and Raä 34 Lunda/Berga



Images taken from the Lovö Project's reports (additional red markings by the author)

All of the relevant grave fields consist primarily of monuments dating from the Scandinavian Iron Age (ca.500 BCE-1050 CE). Most were developed directly, and apparently deliberately, atop Bronze Age remains of both burials and settlement areas; a few Iron Age graves even have Bronze Age objects incorporated among their contemporary grave goods (Petré 2011: 329). The period of use for all the grave fields taken as a whole spans approximately seven hundred years, from ca. 370 to 1100 CE. The iron amulets which are the subject of this thesis all come from Iron Age graves, forty being contexts which can be dated from ca 750 to ca 1050 CE. That is to say in graves falling within the period generally outlined by scholars for the Viking Age, with a few outlying finds (from only six graves) dating from a slightly earlier period (roughly 650-750 CE, or the latest part of the Vendel period), or what will heretofore be referred to together as the Late Iron Age, as can be seen below in Table 1. All tables in this and the following section are based on the author's own collation of data from the series of reports published by the Lovö Project and edited by Bo Petré.

Table 1: Approximate dating for graves containing iron amulets

Approximate age of graves containing iron amulets	Number of graves containing iron amulets	Percentage of the graves containing iron amulets
Late Vendel (650-700s CE)*	3	7%
600s CE	2	4%
700s CE	1	2%
Viking Age (800-1000s CE)*	27	59%
800s CE	6	13%
900s CE	5	11%
1000s CE	2	4%
*No more specific dating available	Total: 46	Total: 100%

When only the hundred and sixty-six late Iron Age graves are considered, however, the percentage of graves containing iron amulets is significantly higher, at 28%. The number of late Iron Age graves containing iron amulets varies widely from grave field to grave field, from a single grave in Raä 13 Söderby up to twenty in Raä 34 Lunda/Berga. But taken as a percentage the distribution for each grave field is somewhat more consistent, at between 25 to 32% per grave field (see Table 2).

Table 2: Distribution of Late Iron Age graves containing iron amulets by grave field

Grave Field	Period of Use	Overall number of excavated graves dating to the late Iron Age	Number of graves containing iron amulets	Percentage of graves containing iron amulets
Lunda 27	Ca 400-1050 CE	19	6	32%
Lunda/ Berga 34	Ca 370-1050 CE	74	20	27%
Söderby 13	Ca 490-900 CE	3	1	33%
Söderby 16	Ca 550-850 CE	8	2	25%
Söderby 28	Ca 600-1100	62	17	27%
		Total: 166	Total: 46	Total: 28%

In short, roughly 1 in 3 to 1 in 4 Late Iron Age graves in each of the grave fields under consideration contain iron amulets. Making such amulets a relatively common type of grave good on the island; consistent with a general abundance of iron amulets in late Iron Age graves from Mälardalen as a whole (Ström 1970; Nilsén 1992; Andersson 2006; Lyman 2007). The most significant correlation between the spatial and temporal distributions of iron amulets in late Iron Age grave contexts on Lovö seems to be that the later a grave field remained in use, the more iron amulets it contains. This may be expected, considering the great increase in iron amulet use during the Viking Age visible in the data. It also corresponds with the dating of specifically iron amulet rings (which is, as discussed in Chapter 4, the most common iron amulet

type on Lovö) given by Gunnar Andersson and others, with most originating in the ninth and tenth centuries but some examples produced up to and throughout the eleventh century (Andersson 2006: 47). The use of iron amulets was clearly an important- fairly standard, though not ubiquitous- component of mortuary ritual for many of the residents of Viking Age Lovö.

### 3. Patterns of Distribution?

After considering the general distribution of iron amulets in the grave fields of late Iron Age Lovö, the next question that must be addressed is whether any patterns of distribution correlating with variables other than purely spatial or temporal ones can be discerned in the data. The three most obvious points of comparison from the point of view of the archaeology of burial places are of course grave type, grave form, and sex of the buried individual(s). The following Table 3 addresses the first of these issues.

Table 3: Distribution of graves containing iron amulets by grave type

Grave Type	Number of graves containing iron amulets	Percentage of the graves containing iron amulets
Cremation	43	94%
Inhumation	2	4%
*Ritual enclosure	1	2%
*Attached to a grave	Total: 46	Total: 100%

**3.1. Grave type** here refers to the method used for the disposition of the human remains found within the grave context. Cremation is, obviously, evidenced by burnt bones and/or the presence of a sooty ‘burn layer’ (in the Swedish language reports referred to as *brandlager*) created by the actual burning of the pyre on the grave site. Inhumation may leave behind unburnt skeletal remains, though in most cases from the Lovö sites most (or even all) of these have degraded and disappeared, and inhumation must thus be inferred instead by the presence of wooden coffin fittings like rivets or nails, and the *absence* of burnt bone. In one case (the context designated A33 in Söderby 28) an iron amulet ring was found in a context without evidence of any burial, which (as discussed later in this work) was likely a small ritual enclosure rather than an actual grave in the usual sense of the word.

As shown in Table 3, of the forty-six contexts containing iron amulets forty-three or 94% are cremation graves. On the one hand this overwhelming majority must at least in part be attributed to the simple fact that cremation graves are on the whole much more common than inhumations within the relevant grave fields. However, the fact that even in Raä 34 Lunda/Berga - where exactly half of the Late Iron Age graves are cremations and half are inhumations - only two of the inhumations as opposed to eighteen of the cremations contain iron amulets suggests that this discrepancy must be to a large extent a matter of choice and ritual considerations rather than a happenstance based solely on the overall composition of the grave fields.

**3.2. The grave forms** found in the relevant grave fields are highly characteristic of the Mälars valley region in the late Iron Age. The most common grave form is the round (or at least round-ed) stone setting (see Figure 4a) consisting of a roughly circular layer of stones – of varying size, anywhere between one and a half to nine meters in diameter – packed more or less

tightly into an earth mantle covering the grave-pit. Earth mounds (see Figure 4b) are another significant type of grave form, though they are much less numerous than the round settings. Perhaps unsurprisingly given their more commanding profile and a long tradition of high status associations throughout Iron Age Scandinavia, earth mounds cover some of the most find-rich graves in the Lovö grave fields. A scattering of stone settings of other shapes, such as quadrangles (see Figure 4c), round settings where the stones are built up like a cairn (see Figure 4d), oval settings with large “middle-block” stones raised in the center (see Figure 4e), and (the rarest shape) three-pointed stone settings (see Figure 4f), are also present.

Figure 4: Examples of grave forms from the Lovö grave fields:

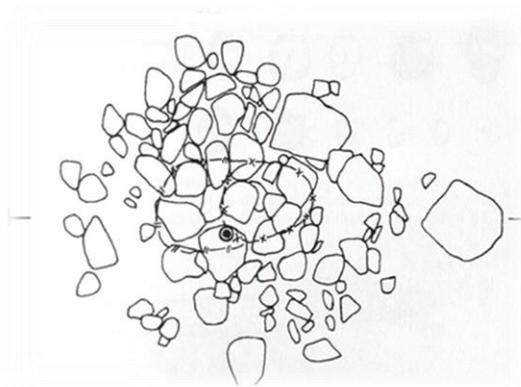


Image from the Lovö Project's report on Raä Söderby 28

a. A58 Raä 28, Söderby



Photo taken by author

b. A41, Raä 28, Söderby



Photo taken by author

c. A33, Raä 28, Söderby



Photo taken by author

d. A 37, Raä 28, Söderby

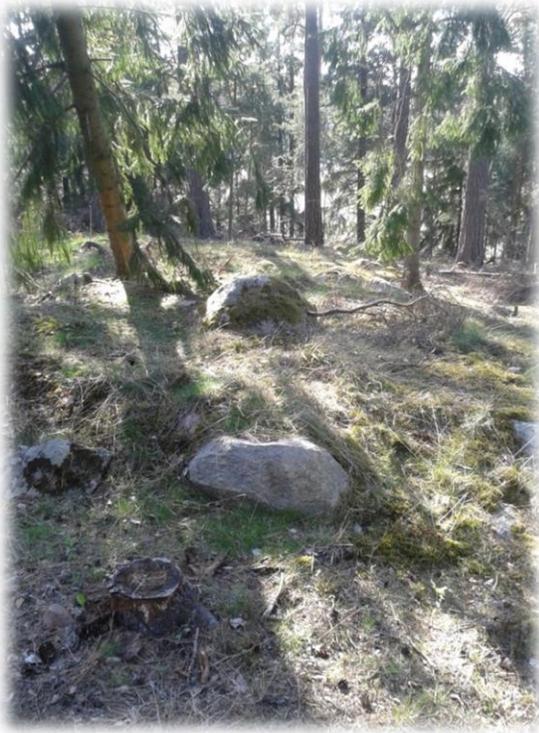


Photo taken by author  
e. A35, Raä 28, Söderby

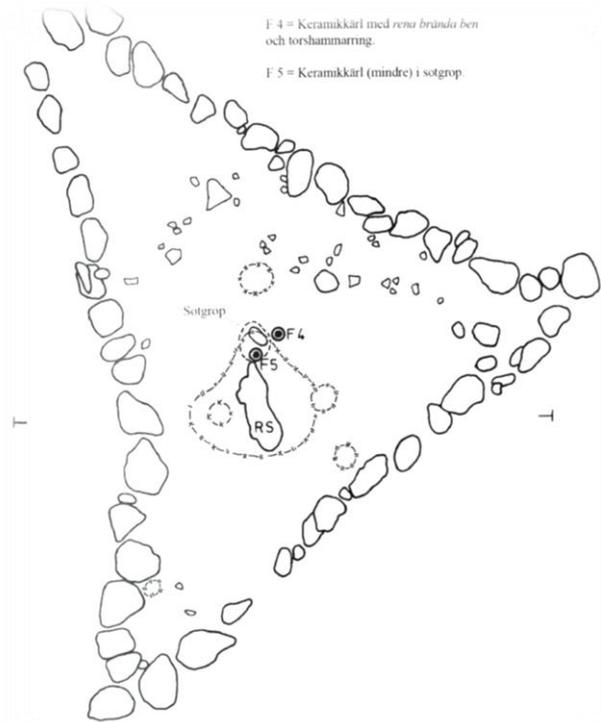


Image from the Lovö Project's report on Raä Lunda/Berga 34  
f. A34, Raä 34 Lunda/Berga

Table 4: Distribution of graves containing iron amulets by grave form

Grave Form	Number of corresponding graves containing iron amulets	Percentage of the overall # of graves containing iron amulets
Round/rounded stone setting	28	61%
Mound	11	24%
Quadrangular stone setting	3	7%
Cairn-like stone setting	2	4%
Round-oval "middle-block" stone setting	1	2%
Three-pointed stone setting	1	2%
	Total: 46	Total: 100%

As can be seen above in Table 4, the distribution of graves containing iron amulets by grave form – unlike grave type – does seem to primarily be a reflection of the overall composition of the grave fields. Most (61%) of the graves with iron amulets are round stone settings, and this is by far the most numerous grave form generally, while 24% are mounds (the second most common grave form overall), with the rarer setting forms having correspondingly lower levels of representation. In regards to the distribution of the individual amulets within the

individual graves, of the different forms it is the mounds that most often have multiple iron amulets, though the highest concentration of iron amulets in a single grave actually comes from grave A59 in Raä 34 Lunda/Berga, a rounded stone setting. This may simply be reflective of the generally larger quantities of objects deposited in the mounds, or it may reflect some greater level of ritual attention paid to presumably higher status individuals buried inside them. In as much as status may sometimes be inferred from wealth of grave goods and size of graves, which is not by any means a given - in cremation graves especially what is actually interred is likely to be only a small portion of what was originally displayed and burnt on the pyre (Williams 2004: 93; highlighting not only the obvious factor of the destruction of artifacts during the cremation process but the subsequent selection of specific objects from the remaining material as well).

**3.3. Sex and gender:** In recent scholarship there has been a good deal of criticism of the long-standing archaeological practice of assigning gender to graves through the identification of certain sets of objects as either exclusively feminine or masculine attributes - for example weapons as masculine and jewelry sets as feminine. Much attention has also been paid to wrestling with the inherent dichotomy present in attempting to reconstruct ancient conceptions of sex and/or gender roles from the osteological evidence presented by human remains on the one hand, and the cultural ideas expressed in artifacts preserved as grave goods on the other (e.g. Hjørungdal 1994). All bodies have a sex but not all graves have a discernible gender (Bolin 2004: 173; and more frequently the case for cremations than inhumations), but sex and gender are rarely completely unrelated issues. Therefore, when certain practices such as the deposition of certain articles of dress or amulets do appear to correlate with divisions in sex, it may be reasonable to assume that biological sex did indeed play a role in the construction of social gender, though gender was - as ever - still a construct (Stig Sørensen 2009: 254).

In studying the patterns of distribution of the iron amulets on Lovö in this thesis it is the osteologically determined - or frequently *undetermined*, as there is no one fool-proof osteological method for determining sex - sex of the remains in the relevant graves (according to the multi-variate based osteological data published in the reports ) which is the basis for examining the relationship of iron amulets to sex/gender as presented in Table 5, rather than the possible gendered associations of the other grave goods. This choice was made for two reasons. One, because late Iron Age graves on Lovö - in line with a trend visible across the whole of Mälardalen - do not typically display that much gender differentiation in their contents (Bolin 2002: 182). And secondly, because even when the iron amulets were correlated with gendered grave goods, there was no significant alteration in the overall fairly even pattern of distribution already noted.

Table 5: Distribution of graves containing iron amulets by sex of the buried individual(s)

Sex of buried individual(s)	Number of corresponding graves containing iron amulets	Percentage of the graves containing iron amulets
Female	15	33%
Male	11	24%
Undetermined	15	33%
Double (Male/Female)	1	2%
Double (Female/Undetermined)	1	2%
Double (Male/ Undetermined)	1	2%
Double (Both Undetermined)	1	2%
No burial	1	2%
	Total: 46	Total: 100%

As Table 5 displays, based on the graves where sex could be determined with a fair amount of certainty there is no very sharp divide between the number of graves containing female remains and iron amulets (15) and those with male remains and iron amulets (11). By percentage one-third of the identifiable women's graves had iron amulets, and roughly one-fourth of the men's graves. The different combinations sex in the double graves all come out to an even 2% each and so do not disturb the overall distribution greatly; nor would the 15 undetermined graves, if one assumes that there should be no substantial deviation from the norm if they were also sexed. Women's graves appear more often than men's graves throughout the grave fields of Mälardalen as a whole, though on Lovö the representation of the sexes is fairly even, with perhaps actually slightly more men than women (Petré 2011: 351).

Taken all together, it is reasonable to conclude that women were typically buried with iron amulets more often than men (indeed one small class of iron amulets, the lightning protection amulets, is *only* found with women), corresponding with Jensen's observations that throughout Iron Age Scandinavia women were generally buried with more amulets – and more different types of amulets – than men (Jensen 2010: 180). However, the divide in the number and percentage of graves of each sex containing the most common type of iron amulet, iron amulet rings, is not so great that it can be assumed that iron amulet rings had a significant association with gender identity. These iron amulets appear to have been a gender neutral type of grave equipment on late Iron Age Lovö, considered suitable for individuals of either sex to carry into the afterlife, much as the use of iron amulets appears to have been relatively status neutral (in so far at least, as noted in section 3.2, socio-economic differentiation *might* be inferred *to some degree* from quality/quantity of grave goods and grave size). Their use also appears to have had little to with age; they are found both in the (overall much rarer) graves of children and of adults of all ages.

All of this suggests that iron amulets were not typically used to represent social identities – not at least as such are usually understood in the post-processual tradition of viewing graves chiefly as 'symbolic texts' intended to be 'read' by mourners (Williams 2004: 90). This is not

to say that there was no social dimension to the use of iron amulets at all – funerals are always arenas for social negotiation - but rather that this was not their *primary* reason for being used in the burial rite. They were not grave goods used to emphasize the personal qualities of the deceased, but rather a type of magico-religious equipment. Therefore, the answer to the questions of what iron amulets meant and how they functioned is probably to be found not in their association with the particular people they were interred with, but in what exactly they *did* in burial and post burial rituals.

**3.4. Relationship to other grave goods:** One variable which may assist in determining how iron amulets functioned is their relationship to other grave goods. Two of the most frequently analyzed groups of Viking Age grave goods are weaponry (including swords, spear or arrow points, and the remains of shields) and large brooches (usually oval or bow shaped, used to pin the straps of decorative aprons and cloaks respectively), both because these are typically seen as tied to gendered identities and indicative of a certain status level, and the fact extensive typologies have been built around them. However, there does not appear to be any significant correlation between either group of objects and the distribution of iron amulets on Lovö.

Table 6: Find combinations of iron amulets w/ weapons and/or large brooches

Find combination	Number of graves containing the combination	Percentage of overall # of graves containing iron amulets
Iron amulets and weapons	7	15%
Iron amulets and large brooches	9	20%
Iron amulets w/ weapons & brooches	1	2%
Iron amulets w/ neither	29	63%
	Total: 46	Total: 100%

As shown above in Table 6, over half (63%) of the iron amulets were *not* found in combination with either weapons or large brooches, which is not that surprising given the relative rarity of both these artifact types in the Lovö grave fields (Petré 1999b: 120). There were only seventeen graves where iron amulets were found in combination with these artifact groups. In these combinations iron amulets are only 5% more likely to appear with large brooches (20%) as with weapons (a percentage not so far off the overall distribution of weapons in only 10% of all late Iron Age graves on the island; Petré 2010: 378).

This distribution seems most probably -considering weapons as traditionally regarded as a masculine grave good type and brooches as a feminine one - to be related more to the overall distribution of iron amulets in relation to the gender of individuals they were buried with (with approximately 9% more female graves containing iron amulets) than to any particular practice that specifically involved these other types of grave goods. Similarly, when the distribution of iron amulets is compared to that of beads, one of the very most common type of grave goods from Lovö (Petré 2010: 356; only surpassed by urns, boat rivets, and tacks for shoes and riding

equipment, and almost exactly as common as combs), no real pattern emerges, as the iron amulets are almost equally likely (appearing alongside beads in 54% of the graves) to be found in combination with beads as without them. All these examples are representative of a more general situation. Namely, that the distribution of iron amulets really appears to have no particular relationship to the other contents of the graves they are found in. The impression given by the evidence is that *any* given combination of (even relatively) common late Iron Age grave goods may include iron amulets, and no particular combination necessarily excludes them.

