Weights and Values in the Gotlandic Heartland

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Abstract

Roma parish in the centre of Gotland, Sweden, was the point of assembly for the island's highest political and judicial body – the Gutnal Thing. By scholarly tradition it has been attributed to the area around Roma Abbey, founded by the Cistercian order in the middle of the 12th century. Beginning in 1990, rich Viking Age finds have been recovered during metal-detector surveys in the field of Guldåkern, north of the Abbey. The composition of finds lacks parallels on the island and includes a very high number of weights. This paper compiles and discusses these weights in comparison with other Scandinavian finds and relates them to the site and the Gutnal Thing as a social and physical institution.

Introduction

In the present paper we aim to discuss and present some of the outcome of almost 30 years of archaeological research focused on a specific field in Roma parish in central Gotland, Guldåkern. According to surviving medieval accounts, Gotland's general assembly, the Gutnal Thing, gathered at Roma. Exactly where is not specified but repeated metal-detector surveys at Guldåkern have yielded a rich array of finds which have previously been connected to the Thing. Here we have chosen to focus on one certain and significant find category – Viking Age weights. These have been found in large numbers and are here compiled and compared to weights from a number of other sites. This is done with the intention of highlighting the site and discussing whether Guldåkern was indeed a place of assembly and how the weights are to be regarded in connection with this context. However, it is appropriate to start with a closer look at the Thing and its contemporary society.

The Gutnal Thing

The last few decades have seen an increase in studies of the political landscapes of early medieval Scandinavia from a physical point of view, more or less independent of written sources. As an effect, a wealth of both confirmed and potential assembly or Thing sites have been identified and their importance evaluated beyond the sometimes overshadowing legacy of the Icelandic Althing

(cf. Sanmark & Semple 2008; Sanmark 2013; Svensson 2015).

Gotland is no exception. The island's highest judicial and political assembly – called the Gutnal Thing – has seen perennial interest in Swedish antiquarian research since the 19th century (e.g. Lindström 1895; Steffen 1943; Yrwing 1978; Siltberg & Östergren 2018). Over time, as the discipline developed, it has also come to attract an increasing attention from archaeologists. Local excavations and surveys have meant that the archaeological record has increased, sometimes mirroring and sometimes confusing the few but intriguing written sources.

Historically, the Gotlandic system of governance, based on a hierarchical system of assemblies, can be traced back to the 13th century and the foremost written source for medieval Gotland: *Guta Lag* – the Gotlandic Law. Even though its exact age has been a subject of discussion over time, it is nowadays believed to have been composed in the first half of the 13th century and then edited and extended over time (Peel 2009, xxxix). The law includes an appendix, often referred to as the *Guta Saga*, a name it received under national romantic influence during the 19th century. This appendix, which at times is somewhat contradictory, includes the earliest thorough presentation of Gotland; it has been interpreted as somewhat younger than the law itself (Peel 2010. lii f.). It retells the national myth of how the island was first claimed and goes to some length to describe the advent of Christianity as well as more mundane issues – among them the highest assembly of Gotland – the *Gutnal Thing* which is also interchangeably called *Land alt*, "All of the Land". Nothing in the original, Gotlandic redaction betrays the actual location of the Gutnal Thing, but in a Low German redaction dated to 1401 it was obviously seen as necessary information. It states that the Thing "*ist czu Rume*", i.e. was held at Roma in the geographical centre of the island (Yrwing 1978, 80).

Over time, a number of scholars have connected the Gutnal Thing with the Cistercian abbey *Sancta Maria de Gutnalia*, nowadays normally referred to as Roma Abbey. The Latin suffix *Gutnalia* is generally seen as referring to the same word – Gutnal – as in the name of the Thing. For a long time the original meaning of Gutnal was interpreted as a variety of Guta All-Thing, analogous to the Icelandic Althing (cf. Yrwing 1974, 368ff.) but recent studies have dismissed that claim and suggested that the name originally derived from the strong springs that surface in the area and once flowed towards the nearby system of extensive fens, drained in the 19th and early 20th century (Melefors 2014).

