

Chapter 2

**ARCHAEOLOGICAL FINDS FROM THE HILL  
FORT AT KEAVA**

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**Abstract**

During archaeological excavations at the Keava hill fort, 137 artefacts and approximately 1680 potsherds were recovered from the area of 88 m<sup>2</sup>. Most of the recovered artefacts belong to types, which were used during the 11th–13th centuries. In the deeper layers of excavation area I, pottery fragments dating to the Viking Age were found. A spearhead found earlier in the hill fort belongs to the 11th century. All of the other artefacts that can be dated with reasonable certainty belong to the late 12th century or the first quarter of the 13th century. Finds from Keava are ample but also typical of the Estonian Final Iron Age hill forts (e.g. Varbola, Soontagana and Lõhavere). The assemblage is mainly composed of ornaments, personal belongings, metal parts of clothing, scrap metal and bronze work residues.<sup>1</sup>

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## Introduction

Archaeological finds collected from the hill fort at Keava originate mainly from two excavation areas dug in the north-western side of the site. Area I encompassed the side rampart of the hill fort and the remains of buildings on its inner side and the yard (54 m<sup>2</sup>). Area II was situated to the north of area I. Approximately 34 m<sup>2</sup> around the hidden gateway was explored within it (chapter 1).

Altogether 983 numbers of finds were collected from area I (TÜ 1026) and 218 numbers from area II (TÜ 1260). The amount of find numbers does not represent the actual quantity of finds. Potsherds were combined under one number from an area of ca. 20 cm in diameter. Artefacts, pieces of slag and clay daub with visible marks of wooden constructions, twigs and straws were given separate numbers. Animal bones were documented and numbered separately.

In comparison to other Estonian Final Iron Age hill forts (e.g. Lõhavere, Soontagana, Varbola, and Valjala), the number of finds per square metre at Keava hill fort is relatively high. The abundance of finds at Keava is largely due to the excavation methods employed – the cultural layer was put through a sieve with holes of 5 mm in diameter. Thus, many smaller finds, which are usually missed without sieving, could be retrieved. At the previously mentioned hill fort sites, the cultural layer was not sieved.

Additionally to the finds from the two areas, some potsherds were found from test pits in 2000 and 2001 (TÜ 880, 960). Already in 1904, a 42.2 cm long spearhead (Fig. 2.1) was found at Keava. This spearhead belongs to M-type by Petersen, more specifically to the subtype M1 as defined by Kristina Creutz, and dates back to the first half and middle of the 11th century (Creutz 2003, 251 ff., 358 f.). This type was common in the area that stretches from Iceland to north-western Russia (incl. Scandinavia, Finland, and Latvia) (Taavitsainen 1990, 189; Creutz 2003). The Estonian Literary Museum also holds some accounts of prehistoric artefacts from the Keava hill fort found before World War I. According to one of them, excavations at the hill fort yielded “spearheads, axes and other weapons” (EKLA f 200, m 15: 2). Another account is more specific: in 1929 Richard Viidebaum had “accidentally” heard from a few people that “during the time of the manor lords some places had been excavated” at the Keava ancient site



Fig. 2.1. Spearhead from the Keava hill fort (AI 2712: 5). Photo by Andres Tvauri.

and that “coal, bones and other rubbish came out of there. Once, six big *peeki*<sup>2</sup> were found there and one ancient axe with a long stem. These tools had not rusted much. The manor lord took those things for himself” (ERA II 6, 623/4 (1)). There are no further reports about the fate of these items. However, we can speculate that both accounts describe the same discovery and that the abovementioned spearhead, which reached the museum collection, was one of the six ‘spears’ found at the site.

### **The classification of finds**

In order to analyse artefactual finds of a particular site, we need to define different functions of these finds and the principles of their categorization. In this context, I deal with finds in twelve separate categories, which represent the most likely functions of the items. The categories are formed according to different occupations (hunting and fishing, herding, handicraft, trading) and areas of everyday life (construction, furnishings and household, personal belongings and clothing, jewellery, weapons, religion, play and pastimes). A separate category is created of items, which cannot be linked to a particular area of everyday life or an occupation (multipurpose items, horse equipment).

This categorization is of course arbitrary and prehistoric finds could be grouped in a different fashion. The main disadvantage of the categorization employed here is due to differential preservation of items from different areas of life. Thus it is not possible to compare find categories quantitatively and thus assess the relative importance of different occupations and areas of life. On the other hand, it is possible to compare the relative importance of specific items at different sites. I have previously used a similar classification to analyse finds from the Viking Age and Final Iron Age hill fort at Tartu (Tvauri 2001), the Final Iron Age Lõhavere hill fort and the Pre-Viking and Viking Age Rõuge hill fort (Tvauri 2002a). Thus, the classification outlined below also offers an opportunity to compare finds from Keava with those of abovementioned hill forts.

The first group is composed of multipurpose items, which cannot be linked to a particular occupation. Foremost, this group includes knives, which could have been used for household as well as handicraft activities. Since it is likely that these were always carried on the belt, they could also be classified as personal belongings. Other multipurpose items include whetstones and other stones for sharpening blades. These may have been used in household and handicraft activities as well as in agriculture for sharpening scythes.

The second group of items is defined according to their relation to construction, furnishings and household. These types of items principally tell us of housing and permanent settlement; parts of buildings such as nails and hooks belong to this group. Items related to food production, such as grinding stones, querns and

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<sup>2</sup> This should probably be *piiki*, which translates to ‘spears’.

pieces of cauldrons make up an important part of this category. In fact, pottery also belongs to this group; however, its fragility, impossibility of reuse and good preservation of the sherds means that a considerably greater number of potsherds than other artefacts are found at settlement sites. Thus, I handle pottery fragments separately from the so-called artefactual finds.

Personal belongings and items that belonged to clothing are grouped into the third category. Items in this group are characterized by the fact that they have been carried around at all times and are not connected to particular handicraft or household activities. Fire-making devices (strike-a-lights) and hygiene-related items (scissors, combs, and tweezers) should be regarded as personal belongings. Items that belonged to clothing include parts of belts and spiral tubes of bronze wire, often used during the Final Iron Age for clothing decorations. The latter could also be classified as ornaments, but they are distinguished from other ornaments because they were permanently attached to clothing.

The fourth group – ornaments – is clearly distinguishable in archaeological finds. I have included complete ornaments as well as their details. For the statistics, the fragments and deformed ornaments are classified as a possible source of raw material, i.e. under the group of items related to handicrafts. The fifth group is weapons, which are mainly associated with warfare and demarcation of the social status of their wearers. Items relating to hunting and fishing (fish-hooks, fishing lances, fishnet weights) belong into the sixth, and items relating to agriculture and herding (ploughshares, scythes, sickles) into the seventh category.

The eighth group comprises of items related to handicraft. I have included tools and production residues, such as cut or sawn pieces of bone, pieces of sheet-metal and fragments of wire, under this category. Further, purposefully broken or bent jewellery and other metal items that may have been used as raw material, have also been incorporated. Of course, one must bear in mind that some of the aforementioned materials remained in the ground as trade items. It is not possible to draw a distinction between these two functions for every specific broken metal jewellery item and thus indicative finds from handicraft and trade groups sometimes overlap.

Horse equipment (harness, parts of bridles, horseshoes, horseshoe nails, and ice nails) are grouped into a separate category, because only a few of these items (e.g. stirrups) could be related to a particular occupation. Horses were used for agriculture, warfare and transportation of trade items.

Items relating to trade make up the tenth group. All imported artefacts could signify trade. However, it is not possible to say whether a particular imported item retrieved from a site was bought, stolen, given as a gift or was lost by a foreigner at a settlement site. Naturally, all of the bronze and silver items found in Estonia are produced from imported metals. However, it is not known whether an item was produced at the site where it was found and if the raw material had just been imported or whether a metal imported centuries ago is living its new life in an item after several others. Since it is generally possible to classify imported items under other functional groups, I consider only items specifically used in

this occupation – scales and weights – as indicative of trade. Traditionally, coins have also been considered within this category.