3.4.1. Non-ferrous amulets are, however, the one notable exception to this rule, as their distribution does actually display an interesting relationship with that of the iron amulets. Only three artifacts made of non-ferrous metals and identifiable as belonging to generally accepted typologies of artefactual amulets can be identified from the late Iron Age graves on Lovö. All three come from a single grave, A44 in grave field RAÄ 28 Söderby, a find-rich burial of two adult women dating (on the basis of Carolingian coin also found in the grave) to no earlier than 837 CE. A44 also contains two iron amulet rings. All three of the non-ferrous amulets are made of silver. Two are partially melted (one very much so) examples of a horse and rider type (Figure 5a) known from Gotland and chamber grave BJ 825 in the Hemlanden cemetery on Birka (Figure 5b) (Petré 2011: 72). The third is a fragmented shield- form amulet (Figure 6a). A type known from a number of Viking Age contexts (mostly silver hoards and graves) around Sweden including – most significantly in connection to Lovö – sixteen examples from the Birka grave fields, some with nearly identical decoration (Figure 6b) to the example from A44, and one occurring on a small silver amulet ring (Gräslund 2007: 93).

Figure 5: Comparison of horse and rider amulets

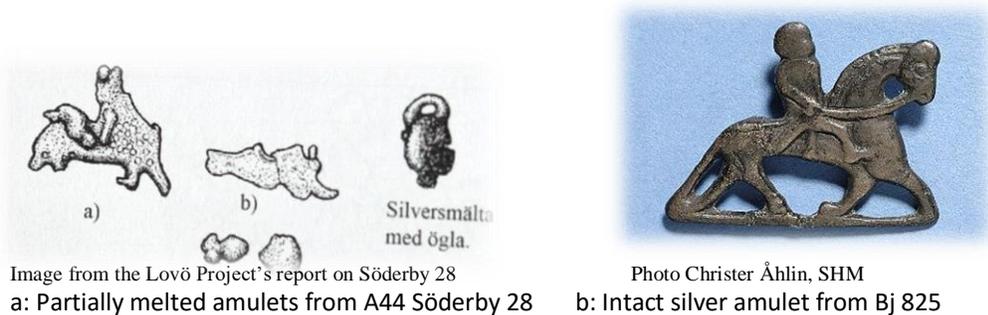
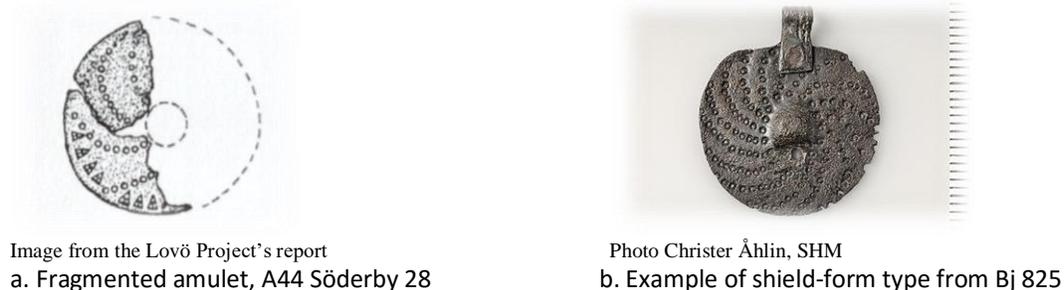


Figure 6: Comparison of shield-form amulets



The shield amulet from A44 is also very slightly melted. The melting of the silver amulets indicates that they accompanied the bodies on the funeral pyre – probably, if they were used in the same manner as comparable material from the Birka chamber grave, actually having been worn on the body as pendants during life– which is in marked contrast to the iron amulet rings found in the same grave, which are always wholly unburnt and (as is discussed in Chapter 5). The very small number of silver amulets, as well as their restriction to a single grave, suggests that the use of silver amulets in burials was not a typical practice on Lovö during the late Iron Age. All this, taken in consideration with the melting and similarities of design, suggests the use of the three silver amulets in A44 Söderby 28 was most likely the result of a personal choice of religious expression and dress on the part of the buried women and/or their families, perhaps influenced by contemporary practices on Birka. This is entirely different from the very widespread use of iron amulets on Lovö, which must reflect more popular practice and belief and were probably not (as noted in sections 3.3.) chiefly items of personal adornment expressing individual identities as such.

Gräslund and others (Gräslund 2007: 94, Fuglesang 1989: 16) credit fire steels (which somewhat contrary to their inclusion in this section *are* ferrous material, but not indisputably considered amulets) with magical associations, particularly when they have been miniaturized and used as pendants (some of which have been discovered threaded onto amulet rings). No miniature fire steels were found on Lovö, but two full size fire steels occur in A19 RAÄ 13 Söderby and A43 RAÄ 34 Lunda/Berga, dating to the late-Vendel or early Viking Age and the early eleventh-century respectively. Both are of the oval with rolled-back ends design typical for the late Iron Age Mälars valley. Neither of the graves with fire steels contained any other amulets, and both contained individuals whose sex could not be determined.

All other non-ferrous amulets found in late Iron Age graves in the Lovö gravefields are also wholly non-metallic. These include lynx claws, bear finger bones, flints used for sparking fires, hazel nut shells, and seeds. Presumably the flints were used in the process of lighting the pyre, but their inclusion in only some cremation graves, and much more frequently at some periods than others (and even in two inhumations) as shown in Table 7, suggests intentional deposition rather than accidental inclusion in during the gathering up of remains from the pyre. It is not unreasonable that the magical associations suggested by scholars for fire-steels would likely have applied to their stone counterparts as well. It is possible (though obviously not certain) that seeds and grains may have been deposited in graves in a process of ‘symbolic fertilization’ with the potential to grow new plants representative of – and maybe actually meant to facilitate- renewal and rebirth of the dead (Isroth Vana 2007). Hazelnuts could serve a similar purpose, and/or been meant as food for the dead in their new existence (Hansson 2005: 39). As shown in Table 7, in contrast to iron amulets the distribution of some non-ferrous amulet types do imply heavily gendered associations (at least so far as can be seen in the extant material; some may have disappeared over time or been lost during excavations).

Table 7: Distribution of non-ferrous amulets in the Lovö grave fields

Amulet type	Number of graves	Number of graves dating to late Vendel	Number of graves dating to Viking Age	Number buried with Females	Number buried with males	Number buried with individual(s) of undetermined sex	Number of graves also containing iron amulets
Sparking flints	24 (100%)	16 (67%)	8 (33%)	5 (21%)	13(54%)	6 (25%)	3 (13%)
Bear finger bones	5 (100%)	3 (60%)	2 (40%)	2 (40%)	0 (0%)	3 (60%)	3 (60%)
Lynx claws	3 (100%)	3 (100%)	0 (0%)	3 (100%)	0 (0%)	0 (0%)	0 (0%)
Hazelnut shells	13 (100%)	5 (38%)	8 (62%)	6 (46%)	4 (31%)	3 (23%)	4 (31%)
Seeds	14 (100%)	5 (36%)	9 (64%)	4 (29%)	3 (21%)	7 (50%)	7 (50%)
Total	59 (100%)	32 (54%)	27 (46%)	20 (34%)	20(34%)	19 (32%)	17 (29%)

This is most notable in regards to lynx claws which seem to be associated exclusively with women, and sparking flints which tend to be associated with males. All of the graves containing non-ferrous amulets are cremations with the exception of A13b, A71, and A91 Raä 34 Lunda/Berga, which are inhumations containing a sparking flint, seeds, and both a sparking flint *and* seeds respectively. Finger bones and lynx claws (all amulet types popular in the early Vendel period as well) are all much more numerous in the late Vendel as opposed to Viking period, with 67%, 60%, and 100% respectively of the extant late Iron Age specimens from Lovö coming from graves dated by Petré to the later 600s or 700s CE. The opposite is true for seeds and hazelnut shells, which are roughly twice as numerous in the Viking Age graves.

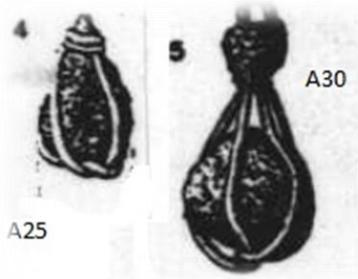
Overall, the overlap between graves containing non-ferrous amulets and those containing iron amulets is relatively small at 29%. However, the percentage of overlap with each type of non-ferrous amulet varies widely, from no overlap of distribution at all between lynx claws and iron amulets, to over half (60%) of bear finger bones occurring in graves with iron amulets, and exactly half of seeds. These differences suggest that in some cases, such as that of lynx claws and sparking flints, the use of non-ferrous amulet types popular in the Vendel period disappeared or were drastically reduced as time went on and the use of iron amulets proliferated. This may imply that the perceived function(s) of these non-ferrous types in the burials were taken over by the new iron amulet types, and/or that practices associated with the older types were discontinued as new practices involving iron amulets came into being. On the other hand, the increase in the deposition of seeds and hazelnut shells in Viking Age graves - and consequent greater overlap with the deposition of iron amulets - suggests that practices and beliefs connected with the use of the seeds and nuts were either unaffected by the rise in iron amulet use in graves or adapted and strengthened in concert with them.

## 4. Typology

The iron amulets found in the grave fields of Lovö can be divided into two groups, both of which have a long history of recognition in literature on amulets from Scandinavian and other northern European regions: ‘lightning protection amulets’ (or *blixtskyddsamuletter* in Swedish) and iron amulet rings (a term whose use here, as opposed to Thor’s hammer rings, is explored at the end of the present chapter). An additional group of two individual Thor’s hammer amulets is identified in the Lovöprojekt reports, but are believed by the present author to more probably be the isolated remnants of highly damaged amulet rings.

**4.1.** The four *lightning protection amulets* all come from female cremation graves, two from Raä 27 Lunda and a single example each from Raä 16 and Raä 28 Söderby. They are constructed of small stones with metallic inclusions (likely iron pyrites) encased in basket-like settings of iron (Figure 7-8).

Figure 7: The amulets from Raä 27 Lunda



Images from the Lovö Project’s reports

Figure 8: Raä 16 Söderby compared w/ Lindholm Høje

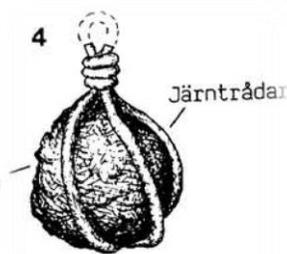


Image from the Lovö project report



Photo Nørresundby Museet

The identification of these wire-wrapped iron pyrites as amulets employed for protection against lightning strikes (and storms and fire more generally) rests chiefly on resemblances between the four pendants from Lovö and artifacts from other, non-Swedish sites identified as ‘thunderstones’ (Petré 1984: 47). The thunderstone is a concept with an extremely long life within private ritual praxis around the North Sea (and indeed other areas of the world as well) (McNamara 2007: 279). Several disparate object types were believed to be thunderstones – that is, to be the physical remains of thunderbolts endowed with apotropaic virtues. These included fossilized sea urchins and iron pyrites, both of which were still being employed either by being stashed in hidden caches in dwellings, or worn on the body in the form of pendants (looking virtually identical to their Iron Age counterparts), well into the last century in both Scandinavia and England (Ettlinger 1939: 154). As shown in Figure 8, the formal similarities between one of the most well-known Danish thunderstones – the pendant made from a fossil echinoid found in an Iron Age grave at Lindholm Høje- and the amulets from Lovö are striking. The four iron bands of the wire casing on the Lovö pyrite might even be read not only in solely functional

terms, but also as an effort to make the mineral thunderstone look more like one of its striated fossil counterparts.

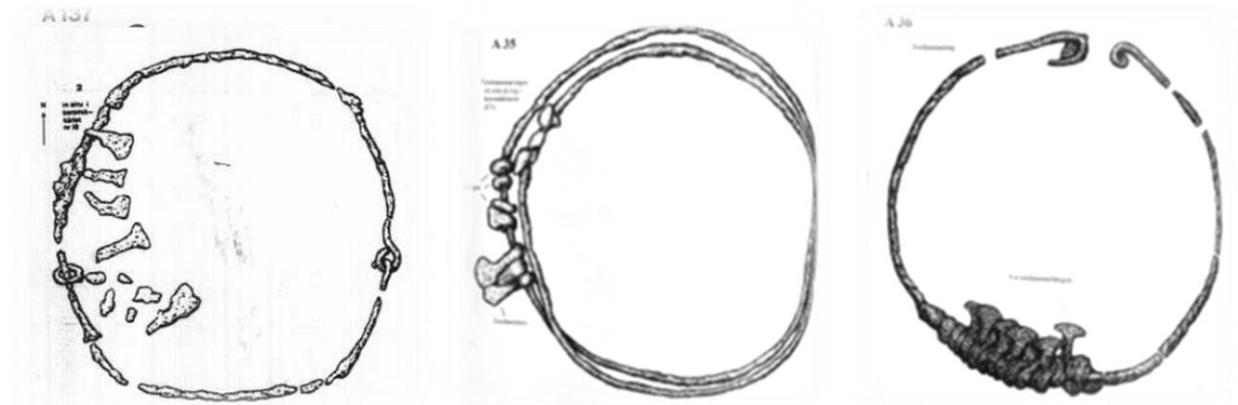
It has been suggested that iron pyrite became associated with lightning due to the way it gives off sparks when struck (Petré 1984: 47), while the link between fossil echinoids and thunder is usually hypothesized in vague terms of the “strangeness” of their shapes being attributed to a divine origin in the skies. Whatever the exact reasoning, however, a conceptual link was drawn between the two materials, and it is not a huge leap of logic to imagine objects signifying thunder and lightning may have also been linked in late Iron Age Scandinavia to beliefs and praxis surrounding the Norse god believed to create those phenomena, Thor. Petré for one believes the link to be made explicit by way of a late Iron Age buckle now in the Swedish History Museum; the center of the buckle resembling the shape of a lightning protection amulet, flanked by two goats interpreted as the pair that pull Thor’s chariot (Petré 1984: 47).

All four of the lightning protection amulets date to the earliest end of the series of iron amulets from the Lovö gravefields. Taking this fact into consideration alongside the pattern discussed in the previous chapter - that in most cases, such as that of *sparking flints* (another object which could be associated with Thor cult) non-ferrous amulet types popular in the Vendel period start to decline parallel to the increase in the use of iron amulets in the Viking Age – an interesting pattern is suggested. A kind of conceptual genealogy starts to emerge among seemingly disparate amulet forms; at least some of the ritual functions/social needs (those apparently bound up with having objects connected with fire/lightning/Thor in the grave?) served first by the sparking flints, and then overlapping with that of the lightning protection amulets in the start of the late Iron Age on Lovö, appear to have been subsequently adapted and attached in its latter centuries to a different form connected with the thunder god: the iron amulet ring.

**4.2. Iron amulet rings** comprise the single largest group of amulets - compared with both other ferrous *and* non-ferrous amulet types - excavated from the Lovö gravefields. Fifty-one examples are listed with accompanying drawings in Petré’s excavation reports (Figure 9), where they are identified as *torshammarringar*, or Thor’s hammer rings. A very characteristic artifact type for late Iron Age sites around Mälaren, found in grave fields and at other religiously significant sites on several of the islands neighboring Lovö, as well as many areas of the mainland lake valley (Andersson 2006: 44). In fact, circa 95% of all known examples of Thor’s hammer rings come from Mälardalen, (Fuglesang 1989: 16; true even given more recent finds).

Though mentioned as early as the 1900s in the Birka field journals of Hjalmar Stolpe, the first attempt at creating a comprehensive overview and detailed typology of the rings as a distinct class of artifacts – as opposed to an addendum to discussions of the single Thor’s hammer amulets used as pendants – did not come until the 1970s, with Krister Ström’s dissertation *Om fynden av torshammarringar* (Ström 1970). Ström’s project has since been directly continued and updated with information from new finds by other researchers such as Gunnar Nilsén (Nilsén 1992) and most recently Jasmine Idun Tova Lyman (Lyman 2007).

Figure 9: Some examples of iron amulet rings from the Lovö grave fields



Images from the Lovö Project's reports

a. grave A137, Lunda 27

b. grave A35, Söderby 28

c. grave A36, Lunda/Berga 34

Ström proposes the following definition of a Thor's hammer ring: "a circle-framed ring of iron rod closed with a retractable latch and with pendants of iron strung on it" (Ström 1970: 1; which has become *the* standard definition), and most -but *not* all- of the Lovö rings do conform to this description. All (excepting the two specimens of which only isolated pendants are left) of the Lovö examples can be plainly observed to be –or have been, as many are now in fragmentary condition or bent out of their original shape –made of an iron rod of between slightly less than a half to almost a whole centimeter in width and shaped into a circle. The close correspondence in both the thicknesses and textures of the different components making up most Thor's hammer rings suggests that both the main ring and attached pendants were made at the same time (Ström 1970: 10). The Lovö rings, like those from other sites around middle Sweden, are worked in wrought iron (or *smidesjärn* as it is known in Swedish, as opposed to steel) of an identical grade as that used for the nails, rivets, and equipment for horses found in the same grave fields. Experimental archaeology carried out by modern smiths has shown that hammer pendants of the typical size and general form of those that occur on Thor's hammer rings can easily be made from flattening ordinary iron nails (Trotzig 2014: 139; to which the observation can be added that the basic four-sided or round iron rods from which nails are often worked in traditional blacksmithing techniques in Sweden could also be transformed into the main rings with relative ease). It is all therefore together probable that the same smiths who produced 'everyday' iron objects were also responsible for making iron amulet rings. Which is hardly surprising in light of the apparent connections between the working of iron and certain religious practices in late Iron Age Mälardalen, as evidenced for example by the close juxtaposition of metal workshops and cult sites on Helgö (Zachrisson 2004: 144).

27 out of the 51 iron amulet rings from Lovö have latches extant, all of which match up to one of the latch construction types enumerated by Ström (Ström 1970: 5); 15 have interlocked spiral ends (Figure 10a), 7 have a hook-and-eye latch (Figure 10b), and 5 are latched by means of the ends being bent into two simple hooks (Figure 10c). Twelve of the remaining rings do not have a latch preserved at all. However, contrary to the usual definition of the type, another

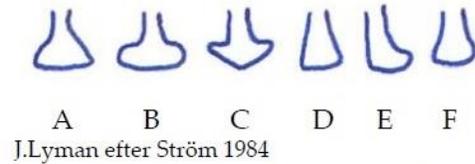
twelve evidently never had a latch to begin with, being instead constructed of one continuous closed band of iron (i.e. the rings from A35, Figure 10b).