Where in Roma, in the more precise physical sense, the Gutnal Thing met is not mentioned, however. A late source, a Royal Danish decree of 1618, stipulate that the General Assembly (*Allmindelig Landtzthing*) of Gotland was to meet by Roma parish church (*Romkircke*, Dahlgren 1848, 383) three times a year at what is then called *Romme thing* (Dahlgren 1848, 386). Unfortunately, there are no sources to reveal how long the church had been the point of assembly, or if it was a novelty. Prior to this the only direct source is the aforementioned *Guta Saga* redaction of 1401.

Nanouschka Myrberg has treated the Gutnal Thing in two papers (2008 & 2009). There she suggested, based on analogous examples throughout the Scandinavian cultural sphere, that the original place of assembly might have been an islet called Björkö ("Birch Island") in what was once Roma fen. Alas, this hypothesis cannot be taken any further – the area where the islet was located and noted on cadastral maps as late as the 1970s is now developed and covered by sewage ponds. The place-name Roma itself might carry some information, though: its medieval form *Rume*, Latinized *Rumis*, is interpreted as the modern Swedish

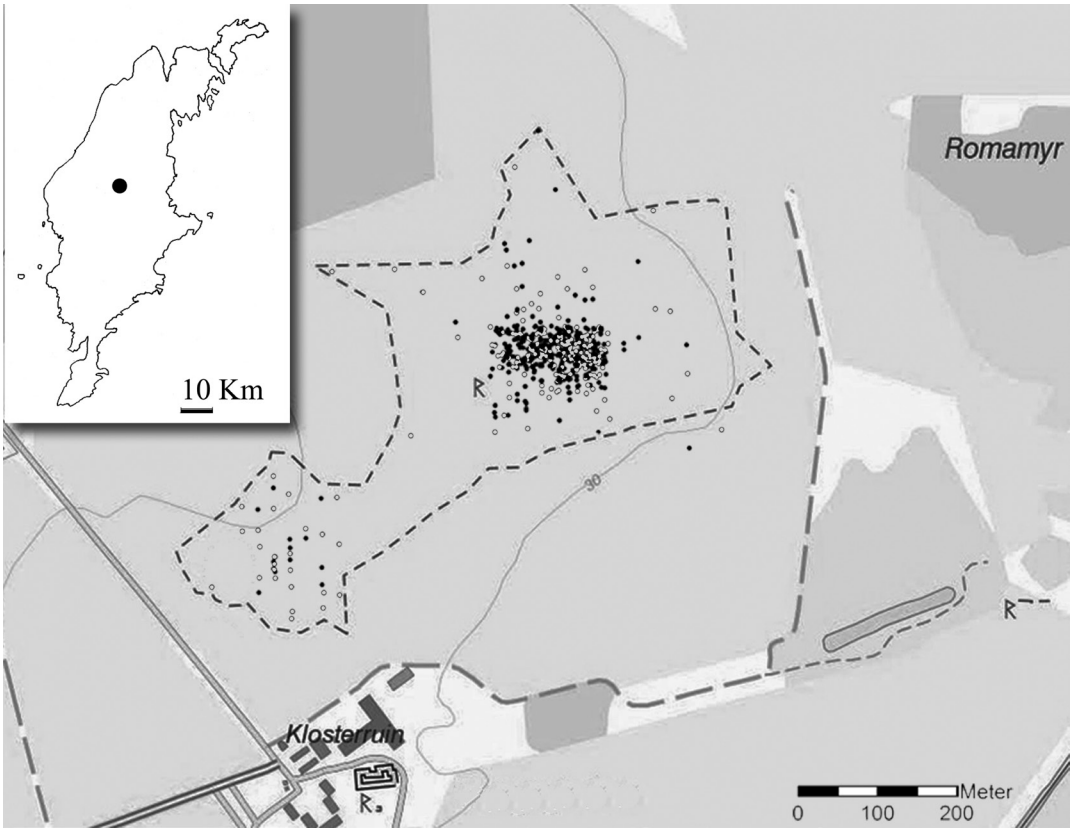

Fig. 1. Guldåkern and the main find area with Roma Abbey to the south. Black dots: weights. Circles: coins (based on distribution map by A. Karn). Top right: Gotland with Roma.

Rummet – the Room (Yrwing 1974, 378). A better translative interpretation might be *the confined space*, possibly referring to the specific area where the Thing assembled. We will briefly return to this space below.