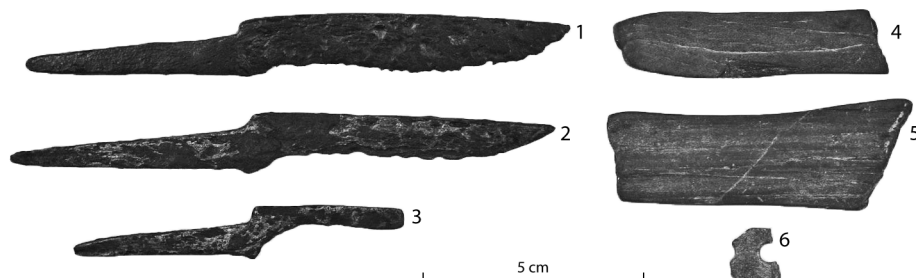
The eleventh group – items with a religious purpose – is made up of visually very different artefacts. In this chapter, various amulets and items displaying religious symbolism, such as a tooth pendant, for instance, are considered to belong to this group. Items relating to games and pastimes (toggles made of pig's leg bones, perforated cattle talus) and musical instruments are grouped into the twelfth group.

### Artefacts

All finds apart from potsherds, pieces of slag and clay daub are considered to be artefacts in this context. The preservation of some of these finds has been so poor or fragmentary that it is impossible to determine their function. Overall, 137 artefacts were retrieved from the Keava hill fort and are discussed in this chapter.

#### *Multipurpose items*

From all of the multipurpose items, the knife is the most common and abundant commodity and tool at all Iron Age sites. In total, six knives or knife fragments were found at the hill fort; out of these only two were intact (Fig. 2.2: 1–2). The blades of all knives have a flat back and extend into the tangs through a step. Several knives have been badly worn, however, so that only a thin back part has remained, while blade-side tread has disappeared (Fig. 2.2: 3). The point has broken off on some knives, and two point fragments were found separately. Additionally, smaller fragments of iron artefacts were retrieved for which it is not possible to say whether they originate from knife's tang or a nail. It appears that most of the recovered knives were broken or too worn for use; the two intact knives also show strong signs of wear. All the knives found at Keava belong to the types, which were in use during the Middle and Late Iron Ages and also afterwards. Thus, it is not possible to date these knives more precisely.



**Fig. 2.2.** Knives (1–3) and whetstones (4–6) (TÜ 1026: 230, 772, 768, 605, 694, 763). Photo by Andres Tvauri.

Whetstones were used for sharpening various sharp-edged tools (knives, swords, axes, sickles, scythes, etc.). In total, three whetstones or fragments of whetstones were found at the hill fort, all of them were made of amphibolite gneiss (Fig. 2.2: 4–6). Among them is also a perforated fragment of whetstone (Fig. 2.2: 6), which was probably carried on the belt. The whetstone is small and thin (3 mm thick) and has broken at the point of the hole. An edge of another hole is also visible, which suggests that the item was previously also fragmented at the perforation. The whetstones discovered at Keava do not differ from those spread around the Baltic Sea since the Roman Iron Age. It is not possible to date them more precisely based on their appearance and material.

*Items relating to construction, furnishing and household*

Two nails (excluding horseshoe nails dealt with separately) were found at Keava (Fig. 2.3: 1–2). Additionally, some smaller fragments of iron items were found, but it is impossible to distinguish whether these were knife tangs or points of nails. Nails are a common find at Estonian Final Iron Age hill forts, while they are rare at Viking Age sites. Nails were used in buildings, furnishings as well as for various items. Their size and shape change according to the purpose and it is not possible to date them more precisely based on their appearance.



**Fig. 2.3.** Items relating to construction, furnishing and household. 1–2 nails, 3–4 S-shaped chain links of iron, 5 cauldron-loop of iron (TÜ 1260: 142; 1026: 385; 1260: 151; 1026: 897, 556). Photo by Andres Tvauri.

The end of an S-shaped chain link of iron (Fig. 2.3: 3) has broken off. The second S-shaped iron link (Fig. 2.3: 4) is just 4.8 cm long, twisted and its ends are rolled. The third twisted S-shaped link has survived as a fragment. Iron chain links very similar to those found at Keava have previously been found from the contexts dated to the Middle Iron and Viking Ages (e.g. Rõuge) as well as to the Final Iron Age (e.g. Valjala and Lõhavere).

An iron cauldron-loop (Fig. 2.3: 5), which was recovered from the collapsed rampart in area I, also belongs to household refuse. A handle was attached with the help of the loop riveted to a cauldron side. Cauldrons and their fragments are rare finds in Estonia – the only intact cauldron has been discovered at Raatvere cemetery among the grave goods of an 11th-century male burial (Lavi et al. 1998). A similar cauldron-loop has also been unearthed from the Viljandi prehistoric hill fort (Valk 2000, fig. 4: 1) together with other finds of the Final Iron Age. Very similar cauldron loops with elongated ends have been found from the 14th-century Denmark (Andersen 2005, fig. 8: 49). Copper cauldrons with oval leaf-shaped loops are more common finds in Finland (Taavitsainen 1990, 203). As some traces of copper can be seen on the Keava cauldron-loop, it probably comes from a copper cauldron. Among the finds are also fragments of sheet-copper, which may belong to the cauldron brim (TÜ 1026: 549). In Novgorod, copper cauldrons became common from the 13th century onwards (Kolchin 1959, 104 f.).

A grinding stone (Fig. 2.4) was found among the filling material of the rampart. Such egg-shaped stones with worn facets that fit into a hand were used for grinding cereal from the Bronze Age until at least the Viking Age. Thus, the Keava find must date back to the earliest stages of the hill fort.



**Fig. 2.4.** Grinding stone (TÜ 1026: 191).  
Photo by Andres Tvauri.

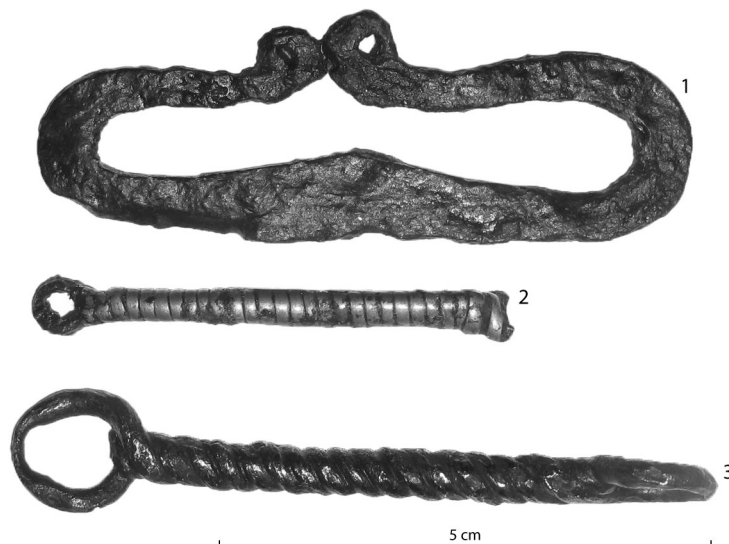
*Personal belongings and items related to clothing*

A fragment of scissors (Fig. 2.5) was found from the collapsed rampart of area II. Its blade's length is 6.5 cm, which suggests that we are dealing with a personal toiletry article rather than sheep shears. These scissors had been in use and remained unchanged for a very long time. They sporadically appeared in Finnish assemblages as early as the Early Roman Iron Age and became more common in the 7th and 8th centuries (Salmio 1982, 133). In Novgorod, scissors have been found from the earliest, 10th-century archaeological layer, but they were more widely spread in the 13th century (Kolchin 1959, 59 ff.). Since scissors have no diagnostic features for dating, it is not possible to date the simple fragment from Keava more precisely.

Fire-making devices are represented by a strike-a-light with reverse-rolled terminals (Fig. 2.6: 1). This is the most common type of strike-a-lights of the later Iron and Middle Ages in Estonia. In Latvia, strike-a-lights with reverse-rolled terminals were in use at least since the 6th century (Moor 1938, 549). They became particularly common during the 11th century in the whole of northern and eastern Europe (Selirand 1974, 99). In Estonia, they stayed in use until the spread of matches.