Figure 10: Ström's amulet ring latch types



Images from the Lovö Project's reports

Figure 11: Ström's hammer pendant types



J. Lyman after Ström 1984

Ström's typology also describes what pendant types are threaded onto the rings (Figure 11). Foremost among these are, naturally, the pendants actually identified as Thor's hammers, which Ström divides into six groups based on the shape of the hammer head (Ström 1970: 8) - other classifications are of course possible, for example Novikova's system based on how the hammer pendants are attached to the ring (Novikova 1992; the overwhelming majority of hammer pendants from the Lovö rings would conform with Novikova's Group I, pendants attached by the top end of the hammer shaft simply being folded over the ring), but Ström's remains the most commonly used. As Ström (among others) has noted, types B and C are the most hammer-like, bearing the closest resemblance to the well-known examples of Thor's hammers in silver (Figure 12), as well as actual tools recovered from Viking Age sites (Figure 13), including the (presumed) smith's hammer found in grave A60, Lunda/Berga 34.

Figure 12: Silver Thor's hammer s, Bj750 & Läby



Photos Ola Myrin, SHM

Figure 13: Tools found in the Black Earth, Birka



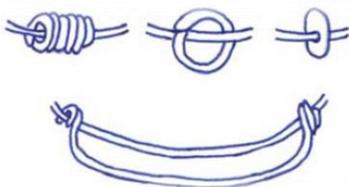
Photo Ola Myrin, SHM

Types A and D can, however, just as easily be identified as *ax* rather than hammer-shaped. A confusion of symbols which is probably more than a coincidence, given that axes too are weapons of thunder/sky gods in several Indo-European mythologies, and apparently preserved some of the same associations in Northern Europe; Stone Age flint axes being yet another type of objects employed as thunderstones (at least as far back as the Middle Ages) in Scandinavia (Ellis Davidson 1965: 6; all of which may have interesting implications for the Neolithic stone weapons found in a handful of the Lovö graves!). Type E may in turn be related to the miniature scythe/sickle pendants also found on many amulet rings from late Iron Age sites in central Sweden (see Figure 15a); though not rings which are typically classed as "Thor's

hammer rings” specifically. The ambiguous Type F could be viewed as another ax shape, or even a club (Ström 1970:50), but the unevenness of most examples cited as such rather suggests that most F-class pendants are actually just worn down examples of other ‘hammer’ types.

Pendants more or less compatible with all types A through F (excepting E, of which no truly secure examples are extant, though one or two indeterminately shaped pendant *might* be sickle-shapes of some kind) exist on amulet rings from Lovö. In addition to the hammer/other tool shaped pendants there are also examples of the small rings, continuous wire spirals of various lengths and numbers of loops (a type sometimes hard to distinguish from separate rings due to corrosion, Petré 2010: 363), and remains of extra rods attached to the main ring (Figure 14) also common to Thor’s hammer rings. Some other attachments of indeterminate form could be flat disks (Figure 14), though corrosion also makes this difficult ascertain. It must also be considered that – as clearly not all of the original number of pendants has survived on every ring, as evidenced for one by the vestiges of broken-off pendants visible on many specimens – there *could* have even originally existed pendants of still other forms. These might have included types known from other categories of amulet rings, such as fire steels (Figure 15a; fire-steel shaped pieces can serve as the main ring as in this example, or as pendant(s), or both, with examples of the first often being categorized as their own discrete group of “fire steel shaped rings”; e.g. Nilsén 1992: 16.), staves, and spears or swords. Iron examples of all these pendants types are known from sites around Mälardalen, but differences between them are often hard to distinguish due to corrosion. An idea of their original appearance may possibly, however, be gleaned from comparisons with the pendants of the rare miniature *silver* amulet rings known from a very few graves on Birka and Öland (Figure 15b).

Figure 14: Additional THR types



Lyman, drawn after Ström

Figure 15: Other amulet ring pendant types



Photo Christer Åhlin, SHM  
a. The Black Earth, Birka



Photo Gabriel Hildebrand, SHM  
b. grave from Köping, Öland

As shown in Table 8, there is a great deal of variety in how different (extant) pendant types are combined on the iron amulet rings from Lovö. For the most part there are only single instances of any given combination; only nine combinations occur twice or more. The two most common combinations are C-type hammer pendants with spirals, and B and C-type hammers with small rings. Rings with combinations of different types (28) occur much more frequently than those with pendants all of a single type (8). And rings with several pendants (36) are *overwhelmingly* more common than those having only a single pendant (6). Clusters of pendants of one type in sets of twos or threes are frequent, and larger groupings tend to consist of

multiples of 2 or 3 (e.g. the ring with *nine* hammers from A36 Lunda/Berga 34, Figure 9c). This apparent favoring of certain numbers may be significant in light of theories about Old Norse number symbolism (cf. Tang 2015). Numerological or not, there is a definite preference for repetition of forms exhibited which is significant from a semiotic point of view; a sign may shift in meaning in relation to other signs in its vicinity (Jensen 2010: 14) and this includes other occurrences of the *sign itself*. Repetition highlights the importance of what is repeated, and in the case of amulets could be intended to intensify magical efficacy (Maguire 1990: 220).

Table 8: Combinations of (extant) pendants on iron amulet rings from the Lovö grave fields

Combos occurring twice or more	Cc+S (4), B+C+Rr (3), A+C+Rr (2), C+Rr (2), S+Rr (2), Aa (2), Rr (2), B(2), F (2)
Combos occurring only once (different types)	Aa+Rr (1), Aa+?+X (1), A+C+S (1), Bb+F+X (1), B+Rr (1), B+Rr+S (1), B+Rr +? (1), Dd+Rr+? (1), F+Rr+S (1), Ff+Rr (1), F+Rr (1), Rr+? (1), Rr+X (1), H+S (1), H+S(s)*+X (1)
Combos occurring only once (single types)	Bb (1), Cc (1), Dd (1), Ff (1), A (1), C (1)
*Spiral wound around part of another spiral	A,B,C,D,E,F = corresponding Ström hammer type (Aa,etc=two or more), H =partial/unidentified hammer, Rr=rings, S= spiral(s), X= extra rod, ? = pendant of indeterminate other shape

As also displayed in Table 8, not every iron amulet ring from Lovö – all of which are cataloged in the excavation under the title *torshammarring*- even has *Thor’s hammer* shaped pendants on it; two rings only have smaller rings and spiral pendants, and two others only have a number of small rings. These hammer-less rings- such as the ring from grave A35 Lunda Berga 34 (Figure 16a) - bear a marked resemblance to a type of amulet ring bearing only other smaller rings deposited at important late Iron Age cult centers around the Mälaren valley. For example in several of the building groups, and by notable natural features, at Helgö (Zachrisson 2004: 148), and at Lilla Ullevi (Figure 16b), where a large number were found beneath a stone platform that probably served as an altar or a seidhjall (Bäck & Stenholm 2012: 16).

There are also nine “Thor’s hammer rings” found in the graves at Lovö that have no pendants at all. While it is likely that these have been damaged by taphonomic processes, or on purpose (as is discussed in Chapter 5), and thereby lost whatever pendants they once had, it is also possible that some never had any pendants to begin with. ‘Bare’ iron rings are were deposited in graves and at cult sites from time to time, found in contexts dating both much earlier – such as notable examples from the famed temple at Uppåkra (Ödman 2003: 89) - and contemporaneous with the late Iron Age grave fields at Lovö (e.g. the over fifty found at Lilla Ullevi, Bäck & Stenholm 2012: 62).

Figure 16: Amulet rings with only smaller rings



Image from Lovö project report

Photo Ola Myrin, SHM

a. A35 Lunda Berga 34

b. stone altar at Lilla Ullevi

Figure 17: Thor's hammer ring, 6cm diam.



Photo Christer Åhlin, SHM

Badelunda grave field, Västmanland

Several iron amulet rings from Lovö deviate from the parameters typically put forward for a 'Thor's hammer ring' in other formal ways as well. A four-sided cross-section, and a selective twisting of the metal rod forming the main ring in (typically two) places, are frequently identified as defining characteristics of the type (e.g. Trotzig 2014: 139, Ström 1970: 2). Well over half (30) of the Lovö rings do conform to this typology (including one example from grave A65 which is twisted *all* the way around). However, another 8 display no twisting at all, and have a round cross-section (the rest are too corroded to tell either way). Additionally a handful of examples are not 'normal' Thor's hammer rings in terms of size. Thor's hammer rings are usually described as *large* iron rings (e.g. Jensen 2010: 66, Lyman 2007: 10, Andersson 2006: 45, Fuglesang 1989: 16) with "large" – when a specific measurement is given- meaning around the average of 15cm in diameter arrived at by Ström (Ström 1970: 2), or "the normal size of a neck ring" (Gräslund 2007: 91). Most of the Lovö rings are this size, but a few are not; examples from graves A44 and A57 in Söderby 28 and grave A35 in Lunda/Berga 34 are about half the 'normal' size. Which again makes these in fact more similar to those 'other' types of amulet rings found in Iron Age Swedish contexts (e.g. Figures 15b-c, and 16), which generally measure around 6 or so cm in diameter.

One conclusion that can thus be drawn from observations of the various details of design and construction displayed by the iron amulet rings from Lovö is that not all of these artifacts consisting of an iron ring with (or without!) attached pendants strictly fit the category of the 'Thor's hammer ring' as such is traditionally presented. As a result one might say that what exists from Lovö are both "real" Thor's hammer rings *and* other, closely related types of iron objects that are not Thor's hammer rings, but rather members of those 'other' amulet ring types. Types which Thor's hammer rings are typically defined against through what are typically seen as irreconcilable differences of either size (too small) or pendant and ring type (prevalence of scythes vs. prevalence of hammers, flat vs. rounded vs. squared, etc.). Formal separations which are often then tied in to other perceived characteristic differences of age (before 800 CE vs. after) , find area (only Mälardalen vs. more widespread distribution), specifics of find context (almost always in graves vs. not usually in graves), or any combination the above (e.g. Jensen 2010: 66, Lyman 2007: 3, Nilsén 1992: 19, Ström 1970: 48). But the question becomes –as it always it in typology, which is an inherently subjective exercise- where should the lines be

drawn? How much difference is acceptable within- or how much similarity is needed to classify as- a given type? If –as in the case of the ring from grave A57 from Söderby 28, or comparable items from Badelunda (Figure 17) and Birka - an iron ring is ‘too small’ to be a Thor’s hammer ring, but resembles one in all other respects, is it not a Thor’s hammer ring? Is it “just” a regular “amulet ring” then?

**4.3. Typology?** In light of the recent New Materialist re-workings of the post-colonial concept of hybridity to help destabilize and problematize old cultural-historical models of strictly fixed categories of cultural groups and material types (cf. Fahlander 2007, Pettersson 2011), the answer to the preceding question becomes ‘neither and both’ at once. This type of thinking sees objects as the hybrid products of diverse elements created by processes that functions “...like a flowing river. Cultures and *material cultures* can be seen as floes of ice that follow and deform and disappear in the constant, unpredictable movement... stability [of a specific form] is only an illusion because of the swirling waters below (hybridity)” (Pettersson 2011: 173). Looked at in this way the type of the Thor’s hammer ring as it has been typically set apart – and set apart to emphasize its apparent regional and thus possibly ‘cultural’ singularity – (or the designation amulet ring, fire steel shaped ring, or any such terms) is revealed to be much “fuzzier” than it first appears. It might be better described –as for reasons of clarity and convenience artifacts must be categorized even as the constructed nature of the categorization has to be recognized– rather as a *sub-type* of a wider field of artifacts, all interrelated by virtue of the material used to make them and overlaps in forms and usage. As is, in fact, evidenced in the Lovö material.

This is not to say there is not a particular, recognizable constellation of form now called “Thor’s hammer rings” that came into being around the late 700s CE in Mälardalen. There is, but this was never a fixed, unchanging, or bounded entity. Like all artifact forms it did not come out of nowhere, but rather grew out of the material cultural world that already existed (Gosden 2005: 193). It could also *not* be entirely unrelated in concept or in function to all the other iron-ring based objects which were used throughout Iron Age Scandinavia (Thålin-Bergman 1984: 27, Fuglesang 1989: 17). And this is the reasoning behind the use of term *iron amulet ring* in this study; a desire to refer to the artifact group as a whole by its most widely shared characteristics in terms of materiality and formal components, and thus encourage the placement of Thor’s hammer rings firmly back within their proper hybrid network of relations with other types of objects. A project which, as discussed in the following chapters, carries important implications for the questions of the rings use, function(s), and meaning (s) both on Lovö and elsewhere.

## 5. The Remains of Ritual

One of the most fundamental assumptions underlying all of archaeology is that things discovered within an archaeological context can provide the archaeologist with direct physical evidence of events that have taken place in the past. And, that attending to which particular things are found in a given context, and the connections that might be discernable in the placement of different things in relation to one another in that context and to the layout of the context and larger site as a whole - and/or to things found in other, similar contexts - can allow the reconstruction of very specific details of a sequence of events. It is most certainly the case in burial archaeology; to quote Neil Price, “Burials are clearly organic things, developing over sequences of ritual actions...In some cases it is hard to tell what the different dead really mean, but it is possible to reconstruct the way in which their relative placement in the grave came about, and thus to approach the ritual performances involved” (Price 2014: 186).

Price is referring specifically to the placement of different bodies within multiple burials, but the statement applies just as well to all the other elements that can be found in a grave context, including whatever objects are buried with the dead. So to investigate all the relevant details concerning how exactly iron amulets found in the late Iron Age grave fields of Lovö are located within individual graves should show how they were used in the series of events that resulted in the formation of each unique grave context. Events including rituals surrounding burial, and those that may have taken place at the grave site after initial funeral rites.

**5.1. A note about definitions:** Determining what the placement of iron amulets in the graves at Lovö might indicate about their employment in burial (and post-burial) rites on the island during the late Iron Age is, of course, the purpose of this chapter, but first a word should be said about some terms employed. Definitions must always be considered carefully because of the power they have to direct our approach to our subjects, often without our fully realizing it; how we talk about the past deeply affects how we think about it (Bradley 2003: 6). Choice of terminology is in itself an act of interpretation, as what things are named affects both how they are categorized and subsequent understandings built around such categorization, and what categories are even considered to be possible. Translating from one language to another adds another factor to be accounted for when choosing terms. For example, here “grave context” is used as the closest English approximation of the Swedish term *gravanläggning* used in Petré’s reports to designate each individual grave within a given grave field as it exists as a discrete archaeological feature.

How to define *ritual* continues to be a hotly debated issue in archaeological theory. Early definitions tended to assume that the evidence for a ritual act must look a certain way - usually somehow distinctly set apart from evidence of day to day activities. This often resulted in remains of rituals that didn’t ‘look right’ being overlooked, and a dichotomy between ‘ritual’ vs. ‘everyday’ events being assumed that was never actually at play in prehistoric Europe (Bradley 2003: 5; burial/funerary practices have in contrast basically always been recognized as ritual acts

due to the enduring anthropological comparisons still available). In contrast, a practice theory of ritual (as briefly discussed in section 1.4) asserts that, even if its conceptual underpinning may be lost to us the *ritualized action* can be discerned archaeologically (Stutz 2006: 95; Berggren and Stutz 2010: 173). The concept of ritualization entails that ritual is defined primarily as *a certain way of acting*, a variety of repeated and/or formalized types of practice used to emphasize particular concepts/aspects of life (Bell 1992: 104). This is the definition of ritual being employed in this study (i.e. looking for evidence of burial ritual = looking for evidence of what specific ritualized practices were taking place at the time of burial in the form of formalize and/or repeated actions).

Though not as contentious as the question of what defines ritual, how a grave should be defined has also generated discussion. It has become increasingly clear that a mere ‘common sense’ understanding of the word grave - something like ‘a deposit of intentionally buried human remains’ - is often not sufficient when faced with the great variety of ways in which human remains are encountered in the archaeological record. This is especially true for contexts that bear little resemblance to modern ideas of what a grave should be like, such as those containing only very small amounts of human remains (Appelgren & Renck 2007: 47). The argument has, for example, been made in reference to the urned cremation burials on Lovö (which typically include only a fraction of the burnt bone that would be created in cremating an average adult body) that what is found in many Iron Age grave fields is not in fact *graves* at all, but rather some other kind of “ritual planting” of burnt human bone (Isroth Vana 2007: 27).

This theory implies that to qualify as a *grave* a deposition must fit certain *intentional* as well as physical parameters. There is an assumption first, that a grave’s primary purpose must be the ‘housing’ of a dead individual’s bodily remains in a place considered suitable for their memorialization and/or facilitating their transition to a new ontological status (Fowler 2013: 516). Secondly, that for this to be the case requires all or at least *most* of an individual’s remains to be buried in that location. This latter assumption is problematic as it does not take into account the fact that late Iron Age Scandinavians evidently had a very different view of the importance of bodily integrity after death than that prevalent in modern Western societies (Artelius 2010: 285). Considering a world-view in which personhood was both partible and negotiated (Klevnäs 2015: 151), “the human body was not necessarily an objective physical and biological entity” (Hedeager 2010: 117), and the remains of the dead were as likely to be actively involved in rituals taking place outside cemeteries as within them (Back Danielsson 2007: 242), a simple wealth or lack of bone does not seem a convincing reason to qualify or disqualify a given feature as a grave. All this, in sum, is why a *grave* is here defined simply as *any* intentional deposition of *any amount* of a deceased person(s) remains that seems to have been made *primarily* (there is no reason why other purposes could not be at play as well) to create a place to house (and/or contain), memorialize, and/or transform the status of the dead person(s).

**5.2.** The *placement of iron amulets in individual grave contexts* is characterized by three general trends, one embracing both amulet types, and two involving only iron amulet rings.