In 1990 a number of metal-detector surveys were carried out in the area around the Abbey. In a large field to the north, *Guldåkern*, "Gold Field", several finds were recovered, among them a golden ring, Roman denarii, Cufic and German coins, a silver bar, a piece of hacksilver and 40 weights of several types (Fig. 1). Already at that stage it was pointed out that Guldåkern differed from more ordinary ploughed-out Gotlandic settlement clusters; instead it was suggested to represent some kind of trading or market site in connection with the Gutnal Thing (Östergren 1990; 1992, 56f.). Unfortunately, it took another 20 years until new surveys were launched, but in 2010 a partial metal-detector survey was carried out, searching every 10th metre of central Guldåkern (Carlsson 2010). Other surveys followed suit in 2011–2013 and 2015 (Östergren 2013; 2015). The latest partial survey was carried out in the autumn of 2017. In all but one of the surveys, 2013, the metal-detection was carried out in search corridors 5–40 m apart. In 2013, an area in the centre of the known find area, about 120 by 50–100 m, was fully surveyed. It yielded a very rich array of finds – among them 154 Viking Age silver coins, 20 pieces of hacksilver and a stunning 238 weights of various types.

The weights from Guldåkern – types and general allocation

As of 2017, 429 weights have been recovered from Guldåkern (Fig. 2). On a general level these can be divided into a number of subtypes based on shape – 17 in all (Table I).

Many of these types are only represented by one single weight, a fact that might render the compilation somewhat less lucid. This problem is not exclusive to Guldåkern and to sidestep it some previous studies have utilized more simplified subdivisions. One example is featured in Ingrid Gustin's dissertation of 2004. There, she employed a three-part division to illustrate the relation between the main subtypes at a number of find sites (Gustin 2004, 89ff.). According to Gustin's model, oblate spheroid and cubo-octahedral weights make up two individual parts while all the remaining types, flat, cylindrical, ring-shaped etc, make up the third. If Gustin's model is applied to the finds from Guldåkern (as of 2017) the ratio is as follows: 55 oblate spheroid weights, 277 cubo-octahedral and 97 of other types (6 potential secondary weights not included).

In Table II this relationship is presented together with those of a number of other important find sites for weights. However, it should be kept in mind that such a comparison can only serve as a brief overview since it misses out on potentially important fluctuations within the find sites. This can be illustrated by the settlement area on Björkö (Table III). There, one particular area in the former harbour yielded more than one third of all the cubo-octahedral weights documented from the settlement – 35 (52%) of the 67 weights found there in

Table I. Weights from Guldåkern, Roma 1990-2017, based on individual types

Type	Copper alloy	Copper alloy/iron	Lead	Total
Cylindrical	18 (4%)	1 (0,2%)	25 (5,7%)	44 (10%)
Spherical	1 (0,2%)			1 (0,2%)
Oblate spheroid	7 (1,6%)	45 (10,3%)	3 (0,7%)	55 (12,6%)
Cubo-octahedral	236 (54%)	36 (8,3%)	5 (1,1%)	277 (64%)
Cubic	10 (2,3%)	5 (1,1%)	7 (1,6%)	22 (0,5%)
Cuboid	1 (0,2%)	1 (0,2%)		2 (0,4%)
Cropped biconical	1 (0,2%)		7 (1,6%)	8 (1,8%)
Barrel shaped			2 (0,4%)	2 (0,4%)
Ring shaped	1 (0,2%)			1 (0,2%)
Semi-spheroid	1 (0,2%)		5 (1,1%)	6 (1,4%)
Semi cubo-octahedral	2 (0,4%)			2 (0,4%)
Cropped conical	3 (0,7%)			3 (0,7%)
Cropped semi-spheroid	1 (0,2%)			1 (0,2%)
Cropped pyramidal	1 (0,2%)			1 (0,2%)
Zoomorphical	3 (0,7%)			3 (0,7%)
Secondary	1 (0,2%)			1 (0,2%)
Potential secondary	6 (1,4%)			6 (1,4%)
Total:	293 (67 %)	88 (20%)	47 (11%)	435 (100%)