**Fig. 2.5.** Fragment of scissors (TÜ 1260: 162). Photo by Andres Tvaari.



**Fig. 2.6.** Strike-a-light (1) and chain links (2–3) (TÜ 1026: 202, 776; 1260: 142). Photo by Andres Tvaari.



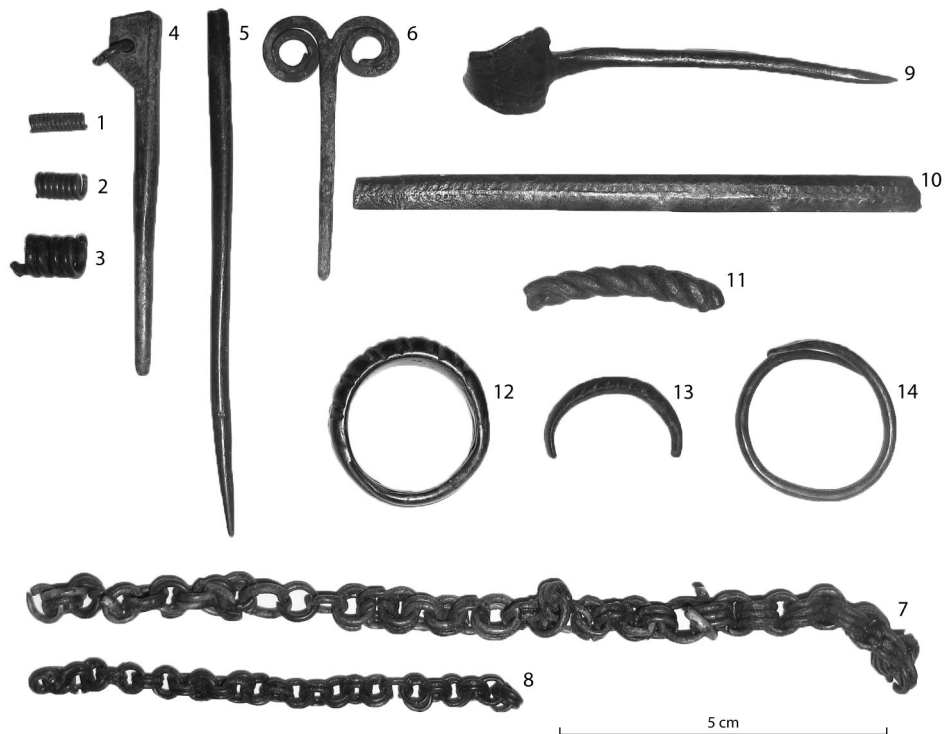
In order to generate a spark, a strike-a-light was struck against a piece of flint. Two of these were found in the occupation layer of the Keava hill fort (TÜ 1026: 245, 255). These are small pieces of grey chalcedony up to few cm in diameter whose edges are indented from the strikes. This rock is found in Estonia, but at the end of the Iron Age it may have been imported. Flint pieces that were used to strike a light have been found in Estonia both at Viking Age (e.g. Kuusalu, Peedu, Rõuge) and at Final Iron Age hill forts (Lõhavere, Naanu) and settlement sites (e.g. Mustivere).

A vaulted round-shaped mount made of sheet-bronze with a bronze rivet in the middle (TÜ 1026: 79) served as a belt ornament. These are common finds at the 11th–13th-century sites in Estonia and the rest of the eastern Baltic region (Kustin 1962, 78). Such mounts were used both for decoration of belts and horse harness. The Keava mount is so small that it comes more likely from a belt.

Wealthy women of the 11th–13th centuries wore knives in decorated sheaths of bronze sheet-metal, an edge fragment of which (TÜ 1026: 752) was also found at Keava. It appears to belong to the so-called evenly broad knife sheaths that were worn in Estonian mainland and south-western Finland. Presumably, this was a prestige item expressing the high social position of the wearer (Selirand 1970; Riikonen 2009).

Perhaps the most splendid artefact from the Keava hill fort was a chain link twisted with gilded wire of bronze (Fig. 2.6: 2), which was found from the trench in the compound (area I). Chatelaine chains consisting of several such links belonged to men's and women's belt fittings during the 11th–13th centuries. These were either made of thick metal rods, with loophole endings, which were twisted with bronze wire, or links wound from two iron (Fig. 2.6: 3) or – more rarely – bronze wires. The whole chatelaine chain was composed of two or three links, and up to four were worn together attached to the intermediate link of the belt. Various everyday items (strike-a-lights, keys, etc.) were attached to such chatelaine chains. Apart from the Estonians, chatelaine chains were also extensively used by the Balts and Livonians (Selirand 1974, 132). Exact equivalents to the Keava chain link twisted with gilded wire are not known from elsewhere in Estonia.

Small spirals of bronze wire originate from clothing and the excavations at Keava have yielded a total of 20 fragments of these. Unearthed spirals are generally 3–4 mm in diameter and 1–1.5 cm in length (Fig. 2.7: 1–3); one spiral wound of 1.2 mm thick wire is also of a larger, i.e. 7 mm diameter (TÜ 1026: 522). The custom to decorate clothing with sewn on spirals of bronze wire began at the Volga-Finnic areas and the south-eastern part of a region occupied by the Baltic Finns around the 5th–8th centuries (Laul 1985, 415). During the last centuries of the Iron Age, festive clothing decorated with plaits composed of spirals of bronze wire was a common occurrence also among the westernmost Baltic Finns. A plait of spirals of bronze wire, sewn onto the rim of a shawl found at the Raatvere cemetery and dating to the 11th century, can be considered the oldest occurrence of small spirals of bronze wire in Estonia. The clothing of Estonian, Livonian and



**Fig. 2.7.** Ornaments and their fragments. 1–3 small spirals of bronze wire, 4–5 fragments of decorative pins, 6 kerchief pin with double-spiral head, 7–8 fragments of bronze chains, 9 pin of penannular brooch, 10 fragment of a bronze spiral bracelet, 11 fragment of bracelet made from triple bronze wire, 12 silver or tin bronze finger-ring with a thickened middle section, 13 fragment of bronze finger-ring with a thickened middle section, 14 bronze finger-ring with wide central section (TÜ 1026: 54, 204, 522, 27, 510; 1260: 26; 1026: 643, 839, 874, 748; 1260: 128, 828, 20; 1026: 118). Photo by Andres Tvauri.

Finnish people was most abundantly decorated with spirals in the 12th century; the bronze spirals were also in fashion during the 13th century (Laul 1985, 415; Riikonen 2005, 31 ff.).

With regards to commodities, four small bone spades can be grouped to personal toiletries (see more in chapter 4). These artefacts come also from the 11th–13th centuries, earlier ones can be dated even from the Viking Age (Luik & Tamla 2006).

### *Ornaments<sup>3</sup>*

In Estonia, the most magnificent female ornaments of the Late Iron Age were bronze chain arrangements. Chain arrangements were originally characteristic of

<sup>3</sup> In this part I will also consider intentionally broken ornaments, which I classify as finds relating to crafts (i.e. scrap metal) in the statistical analysis.

the Baltic tribes. These were especially widespread in what are today Latvia and Lithuania in the first half of the first millennium. In Estonia, they did not become more widely spread before the Late Iron Age. In this period large and opulent chain arrangements were characteristic ornaments among wealthy Estonian women (Selirand 1974, 142). On mainland Estonia, chain arrangements were usually attached to clothing by two decorative pins of bronze, which were also fastening devices for clothing. They were used to attach the shoulder elements of the back part of a woollen sleeveless jacket by the shoulders or the corners of a woollen shawl that hung from the shoulders to the back. Of these pins only two fragments were found at Keava (Fig. 2.7: 4–5).

The other piece of ornaments predominantly composed of a bronze chain during the Iron Age was a kerchief chain. A bronze kerchief pin with a double-spiral head (Fig. 2.7: 6) belongs to this kind of chain. Kerchief chains with pins were in use in northern and western Estonian mainland during the late 12th and 13th century. They have been most abundant in prehistoric Rävåla district (Selirand 1966).

Four fragments of bronze chains were found at Keava; one of these is a fragment consisting of triple links measuring to 13.8 cm (Fig. 2.7: 7), the other two more complete fragments are 7.5 and 6.7 cm long and made of double links of bronze wire (Fig. 2.7: 8). Only three links have been preserved of the fourth chain fragment, the links of which have probably been triple. The triple linked chain was usually worn on breast, the more delicate chains made of double links come from kerchief chains (Selirand 1966, 151). It is not possible to date individual bronze wire rings, of which a total of 13 were found in Keava excavations. Most of them probably come from necklace chains, but these rings were also used to fasten pendants and other small items to chains. Various chains were used at least since the Roman Iron Age and were also worn after the conquest during the 13th century.