Table 9: Location of iron amulets in individual graves in the Lovö grave fields

Amulet type	Location	Number of amulets	Percentage of amulet type
Lightning protection amulet	In the burn layer in close proximity to the urn	4	100%
Iron amulet ring	In, on, or near the urn in the burn layer	34	67%
Iron amulet ring	Elsewhere in the burn layer	6	12%
Iron amulet ring	Outside of a burn layer	10	19%
Iron amulet ring	Found in sieving	1	2%

As shown in Table 9, iron amulets are either found in a burn layer inside or in very close proximity to an urn holding cremated bone, elsewhere in the ‘burn layer’ of a cremation grave, or outside of a burn layer entirely. Those amulets found in the two relevant inhumations are here grouped in this last category as well; the one found while sieving’s exact original position unfortunately cannot be known (specifics of each individual grave context can be found in Appendix 2). As the placement of every iron amulet found in situ in a grave is the result of a specific chain of events and can provide pertinent details of that particular sequence, these three general trends in iron amulet placement in the Lovö graves allow for the reconstruction of (at least!) three distinct types of ritual practices.

**5.3. Iron amulets found in, on, or near the urn:** All the lightning protection amulets and 67% of the iron amulet rings from the Lovö graves were found either in very close proximity to (i.e. less than ten centimeters from), or actually inside of, an urn containing cremated bone. The first thing that may be deduced from this closeness is that the amulets in question were all used during the cremation itself and/or its direct aftermath; they cannot have been secondary depositions made in the grave at a (perhaps much) later date but must have been interred during the initial burial sequence. Iron Age/Early Medieval cremation funerals were generally complex ritual sequences involving many stages (Williams 2004: 93), and cremation rites on Lovö were evidently no exception to this rule (Petré 2011: 321). Therefore to say an amulet was used in the cremation rite is not very illuminating as an isolated statement; one has to ascertain at *what stage(s)* of the ritual the amulet was used as well.

A typical cremation ritual on Lovö followed a pattern more or less identical to that evidenced in numerous other grave fields in use in Late Iron Age Mälardalen (Petré 2011: 321). First, a pyre was constructed (a process that was usually preceded by the preparation of the area by the clearing of brush, stones and topsoil, and perhaps an initial symbolic cleansing of the space with fire; Nordberg 2009:48). Then the dead individual(s) and whatever non-human

animals – the latter probably slaughtered on the spot and at least parts of them eaten in a ritual meal by the mourners - and artifacts that were to accompany them would be carefully arranged atop it (see section 5.3.1). On Lovö the presence of small iron rivets in the majority of the cremation graves indicates that most individuals and their pyre goods were placed inside boats for their cremations (Petré 2011: 318), a common practice in late Iron Age Sweden.

The cremation itself was usually carried out within the precincts of the gravefield, in most cases actually at the subsequent grave site. This fact is discernible by the presence of a so-called *burn layer* (sometimes called a ‘cremation patch’ or related term, here “burn layer” is preferred as a translation of the Swedish *brandlager* used in the excavation reports) in most graves, consisting of a visible deposit of soot (often mixed with bits of charcoal and/or bone) and/or a grey, black, pink or reddish-brown discoloration of the soil indicative of prolonged burning on that spot (McKinley 2015: 154). A burn layer can vary considerably in size and shape due to a number of factors such as placement and size of the pyre, how the corpse(s) was positioned on the pyre, how well the fire burned, the type of soil, et cetera (Nielsen 2009: 84). The burn layers in the Lovö graves tend to be between one and two meters wide (though a few are as large as five meters across) and only a few centimeters (1-5 typically) thick (Petré 1999b: 110). They are typically located near the center of the grave site (Figure 17) and roughly circular or oblong in shape, a regularity which suggests that soot and burnt soil may have “been swept together and the site made tidy during or directly following the cremation” (Nielsen 2009: 85). This ‘tidying’ up of the burn layer is likely to have taken place at the same time as at least a portion of the burned bones and any objects that survived the flames – the rest being left in the tidied burn layer - were collected.

On Lovö typically only a small amount (see section 5.1) of burnt bone and remnants of pyre goods were subsequently placed in a ceramic urn, or (atypically) another container type such as a wood box or perhaps a cloth bag (McKinley 2015: 155). Most of the remaining material was apparently carried off for use and/or disposal outside of the grave field - or in some cases another part of the gravefield - initiating whole other sequences of ritualized actions (e.g. Gansum 2004: 45; Andersson 2006b: 197). The urn was then placed in the approximate center of the burn layer, occasionally in a small pit or surrounded by a small ring of stones, and frequently topped with a ‘lock stone’ lid. Additional objects not originating on the pyre might also be added to the grave at this point in the ritual sequence (see section 5.3.2).

In the case of stone settings the whole inner grave assemblage would next be covered by a layer of stones (the stone packing), topped with a packed earth mantle, and finally surrounded by an ‘edge chain’ of slightly larger stones (here the term ‘edge-chain’ is preferred to the English ‘curb stones’ both as a more direct translation of the Swedish *kantkedja* in the reports, and to emphasize the use of these stones as a boundary for the grave) delimiting and monumentalizing the overall grave site (Petré 2010: 398). From the shape of the edge-chain a setting takes its designation as round, rectangular, three-pointed, etc. In a mound a high, cairn-like stone packing would be built up over the contents of the grave and covered with a much thicker layer of earth, to form the final distinctive mound shape. Variations and additional rituals might occur before,

within, or alongside these steps, but the basic ritual sequence of 1. burning of the body(s) and grave goods on the pyre 2. consolidation and collection of remains and pyre debris and 3. burial of a portion of these at the site of cremation was followed in almost every case on Lovö.

Figure 18: Plan of grave A58, Söderby 28.  
Hatched lines delimit burn layer, dot =burial urn

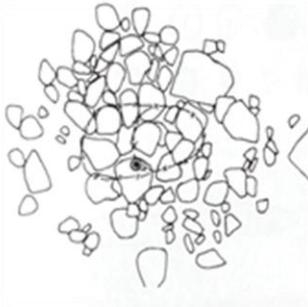


Image taken from the Lovö project report on Söderby 28

Figure 19: Lightning protection  
amulet from grave A30, Lunda 27



Photo taken by author

5.3.1. All four of the *lightning protection amulets* found in the Lovö gravefields were identically placed within their respective grave contexts (see Appendix 2); all four found, (as shown in Table 8) within the consolidated burn layer of the grave alongside other artifacts and pyre debris, and very near to an urn containing burnt bone. This, coupled with the fact they all show signs of undergoing similar treatment before burial, suggests that all four of the amulets were utilized in the same way during the rituals carried out at those graves. The iron pyrite cores of the four lightning protection amulets all display cracks and discolorations caused by very high temperatures (Figure 19), and at least two of the iron ‘basket’ settings show traces of the white, oxidized coating that sometimes occurs on metal objects exposed to fire, indicating the amulets must have been on the pyre during the cremation process (Trotzig 2014: 98).

Given the amulets are all fitted with suspension loops and other objects such as buckles and beads are found near them in the burn layers, it is likely the lightning protection amulets were part of the costumes the dead women were laid out in for their cremations; probably worn as part of the strands of beads and pendants strung between brooches over the upper chest that comprised a common feature of female dress in the period (Thedéen 2010: 113). In this the amulets would have been part of yet another stage of ritual activity in the funerary process, one which preceded the cremation proper. At this pre-cremation stage (among other possibilities) the corpse must have been prepared for the funeral by being dressed in specially selected clothing and ornaments, carried out to the grave field in solemn procession, and finally laid out on the pyre as part of a carefully curated tableau of body(s) and things displayed to onlookers prior to burning (Williams 2004: 93).

After the fire burnt down, a process which would have taken several hours and was probably also accompanied by sundry ritual performances such as libations, feasting, prayers, singing, eulogies, et cetera (Price 2014: 179; such is after all noted in the literary sources), the lightning protection amulets were among the objects deliberately left with the burnt out pyre

debris – another process of selection, as other artifacts and remains were carried away or transferred to a container. More precisely, these amulets either fell or more likely were swept in very close to the urn before the grave was covered over. Though they were not actually placed on the physical remains of the dead, it was apparently still desirable to keep them at least fairly near to the bodies on which they'd been worn, certainly in death and – considering what is known of comparable objects from later periods (see section 4.1.) – most likely during life as well.

5.3.2. *Iron amulet rings*, on the other hand, even considered within this general trend of close proximity to the urn, display no such uniformity in their placement in the Lovö graves.

Table 10: Iron amulet rings in close connection to cremation urns

Placement	Number of rings	Percentage
Inside the urn	24	71%
Over the urn	4	12%
Outside but very near to the urn	6	17%

Most obviously, iron amulet rings were (as shown in the above Table 10) not only placed in the burn layer very near urns, but on top of and even more frequently *inside of* urns as well. This placement is the most common position in which examples of the Thor's hammer ring subgroup of iron amulet rings (see section 4.3) are found, not just on Lovö but throughout Mälardalen generally (and where they occur in Russia, see below). According to Ström around 53% of all Thor's hammer rings found in cremation graves are found in or on an urn (Ström 1970: 24), and Lyman's more recent study brings this percentage up to over 80% of her sample of cremation grave contexts (Lyman 2007: 18).

Placing the ring inside the urn, in actual physical contact with the cremated bone there, was evidently preferable (contra Novikova 1992: 85). 24 of the 51 iron amulet rings from Lovö are placed in this way, as well as ca 75% of all known rings from secure cremation contexts in Sweden (Lyman 2007: 18). Normally on Lovö the amulet ring (or rings: in graves A35 Söderby 28 and A9 Lunda/Berga 34 two amulet rings were laid one directly atop the other over the burnt bone, and in grave A59 Lunda/Berga 34 there were three) was placed in the urn atop the cremated bone. But in a few instances (e.g. the example from grave A60b, Söderby 28) a ring was placed at the bottom of an urn before the cremated bone was added, or (e.g. A60 Lunda/Berga 34) mixed in the middle of the burnt bone, ashes, and other object fragments.

In three of the four cases in which a ring was found placed over the shoulders of the urn this deviation from the preferred position inside the pot was apparently due to the fact the vessel used to hold the bones was not wide enough to accommodate the ring (Novikova 1992: 85). However in the fourth case, grave A61 Söderby 28, a ring was placed over an urn that already had a ring inside it. The reasons underlying the placement of the six rings found *near* urns but not on or in them is even more unclear; it is possible some of these rings may have been dislodged from an original position in/over the urn when grave was being covered (the example

from A79 Söderby 28 being a likely case), but the deposition site seems in some cases to have been intended from the start (i.e. the two rings laid one atop the other next to an urn in A43, and the ring deposited with other amulets beside an urn which also contained a ring in A44, Söderby 28). Nonetheless, the importance of having the iron amulet ring(s) extremely close by if not actually *touching* the vessel holding the remains of the dead – if not the remains themselves – seems plain (Andersson 2006: 48).

What is likewise consistent for the iron amulet rings found in close connection to urns on Lovö – and of *all* iron amulet rings found on the island, and indeed all known iron amulet rings (barring two examples from grave field Fresta Grimsta 83 in Uppland; Lyman 2007: 63) – is that none of them show any evidence of having ever passed through the flames of a pyre (Andersson 2006: 47). Amulet rings were not pyre-goods, but rather members of a small class of objects known from late Iron Age Scandinavia (and elsewhere in the Germanic speaking world) that were specially chosen to be placed in graves *after* the cremation had taken place (Williams 2015: 197), and after the burn layer had been consolidated and what remains were to be left at the site put in their final resting places. On Lovö the ritualized action of placing the iron amulet ring(s) in, or on, or right next to, the urn must have been one of the very last things done before the contents of the graves containing them were covered over. In short, the placement of the ring was perhaps *the* culminating visible act of that central stage of the burial ritual sequence.

**5.4. The *iron amulets found elsewhere in the burn layer***) comprise those iron amulet rings found too far from an urn to suggest their having been placed with the intention of being in close connection with that vessel, but whose occurrence alongside material from the primary burn layer, and under an intact stone packing, leads to the conclusion that they were also deposited *before* the respective grave had been entirely sealed with layers of earth. That is, deposited during rituals surrounding the initial burial of cremated remains rather than as a secondary deposition made at/in the grave at some later point in time.

There are several variations in the exact location of the iron amulet rings found in a burn layer but not beside an urn (see Table 11). In grave A135 Lunda 27 an iron amulet ring was placed at the northern edge of the burn layer alongside beads and a small amount of burnt bone; the same grave also containing an urn holding an amulet ring placed atop burnt bone. And in two mounds, from two different grave fields, amulet rings occur with bits of burnt bone and other artifacts in deposits of material appearing to have originated in the burn layer, but subsequently placed elsewhere amongst stone and earth fill, separate from the main expanse of the layer at the mound's center. One iron amulet ring was deposited in this fashion in mound A41Söderby 28, and two in mound A11Lunda/Berga 34; the latter an unusual context where no urn appears to have been present, and the lack of actual burning on the rock face in spite of the presence of a sooty burn layer type indicates an exceptional grave site where the cremation pyre was actually located elsewhere. These small 'divided burn layer' deposits within the fill of mounds are also known from other grave fields in the Mälars valley including sites on Birka and around Spånga (Nilsén 1992: 25), and from Viking Age sites where iron amulet rings occur in Rus territories

(Novikova 1992: 85). As the areas they were situated in also contained traces of burnt bone, the two cases where amulet rings occur in the center of a burn layer in a stone setting but without obvious traces of an urn in the vicinity may be the result of other perishable types of containers being used to hold the cremated remains, such as a cloth bag or wooden chests.

Table 11: Iron amulet rings placed in a burn layer w/out close connection to an urn

Placement	Number of rings	Percentage
Center of the burn layer under the stone packing (stone setting)	2	33%
Edge of the burn layer under the stone packing (stone setting)	1	17%
In burn layer in the stone packing(mound)	3	50%

In the case of A135 Lunda 27 and the other stone settings, deposition *could* have occurred either simultaneously with, or instead of, the placement of an iron amulet ring in an urn, and prior to the covering of the grave (even despite the very damaged state of the ring in A135, see section 5.5.3). However, in the two mounds the deposition of the iron amulet rings would have to have been a ritualized action undertaken while the mound was already in the process of being built up. The small deposits of material from the burn layer that contained the rings would need to have been made in between the addition of layers of rocks and clay used to build up the mound's superstructure, but before a final layer of earth and turf was laid to seal the monument. Therefore the placement of iron amulets rings in this type of divided burn layer deposits must have been a ritual action carried out at a somewhat later stage in the burial ritual sequence: during, rather than immediately preceding, the covering of the inner grave assemblage.

**5.5.** The greatest variety of specific positions is, however, by far encountered in the highly heterogeneous class of *iron amulets not found in a burn layer* at all. As shown in Table 12, these occur in a wide range of placements that must have resulted from a diversity of rituals. The iron amulet ring wedged - along with pieces of a broken knife and shards of pottery - in between stones in the stone packing covering the burn layer of grave A58 Söderby 28 likely ended up in this location by way of a ritual action comparable with those resulting in the small depositions of iron amulet rings and burn layer debris inside the stone packings of mounds (discussed in section 5.4). That is to say that the amulet ring was sandwiched between the stones while the stone packing was under construction, during the covering the grave. The process would be directly analogous to the one carried out in the mounds, the only significant difference being the deployment in the context of a different grave form. Deposition during a late stage of the burial ritual sequence was, however, the exception rather than the rule for the iron amulet rings placed outside of burn layers. Most seem to not have been deposited as part of primary burial rites at all, but rather during rituals carried out much later.

Table 12: Iron amulet rings placed outside of a burn layer entirely

Placement	Number of amulet rings	Percentage
Under the turf, over stone packing	2	20%
In sandy filling by stone in middle of setting	1	10%
Wedged between stones over the burn layer	1	10%
By a stone by the SW edge of the grave *	1	10%
In a looting pit dug into the mound	1	10%
Outside to south of 'edge-chain' w/ bone deposit *	1	10%
Under a stone in the NW section of edge chain*	1	10%
Under SE edge of the scattered stone packing *	1	10%
By bone/ceramic concentration at SE end of grave*	1	10%
*All found in a placement at the edge of a grave		

5.5.1. *A33 Söderby 28* is one context – or rather two interrelated contexts – which testifies to these other secondary grave side rituals which involved iron amulet rings. A33 is an odd feature because, unlike all other contexts marked by stone settings (or mounds for that matter) in the Lovö grave fields, it does not in fact appear to have ever been a grave as such (see section 5.1). No burn layer was discovered nor any other signs of the construction of a stone packing or earth layers standard for late Iron Age graves on the rest of the island. Instead the open area inside the rectangular stone setting was filled with a flat layer of sandy soil, punctuated by one large centrally placed stone. The only objects found beside the iron amulet ring were a single fragment of cleaned burnt bone, a sharp piece of quartz, and three shards of Bronze Age pottery (Petré 2011: 55).

The south-east end of A33's edge chain is overlain by one side of the edge chain of neighboring rectangular stone setting A34 (see Figure 19). A34 is an inhumation grave where cleaned burnt bone and several artifacts originating from a third context, Bronze Age grave A38, were scattered over the stone packing (Petré 2011: 57; determined by the fact the Bronze Age skull fragments found in A34 actually match up with skull fragments from A38). This practice of small amounts of remains from one grave being moved and deposited in another is not without precedent; it occurs in many Iron Age grave fields in middle and southern Sweden (Hedeager 2010: 111). A similar spread of burnt bone and artifacts atop a stone packing even occurs in another Lovö grave, stone setting A3a Lunda 27, though here the objects and remains are of Viking Age date and include bones, beads, what may be the remains of a crushed ceramic urn, and an iron amulet ring all found just under the turf on top of the stone packing.

Whether this arrangement represents contents moved from another grave in Lunda 27 (or even farther afield) to A3a, or a divided deposit originating in the original burial but saved and left atop the stone packing covering the rest of it has not been determined. But in any case it evidences a secondary deposition including a Thor's hammer ring type iron amulet ring made in the grave at some point after the initial burial was covered over. This is a practice more usually

associated with small fire-steel shaped amulet rings, discovered as secondary deposits made outside the burn layers of cremation graves with some frequency (Ström 1970:43; Nilsén 1992: 20), and thus constitutes another point on which the very sharp distinctions often made between amulet ring types should be called into question (see section 4.3).

The way the edge chain of A34 is superimposed over that of A33 indicates that before the inhumation grave in A34 was ever dug A33, a stone setting that never contained any *grave* at all, was constructed standing on its own in the middle of graveyard Söderby 28. A33 is in this akin to other grave-less stone settings where iron amulet rings were deposited found around the Mälars valley, all of which most probably functioned as altars and/or miniature ritual enclosures (Andrén 2014). A notable example situated in a graveyard is the round stone setting known as the “offering mound” (Figure 20), which enclosed small stone cairns and deposits of fire-steel shaped amulet rings (at least two of which have hammer shaped pendants attached to them, again muddying the typological absolutes), located in the late Iron Age graveyard which occupied a ridge in what is now the Lilla Frescati campus of Stockholm University (Thålin-Bergman 1984: 25; a nearly identical arrangement is found in the large Viking Age graveyard by Torsätra in Kungsängen).