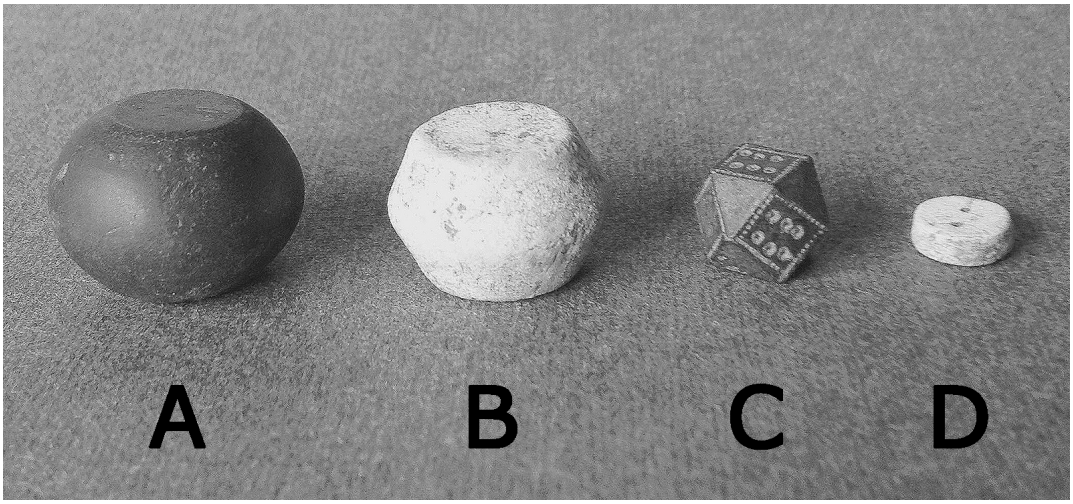

Fig. 2. Major weight types from Guldåkern. A: Sphero-oblate, B: Cropped biconic, C: Cubo-octahedral, D: Cylindrical. Photo by N. B. Gustafsson.

1969–71 were cubo-octahedral. Meanwhile, 20 m to the south, in the much larger area excavated in 1990–95, only 50 (18%) of 285 recovered weights were cubo-octahedral. This is by no means strange as different parts of a settlement ought to have seen different uses over time. Additionally, it is quite possible that the different types were intended for use in different cultural contexts, such as trade or taxation vis-à-vis craft production, or that certain types of weights were solely intended for weighing precious bullion and value metal. Furthermore, it ought to be remembered that the level of exactitude can and normally does vary between and within excavated areas. Unfortunately, such internal differences tend to disappear in statistical compilations such as Table II.

What *can* be said, based on Table II, is that Guldåkern has yielded a very high number of

Table II. Relation between subtypes of weights.

Find site	Oblate spheroid	Cubo-octahedral	Other types	Total
Guldåkern, Gotland[1]	55 (12,6%)	277 (64%)	97 (23%)	429
Paviken, Gotland[2]	7 (18%)	16 (40%)	17 (42%)	40
Bandlunde Bay, Gotland[3]	62 (41%)	78 (51%)	13 (8%)	153
Fröjel, Gotland[4]	22 (54%)	8 (20%)	11 (26%)	41
Björkö, Sweden[5]	61 (14%)	102 (24%)	259 (61%)	424
Kaupang, Norway[6]	25 (6%)	50 (12%)	335 (82%)	410
Heimdaljordet, Norway[7]	44 (30%)	26 (18%)	76 (52%)	147
Torksey, England[8]	6 (6%)	99 (28%)	248 (70%)	353

Sources: 1. Table I, potential secondary weights excluded; 2. Sperber 1989; 3. Sperber 1988; 4. Fröjel Discovery Programme, finds data base; 5. See Table III; 6. Pedersen 2008; 7. Bill & Løchsen Rødsrud 2017; 8. Hadley & Richards 2016.

Table III. Relation between subtypes of weights within the non-funerary contexts of Björkö.

Context on Björkö	Oblate spheroid	Cubo-octahedral	Other types	Total
Black earth, 1826-1913[1]	16 (38%)	10 (24%)	16 (38%)	42
The Garrison[2]	10 (45,5%)	4 (18%)	8 (36%)	22
Town rampart[3]	3 (37,5%)	3 (37,5%)	2 (25%)	8
Black earth 1969-71[4]	11 (16%)	35 (52%)	21 (31%)	67
Black earth 1990-95[5]	21 (7%)	50 (18%)	214 (75%)	285
Total:	61 (14%)	102 (24%)	259 (61%)	424

Sources: 1. SHM-catalogue; 2. Bergström 2013; 3. Holmquist 1993; 4. Kyhlberg 1973 & Gustafsson 2008; 5. Gustin 2004.

cubo-octahedral weights. This appears to hold true also in comparison with other important find sites such as Haithabu, where repeated metal-detector surveys in 2003–2007 yielded some 533 weights. An additional 129 weights had been recovered during the earlier excavation of a part of the harbour (Hillberg 2011, 218), and 76 (11.5%) of these weights were cubo-octahedral.