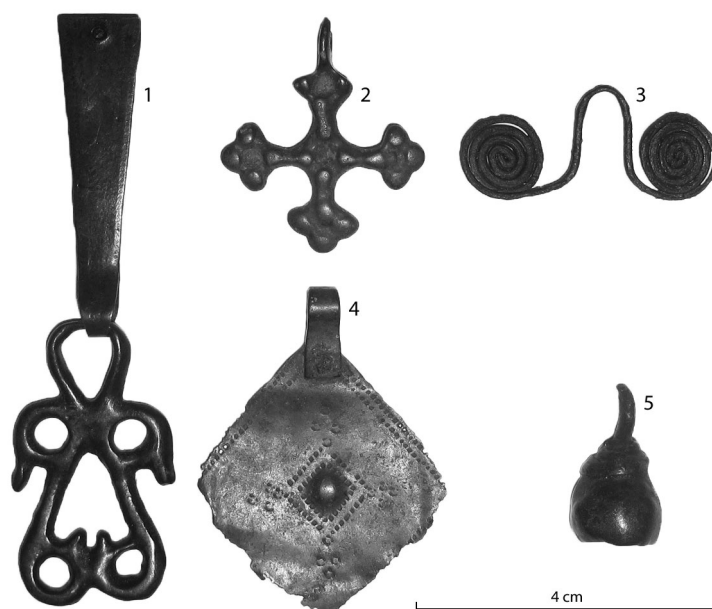
Penannular brooches were widely used jewellery items and fastening devices for clothes both during the Viking and the Final Iron Age. Only two pins of penannular brooches were found at Keava. One of them (Fig. 2.7: 9) has a wide base and longitudinal grooves in the upper end. Such pins were commonly used on the 12th–13th-century penannular brooches (see Pauts 1997).

Only two fragments represent bracelets in the assemblage. The first of them is a 5 mm wide piece of a bronze spiral bracelet (Fig. 2.7: 10). Spiral bracelets were used in the Baltic region for a long time from the Bronze Age to the Late Iron Age. In comparison to other types of bracelets, they were quite rare in the Final Iron Age (Selirand 1974, 162). The double zigzag decoration on the Keava fragment has parallels from spiral bracelets from burials dating to the end of the Final Iron Age or Early Middle Ages (e.g. Kustin 1958, pl. III: 5; Selirand 1974, pl. XXXVIII: 1). The fragment of Keava bracelet does not curve as would be expected of a bracelet, but is straight. It is difficult to say whether it is a fragment of a work piece or a broken bracelet that was bent or hammered straight. In the latter case we are probably dealing with scrap metal. The second, 3-cm long fragment comes from a bracelet cast from triple bronze wire (Fig. 2.7: 11), which is widespread in Estonia and north-western Russia during the 12th–13th centuries

(Selirand 1974, 170). In Novgorod, most of these bracelets have been retrieved from the contexts of the late 12th and the 13th century (Sedova 1981, 96; Lesman 1990, 42).

A silver or tin bronze finger-ring with a thickened middle section and engraved grooves (Fig. 2.7: 12) was found in area I. One more fragment of such bronze finger-ring was found in area II, too (Fig. 2.7: 13). Numerous rings of this type have been discovered in Estonia, particularly on the island of Saaremaa. These rings were characteristic of the western Baltic areas, especially Courland, from where they spread to present-day Latvia, Lithuania and north-western Russia. According to Jüri Selirand (1974, 174 f.), these rings were worn in the 13th century. A finger-ring with wide central section (Fig. 2.7: 14) was retrieved from between the stones of the upper layers of the collapsed rampart. The wider section of the ring is decorated with punched-in notches and ringlets. In Estonia, such rings were mainly in use during the 12th–13th centuries (Selirand 1974, 173 f.).

Pendants (5) have normally not been used as independent ornaments but were worn as part of other jewellery, such as necklaces, kerchiefs, or chest chains. An interesting find is the azure bronze pendant consisting of two snake-shaped links and two strap fittings (Fig. 2.8: 1), found in the compound (area I). Three very similar items have been found in the Varbola hill fort (Ülle Tamla, pers. comm.). A similar pendant (Selirand 1974, pl. XIX: 5) has also been found at the Kaberla cemetery, where burying started in the late 12th century (Selirand 1962). S-shaped



**Fig. 2.8.** Pendants. 1 bronze pendant consisting of two snake-shaped links, 2 cross-shaped bronze pendant, 3 quadrate pendant of sheet-bronze, 4 pendant of bronze wire with volute terminals, 5 tin bronze sleight-bell (TÜ 1026: 775, 489, 290, 848, 765). Photo by Andres Tvauri.

snake motifs on pendants and strap strings are mainly spread in western and south-western Estonia, but also in the area of the Livonians and on the island of Gotland. Most of the finds that could be dated more precisely come from the 12th century or the beginning of the 13th century (Luik 1999).

Cross-shaped bronze pendant (Fig. 2.8: 2) has rather accurate equivalents from late prehistoric sites all over Estonia, for example from the Põide hill fort on Saaremaa (Lõugas 1991, pl. VI: 2), the Lõhavere hill fort (Tynisson 1984, fig. 1: 1) and from a hoard dating to the end of the 12th century at the Kurista settlement site in eastern Estonia (Lavi 1989, pl. VII: 2). The cross-shaped pendant of Keava can also be dated to the end of 12th century or beginning of the 13th century.

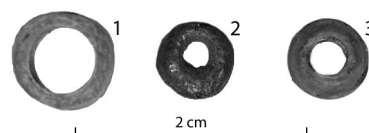
The quadrate pendant of sheet-bronze (Fig. 2.8: 3) represents a rather common find of the Final Iron Age and early Middle Ages. An almost identical pendant was found at the Varbola hill fort (Tamla & Tynisson 1983, pl. XXI: 9). Pendants of this type were worn in the 13th–14th centuries mainly in the Baltic areas (Ligi 1993, 61).

The above-mentioned pendants are definitely part of the Final Iron Age artefacts, whereas a pendant of bronze wire with volute terminals (Fig. 2.8: 4) is more difficult to date. Such pendants were mainly used during the Late Roman Iron Age (Moora 1938, 256). A rather similar pendant to that of Keava was found in the Nurmsi *tarand* grave, for instance (Vassar 1943, 143, fig. 13: 4). One cannot dismiss the possibility that pendants with volute terminals were produced and worn in Estonia even after the Roman Iron Age. For example, a partly similar pendant with volute terminals, made of silver wire is attached to a Final Iron Age penannular brooch from Tõrma II hoard in Virumaa (see Tamla, Ü. 2008, figs 20 and 20b). Two spiral pendants of bronze with volute terminals have been found from a 10th-century female burial at Kõyliõnsaari cemetery in south-western Finland. Those pendants were attached to a knife sheath with ornaments of sheet-bronze (Cleve 1978, 43, 195, pl. 9: 153). Further, such pendants have been also found at the Asote hill fort in Latvia, where most of the artefacts have been dated to the Late Iron Age (Mugurevich 1961, pl. V: 12, 17). Pendants with volute terminals were worn with other ornaments even in historical periods. A good example comes from Lügänuše, Virumaa, where an Anthony-cross-shaped pendant of sheet-silver dating to the late 16th or the early 17th century was found: the pendant with volute terminals was fastened on an engraving depicting male genitalia (RK 1896, pl. 30: 10). It is feasible that the figure of a spiral with volute ends had a magical-religious meaning to prehistoric people.

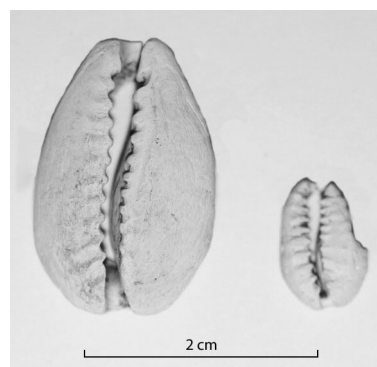
A tin bronze rumbler bell is also an item of the Final Iron Age (Fig. 2.8: 5). Artefacts made of tin bronze with a silvery shine are found in Final Iron Age contexts. An exact equivalent to Keava sleigh-bell has been found at Lõhavere (Tynisson 1984, fig. 1: 22).

Beads found at Keava were worn as part of necklaces. Two of the beads are made of colourless glass and are cylinder-shaped with a diameter of approximately 7 mm (Fig. 2.9: 1). The third bead has suffered fire damage, but probably belongs to the same type. One, half-intact, bead is 3–4 mm in diameter and made of yellow

glass material. Since Estonian archaeological beads have not been specifically studied, it is not possible to date the Keava beads according to their appearance. Studies from the neighbouring countries offer some guidance for dating. For example, small yellow biser beads were in use in Novgorod during the 11th–15th centuries (Shchapova 1956, 167 f.). In Estonia, these are usually found in medieval and early modern rural cemeteries and from the hoards of the late 16th century (Tvauri et al. 2012). Biser beads made of yellow glass were used in south-western Estonia already from the 14th century to adorn shawls and head decorations (see Laul & Valk 2007, 56, fig. 51, 69). The provenance of the fourth bead (Fig. 2.9: 2) that was collected is not clear – it was so burnt that it may be a molten link of a bronze chain. The fifth bead was made of blue glass and is spherical with a diameter of approximately 7 mm (Fig. 2.9: 3). The sixth bead was found among bone finds from a hole in a horse femur (see chapter 4).