Figure 19: Plan of A33 and A34, Söderby 28

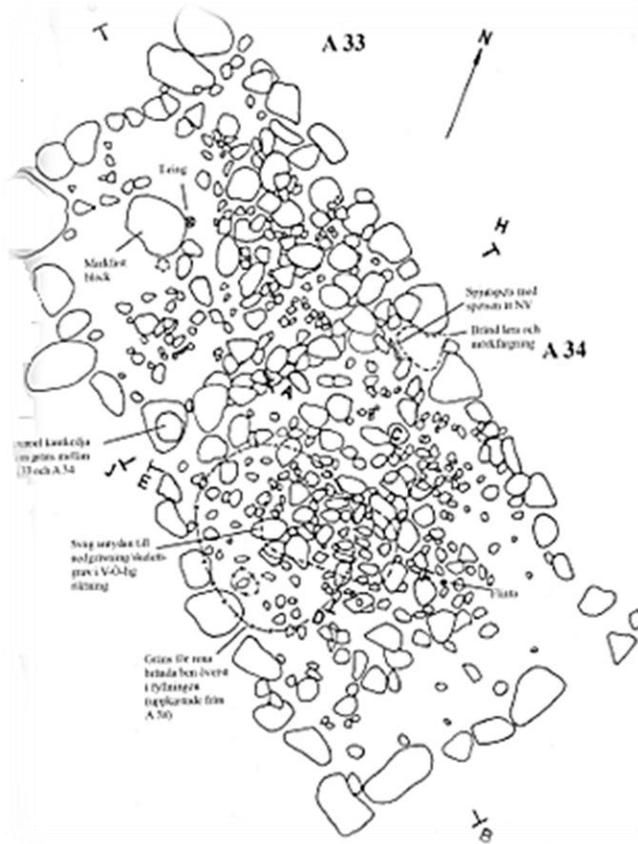


Image taken from the Lovö Project report on Söderby 28

Figure 20: Plan of the offering mound, Lilla Frescati



Image taken from the Raä report on Lilla Frescati

Similar arrangements also occur at other types of cult sites i.e. the large three-pointed grave-less stone setting constructed atop layers of deposits - begun in the late Roman Iron Age and continuing into the Viking Age, culminating in the placement of a collection of iron tools, weapons, and amulet rings of both Thor's hammer and fire-steel shaped types – made on a stony ledge comprising one feature in the sprawling ritual complex at Helgö (Zachrisson 2004: 148). As well as the stone pavement bounded by a rectangular stone setting that was evidently a focus for repeated ritual depositions at Lilla Ullevi (Bäck & Stenholm 2012: 51), with dozens of iron amulet rings of the small rings on large ring type deposited in and under it.

The Bronze Age bone and ceramics were probably deposited in A33 while the rest of that portion of remains from A38 was being spread over the stone packing of A34 after the interment of an un-burnt individual(s) in the younger grave context. A ritualized action which would line up with one popular theory concerning the fate of the 'missing bones' from Iron Age cremation deposits without enough material to account for a whole body; that at least some of the missing bones were scattered in other ritually significant places. Which might include sacred groves (Andersson 2006b: 196), the ritual enclosures known as *vi* (Bäck & Stenholm 2012: 39), or the graves of relations; either venerated ancestors or - as seems to be the case with A34 - presumed descendants (Andrén 2013b: 273). All in all, the strange assemblage in A33 Söderby 28 (and to a less dramatic extent the one in A3a Lunda 27) bears witness to a complicated series of ritual actions that took place at several different points in time, and most of which appear to have had little to do with *burial* per se. In this it is a prime example of how the deposition of iron amulets formed one part of variety of ritual activities that took place in late Iron Age grave fields quite apart from funerals (Andrén 2013: 31). Post-burial rituals which were evidently central to a rich cultic praxis involving ongoing visitations - and *personal interactions* (Nordberg 1997: 9) - with the dead buried at these sites.

5.5.2. An association of *iron amulet rings with large stones* is also exemplified by precisely where the iron amulet ring was deposited within the miniature ritual enclosure. The ring found in A33 Söderby 28 was placed just beside the big 'middle block' stone at the center of the setting (see Figure 20). Likewise, in stone setting A68 Söderby 28 a fragment from an amulet ring (see section 5.5.3) was deposited directly adjacent to a large earth-fast stone at the far south-west edge of the grave site. Neither ring appears to have had a pit dug for it to be buried in, but rather seem to have been deposited directly on the earth; a ritual act that might have taken place at any time *after* the rest of the context had been constructed, but no earlier. In A68 in particular the deposition of the ring - placed *somewhere at the far edge* of the respective grave, a placement shared by several of the amulet rings found outside of burn layers and which may itself have certain implications for their ritual functions (see section 6.2) - gives the impression of an action carried out separately from the sequence of initial burial and construction of the stone setting. That is, one done at a (perhaps much) later point in time.

This connection between large stones and amulet rings is remarkable in other Iron Age grave fields too. For example at Kymlinge grave field at Järvafältet north of Stockholm, deposits

of fire steels, pottery shards, iron weapon points, and iron amulet rings with miniature shears and Thor's hammer pendant were made around a large boulder with no grave in its immediate vicinity (Biuw 1992:134). Much like the grave-less stone settings enclosing deposits of iron amulet rings the phenomenon occurs at cult sites outside of burial places as well. Large stones as foci for ritualized depositions of amulet rings and other objects are, for instance, notable at several locations around Helgö. Not only is the aforementioned stony ledge with its stone setting, repeated deposits, and fire pits located near a prominent large, bare stone outcropping, but around 30 amulet rings have been discovered by the foot of the promontory itself, and a smaller bare rock in the middle of the settlement area designated Building Group 1 had seven iron amulet rings deposited beside it (Zachrisson 2004: 162).

*5.5.3. Highly damaged iron amulet rings:* Though (as reflected in Table 11) their exact placement within the grave context can vary greatly, one feature does unite six out of the ten iron amulet rings discovered outside of a burn layer on Lovö: their extremely damaged state. While many of the fifty-one amulet rings discovered on the island are not completely intact, all but these six – plus one ring that was found at the north end of the burn layer in A135 Lunda 27 (see Figure 23) - still show most of their original round shape. What damage that has been done to the majority of the amulet rings is manifestly the result of natural processes having acted on them while they were buried; of iron becoming brittle over time, breaking apart, and even disintegrating entirely in some places (Trotzig 2014: 98). This, however, is not the case for the seven highly damaged iron amulet rings. These all appear to have been damaged through some kind of deliberate human intervention.

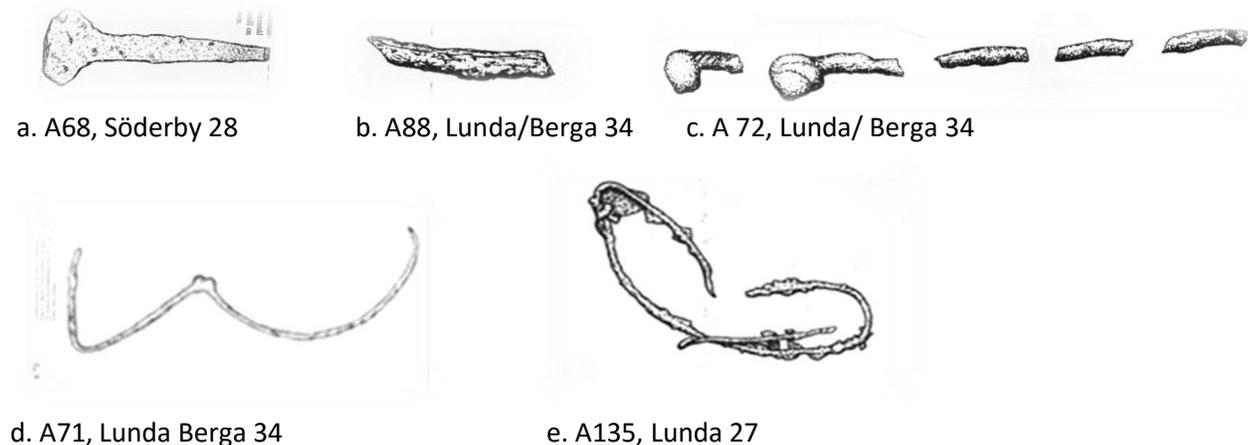
Three of them are no longer even really amulet *rings* to speak of. The only remaining parts of the examples found in grave contexts A68 and A74 Söderby 28 being a single broken off Thor's hammer pendant in both cases (Figure 21a; Petré does not identify these pendants as coming from amulet rings, but their size, shape, material, and the slight bend at the top of at least one of them suggests that they did), while all that was found of an amulet ring in A88 Lunda/Berga 34 is a single fragment of iron rod (Figure 21b). Where the rest of these rings ended up is not certain, though it may be that 'missing' pendants and/or rods were either melted down or deposited in other significant places. The broken hammer pendant placed by a large stone in A68 Söderby 28 might actually be an example of just such a practice (see section 5.5.2). Less than half of ring was left in contexts A69 and A72 Lunda/Berga 34, with what was deposited appearing to have been flattened out from their original circular shapes (Figure 21c).

But it is the iron amulet ring found in A71 Lunda/Berga 34, and the second from A135 Lunda 27 (the highly damaged ring interred elsewhere in a burn layer, along with a small deposit of burnt bones and beads; see section 5.4), that have most obviously been purposefully deformed. The former was violently wrenched open and any pendants it may have once had on it taken away (Figure 21d) while the latter was pinched into a banana-like form (Figure 21e), which could only have resulted from deliberate bending after the application of heat, as

evidenced by the fact the bends in the iron are hardened and not at all brittle (Harrison & Ó Floinn 2014:274).

Both A69 and A88 Lunda/Berga 34 are strange graves. Neither shows any evidence of a clear burn layer, only small flecks of soot scattered throughout the grave site. In both these settings the damaged rings were deposited with small amounts of burnt bone. In A69 the flattened half-ring was placed outside the southern section of the setting's edge-chain alongside the burnt and three un-burnt bones (possibly transferred from another grave), and in A88 the single amulet ring fragment was deposited in a bone and ceramic concentration at the south-east edge of the grave. All of which suggests several different possible ritual scenarios: amulet rings originally placed elsewhere in the graves might have been damaged intentionally or otherwise while being moved along with a portion of bone to a type of divided burn layer deposit sometime after the initial burial, bones and amulet rings from another grave(s) may have been deposited and purposefully or accidentally damaged in making a whole new secondary deposition at the grave side. Or, one of the first two scenarios may have taken place and then at an even later occasion the intact amulet rings were taken out of the depositions, deliberately damaged, and *re-interred* on the spot. Something similar to the last may well be true for the bent ring from A135 Lunda 27; as it is hard to imagine this level of deformation could have been anything other than completely intentional.

Figure 21: Highly damaged iron amulet rings



Images taken from the respective Lovö Project's reports.

In A74 Söderby 28 the detached Thor's hammer pendant placed directly under the turf and over the stone packing of the grave also suggests there was a secondary deposition of an amulet ring made in that location, which was either already damaged prior to its initial deposition, or was dug up later, purposefully damaged, and re-interred there at the south-west end of the cairn-like stone setting (the association of the secondary deposition of amulet rings both damaged and intact with the southern sides of grave sites may also be related to the tradition of the 'south-west door' feature attached to the edge-chain of a number of late Iron Age graves in Mälardalen, including several in the Lovö gravefields; Nordberg 1997: 20). The bent open

amulet ring found in A71 and the halved and flattened specimen from A72 were both discovered wedged beneath but not actually buried in the earth below a stone, of the north-west portion of the edge chain and south-east east of the loosely scattered stone-packing respectively. These too could either have been damaged before they were ever placed in the grave site as a secondary deposition, or interred either in the location they were found, or elsewhere in the grave, before later being bent and/or broken and re-deposited.

A71 and A72 are also the only two inhumation graves where amulet rings were deposited on Lovö, a fact which may go some way towards explaining why the rings were treated in such an unusual manner in these contexts. The use of iron amulet rings in inhumation burials, while *much* rarer than their occurrence in cremation graves, is hardly unknown in Mälardalen (Lyman 2007: 13; Lyman puts the percentage of known Thor's hammer rings in inhumations at 4.5%, vs. an 82% in cremations). And the placement of amulet rings within inhumations tends to be highly erratic. For example, the six amulet rings found in inhumation type graves on Birka include specimens laid under corpses' heads, placed by the legs, tucked in the corner of graves, and broken up inside the fill (Gräslund 1981: 54).

While there has not as yet been a systematic study of whether iron amulet rings were intentionally damaged and re/deposited in grave contexts at other sites outside of Lovö, or at other types of cult sites where iron amulet rings are known to have been deposited, it seems highly likely that this was the case. The highly damaged amulet rings from the Lovö grave fields can for one thing be viewed within the framework of other – also *iron* – objects that were habitually damaged and re/deposited in graves throughout Iron Age Scandinavia, principally ritually bent or broken swords (Figure 22). Examples of the so-called seið staffs that were bent and buried (Figure 23) – not in graves, but by themselves under small stone cairns – exist as well (Gardela 2009: 208), a comparison perhaps of particular relevance given how several of the damaged amulet rings are also covered with stones.

Figure 22: Sword found in Backa, Sweden



Photo, Stockholms Historiska Museet on Flickr

Figure 23: Bent seið staff found in Romsdal, Norway



Photo, Trustees of the British Museum

These types of practices have often been characterized as ritual ‘killings’ and/or burials (in the sense as one would bury a human) directed towards disrupting, containing, or otherwise modifying what was seen to be the object’s inherent power. (Gardela 2009: 208). It may be that the persons who deliberately damaged the seven amulet rings had a similar aim in mind. While this cannot be known for sure, the damaging of amulet rings certainly fits into a “much wider set

of practices of revisiting, reusing, and reworking burial places, both ancient and recent” (Klevnäs in press: 3) carried out all over the late Iron Age/early medieval north. That included among other acts highly ritualized forms of grave re-opening, which were governed by specific taboos as to what objects should or should not be taken (Klevnäs 2015: 169).

Amulet rings were, it seems, among the objects too closely tied to burial places and their dead to allow them to be re/moved if they had not had their powers sufficiently broken – literally -beforehand. A great amount of efficacy and a diversity of symbolic associations were evidently attributed to amulet rings in late Iron Age Lovö – amply justifying the *amulet* half of the term. This is apparent not only in the fact they were apparently considered powerful enough to require ritual ‘killing’, but first and foremost in the sheer diversity of ways in which they were deployed in burial and post-burial rites. They clearly fulfilled a number of important functions during many of the different rituals that took place over –and after- the course of the mortuary process. Amulet rings could be the last object placed in physical contact with the remains of the dead, built into the fabric of monuments, left as graveside offerings, moved, bent, or reburied, but in every case were treated as a potent ritual component.

## 6. Function(s) and Meaning(s)

It is hard to say, based strictly on an analysis of the burials, whether iron amulet rings in fact acted to represent a particular ethnic ‘Svear’ identity (contra Nilsén 1992; though on Lovö at least there is little evidence of the kind of conflict of traditions which typically causes ethnic identities to be stressed). Nor can we say just by looking at the remains of ritual on the island whether the use of Thor’s hammer type rings was part of a reaction against Christianity (contra Andersson 2006: 54). Developments in artifact style can, after all, just as easily result from changing ideas and events *within* a community as pressures from without (Fahlander 2007:35). What is, however, made clear in investigating the distribution, forms, and various ways iron amulets were employed in ritualized actions carried out in and around graves it is that these were objects regarded as highly efficacious and meaningful. Iron amulet rings especially seem to have been attributed purposes and powers considered applicable to and attractive for the funerary rites of a great variety of individuals, and even for dealing with the dead long after they were first buried. And by examining the results of the preceding chapters’ analyses in light of current knowledge (and conjecture) about religious ritual and the wider cognitive landscape(s) of late Iron Age Scandinavia, some answers as to what these purposes were, and why iron amulets were chosen to realize them –how they were perceived to *function* and what they might have *meant* to the people who used them - may begin to be approached.

**6.1. *Personal possessions vs. commemorative catalysts:*** Lightning protection amulets and iron amulet rings both appear to have shared an association with the cult of the thunder god and had protective connotations (see Chapter 4 and section 6.2). However, the vast dissimilarities in their patterns of distribution, and what their placements suggest about the ritualized actions they were involved in, indicates they must otherwise have had very different meanings and ritual functions. The lightning protection amulets were all found with a particular type of individual (adult women), and were all likely worn by these women while living and on their person when they were cremated. This choice to keep these amulets close to the body throughout (as part of the funeral dress/as pyre goods), and even after (deposited in the grave close by the urn), the entire burial ritual sequence was probably a direct result of their ‘living’ function as an element of a highly *personal* aspect of late Iron Age female dress.

While the brooches which fastened them are among the objects most commonly taken in grave re-openings, the beads and pendants making up women’s necklaces were almost never removed (and in some cases were even carefully replaced in their original position; Klevnäs 2015: 142). Probably because these assemblages were so intimately connected with the body through being worn on it for so long (possibly even having a biographical component), that to separate them from it even after death would be unthinkable (Klevnäs In Press: 10). Thus the use of lightning protection amulets on Lovö aligns with some of the most longstanding conceptions of “grave goods” as personal possessions of the deceased reflecting aspects of their lived (gendered, hierarchical, ethnic, etc.) identities (Williams 2004: 90). They appear to have

functioned as *highly* personal possessions, burned as pyre goods in order that the dead might continue to still use them in the same way they had while living – and still maintain *ownership* of them - in the afterlife.