Miniature animals – figurines or weights?

Among the finds from Guldåkern are three zoomorphic objects cast from copper alloy. One is horse-like (Fnr 2010:15, Fig. 3a), the second resembles a dog with curled-up tail (Fnr 2010:100, Fig. 3b) while the third (Fnr 2013:526), which is less well-preserved than the other two, resembles a feline. The two better-preserved miniature animals weigh 10.8 and 5.6 g respectively and are unprecedented in the Gotlandic archaeological record.

Similar, if not identical objects have been found and reported elsewhere though, predominantly east of the Baltic Sea. Most specimens have been recovered in Latvia and Estonia but at least one horse-like object has been found in Finland (Urtāns 1974). Additionally, the ongoing North European increase in extensive metal-detector surveys has led to the recovery of similar finds from other areas, such as Germany (Kleingärtner 2014, Taf. 3:22) and Denmark (e.g. DNM 2010:93). There has been some discussion as to how these miniature animals are to be interpreted. According to one view they are votive figurines and according to another they are weights. Both interpretations can claim long and well-documented traditions. The fact that some of the reported miniature animals are fitted with suspension loops while others are not does not help to shed any light on the problem. Tönno Jonuks (2006) has treated the miniature animals from Estonia. He interpreted them as symbolic dogs, connected to regional beliefs concerning death, burial and afterlife. Other Estonian researchers have connected the same finds to weights and weighing (cf. Tvauri 2012, 229), and hence the confusion remains. It might be added that two miniature animals interpreted as weights have been recovered in Sigtuna,

Fig. 3. Miniature animals from Guldåkern, Roma Abbey, a) Fnr 2010:15, b) Fnr 2010:100. Photo by R. Hejdström.

Sweden (Floderus 1928, 98). One of these is clearly related to subtypes treated by Jonuks (2006, 35ff.).

Luckily, two of the eastern finds stand out from the rest: A horse-like object of copper alloy, weighing somewhat less than 10 g, was recovered in an early medieval grave in Taskula, close to Turku in south-western Finland (Kivikoski 1973, 142). The grave itself is dated to after 1135 through the presence of an English coin. The original purpose of the miniature animal could possibly have been a subject of discussion had it not been found together with four oblate spheroid weights of copper-alloy plated iron (T. Vasko, personal communication 2016). The second find was recovered in 2010 at Klooga in Estonia (Kiudsoo & Russow 2011). It was found together with a number of other metal objects, all of which appear to have originally been wrapped in textile fabric as a bundle of sorts. One single piece of a German coin was present in the assembly and dated it to after 1046. Among the other finds were weights, scales and a horse-shaped object without suspension loop, weighing 8.26 g. Presumably, the miniature animals – at least in these two finds – were deposited as weights rather than votive objects.

Secondary weights

The discussions on the original function of the miniature animals lead naturally into another subtype which is hard to define – secondary weights. From Guldåkern there is one unquestionable object and six possible objects which fall within this category (Table 1). Strictly speaking, almost any object can potentially be utilized in weighing, given that its weight is known. General *recognition* and *approval* in the contemporary society must have been an altogether different matter, though. The fact that weights were produced in strictly defined types implies that a system of culturally approved standards existed. Thus, the fact that an object held a known weight appears to have been just one, possibly secondary, criterion. Instead, the visual appearance seems to have been just as, or even more, important (cf. Gustin 2004). This is particularly evident for a specific category of finds: severed polyhedral terminals or knobs from penannular brooches. Four such brooch terminals have been recovered from Guldåkern, and as with all other finds of fragmented metal objects, an interpretation as scrap metal might be close at hand. However, such a view is complicated by a number of well-documented finds from the burials of Björkö: wallet-like purses of decorated leather recovered during Hjalmar Stolpe's excavations in the late 19th century (Kyhlberg 1980, 224f.; Gräslund 1984). In three purses in as many graves (Bj 750, 855 & 1074), weights were found together with coins *and* severed brooch terminals. In three additional graves brooch terminals were either found in purses (Bj 352 & 759) or together with a weight (Bj 708). Their presence in the purses evidently implies that they were regarded as something more than mere scrap metal.