**Fig. 2.9.** Beads made of glass (TÜ 1026: 773, 676; 1260: 34). Photo by Andres Tvauri.



**Fig. 2.10.** Cowrie shells (TÜ 1026: 622, 738). Photo by Andres Tvauri.

Two cowrie shells (Fig. 2.10) were found. A hole had been punctured into one end of the shells. These are from the small shellfish species *Cypraea moneta*, which are found along the coast of the Indian Ocean. Oldest cowrie shells in Estonia found at the settlement site adjacent to the fort at Unipiha come from the Pre-Viking or Viking Age (Aun 1975, 356; Tvauri 2012, 149). Cowrie shells generally only reached Estonia at the end of the Final Iron Age and during the Middle Ages. More than fifty cowrie shells from AD 400–1000 have been found in northern Europe, primarily Sweden. Their spread to Scandinavia mainly began after the rise of the Arab Caliphate in the 7th century (Johansson 1996, 348). In Finland, cowrie shells have been found in at least three hoards from the 7th–10th centuries (Kivikoski 1962). Cowrie shells were used until the mid-15th century (Valk 2001, 52).

### *Weapons*

Relatively few weapons were discovered during the excavation at the hill fort of Keava. Two javelin-heads with a knife-like blade, which may have been used both as warfare and hunting weapons, were found. One of them (Fig. 2.11: 1) is 18.2 cm long and has a twisted tang. The other javelin-head (Fig. 2.11: 2) has an untwisted tang and its end is broken; the length of the remaining part is 13 cm. This type of javelin-heads was used in the Baltic, Finnic, north-west Russian and



**Fig. 2.11.** Javelin-heads (TÜ 1026: 393, 534). Photo by Andres Tvauri.

Belarusian territories. The majority of javelin-heads with a knife-like blade, at least 152, is found in Estonia (Peets & Valt 2011, 3, fig. 2). According to Jüri Peets and Jaanus Valt (2011, 20), such weapons have been used in Estonia during the 12th century and first quarter of the 13th century. However, they probably first came into use already in the 11th century, as proved by an item very similar to the Keava javelin-head with an untwisted tang, which was found from the Raatvere cemetery of the late 10th and early 11th centuries (AI 5293: 168).

Four crossbow bolts were found at Keava. These all belong to the bolt type with a tube-like socket. Two of them have preserved intact (Fig. 2.12: 1–2). The



**Fig. 2.12.** Crossbow bolts (TÜ 1026: 87, 411, 295, 417). Photo by Andres Tvauri.

third has bent at the juncture of the socket and the bolt head; a mark on the socket signifies that the item was purposefully struck (Fig. 2.12: 3). Only the head remains of the fourth bolt (Fig. 2.12: 4); it had also been hammered from the socket side. The crossbow bolts are abundant at the Estonian hill forts, most significantly at those of which there are written records about a siege during the German conquest in the early 13th century (1208–1227). The crossbow bolts found at Keava belong to the types used in the first quarter of the 13th century (Mäesalu 1991) and prove that the hill fort was also used during the conquest.



**Fig. 2.13.** Iron ring from a coat of mail (TÜ 1026: 279). Photo by Andres Tvauri.

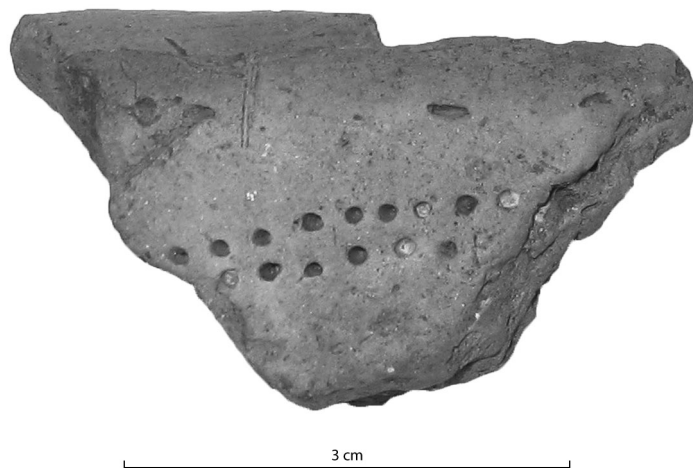
Quite a rare find is the ring from a coat of mail (Fig. 2.13). The diameter of this flattened ring is 1.1–1.3 cm and its ends are connected with a rivet. From the beginning of the 12th century, ring mail was the main armour type used in Europe (Mäesalu 1995, 330). Hauberks and chausses were worn by the crusaders who arrived in Estonia at the beginning of the 13th century. Exact parallels to the flat ring found at Keava are also known from Russian territories; it is noteworthy that over there it is thought that armour made of flat rings was produced from around 1200 (Kirpichnikov 1971, 7 ff.). The Estonians probably used ring armours very seldom. Finds of undoubtedly prehistoric armours or their fragments are not reported from settlement sites or hill forts, and only a few pieces of such are known from Final Iron Age graves (Mäesalu 1995, 334).

#### *Artefacts relating to handicraft*

In comparison to other Final Iron Age hill forts, relatively few handicraft tools were retrieved at Keava – a total of three. The first of them is a bone needle with a hole. Such needles were used for sewing or making items in sewing or embroidery techniques and are common finds at Estonian hill forts of the Late Iron Age. The second find is a fragment of an earthenware wheel decorated with notches (Fig. 2.14), which was probably a weight for an upright loom. At Estonian Final Iron Age sites, similar looms have been previously found for example at Soontagana hill fort (Mäesalu 1978, 45).

Purposefully shattered fragments of ornaments that are discussed above can be also viewed as scrap metal. Many small pieces of iron and bronze wire and sheet-metal found at the hill fort can probably be classified as metal or manufacture refuses.

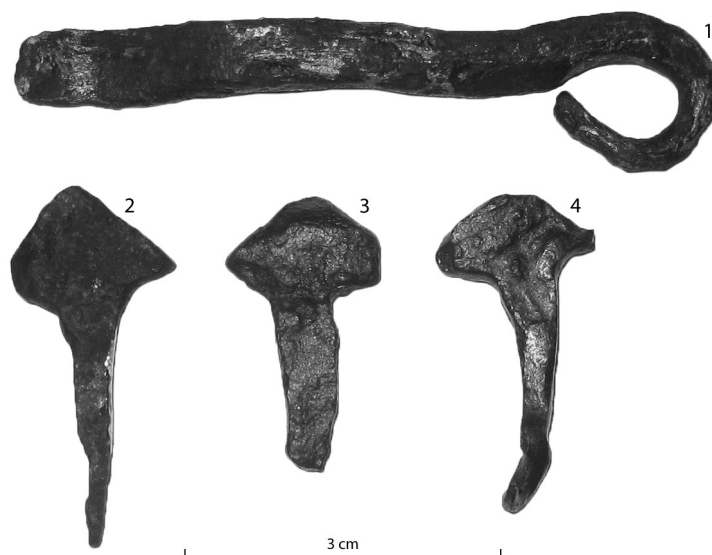




**Fig. 2.14.** Fragment of weight for an upright loom (TÜ 1260: 311). Photo by Andres Tvauri.

### *Horse equipment*

From horse equipment, only one fragment of a bit (Fig. 2.15: 1) was found. Bridles with similar bits were used in the Baltic region throughout the Late Iron Age and thereafter. Thus, it is not possible to date this artefact more precisely.



**Fig. 2.15.** Horse equipment. 1 fragment of a bit, 2–4 horseshoe nails (TÜ 1026: 842, 56, 273, 286). Photo by Andres Tvauri.

Four horseshoe nails were discovered at Keava (Fig. 2.15: 2–4). The possibility of these being lost at the settlement site later, for example during land cultivation, cannot be ruled out. At the Final Iron Age sites, which have been excavated more thoroughly (e.g. Lõhavere), horseshoe nails are a relatively common find. Conversely, during the Pre-Viking and Viking Ages, they occur rarely and even those that are found may have been deposited during later land cultivation. Horseshoeing probably only started to spread here from the 11th–12th centuries (Jaanits et al. 1982, 378).