The function of the iron amulet rings, however, must have been something quite different. Given that they are in contrast a) distributed with seemingly no connection to any shared biographical qualities of the people they are interred with, and b) were always only put in contact with the remains of the dead sometime after the actual cremation had taken place, there is nothing to suggest these iron amulets were personal possessions of the deceased. The early hypothesis that *torshammar* type amulet rings were worn as neck rings is not convincing (though the fact they *resemble* neck rings may have symbolic import, see section 6.3.). Only a scant number of the few examples from inhumations were found in the vicinity of the chest (and these mostly from outside Mälardalen; Novikova 1992: 85). More occur behind the head, in a corner of the grave, or as apparently secondary deposits in fill (Ström 1970: 16). A number are in addition much too small, or too large, to be worn around the neck, and even those that are the right size would likely have been very uncomfortable (Jensen 2010: 66). It is, in short, far more probable this type of iron amulet was never used as jewelry, but specifically made for use in funerary (and other) rituals. Creating the rings was likely itself a ritualized process (see section 6.2.), and their manufacture might have actually been part of the preparatory stages of funeral rites in at least some cases. Traces of metal working activities have after all been discovered at and/or very nearby several grave fields and other cult sites around Mälardalen, (Zachrisson 2004: 144). For example, the smithy recently discovered by the foot of the royal mounds at Gamla Uppsala and found to contain several iron Thor's hammer pendants (now on display at the site).

The first clue as to what exactly iron amulet rings might have been intended to *do* in these rituals can be found not so much in where, but rather *when* they were placed in the grave. A death always enforces change both in the ontological and physical state of the dead and the social networks of the living, and rituals surrounding death are always (at least in part) a means of dealing with these changes (Williams 2004: 94). According to the well-known anthropological construct of the tripartite rite of passage, the mortuary process always moves through pre-liminal, liminal, and post liminal phases of ritual action. The pre-liminal phase will typically include rituals that somehow separate the deceased from the world of the living, while the liminal rites enforce a physical and ontological transformation, and the post-liminal stage integrates the deceased into the world of the dead and the mourners back into normal life (Fowler 2013: 517). If the typical late Iron Age cremation funeral on Lovö is considered in terms of this model, the pre-liminal/ separation stage would entail acts like the dressing of the corpse, its procession to the burial site, and arrangement on the pyre, etc. The actual burning of the body would constitute the liminal/transformation stage. Cremation is conceptualized in most cultures as the ultimate transformative ritual technology (Artelius 2010: 285). And in as much as Ibn Fadlan's account of his discussion with a mourner at a Rus noble's funeral - who explained that the dead were burned so as to immediately free their spirit to go on to the afterlife – may be taken as indicative of Viking belief more generally, it seems likely this was the case in late Iron

Age Scandinavia (Nielsen 2009: 97; and the funeral described took place along the Volga, an area where iron amulet rings were sometimes used in burials). Finally, the post-liminal/(re)integration phase of the funeral would consist of all the ritual actions occurring post-cremation. Including the placement of that majority of iron amulets rings which ended up in, on, or nearby a burial urn.

Though it would be unwise to employ this conceptual framework in an overly rigid and exclusive manner, if it is allowed that in most cases “this [type of] structure exists in order to transform the ontological status of the dead, *among other things*, we can examine the detail of the ritual action involved and deduce....coherent narratives of transformation from one kind of being to another, one social persona to another, in the specific archaeological contexts we study.” (Fowler 2013: 517). The location of most of the Lovö rings in their respective grave contexts indicates they were deposited during the final ‘post-liminal’ phase of the mortuary process, suggesting that iron amulet rings may have been seen as helping in the last step of the dead’s transition. That is to say the rings could have been placed with or near the ashes of the dead to help facilitate their integration into a new post-life existence.

Howard Williams’ citation of Thor’s hammer rings as an example of what he terms ‘commemorative catalysts’ provides a compelling idea of just how exactly they may have been perceived to do this. According to Williams, a commemorative catalyst is an object placed in the grave in close contact with the cremated remains of the dead for the purposes of a) allowing the living doing the depositing to create new memories of and relations with the deceased, and b) helping re-constitute the dead into a new metaphysical body (Williams 2013: 198; both purposes which fit with the goals of the post-liminal (re) integration phase). The commemorative catalyst works as a secondary agent in this process; the deposition of the artifact with the remains both allows it to become an extension of the dead’s identity and initiates the impact of whatever inherent power it may possess onto the dead (Gell 1998: 96). In other words, using the commemorative catalyst activates “its ‘agency’ (and indirectly the agency of the mourners) over the transformation of the dead body from a living person to a dead person...[while] engagement with both artefacts and the corpse [provides] them with an agency to influence and direct the memories of funerary participants” (Williams 2004: 95).

Though iron amulet rings may not immediately suggest the creation of a new *corporeality* for the cremated dead in the same way as (to cite another of Williams’ examples) the toilet implements employed in late Iron Age Anglo-Saxon cremation burials - with the possible exception of those rings placed around the neck of urns in a manner that evokes ‘dressing’ the pot – the concept of the commemorative catalyst fits nonetheless. The majority of iron amulet rings placed in late Iron Age graves on Lovö do certainly appear to have functioned as catalytic agents; deployed as they were on the very cusp of the ritual transition of the dead from a liminal state to a post-liminal, intimately involved in their incorporation into a new state of being. Even the seemingly impersonal distribution pattern of the rings could be explained in large part through this function, as commemorative catalysts could be employed in the graves of all different kinds of individuals precisely because they were involved creating *new*

configurations of the body politic rather than representing pre-existing ones (Williams 2013: 199). And the moving or breaking of amulet rings might have been ritualized actions done to intentionally disrupt or overturn these processes of ontological translation and memory creation.

**6.2. Why iron amulets?** Though the concept of the commemorative catalyst is useful for understanding why iron amulet rings might be used in the last phase of a typical cremation burial on Lovö, it does not shed a great deal of light on why iron amulet rings were also frequently deposited at grave sites *after* the primary sequence of burial rituals. Or why they would be deposited *outside* of graves entirely. Nor why an iron ring strung with pendants should be considered an ideal catalytic ritual agent in the first place. Investigating these other issues requires delving into what associations the components that constitute an iron amulet ring could have evoked in late Iron Age Scandinavian culture(s). A starting point may be found in considering the most basic part of the rings' materiality; what they are made of. They are *iron*; the substance evidently considered most suitable for amulets that would be deposited in graves (Jensen 2010:72). At least one reason for this affinity may lie in the transformative qualities of the smelting and smithing that goes into making any wrought iron object. These processes are often highly ritualized, and their practitioners viewed as possessing magical knowledge and abilities. This was likely the case in Germanic Iron Age cultures with their abundance of mythical super-humanly gifted smiths, and real smiths who (in at least some cases) worked at sacred sites. It is therefore easy to imagine that the transmutation of iron into a new state through the forge and the body and soul through funerary ritual might have been viewed as parallel ritual processes, and iron thus seem appropriate to use in graves. Or how an object made of metal that goes through fire and emerges changed might seem a good choice for a catalyst meant to assist the dead to do the same (Williams 2013: 203). In some cases the conflation may have been even more intimate, as it is possible some 'missing' bones were literally rebirthed as bone-coal used for steel-making (Gansum 2004: 45).

The protective power so often ascribed to iron in pan-European folklore may have also provided an attraction. That the dead were believed to directly interact with and affect the living – and not always for the good - in late Iron Age Scandinavia is evidenced in both literary and archaeological sources (Gardela 2013: 100). For example, the threat posed by malevolent re-animate corpses known as *draugr* is one of the most widespread and long-lived motifs in the Icelandic sagas (Klevnäs In Press: 7). In the stories destroying the revenant usually requires specific mutilations of the body; ritualized actions described in ways remarkably similar to those evidenced in 'deviant' Viking burials where corpses were beheaded, arranged in unusual positions, or pinned with stones (Gardela 2013: 110). But the best option was simply to prevent dangerous manifestations from ever happening at all by ensuring the dead stayed bound to their proper place (Petré 2010: 402). According to Scandinavian folk belief, placing objects made of iron in and/or around the grave site is one of the most reliable ways to do this (Hagberg 1937: 622). The same belief may well have existed in the late Iron Age. Retro-jecting later tradition back onto earlier practices is of course a *very* uncertain business, but the evidently remarkable

endurance of the concern the iron would be seen to alleviate is suggestive. Iron would after all have been best choice available in the Viking Age for objects like locks, keys, and chains that were used for binding in a practical sense; including the basket settings for the stone cores of the lightning protection amulets (a containment that might be intended to bind in place the thunderstone's power for the bearer's use much as being functional). So why not for magical binding too?

Preserving the proper boundary between the living and the dead would also be form of mediation, requiring an ability to operate safely and effectively in the liminal space between worlds. That iron may have been ascribed any of these closely related faculties would go some way towards explaining why it was the material of choice not just for grave amulets, but also for the seið staffs employed by the *völur*. Female ritual specialists whose perilous business was the shamanic communication with and manipulation of spirits, including those of the dead (Price 2002: 203). In sum, even with specifics lost to time, much remains in literary and archaeological sources which suggests iron was seen as a highly efficacious and meaning-filled substance in late Iron Age Scandinavia.

**6.3. *Reproduction, protection, consecration, and mediation:*** The composite *form* of the iron amulet ring would have also activated various associations, a number of which could have been mutually reinforced by/reinforcing of those adhering to the iron from which they were made. For example, much as aspects of birth and fertility might be ascribed to the iron-making process (Gansum 2004: 41), the form of Thor's hammer rings particularly, and amulet rings more generally has been framed as a symbol of reproduction in many recent discussions of the material (Andersson 2006; Isroth Vana 2007; Lyman 2007; Williams 2013). The connection is often made on the evidence of specific motifs known from Old Norse mythology. For example, Gunnar Andersson notes that Thor's hammer Mjølfnir was seen to help bring the lightning storms and with them the rains that provided fertility to the land, and functions as a life-giving instrument many times in the Eddas (Andersson 2006:56; as when Thor uses it to resurrect his goats). Andersson also argues that rings as well might have fruitful and regenerative connotations via the ability of Odin's magical ring *Draupnir* to reproduce by dropping eight new rings every ninth night. Outside of the handful of possible mythological exemplars, however, associating the shape of iron amulet rings with reproduction/regeneration tends to rely heavily on generalizations, i.e. rings conceptualized as 'universal' symbols of cyclical renewals of fertility and everlasting life (Lyman 2007: 48). Acknowledging the tenuous nature of some of the arguments does not have to necessitate a wholesale dismissal of *any* reproductive connotations for iron amulet rings - as Bo Jensen makes primarily on the basis of the ambiguity surrounding whether "rebirth" was actually an issue in Norse paganism (Jensen 2010: 69). Jensen's argument is for one thing greatly tempered if the rings' possible part in activating rebirth is considered not as ensuring a Christian-style resurrection, but rather as 'just' helping the dead regenerate and continue to the afterlife after cremation (Williams 2013: 20). But the reproductive connotations of the ring form are still often rather overstressed in proportion to the

evidence, and frequently to the detriment of exploring other possible associations better supported by the sources. Reproduction and fertility may be *one* layer of meaning overlaying the design of iron amulet rings, but it can hardly be the only, not least because it does little to explain their use after and outside of burial rites.

An association that would lend itself to these wider applications is that of protection. This - not regeneration - is after all probably the most obvious function of Thor's hammers. Thor uses the original to defend Asgard and crushes giants throughout the Eddas (Ellis Davidson 1965: 9). Single Thor's hammer pendants were popularly worn by late Viking Age individuals as items for personal protection in much the same ways as the lightning protection amulets were used at a very slightly earlier period (see section 4.1). Whether these hammer pendants were also reactions against/ inspired by the use of Christian crosses is still debated, but either way the apotropaic potential of the material sign is hard to miss. The amulets would have acted not just as symbols referring to the god, but also as agents actively channeling and enacting his protection for the wearer (Ellis Davidson 1965: 9).

Rings may have had protective connotations and functions as well, in evocation of Thor's belt of strength (Jensen 2010: 67), or the circling Midgard serpent holding the waters of the world in place (Andersson 2006: 58), or simply the sense of creating a protective barrier (though this last is, again, a very general idea). Operating in this kind of semantic field an object made up of rings and Thor's hammers – let alone an *iron* object- would naturally be perceived as an object *highly* charged with protective power. Protective power that, as previously discussed, would doubtless have seemed necessary when dealing with the dead. Given that in the stories the usual reason given for the dead's restlessness is an interruption in their (re)incorporation into the afterlife (Gardela 2013: 100), the use of an iron amulet ring to help smooth this transition (see section 6.1) might well be a step taken to safeguard living and dead alike. While leaving rings as secondary depositions was likely a protective (or curative) action taken –like the laying out of iron knives in the ethnographic examples– to ensure the dead were bound in their graves..

It would not be surprising for the Thor's hammer type of amulets rings to have acted as consecrating instruments also. There is some literary evidence to suggest hammers were used in rituals to consecrate Viking brides at their wedding and bless newborns (Ellis Davidson 1965: 11). A handful of runestones from the Mälars valley are carved with Thor's hammer designs and/or inscriptions asking Thor to bless and safeguard the monument (Ström 1970: 58). And then there this evocative description of the funeral of the god Balder in *Gylfaginning*:

The asar took the corpse of Balder and brought it to the sea-shore. Hringhorn was the name of Balder's ship, and it was the largest of all ships. The gods wanted to launch it and make Balder's bale-fire thereon, but they could not move it. Then they sent to Jotunheim after the giantess whose name is Hyrrokken... Hyrrokken went to the prow and launched the ship with one single push ...Balder's corpse was borne out on the ship; and when his wife, Nanna, daughter of Nep, saw this, her heart was broken with grief and she died. She was borne to the funeral-pile and cast on the fire. *Thor stood by and hallowed the pile with Mjolner*. Before his feet ran a dwarf, whose name is Lit. Him Thor kicked with his foot and dashed him into the fire, and he, too, was burned... But this funeral-pile was attended by many kinds of folk. First of all came Odin... *Odin laid on the funeral-pile his gold ring, Draupner*.(Sturlasson trans. 1901: 134; italics added).

A passage that definitely shows Thor's hammer in consecratory – and catalytic- action (Williams 2013: 202). The fact Balder's pyre is kindled in a ship whose name means 'be-ringed' is also suggestive, especially in light of the Thor's hammer ring found attached to a ship's mast in one of the famous boat burials of Valsgärde, Sweden (Ström 1970: 24; perhaps to bless and safeguard the ship on its afterlife journey). Details that, along with Odin's gift of Draupnir, would seem to imply the power to consecrate was also related to the *ring* form.

This association is certainly supported by the archaeology. At Lilla Ullevi iron amulet rings were found around the post holes marking the *vi band* (Bäck & Stenholm 2012: 77), some with iron cramps suggesting they were stapled to the band's vanished wooden poles (Figure 24).

Figure 24: Ring, Lilla Ullevi Figure 25: Forsa Ring Figure 26: Uppåkra ring Figure 27: Ring, Delsbo K:a



Photo Jan-Åke Ljung, Raä



Photo Bengt A.Lundberg, Raä



Photo Bengt Almgren, LUHM



Photo S.Å. Nordin, Delsboonline

The so-called Forsa Ring (a very unusual fire steel shaped ring with the typical middle peak instead terminating in a *Thor's hammer*, see Figure 25) bears a tenth-century runic inscription alluding to punishments for violating a *vi's* precincts (Källström 2010: 228). The ring was likely used at said unknown *vi* before it ended up on the Forsa church door; just one example of the *long* tradition of using rings – and specifically *iron* rings – to delimit (and likely also *protecting* the limits of, given how thresholds like church doors were often viewed as dangerous place ) sacred space in Scandinavia. Clamped iron rings have also been found at the hall in Uppåkra (Figure 26), where they probably once hung on the hall doors in a fashion similar to the iron ring-handles (Figure 27) of later medieval Swedish churches (Eriksen 2014: 77). Iron Age grave monuments frequently referred to other forms of sacral architecture, and the typical Lovö grave site can certainly be imagined in this way. I.e. as evoking both a miniaturized *vi* and/or a hall (Nordberg 1997:19; perhaps in a very literal sense given Eddic poetry describing dead heroes living in grave mounds like lords in mead halls). There is therefore good reason for thinking iron amulet rings placed in the graves - particularly those deposited at the very *edges* of grave sites – might have functioned in ways similar to those used on hall doors and *vi*-bands. That is to serve to consecrate and delineate (and in doing so protect) the burial place as a hallowed space.

The ring form was, however, above all associated with the consecration of social agreements through the swearing of *oaths*. Arm rings, neck rings (a form iron amulet rings certainly recall despite not being worn as jewelry, see Figure 28), and Vendel period ring swords (Figure 29) are all widely interpreted as emblems of rank and leadership, with all the legal and sacral responsibilities these carried in the Scandinavian Iron Age (Eriksen 2014: 73). All of

them are often connected with the ‘oath-rings’ mentioned in written sources; i.e. the description in *Errbyggja saga* of an oath-ring standing on a stall in the center of the *hov*, and the passage with oaths sworn “by *Ullr*’s ring” in *Atlakviða* (Eriksen 2014: 80). References that also make it highly probable iron amulet rings found at cult sites - particularly ones actually dedicated to the enigmatic *Ullr*, like *Lilla Ullevi* (Bäck & Stenholm 2012: 18) - constitute archaeological evidence of this practice. An assumption strengthened by early written law codes showing oaths still being sworn on door/boundary rings in medieval Sweden; where for instance the right of sanctuary could be claimed by swearing on the ring-handle of a church door (Eriksen 2004: 81).

Figure 28: Neck ring from Lindö, Västmanland      Figure 29: Ringed pommel of the Vallstenarum sword



Photo Ulf Bruxe, SHM



Photo Charlotte Hedenstierna-Jonson, SHM

Though iron amulet rings found at holy places are now commonly accepted as having had an association with the mediating action of oath-swearing, iron amulet rings found in (or near) graves are not. Yet if one remembers that late Iron Age mortuary ritual was a process involving the ontological and social negotiation of *relationships* between the living and the dead it becomes clear they *should* be. Supposedly irrevocable differences between the Thor’s hammer ring type most often (but hardly only) used in graves and the ring on ring type most commonly identified with oaths and cult sites (but also sometimes deposited in graves) are no real obstacle to the comparison (not least for how the typologies are so fuzzy, see section 4.3). Particularly in light of later sagas where oaths are sworn on *Thor*’s ring rather than *Ullr*’s, suggesting a judicial association for *both* gods. In any case, swearing an oath consecrates the creation of a new bond between participating social agents. It is a ritualized act that changes their relationship to one another; conferring new responsibilities towards the other party(s), and often changing the social status of one or both in some way. Similarly a new relation is set up between deceased and survivors in funeral rites that act to change the latter from a once-living person/potentially dangerous ghost into an *ancestor*; a shift in being and status that ascribes a new function in the community (and new powers) to the dead, and new obligations (and potential boons) to the living (Fowler 2013: 511). An iron amulet ring used in a grave as a commemorative catalyst (see section 6.1), would therefore function as the mediating agent in a transformation of social relationships in just the same way as one on which an oath was sworn.