The single assured secondary weight from Guldåkern is – or rather, was – originally, a decorative knob from a mainland-Scandinavian tortoise brooch of type JP 51/R 652. It is now filled with lead and currently weighs 7.1 g. It connects to a wider Pan-Scandinavian tradition where whole or fragmented objects, often of non-native origin, were filled in with or cast into lead (Capelle 1968, 107; Pedersen 2008, 172ff.). It should be noted that even though tortoise brooches are occasionally found on Gotland they had no part in the local material culture.

The context

Given the above, Guldåkern ought to be regarded as a key site in Gotlandic archaeology. Had it been situated by the coast it would, with high probability, have been interpreted as an emporium or similar facility, but instead it is positioned in the middle of the island. To try to understand it one must first define it. An initial and crucial question is to what extent the original find context still exists. The fact that so many finds, both weights and other objects, have been recovered at Guldåkern and adjacent fields shows that the original deposits have been damaged to a large extent, predominantly by farming. The area was evidently under the plough already in the 17th century, as can be seen on the first cadastral maps for Roma parish. It was also severely altered, at least in parts, during construction works in 1938 when the entire area north of Roma Abbey was developed into a military airfield (Östergren 2016, 44f.)

That *something* might have survived below plough depth was only an educated guess until the dry summer of 2015. Then, aerial photographs showed intriguing cropmarks in the eastern part of Guldåkern. These could be subdivided into two main groups: rings and linear features. None of them correspond to features visible above ground. The ring-like features are grouped in the highest points of Guldåkern, and as several of them also displayed an inner, central pattern it might be possible to interpret them as the last remains of graves such as cairns or stone settings, cleared to ease farming. According to an account from 1797 there were indeed "small hills" and "demarcated elevations" dispersed throughout a large pasture north of the Abbey, some of which had yielded human bones (Hilfeling 1994, 103), and further to the north-west, a single, surviving stone setting was excavated as late as 1938 (Stenberger 1939). The linear features, two in all, are equally interesting. They run parallel to each other, about 60 m apart from the highest point of the field towards the south-west. Alas, most of Guldåkern and the adjacent fields had been harvested when the aerial photo was captured and the linear features continued into the harvested area where crop marks, for natural reasons, could not be seen. A limited GPR survey in 2016 confirmed that the two types of crop marks correspond to features below plough depth (Viberg 2016). A surveyed ring-shaped crop mark corresponded to two adjacent circular features with marked centres, while the linear features appeared to demark a ditch, roughly 2 m wide and 1.8 m deep. It is currently unknown how far the possible ditches stretched towards the south-west, but the main find cluster from the 2010–13 metal-detector surveys appears to be positioned in the area *between* the ditches. Further investigations will without doubt shed more light on this connection. Meanwhile it is interesting, from a hypothetical point of view, to remember the discussion concerning the meaning of the name Roma. As mentioned above, one of the suggested interpretations is "the confined space" or "delimited area".

Deposited, lost or scrapped?

So far, we have treated the weights and the find site but we have trodden lightly over the crucial question of *what* they represent and *why* so many have ended up in the soil at Guldåkern. Already in the initial report, the recovered combination of finds was seen as representing some kind of marketplace (Engström & Ström 1990). This is further accentuated by the presence of coins and hacksilver but an apparent shortage of settlement-related finds. Large areas around the Abbey have been metal-detected since 1990 and yielded finds that are more in line with the general picture from other ploughed-out Gotlandic settlements,

i.e. occasional dress jewellery, stray coins and various objects connected to metalworking. Such settlement-related find clusters have been identified east, south-east and south of the Abbey (Östergren 2013 & 2015).