#### *Artefacts relating to trade*

Only four items thought to be directly indicative of trade were retrieved during the excavation of the Keava hill fort. The first of these is a scale weight, a ball-shaped item with an iron core and bronze coating and an eye-loop on each side (Fig. 2.16). The mass of the weight measured to 8.8 g after conservation. These kinds of measuring weights appeared in the Baltic region during the 10th century and became abundant from the start of the 11th century (Leimus 2003, 46). From the prehistoric Harju district, the closest comparable weight with one dent was probably recovered from the Harmi cemetery, where it is dated to the 11th–13th centuries (Tamla 2002, fig. 4: 2).

With regards to dating the hill fort, the most important find is a silver coin, the bracteate with a tower image (Fig. 2.17). This is an extremely rare coinage, which has only been found at three other sites in northern Estonia: Pada, Kostivere, and Kumna (and one more from an unknown place). Ivar Leimus suggests that coins of this type were minted in Tallinn by Danish authorities in 1219 or shortly after (Leimus 1994, 460).

#### *Artefacts relating to religion, play and pastimes*

Only a hare *astragalus* pendant can be classified under the category of religion; it can be considered an amulet. Only two toggles can be classified as toys (see chapter 4).

### **Pottery**

In total, approximately 1680 fragments of pottery were found at the Keava hill fort, most of these



**Fig. 2.16.** Scale weight (TÜ 1026: 602). Photo by Andres Tvauri.

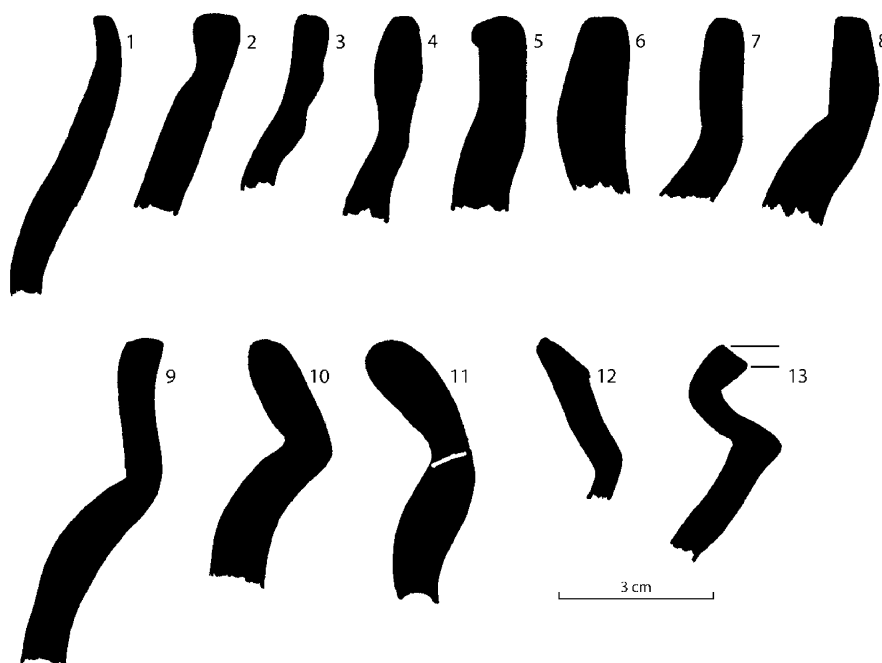


**Fig. 2.17.** Silver bracteate (TÜ 1026: 719). Photo by Andres Tvauri.

came from area I. Area II yielded only 182 potsherds. The pottery remains mainly constitute a very fragmentary material. Since the entire cultural layer was sieved, the pottery largely comprises of tiny sherds for which it is impossible to determine the shape or the type of pots which they come from.

Specific vessels can primarily be distinguished by rim pieces. In total, 26 vessels were identified from area I, and three from area II. It was only possible to generate a reconstruction drawing, displaying the vessel from the base to the rim, of three vessels from area I. It was not possible to restore a single whole vessel from the fragments. This is not surprising considering the relatively small area of the excavation – some of the sherds belonging to the reconstructed vessels probably remained in an unexcavated area.

All of the identified vessels differ from each other. These are predominantly earthenware, hand-made in coil technique that emulated wheel-made pots; their rim is upright or extends outwards in a straight fashion (Fig. 2.18: 1–11). Most of the household pots are undecorated, made of coarse-grained temper. There are a few sherds of fine-grained vessels and only some are decorated. Some wheel-made pottery was also discovered. One rim-sherd originating from south-western Russia (Fig. 2.18: 12) belongs to type 3: 1 and dates to the late 12th century or the first decade of the 13th century (see Tvauri 2005). Another definite wheel-made pottery example is a rim-sherd, which curves strongly inwards (Fig. 2.18: 13).

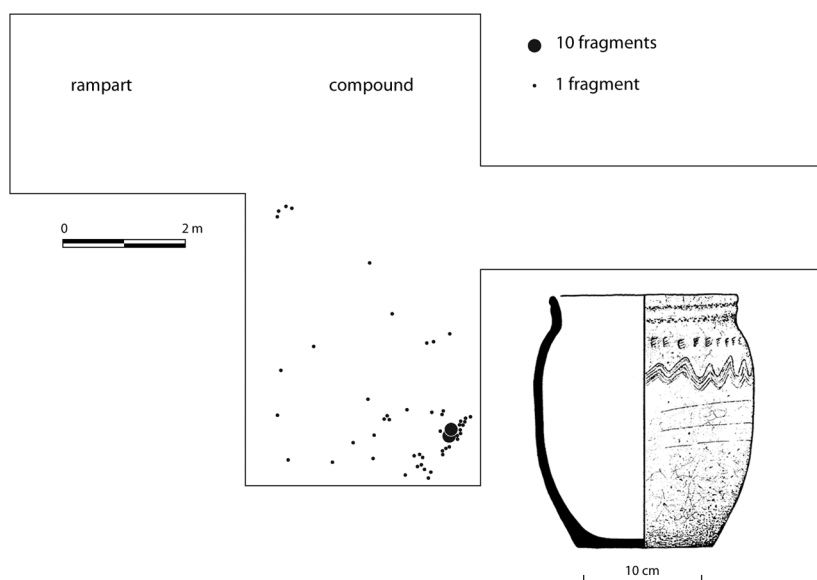


**Fig. 2.18.** Profiles of pottery. 1–11 hand-made vessels, 12–13 wheel-made vessels (TÜ 1026: 173, 270, 527, 717, 103, 131, 551, 830, 747, 444, 308, 525, 192). Drawing by Andres Tvauri.

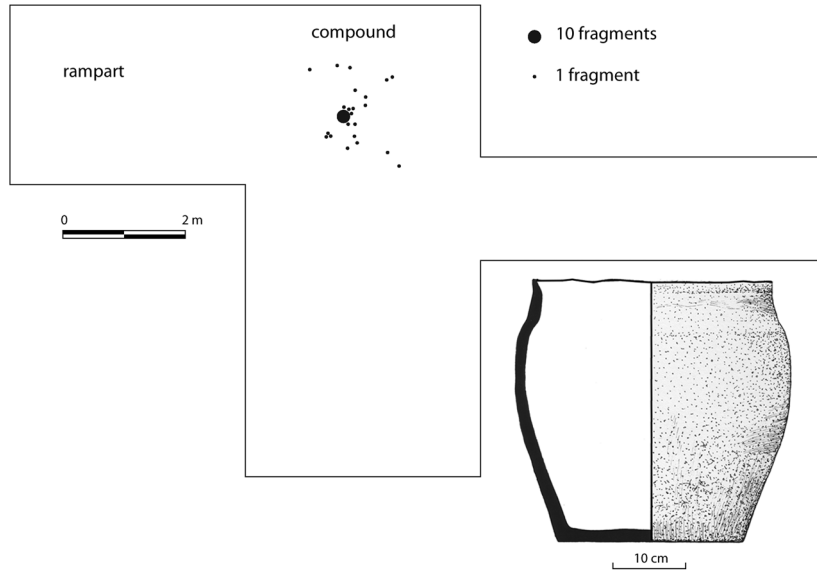
It resembles wheel-thrown earthenware that was widespread in medieval towns in the late 13th century. A relatively similar counterpart has previously been found during the excavations at the Angerja settlement site (Tamla & Valk 1987, pl. X: 1). The silver hoard and other artefacts found there date this site to the late 12th century or the early 13th century.

A clay pot, 16.4 cm high and with a mouth 12.5 cm wide, was the most intact surviving pot (Fig. 2.19). It resembles Slavic wheel-thrown vessels, but is most likely a local imitation. The vessel is rather weakly profiled, jar-shaped and with an upright rim, which suggests that it was produced without a rotating wheel. The outer side of the rim of the vessel is decorated with horizontal dents pressed in with fingers. The unnoticeable shoulder part displays wave-like decoration and notches made by a comb-like tool with three teeth. Rather coarse stone debris has been mixed with clay. The vessel is strongly over burnt, brittle and reddish in colour. One may think that the over burning is not original but has, for example, been caused by the fire of the building on the inner side of the rampart. Exact counterparts to the vessel under discussion are unknown.