Oath-swearing was also closely akin to practices of gift exchange in late Iron Age/ early medieval cultures, as both entailed reciprocal obligations on the participants and could serve both in establishing new social relations or reinforcing old ones (Klevnäs 2015: 147). In late Iron Age Scandinavia gifts evidently passed not only between ‘normal’ living persons, but between

humans and the gods, and a great range of other numinous beings as well (Price 2002: 394), in the form of votive offerings. Many of the iron amulet rings found at cult sites were likely deposited as just this, as gifts and/or oaths to the gods or spirits venerated there. Many iron amulet rings found in graves likely had this as a function as well, as these networks of exchange could also involve the active and animate dead. Artifacts placed in graves might function among other things as gifts from mourners, either to close debts, or set up new ones and ensure the ancestors' future favor (Giles 2013 :124).

Such gifts might be given both during the funeral and after the primary sequence of burial rituals had been completed, as ancestors were seen as remaining actively engaged with the community (not least in how they might be implicated in claims to land ownership; Andrén 2013b: 272). Grave sites *were* cult sites. Just like other sacred places, the late Iron Age grave field was a point where contact between worlds was maintained (Nordberg: 9), and relations between the living and otherworldly powers “made fast and regulated” (Bäck & Stenholm: 99). So it is easy to imagine at least some of the iron amulet rings placed in grave sites as secondary depositions functioned as offerings to the dead. Especially those rings deposited *in* grave fields but not in direct connection with an actual grave, such as the examples found in miniature ritual enclosures (see section 5.5.1) likely specifically created for use in ancestor veneration. The breaking of rings left in graves would also be logical within this cognitive framework. Just as an iron amulet ring might serve as the mediating agent - and *embodiment* - of oaths sworn between the living and the dead, destroying them would be a way of ritually shattering those bonds. The use of amulet rings in and around graves is clearly related to the *intensely* retrospective character of late Scandinavian Iron Age religion; the practices they were used in another an expression of the prevailing interest in sustaining relations with real (or imagined) ancestors (Andrén 2013:41). An interest also visible in many other traditions evident at Lovö and countless other sites, such as the superimposition of new graves over old ones and the deposition of old bones in new graves.

**6.4. *Inscribed between the living and the dead:*** In sum, both lightning protection amulets and iron amulets rings may be characterized above all else as objects loaded with ritual power both by the qualities attributed to the material they were made of, and the associations evoked by their forms. In other words, artifacts that were created as *inscribed objects* “marked out at the time of production [as] invested with agency” (Joy 2009: 546). Objects that were seen to possess affective capabilities well beyond the representative. Objects in this case perceived as able affect the interfaces between the living and otherworlds; lightning protection amulets acting as material calls for divine protection both in life and death and iron amulet rings *made specifically* to facilitate contact across the bounds between. It is also clear that, for all these similarities, these two types of iron amulets were employed in quite different ritualized acts, and must have had very different functions in these acts. The highly personal lightning protection amulets being apparently chosen to accompany their owners as inseparable possessions into the fire, and to remain a part of their persona in the afterlife. While the polyvalent iron amulet rings were evidently employed as multi-purpose catalytic, protective, and mediating agents *throughout*

the series of rituals by which the ontological status of the dead- and the webs of relationships between them and the living – were negotiated, transformed, and maintained.

In the end what is, however, most certain is that there is still much about the functions and meanings of iron amulets from Lovö, and elsewhere, that remains to be explored further. As well as much that will likely never be completely accessible from the fraction of physical remains and fragments of preserved traditions we have left (Figure 30). Certainly it is hoped that what has been revealed here about the complex nature of the rituals involving iron amulets carried out in and around graves on just a single island in Mälardalen may serve as an example of how much *is* nonetheless possible to discover about the great *variety* of ancient ritual life in this region. As well as a call for the continued and evolving investigation and re-evaluation of these artifacts - and other groups of grave goods, whether similarly enigmatic or seemingly mundane – in light of the current creative ferment in archaeological theory and methodology.

Figure 30: A funeral procession carrying amulet rings? Tängelgårda stone, Gotland  
Drawing, SHM



## Summary

During the late Iron Age the southern part of the island now known as Lovö (located in eastern of Lake Mälaren in present-day Sweden) was home to several thriving settlements, whose residents buried their dead in a cluster of nearby gravefields. This study analyzes the distribution and forms of iron amulets which were deposited in and/or nearby many of the burials in this area, seeking to ascertain how these artifacts functioned in funerary and other rituals carried out in the gravefields. The choice to focus on this group of grave goods was based both on the fact that amulets made (wholly or partially) of iron exhibit a statistically significant connection with grave sites, and the desire to (re) interpret the largest group of the iron amulets, the iron amulet rings, in a relational and practice focused perspective. These and other New Materialist concerns form the greater part of the theoretical base for the study. However, ideas from cognitive archaeology and post-structuralist semiotics are also utilized when possibilities for extrapolating what meanings might have adhered to the material are being explored.

This over-arching problem of how (and why) iron amulets were used in late Iron Age graves on Lovö is approached through a series of more specific underlying questions. The first of these forms the subject of the first chapter, which addresses the spatial and temporal distribution of iron amulets within the (relevant) grave fields. By analyzing data from the excavation reports published by Stockholm University's five-decade *Lovöprojektet* it is determined that forty-six late Iron Age graves, spread over five gravefields, contained a total of fifty-five iron amulets. And, that the majority of the amulets were found in networks of graves distributed in roughly circular clusters across the two largest grave fields Raä 28 Söderby and Raä 34 Lunda/Berga, most dating to between ca 750 and ca 1050 CE. The most significant correlation visible between the spatial and temporal distributions of the iron amulets appears to be that the later a grave field remained in use, the more iron amulets it contains.

After considering the general distribution of the iron amulets, the issue of whether there exist any patterns of distribution correlating with variables outside of the purely spatial or temporal is explored. 94% of iron amulets are found to come from cremation burials, with only two examples placed in inhumation graves, and one in a graveless stone setting which likely functioned as a miniature ritual enclosure. The distribution of graves containing iron amulets by grave form –unlike grave type – is shown to be primarily a reflection of the overall composition of the grave field; most (61%) of the graves with iron amulets are round stone settings (by far the most numerous grave form in the area), while 24% are mounds (the second most common grave form). And though they appear in *slightly* more women's graves than men's, the generally even distribution of iron amulets relative to the sex of individuals they were interred is seen to indicate they were not 'gendered' grave goods. Given the fact their distribution also appears relatively status and age neutral it is suggested that iron amulets did not primarily act to emphasize any personal qualities of the deceased, but rather functioned as a type of magico-religious equipment specifically related to mortuary ritual. The distribution of iron amulets is also found to have no obvious relation to the other contents of the graves; with the one notable

exception that the use of several non-ferrous amulet types popular in the Vendel period seem to disappear or drastically decline as iron amulets proliferated (and the perceived function(s) of the former were perhaps taken over by the latter).

The iron amulets forms are explored next. Four pyrite and iron-wire pendants, all found in female cremation graves, are identified (based on resemblance to similar artifacts from other sites) as lightning protection amulets, which can be located in a long tradition of objects used as thunderstones. As thunderstones the pendants are connected with the cult of Thor. It is suggested that the fact all four date to the earliest end of the series of iron amulets found in the gravefields - and in view of the earlier use of sparking flints, one of the non-ferrous amulet types that fall out of favor in the Viking age – indicates a kind of conceptual genealogy among seemingly disparate amulet forms, that culminates in yet another amulet type connected with the thunder god: the iron amulet ring. Iron amulet rings are defined simply as circles of iron rod of various sizes with attached iron pendants of various shapes, most (but not all) of which may be classed as Thor's hammer rings. Though Thor's hammer rings are typically set apart from other amulet ring types by supposed irreconcilable differences (in size, pendant and/or ring designs, find context, etc) it is argued here that, in light of the great variety and overlappings of types actually visible in the Lovö material, this typology is much 'fuzzier' than usually acknowledged. And thus in turn the functions and meanings of Thor's hammer type rings (and all amulet rings) are best considered *within* a hybrid network of relations to all the other types of iron-ring based objects used throughout Iron Age Scandinavia.

The bulk of the rest of the study is given over to an investigation of how exactly iron amulets are placed in/around the graves on Lovö, and what exactly their placements suggest about their use in burial and/or other mortuary cult rituals. The placement of the iron amulets within individual grave contexts is divided into three over-arching trends relating to (at least) three distinct types of ritual practices: amulets either found in a burn layer actually inside or in very close proximity to an urn holding cremated bone, found elsewhere inside the 'burn layer' of a cremation grave, or found outside of a burn layer entirely. Whereas the placement and condition of the lightning protection amulets reveals all four were burned along with the dead women whose urns they were subsequently placed near, it is shown that the iron amulet rings found in close connection with urns were, in contrast, specially chosen and placed in graves *after* cremation had taken place, as the culminating visible act of this central stage of the burial ritual sequence. Iron amulets rings found elsewhere in burn layers – especially those in 'divided' burn layer deposits in the fill of mounds - are on the other hand characterized as resulting from ritual actions carried out at a somewhat later stage in the burial ritual sequence: during, rather than immediately preceding, the covering of the inner grave assemblage. Finally the eclectic group of iron amulet rings found entirely outside of burn layers is connected with an equally diverse group of rituals, most of which likely took place sometime after – or wholly apart from – burials. For example the unique feature at A33 Söderby 28 where a ring was deposited in a grave-less stone setting (that is overlain by another grave, where ancestral bone was sprinkled from a third grave) is interpreted as a small ritual enclosure built for ongoing visitations with and offerings to

the dead. While seven highly damaged amulet rings are located within a much larger body of late Iron Age practices involving objects taken and/or damaged (and/or redeposited) from graves.

Lastly, the question of what the results of these analyses (viewed in light of current knowledge about wider cognitive landscape(s) of late Iron Age Sweden) might indicate about how the iron amulets were perceived to *function*, and what they might have *meant* to the people who used them, is investigated. The lightning protection amulets are, based on their apparently inseparable connection with the bodies of the dead, theorized as personal possessions intended to follow their owners into the next world. Whereas the majority of iron amulet rings found in/near urns are shown to likely have functioned as ‘commemorative catalysts’ meant to facilitate changes in the ontological status of the dead and the social fabric of the living world. The composite *form* of the iron amulet ring is suggested to have also triggered various associations - a number of which would have been mutually reinforced by/reinforcing of those adhering to iron as material- that in turn help explain why rings were also employed after and outside of burials.

Literary and ethnographic sources are used to build a picture of what symbolic and active powers could have been attributed to hammer and ring forms in Late Iron Age Scandinavia, leading to the conclusion that iron amulet rings might have been viewed as reproductive, almost certainly protective and consecrating, and most importantly *mediating* agents. In particular it is emphasized that iron amulet rings found in gravefields - just like those found at other cult places – can be connected with the mediating actions (and ensuing reciprocal obligations) entailed by oath-swearing and gift giving in late Iron Age Scandinavia. Both because iron amulet rings used in graves as commemorative catalysts would function as mediating agents in the transformations of social relationships in essentially the same way as rings on which oaths were sworn in other contexts, and since many rings placed as secondary depositions were likely left as votive offerings to ancestors conceived as remaining actively engaged in the affairs of the community. A fact noted as an expression the prevailing late Iron Age interest in sustaining relations with real (and imagined) ancestors. In conclusion both types of iron amulets are characterized as inscribed objects specifically created as loaded with ritual power, and because of this deployed as secondary agents in a variety of rituals by which the fate of the dead- and relations between them and the living – were negotiated and maintained. While the great contrasts in the specific ways the types were used is pointed to as exemplifying the great *variety* of ritual functions grave goods performed.

## References

- Andersson, G., 2006. With Thor on Our Side: The symbolism of the Thor hammer-ring in Viking age burial ritual. *Dealing with the Dead. Archaeological perspectives on prehistoric Scandinavian burial ritual. Riksantikvarieämbetet Arkeologiska Undersökningar Skrifter*, (65), pp. 45-62.
- Andersson, G. 2006b. Among trees, bones, and stones: The sacred grove at Lunda. In Andrén, A., Jennbert, K. and Raudvere, C. eds. *Old Norse religion in long-term perspectives: origins, changes, and interactions: an international conference in Lund, Sweden, June 3-7, 2004* (Vol. 8). Nordic Academic Press, pp. 195-199.
- Andrén, A. 2013. The significance of places: the Christianization of Scandinavia from a spatial point of view. *World archaeology*, 45(1), pp.27-45.
- Andrén, A., 2013b. Places, Monuments, and Objects: The Past in Ancient Scandinavia. *Scandinavian Studies*, 85(3), pp.267-281.
- Andrén, A., 2014. Tracing Old Norse Cosmology: The world tree, middle earth, and the sun in archaeological perspectives. Nordic Academic Press.
- Appelgren, K. and Renck, A.M., 2007. Vad är en grav? I: Att nå den andra sidan. *Om begravning och ritual i Uppland. Arkeologi E*, 4, pp. 37-75.
- Artelius, T. 2010. Människor är oftast döda : om kremeringens idé i brons- och järnålderns begravningstradition. Utblickar från Munkedal : 10 000 år av bohuslänsk förhistoria, pp. 280-296.
- Back Danielsson, I.M. 2007. Masking moments: the transitions of bodies and beings in Late Iron Age Scandinavia (Vol. 40). Dept. of Archaeology and Classical Studies, Stockholm University.
- Bäck, M. & A-M.H. Stenholm. 2012. Lilla Ullevi: den heliga platsens geografi. Riksantikvarieämbetet.
- Bell, C., 1992. *Ritual theory, ritual practice*. Oxford University Press.
- Berggren, Å. and Stutz, L.N. 2010. From spectator to critic and participant: A new role for archaeology in ritual studies. *Journal of social archaeology*, 10 (2), pp.171-197.
- Biuw, A., 1992. *Norra Spånga: bebyggelse och samhälle under järnåldern*. Kommittén för stockholmsforskning.

- Bolin, H. 2004. The absence of gender. *Current Swedish Archaeology* 12, pp. 169-85.
- Bradley, R., 2003. A life less ordinary: the ritualization of the domestic sphere in later prehistoric Europe. *Cambridge archaeological journal*, 13(01), pp.5-23.
- Ellis Davidson, H.R., 1965. Thor's hammer. *Folklore*, 76(1), pp.1-15.
- Eriksen, M.H. 2014. The Powerful Ring. Door rings, oath rings and the sacral place. In Pedersen, U., Rundberget, B. & Axelsen, I. eds. *Viking Worlds: Things, Spaces and Movement*. Oxbow Books.
- Ettlinger, E., 1939. British Amulets in London Museums. *Folklore*, 50(2), pp.148-175.
- Fahlander, Fredrik 2007. 'Third Space Encounters: Hybridity, Mimicry and Interstitial Practise'. *Encounters, Materialities, Confrontations: Archaeologies of Social Space and Interaction*, red: Per Cornell & Fredrik Fahlander, pp 15-41.
- Fowler, C. 2013. Identities in Transformation: Identities, Funerary Rites, and the Mortuary Process. Tarlow, S. and Stutz, L.N. eds., *The Oxford handbook of the archaeology of death and burial*. OUP Oxford, pp. 511-526.
- Fuglesang, S. H. 1989. Viking and medieval amulets in Scandinavia. *Fornvännen* 84, pp.15-27.
- Gansum, T. 2004. Role the bones—from iron to steel. *Norwegian archaeological review*, 37(1), pp.41-57.
- Gardęła, L., 2009. A biography of seiðr-staffs. Towards an archaeology of emotions. *Between Paganism and Christianity in the North, Rzeszów, Poland: Wydawnictwo Uniwersytetu Rzeszowskiego*, pp.190-219.
- Gardęła, L. 2013. The Dangerous Dead? Rethinking Viking-Age Deviant Burials. *Conversions: Looking for Ideological Change in the Early Middle Ages*, pp. 99-136.
- Gell, A. 1998. *Art and agency: an anthropological theory*. Clarendon Press.
- Giles, M., 2013. *A Forged Glamour: Landscape, Identity and Material Culture in the Iron Age*. Windgather Press.
- Gosden, C., 2005. What do objects want? *Journal of archaeological method and theory*, 12(3), pp.193-211.

- Gräslund, A.S., 1981. *The burial customs: a study of the graves on Björkö* (Vol. 4). Almqvist & Wiksells.
- Gräslund, A.S. 2007. Some Viking-age Amulets-the Birka Evidence. *Cultural Interaction Between East and West: Archaeology, Artefacts and Human Contacts in Northern Europe* 44, pp. 90-96.
- Hagberg, L., 1937. *När döden gästar*. Wahlström & Widstrand.
- Hamilakis, Y. Pluciennik, M., & Sarah Tarlow, eds. 2002. *Thinking Through the Body: Archaeologies of Corporeality*. Kluwer Academic.
- Harrison, S. & Ó Floinn, R. 2014. *Viking Graves and Grave-Goods in Ireland*. National Museum of Ireland.
- Hansson, A.M., 2005. Buried plants. Fossil plant remains from two Early Medieval burial mounds in east-central Sweden. *Journal of Nordic Archaeological Science* (15), pp. 39-56.
- Hedeager, L., 2010. Split bodies in the Late Iron Age/Viking Age of Scandinavia. *Body parts and bodies whole*, pp.111-118.
- Hjørungdal, T., 1994. Poles apart: have there been any male and female graves. *Current swedish archaeology*, 2, pp.141-150.
- Isroth Vana, Eva. 2007. *Järnåldersgravfälten: Graver eller symboliska återfödelseplanteringar?* Institutionen för arkeologi och antikens kultur, Stockholms universitet.
- Jensen, B. 2010. *Viking age amulets in Scandinavia and western Europe*. Archaeopress.
- Joy, J., 2009. Reinvigorating object biography: reproducing the drama of object lives. *World Archaeology*, 41(4), pp. 540-556.
- Källstrom, M. 2010. Forsaringen tillhör 900-talet. *Fornvännen*, 105(3), pp.228-232.
- Klevnäs, A. 2015. Give and take: grave goods and grave robbery in the early middle ages. Klevnäs, A. and Hedenstierna-Jonson, C., eds. *Own and be owned: archaeological approaches to the concept of possession*. Stockholm Studies in Archaeology 62, pp. 135-166.
- Klevnäs, A. In Press. 'Imbued with the essence of the owner': personhood and possessions in the reopening and reworking of Viking Age burials. *European Journal of Archaeology*.