At this stage, nothing in the local archaeological record speaks against the initial interpretation. The finds from Guldåkern thus appear to reflect weight-dependent activities in connection with the Gutnal Thing. That might include common trade and exchange as well as more legal matters such as assessments during imposition of fines and levies. In recent years, an interesting parallel to Guldåkern has come to light in Vestfold, Norway. There, at the Heimdaljordet site (cf. Table 2), 147 weights had been recovered by 2017 in an area which is otherwise characterized by few finds of weights (Pedersen & Rødsrud 2013; Bill & Løchsen Rødsrud 2017, 220f.). The archaeological record from Heimdaljordet also included clear traces of extensive non-ferrous metalworking. Geophysical survey revealed the remains of at least eight ploughed-out grave mounds and a system of defined plots on both sides of a central passage or road. In 2013 a systematic metal-detector survey was carried out, resulting in the recovery of more than 500 finds. These were chiefly, but not exclusively, recovered in the area with plots. This was also confirmed by the excavation of systematically laid-out test pits and two of the plots, 400 m^2 in all. Interestingly, no firm evidence of permanent habitation could be identified (Bill & Løchsen Rødsrud 2013). The site is currently interpreted as that of a seasonal market, possibly with a different political affiliation than the, relatively speaking, nearby Kaupang (Bill & Løchsen Rødsrud 2017, 227). Beside the high number of weights, the traces of metalworking are of special interest in comparison with Guldåkern. Even though finds of metallurgical ceramics such as hearth lining, crucibles or moulds have yet to be recovered at Guldåkern, recent surveys have increased the number of finds which can be connected to metalworking – for example casting jets and a press model for the making of foiled filigree jewellery. Spillages and scrap metal also point towards metalworking in the area. Based on the observations from Heimdaljordet and other Viking Age sites such as Sigtuna (Söderberg 2006; 2008) it ought to be discussed whether weights were actually produced at Guldåkern. As already mentioned, there is clear evidence for widespread and defined weight systems throughout the Scandinavian cultural sphere. That common standards existed and were upheld can be clearly seen via the finds and compilations thereof – but less is known about who was behind the enforcement of these standards. It would lead too far to fully develop this subject here; it suffices to suggest that the Gutnal Thing could be one possible part in this dynamic process. Based on this presumption, it is possible that weights were made at the Thing or brought there for assessment and approval. Unfortunately, however bold this hypothesis might be, it does not help to solve why such a large number of weights are still present in the soil of Guldåkern. This might, at least to some extent, be explained by losses, i.e. that individual weights were lost and never recovered. Over time such losses might have led to a significant accumulation, not only of weights but of other small objects such as coins and beads. An interesting parallel to this is offered by a site by the River Trent, just north of modern-day Torksey in Lincolnshire, England. Based on the very rich archaeological record, the site is interpreted as that of the winter camp of the Great Viking Army in AD 872–873 (Hadley & Richards 2016). Given the allegedly short time of use, the sheer number of finds is rather impressive, exemplified by 133 strap ends, 352 coins and – notably – 353 weights (cf. Table II). Apparently, a rather significant number of objects could, presumably, be lost and trampled beyond retrieval in the course of one single winter. As regards the finds from Guldåkern,

another explanation might of course be that weights and other objects, for example coins, were intentionally deposited at the site for some reason, practical or metaphysical, but unknown today.

Concluding remarks

Despite the fact that Guldåkern has been the subject of surveys for almost 30 years, the work to analyse and interpret it and its archaeological record has only begun. As so often, every partial study has brought new questions. In August 2017 a small portion of Guldåkern was excavated, guided by the geophysical surveys. Unfortunately, the results were rather inconclusive as ploughing had altered all cultural deposits in the excavated areas. Additionally, most features which had been deemed interesting in the radar survey turned out to be natural, i.e. geologically rendered. The ditch-like features, for example, appear not to have been as deep as the radar survey implied – at least not in the Viking Age. Despite that, they probably were noticeable in the landscape. Meanwhile, metal-detector surveys in and close to the excavated trenches resulted in the recovery of 54 new weights.

The fact that so many weights, cubo-octahedral in particular, and other finds have accumulated within such a limited area points towards the presence of a pressing need to establish weight – be it in trade, exchange or for some other reason – on a hitherto unseen scale in the Gotlandic heartland. The finds corroborate the earlier presumption that Guldåkern was intimately connected to the Gutnal Thing, which in turn can be said to have left the realm of written accounts and entered the physical world. Even if we have not yet established the Thing's exact point of assembly, the weights have given us a possibility to close in on the society that produced and used them as they both represent and were dependent on the common societal values that governed the early medieval society of Gotland.

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Abbreviations

DNM = Danish National Museum
SHM = Swedish History Museum

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