The other more intact clay pot (Fig. 2.20) was 19.7 cm high and with 18.5 cm wide mouth. This vessel is also weakly profiled and with an upright rim, decoration is absent. The clay temper is relatively coarse-grained; the colour is uneven but mainly grey. In its shape and finish it bears resemblance to the Final Iron Age clay pots of western and south-western Estonia (see Tvauri 2005, 72 ff.). There is a layer of burnt material on the inside of the rim.

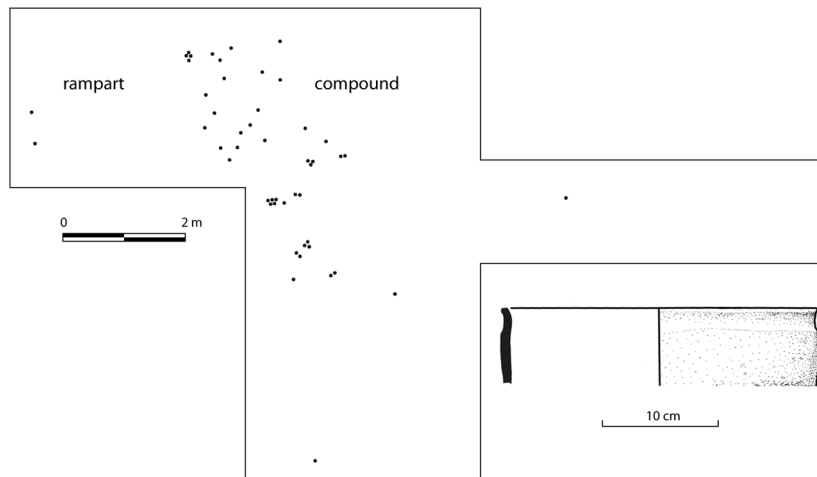


**Fig. 2.19.** Reconstructed pot (TÜ 1026: 260 etc.) and the distribution of its fragments in excavation area I. Drawing by Andres Tvauri.



**Fig. 2.20.** Reconstructed pot (TÜ 1026: 581 etc.) and the distribution of its fragments in excavation area I. Drawing by Andres Tvauri.

It was possible to identify numerous sherds (at least 47) from a large hand-made pot with upright sides (Fig. 2.21). Its mouth had a diameter of about 28 cm. The upright sides of the vessel make it cylindrical in shape. The outer rim of this

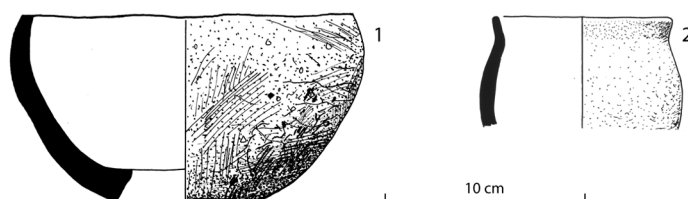


**Fig. 2.21.** Reconstructed pot (TÜ 1026: 816 etc.) and the distribution of its fragments in excavation area I. Drawing by Andres Tvauri.

earthenware pot only has a light groove engraved with fingers. It is reddish in colour and the clay has a lot of stone debris in it, including white pieces of quartz. This pot resembles the Viking Age coarse-grained pottery from north-western and western Estonia. For example, in Valter Lang's typology of earthenware of the Iru hill fort, it compares to type BII: b, which is the main type of pottery at Iru, dated to the Pre-Viking and Viking Ages (Lang 1996, 90, fig. 34). Similar counterparts can also be found among earthenware from the Viking Age harbour at Tornimäe on the island of Saaremaa (e.g. AI 4338: 575) and the Põide hill fort (SM 9946: 678), where both Viking Age and Final Iron Age artefacts have been recovered. It is likely that also the Keava pot belongs to the Viking Age because its sherds were mainly located in the depth of 55–75 cm, in the northern part of area I, beneath both the Final Iron Age building and the rampart.

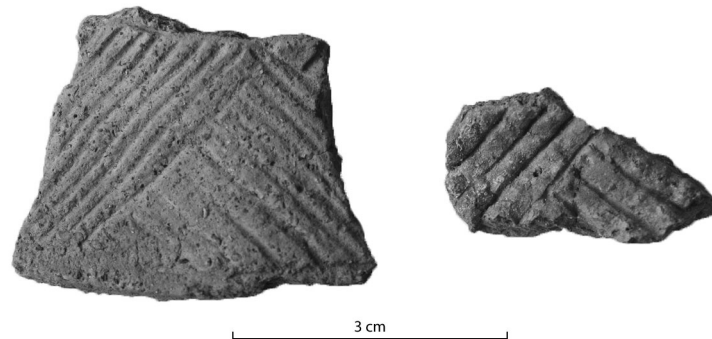
A bowl with a conical shape (Fig. 2.22: 1)<sup>4</sup> can be considered a rarely occurring vessel type. It was approximately 9 cm in height and with a mouth diameter of 15 cm. Such vessels are sporadically found around the Baltic Sea in the assemblages of the later Iron Age and Middle Ages. The only unambiguous equivalent in the context of Estonian Iron Age has been recovered from the Soontagana hill fort in prehistoric Läänemaa (Tvauri 2005, fig. 66: 1). I have previously considered the vessel from Keava to be from the Final Iron Age (Tvauri 2005, 84); however, taking into account that its sherds were recovered from the same depth in the same trench as the pot described above, this bowl should also have a Viking Age date. Viking Age pottery is also represented by some fine-grained potsherds from lowermost horizons of the cultural layer of area I (e.g. TÛ 1026: 937). Among the latter are also fragments of a fine-grained pot with protruding step-like elaboration, which has counterparts among the artefacts of settlement site I at Linnaaluse (Fig. 3.8: 2).

There are only very few decorated vessels among the Keava assemblage. One of them is a fine-grained vessel with an ornament of oblique lines (Fig. 2.23). The shape of the vessel cannot be reconstructed on the basis of such a small fragment we have from Keava. The ornament has parallels among Final Iron Age fine-grained ceramics of Harju and Lääne districts (see Tvauri 2005, fig. 76).



**Fig. 2.22.** Reconstructed clay vessels from excavation area I (TÛ 1026: 474/830; 1026: 350). Drawing by Andres Tvauri.

<sup>4</sup> I inadvertently published this vessel under the incorrect number TÛ 1026: 498 (Lang et al. 2003, fig. 12; Tvauri 2005, fig. 66: 1). The correct number is: TÛ 1026: 474, 830.



**Fig. 2.23.** Fragments of a fine-grained vessel with an ornament of oblique lines (TÜ 1026: 459, 196). Drawing by Andres Tvauri.

On several potsherds, it is clearly visible that the vessels have been coiled from clay bands because they have broken along the connecting points of the bands. For example, it is clearly distinguishable for one vessel with an externally curving rim (Fig. 2.18: 11) that the width of the bands had been approximately 2 cm. Larger vessels have been coiled from wider bands – for example, the potsherd TÜ 1026: 551 comes from a 4-cm wide clay band.

Keava ceramics are generally similar to that of other north-western and western Estonian hill forts (e.g. Varbola and Soontagana). On the other hand, it clearly differs from southern and south-eastern Estonian (Lõhavere, Naanu, Sinialliku, Otepää) pottery of the same time period. Conspicuously high-quality vessels were not found at Keava. All this suggests that the pottery in question was manufactured on the spot or nearby by semi-professional craftsmen.

On several pots found at the Keava hill fort, a burnt layer of substance can be detected on the upper edge of the pot. As an interesting detail, it may be noted that this occurs also on very small pots (Fig. 2.22: 2). This gives a hint about eating customs – food was not consumed from a large cauldron or a pot, but was also drained by small portions.

### **Artefact assemblage**

On the whole, the finds of Keava resemble most closely Late Iron Age hill fort assemblages from the prehistoric Harjumaa (Varbola), Läänemaa (Soontagana, Konuveri) and Saaremaa (Põide). A closer comparison between functional groups of artefacts was possible with the Soontagana hill fort, the most important hill fort on the island of Saaremaa – Valjala, and with the Lõhavere and Sinialliku hill forts situated in the prehistoric Sakala district (Table 2.1).