Latour, B. 2005. Reassembling the social: an introduction to Actor-network theory. Oxford University Press.

Lyman, Jasmine Idun Tova. 2007. CD uppsats i arkeologi. Arkeologiska institutionen, Högskolan på Gotland.

Maguire, H., 1990. Garments pleasing to God: the significance of domestic textile designs in the Early Byzantine period. *Dumbarton Oaks Papers*, pp.215-224.

McKinley, J., 2013. Cremation: excavation, analysis and interpretation of material from cremation-related contexts. Tarlow, S. and Stutz, L.N. eds., *The Oxford handbook of the archaeology of death and burial*. OUP Oxford.

McNamara, K.J., 2007. Shepherds' crowns, fairy loaves and thunderstones: the mythology of fossil echinoids in England. *Special Publication –Geological Society of London* , 273, pp.279-294.

Nielsen, K.H., 2009. Rituals to free the spirit—or what the cremation pyre told. In *Mortuary Practices and Social Identities in the Middle Ages*. University of Exeter Press, pp. 81-105.

Nilsén, Gunnar. 1992. Företeelsen torshammarringar : en studie av en artefakt och dess betydelse för sin kontext - vikingatid i Mälardalen. Stockholm : Arkeologiska inst., Stockholms universitet.

Nordberg, A. 1997. Vägen till Hel går neråt och nordvart: om mytologi och ritual i yngre brandgravskick på Lovö. C uppsats i arkeologi, Stockholms universitet.

Novikova, G.L., 1992. Iron neck-rings with Thor's hammers found in Eastern Europe. *Fornvännen årgång 87 (2)*, pp. 73-89.

Ödman, A., 2003. Tankar kring två ringhandtag från Uppåkra. *Fler fynd i Centrum: Materialstudier i och kring Uppåkra* (Vol. 45). Almqvist & Wiksell International, pp. 89-96

Olsen, B. 2010. In defense of things: archaeology and the ontology of objects. Rowman Altamira.

Petré, B. 1984a. Arkeologiska undersökningar på Lovö: Del 2. Fornlämning RAÄ 27, Lunda.

Petré, B. 1984b. Arkeologiska undersökningar på Lovö: Del 3. Gravar, gravfält och boplatser på Lovö.

Petré, B. 1999a. "Gravfältet Raä 13. Söderby, Lovö sn, Up: Ett gravfält med två familjer från yngre järnålder. Rapport, analys, tolkning." *Lovö Archaeological reports and studies* 6.

Petré, B. 1999b. "Gravfältet Raä 16, Söderby, Lovö sn, Up.: Ett familjegravfält från yngre järnålder. Rapport, analys, tolkning." *Lovö Archaeological reports and studies* 7.

Petré, B. 2010. Arkeologiska undersökningar på fornlämning RAÄ 34, Lunda/Berga, Lovö sn, Uppland. *Gravfält från vikingatid, äldre järnålder och yngre bronsålder samt boplatzlämningar från bronsålder. Lovö archaeological reports and studies* 9.

Petré, B. 2011. Arkeologiska undersökningar på fornlämning RAÄ 28, Söderby, Lovö sn, Uppland. *Gravfält från vendeltid och vikingatid samt några gravar och boplatzlämningar från bronsålder. Lovö Archaeological reports and studies* 10.

Price, N. 2002. *The Viking way: religion and war in late Iron Age Scandinavia*. Uppsala University.

Price, N. 2014. Nine paces from Hel: time and motion in Old Norse ritual performance. *World Archaeology* 46 (2), pp. 178-191.

Petersson, Caroline 2011. 'In Things We Trust: Hybridity and the Borders of Categorization in Archaeology'. *Current Swedish Archaeology*, Vol. 19, pp. 167-181.

Stig Sörensen, M. L. S. 2010. Gender, material culture and identity in the Viking Diaspora. *Viking and Medieval Scandinavia* 5, 253-69.

Ström, K., 1970. Om fynden av torshammarringar. *Lic. Avhandling framlagd för seminaret i Nordisk fornkunskap, Arkeologiska inst. Stockholms Universitet*.

Sturlasson, S. 1901. *The Younger Edda*. Translated by R.B. Anderson. Scott, Foresman and Co.

Stuz, L.N. 2006. Escaping the allure of meaning: toward new paradigms in the study of ritual in prehistory. In Andrén, A., Jennbert, K. and Raudvere, C. eds. *Old Norse religion in long-term perspectives: origins, changes, and interactions: an international conference in Lund, Sweden, June 3-7, 2004* (Vol. 8). Nordic Academic Press, pp. 95-99.

Tang, L., 2015. *Number Symbolism in Old Norse Literature: A Brief Study*. University of Iceland.

Thålin-Bergman, L., 1984. *Det vikingatida Frescati* (Vol. 16). Kungliga Vetenskapsakademien.

Thedéen, S., 2010. Immortal Maidens: The Visual Significance of the Colour White in Girls' Graves on Viking-Age Gotland. *Making Sense of Things*, p.103.

Trotzig, G. 2014. *Metaller, hantverkare och arkeologi – Från nutid till forntid*. Hemslöjdens förlag.

Williams, H.M., 2004. Artefacts in early medieval graves—a new perspective. Collins, R., 2004. *Debating late antiquity in Britain AD 300-700* (No. 365). British Archaeological Reports, 89-102.

Williams, H., 2013. Death, memory and material culture: Catalytic commemoration and the cremated dead. In Tarlow, S. and Stutz, L.N. eds., 2013. *The Oxford handbook of the archaeology of death and burial*. Oxford University Press, pp. 195-208.

Zachrisson, T., 2004. The holiness of Helgö. *Exotic and sacral finds from Helgö, Stockholm (Excavations at Helgö XVI)*, pp.143-75.

## Appendix 1: Database

Amulet Type	Site	Grave Number	Grave Type	Grave Form	Sex of Buried Individual(s)	Date
Lightning protection	Söderby 16	A2	Cremation	Round stone setting	Female	600-650 CE
Lightning protection	Lunda 27	A25	Cremation	Rounded stone setting	Female?	Late Vendel
Lightning protection	Lunda 27	A30	Cremation	Round stone setting	Female	Late Vendel
Lightning protection	Söderby 28	A8	Cremation	Rounded stone setting	Female?	Late Vendel
Iron amulet ring	Söderby 13	A47	Cremation	Mound	Female, Unknown	ca 800s CE
Iron amulet ring	Söderby 16	A39	Cremation	Rounded stone setting	Female	ca 700 CE
Iron amulet ring	Lunda 27	A3a	Cremation	Round stone setting	Female	Viking Age
Iron amulet ring	Lunda 27	A4	Cremation	Rounded stone setting	Male	Viking Age
Iron amulet ring (1)	Lunda 27	A135	Cremation	Oval mound	Male	Viking Age
Iron amulet ring (2)	Lunda 27	A135	Cremation	Oval mound	Male	Viking Age
Iron amulet ring	Lunda 27	A137	Cremation	Rounded stone setting	Male, Unknown	Viking Age
Iron amulet ring	Söderby 28	A33	*	Quadrangular stone setting	*	Viking Age
Iron amulet ring (1)	Söderby 28	A35	Cremation	Round-oval 'middle-block' stone setting	Male	Viking Age
Iron amulet ring (2)	Söderby 28	A35	Cremation	Round-oval 'middle-block' stone setting	Male	Viking Age
Iron amulet ring	Söderby 28	A37	Cremation	Rounded cairn-like stone setting	Unknown	TPQ 844-869 CE
Iron amulet ring	Söderby 28	A41	Cremation	Mound	Male	Viking Age
Iron amulet ring (1)	Söderby 28	A43	Cremation	Mound	Female	Viking Age
Iron amulet ring (2)	Söderby 28	A43	Cremation	Mound	Female	Viking Age
Iron amulet ring (1)	Söderby 28	A44	Cremation	Mound	Unknown	TPQ 837 CE
Iron amulet ring (2)	Söderby 28	A44	Cremation	Mound	Unknown	TPQ 837 CE
Iron amulet ring	Söderby 28	A57	Cremation	Round-oval stone setting	Unknown	Viking Age
Iron amulet ring	Söderby 28	A58	Cremation	Round stone setting	Unknown	Viking Age
Iron amulet ring	Söderby 28	A60a	Cremation	Mound	Male?	Viking Age
Iron amulet ring	Söderby 28	A60b	Cremation	Round stone setting	Male?	Viking Age
Iron amulet ring (1)	Söderby 28	A61	Cremation	Rounded stone setting	Male?, Male?	Viking Age
Iron amulet ring (2)	Söderby 28	A61	Cremation	Rounded stone setting	Male?, Male?	Viking Age
Iron amulet ring	Söderby 28	A62	Cremation	Round stone setting	Female?	Viking Age
Iron amulet ring	Söderby 28	A65a	Cremation	Round stone setting	Female?	Viking Age
Iron amulet ring	Söderby 28	A68	Cremation	Rounded stone setting	Unknown	Viking Age
Iron amulet ring	Söderby 28	A74	Cremation	Round (mound like?) stone setting	Female?	Late Vendel
Iron amulet ring	Söderby 28	A79	Cremation	Rounded stone setting	Male?	Viking Age

Iron amulet ring	Lunda/ <u>Berga 34</u>	A1	Cremation	Round cairn-like stone setting	Female	Ca 900 CE
Iron amulet ring	Lunda/ <u>Berga 34</u>	A2	Cremation	Mound	Unknown, Unknown	Viking Age
Iron amulet ring (1)	Lunda/ <u>Berga 34</u>	A9	Cremation	Mound	Female	Viking Age
Iron amulet ring (2)	Lunda/ <u>Berga 34</u>	A9	Cremation	Mound	Female	Viking Age
Iron amulet ring	Lunda/ <u>Berga 34</u>	A10	Cremation	Mound	Unknown	Viking Age
Iron amulet ring (1)	Lunda/ <u>Berga 34</u>	A11	Cremation	Mound	Male	800-900s CE
Iron amulet ring (2)	Lunda/ <u>Berga 34</u>	A11	Cremation	Mound	Male	800-900s CE
Iron amulet ring	Lunda/ <u>Berga 34</u>	A34	Cremation	Three-pointed stone setting	Male	Viking Age
Iron amulet ring	Lunda/ <u>Berga 34</u>	A35	Cremation	Round stone setting	Unknown, Unknown	Viking Age
Iron amulet ring	Lunda/ <u>Berga 34</u>	A36	Cremation	Round stone setting	Female	ca 960 CE
Iron amulet ring	Lunda/ <u>Berga 34</u>	A37	Cremation	Round stone setting	Female	Viking Age
Iron amulet ring	Lunda/ <u>Berga 34</u>	A45	Cremation	Rounded-square stone setting	Unknown	Viking Age
Iron amulet ring	Lunda/ <u>Berga 34</u>	A49	Cremation	Round stone setting	Unknown	TPQ 915-920 CE
Iron amulet ring	Lunda/ <u>Berga 34</u>	A51	Cremation	Round stone setting	Unknown	Viking Age
Iron amulet ring	Lunda/ <u>Berga 34</u>	A53	Cremation	Rounded stone setting	Unknown	Viking Age
Iron amulet ring	Lunda/ <u>Berga 34</u>	A54	Cremation	Round stone setting	Female?	Ca 935 CE
Iron amulet ring (1)	Lunda/ <u>Berga 34</u>	A59	Cremation	Rounded stone setting	Female?, Male?	Ca 855 CE
Iron amulet ring (2)	Lunda/ <u>Berga 34</u>	A59	Cremation	Rounded stone setting	Female?, Male?	Ca 855 CE
Iron amulet ring (3)	Lunda/ <u>Berga 34</u>	A59	Cremation	Rounded stone setting	Female?, Male?	Ca 855 Ce
Iron amulet ring	Lunda/ <u>Berga 34</u>	A60	Cremation	Mound	Unknown	Ca 800 CE
Iron amulet ring	Lunda/ <u>Berga 34</u>	A69	Cremation	Rounded-rectangular stone setting	Unknown	Viking Age
Iron amulet ring	Lunda/ <u>Berga 34</u>	A71	Inhumation	Round stone setting (w/rectangular mantle)	Unknown	TPQ 1060-1065
Iron amulet ring	Lunda/ <u>Berga 34</u>	A72	Inhumation	Rounded stone setting	Unknown	(late?) Viking Age
Iron amulet ring	Lunda/ <u>Berga 34</u>	A88	Cremation	Irregular stone setting	Male?	TPQ 900s CE

\*Setting without a grave (probably a small 'ritual enclosure')

## Appendix 2: Placement of Iron Amulets in Individual Graves

### Lightning Protection Amulets:

Söderby, Lovö 16:

A2: In the burn layer under the stone packing with burnt bone and other artifacts.

Lunda, Lovö 27:

A25: In the burn layer under the stone packing with burnt bone and other artifacts.

A30: In the center of the burn layer with burnt bone and other artifacts.

Söderby, Lovö 28:

A8: In the burn layer with burnt bone and other artifacts.

### Iron Amulet Rings:

Söderby, Lovö 13:

A47: In the center of the burn layer under the stone packing.

Söderby, Lovö 16:

A39: With burnt bone in crushed ceramic urn found under the center of the stone packing.

Lunda, Lovö 27:

A3a: Under the turf and over the stone packing.

A4: No information (found in sieving)

A135: (1) With burnt bone in ceramic urn, urn covered with a three-cornered flat stone and located in the northern section of the stone packing.

A135: (2) In the northern section of the burn layer under the stone packing with beads and burnt bone.

A137: Uppermost in ceramic urn with burnt bone and comb fragments, urn covered with a stone located the bottom center of the burn layer.

Söderby, Lovö 28:

A33: In sandy filling directly on the north-east side of the central stone block, with burnt bone.\*

A35: (1) Atop other amulet ring and burnt bone in ceramic urn, urn covered with a stone and located under the central stone block in the burn layer.

A35: (2) Under other amulet ring and atop burnt bone in ceramic urn, urn covered with a stone and located under the central stone block in the burn layer

A37: In north-west section of the burn layer, not that far from the remains of ceramic urn.

A41: In divided burn layer in the central stone packing of the mound.

A43: (1) Partially laid over other amulet ring in the burn layer ca 5 cm north-east of ceramic urn.  
A43: (2) Partially under other amulet ring in the burn layer ca 5 cm north-east of ceramic urn.  
A44: (1) In burn layer west of ceramic urn, near other amulets.  
A44: (2) In large ceramic urn in the center of the burn layer, urn covered with a stone.  
A57: In ceramic vessel with burnt bone and beads, urn located in small stone ring in the burn layer.  
A58: Wedged between stones above the burn layer alongside a broken knife and ceramic shards.  
A60a: Laid over crushed ceramic urn, under a stone located in the center of the stone packing, alongside 2 small iron rings and burnt bone.  
A60b: Under burnt bone at the bottom of ceramic urn located in the center of the burn layer.  
A61: (1) Laid over ceramic urn in the burn layer located near a fallen raised stone, burnt bone, and another ceramic urn.  
A61: (2) With burnt bone in ceramic urn located in the burn layer near another ceramic urn and amulet ring.  
A62: Atop burnt bone, rivets, and beads in ceramic urn located in the middle of the burn layer.  
A65a: Atop burnt bone in ceramic urn, urn covered with a stone and located in the center of the burn layer.  
A68: In the south-west section of the outer edge of the grave, adjacent to a large earth-fast stone.  
A74: Directly under the turf in the south-west end of the grave.  
A79: In the burn layer almost atop and slightly east of the larger of two ceramic urns and a large flat stone.

Lunda/Berga, Lovö 34:

A1: Atop burnt bone in ceramic urn located in the east end of the burn layer near a sword point.  
A2: With many other artifacts in the south west corner of a looting-pit dug into the mound.  
A9: (1) Tightly packed with another amulet ring atop burnt bone in ceramic urn, urn located in the middle of a thick soot concentration in the burn layer.  
A9: (2) Tightly packed with another amulet ring atop burnt bone in ceramic urn, urn located in the middle of a thick soot concentration in the burn layer.  
A10: Atop burnt skull and thigh bone in ceramic urn, urn placed in a clean section in the middle of the burn layer.  
A11: (1) In divided burn layer under the stone packing in the middle of the mound.  
A11: (2) In divided burn layer under the stone packing in the middle of the mound.  
A34: With cleaned burnt bone in a crushed ceramic urn, urn located north-east of the stone set in the center of the setting.  
A35: With burnt bone and rivets in a crushed ceramic urn, urn located next to the stone set in the center of the setting just outside a soot concentration.  
A36: In the burn layer near a crushed ceramic urn and two round bronze pendants.  
A37: Fragments scattered in and around ceramic urn in the center of burn layer.

A45: Atop burnt bone in ceramic urn, urn standing in a ring of stones and covered by 3-4 thin stone slabs high up in the burn layer.

A49: In the center of the burn layer near ceramic urn.

A51: Atop burnt bone and charcoal in ceramic urn, urn placed in a pit in the center of the setting.

A53: With burnt bone and charcoal in crushed ceramic urn in the center of the burn layer.

A54: With burn bone, charcoal, comb fragments, and iron rivets in crushed ceramic urn, urn located just east of the setting's center.

A59: (1) Atop two other amulet rings and burnt bone in ceramic urn, urn covered with a stone and located half a meter east of the larger of two stone grave orbs in the middle of the setting.

A59: (2) Between two other amulet rings and atop burnt bone in ceramic urn, urn covered with a stone and located half a meter east of the larger of two stone grave orbs in the middle of the setting.

A59: (3) Under two other amulet rings and atop burnt bone in ceramic urn, urn covered with a stone and located half a meter east of the larger of two stone grave orbs in the middle of the setting.

A60: With 6 small iron rings, iron fragments, burned flint, and an ornamented bone stylus in ceramic urn in the burn layer.

A69: Outside the southern section of the setting's 'edge-chain' alongside burnt and unburnt bone.

A71: Directly under a stone (and not dug into the ground) of the north-west section of the setting's 'edge-chain.'

A72: Directly under the south-east section of loose stone packing (and not dug into the ground).

A88: Next to a bone and ceramic concentration in the grave's south-east section.

\*Not a grave. Probably a small ritual enclosure.



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