A general impression of Estonian Final Iron Age hill forts is rather similar. At all of the hill forts, the biggest find category is ornaments (26.9% at Keava). The predominance of ornaments partly derives from the fact that numerous bronze

**Table 2.1.** The proportions of categories of finds in the artefact assemblages of some Late Iron Age strongholds and settlement sites

Artefact group	Keava fort		Soontagana fort		Valjala fort		Lõhavere fort		Sinalliku fort		Uderna II settlement		Mustivere settlement	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Multipurpose items	10	7.3	74	9.4	26	10	148	9.8	6	11.5	63	16.9	32	9.3
Construction, furnishing, household	8	5.8	56	7.1	43	17	121	8	2	3.9	125	33.6	107	31.3
Personal belongings, clothing	34	24.7	185	23.5	34	14	335	22.2	8	15.3	31	8.3	39	11.4
Ornaments	37	26.9	191	24.2	63	25	403	26.7	15	28.8	31	8.3	42	12.3
Weapons	7	5.1	24	3	11	4.4	137	9	2	3.9	8	2.2	1	0.3
Hunting and fishing	0	0	0	0	0	0	5	0.3	0	0	3	0.8	3	0.9
Agriculture and stock-rearing	0	0	5	0.7	0	0	9	0.6	0	0	13	3.5	2	0.6
Handicraft	32	23.4	209	26.5	56	23	234	15.5	13	25	26	7	32	9.3
Horse equipment	4	2.9	16	2	5	2	47	3.1	2	3.9	58	15.6	74	21.6
Trade	2	1.6	5	0.7	0	0	12	0.8	0	0	10	2.7	5	1.5
Religion	1	0.7	11	1.4	8	3.2	37	2.4	3	5.8	0	0	5	1.5
Play and pastimes	2	1.6	12	1.5	3	1.2	22	1.5	1	1.9	4	1.1	0	0
Total	137	100	788	100	249	99.8	1510	99.9	52	100	372	100	342	100

chain fragments and small rings, mainly originating from the chains, have been included in the group. However, even without these small finds, ornaments are still in dominant position among finds at prehistoric strongholds. Ornaments, including their hidden collections, have also been most abundant at Lõhavere, which was under siege on multiple occasions during the German conquest. The ornaments at Keava are mainly small (beads, pendants and rings), which may have been lost or inadvertently left behind after the destruction of the fort. The abundance of ornaments at hill forts is clearly elicited when these are compared to settlement sites where their proportion among the artefact assemblages is about three times smaller than at hill forts.

The next largest group of artefacts include personal belongings and clothing (24.7% at Keava). The significance of this group is also great at Soontagana and Lõhavere. This is partly due to large numbers of small spirals used for clothing decoration in the occupation layers of the Final Iron Age hill forts, especially in comparison to the Pre-Viking and Viking Age sites. The third largest group of finds comprises artefacts relating to handicraft (23.4% at Keava). The proportion of these items is also high in other hill forts. This category is mainly composed of various manufacture refuse and intentionally crushed bronze artefacts, which can be classified as scrap metal. The proportion of other categories of finds in the Keava artefact assemblage is negligible and no artefacts relating to hunting and fishing, agriculture or stock rearing were found. The small quantity of artefacts from these categories is also characteristic of the other Final Iron Age strongholds in Estonia.

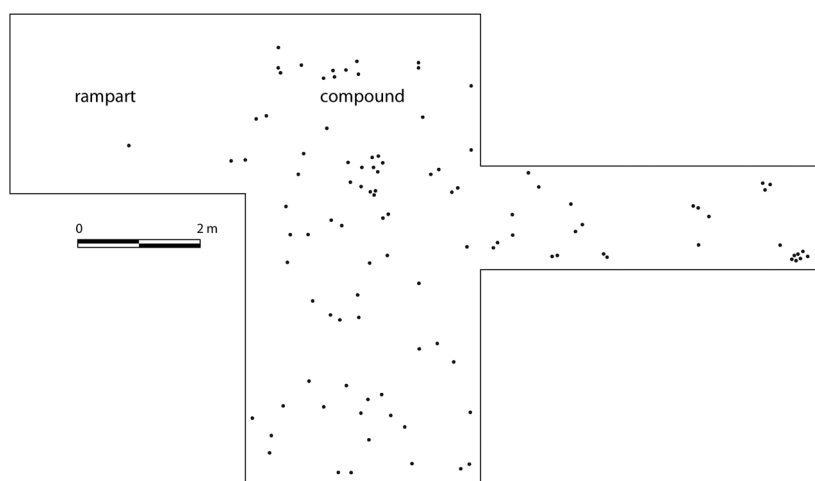


Thus, the artefacts from the Keava hill fort are very similar to those at other Estonian Final Iron Age forts. Conversely, the artefact assemblages at contemporary settlement sites such as Mustivere near Viljandi and Underna II in prehistoric Ugandi district have a clearly different content. The most abundant category of finds at settlement sites is artefacts relating to construction, furnishings and household (about one-third of the whole assemblage) and there is generally a large number of finds relating to horses.

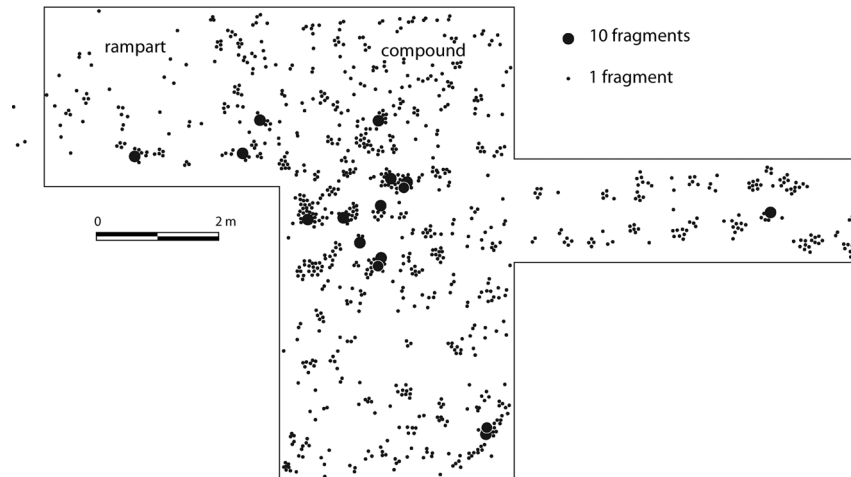
### **The positioning of finds in the occupation layer and dating**

Observing the positioning of artefacts and potsherds in area I (Figs 2.24 and 2.25) yields an expected image. Very few artefacts were recovered from the infill layers of the rampart. Conversely, in the area of buildings behind the rampart, the compound adjacent to them and the layer of earth (most likely from the collapsed earthworks) covering all that was rich in finds. Potsherds were found most abundantly at the places of furnaces inside the buildings and around them. A large quantity of sherds probably comes from pottery that broke when used for cooking in these furnaces.

The positioning of finds in the occupation layer gives an idea about the chronology of the hill fort's use. In the northern and central parts of area I, finds of a relatively late date were found even in the deepest layers. For example, the silver finger-ring (Fig. 2.7: 12), which dates most likely to the early 13th century, was found at depth of 75 cm, at the very bottom of the occupation layer. Likewise, the silver bracteate (Fig. 2.17), which comes from the post-1219 period, was



**Fig. 2.24.** Distribution of artefacts in excavation area I.



2.25. Distribution of fragments of clay vessels in excavation area I.

recovered from the level of 65 cm. However, the bottom layers also contained sherds of clay pots (Figs 2.21; 2.22: 1), which were found beneath both the later building and the rampart and can be dated to the Viking Age.

Based on the construction residues found in area I, we can conclude that two separate buildings with furnaces were located in the area interior of the rampart in the Final Iron Age (chapter 1). This was also clearly demonstrated by the location of finds. Two more fully preserved clay vessels could be reconstructed from the potsherds found in this area. The location map indicates that the pieces of pot in Fig. 2.19 were only found in the area of the southernmost building, on the clay floor, while the majority of them came from the southern corner of the excavation area. The sherds of this pot that were found deeper turned up only in the south-eastern section of this building where the clay floor had been shattered. Potsherds depicted in Fig. 2.20 were only found at the site of the northernmost building. Thus, these pots were in the buildings before they were destroyed. The other artefacts that display a clear regularity are the small bone spades. All of their fragments were positioned in ca 2 m long and up to 80 cm wide area at the floor level of the northernmost building in area I.

Under the southern building there was a clay floor (fort IV), which had remains of some previous building underneath (chapter 1). The layer under the floor yielded a javelin-head (Fig. 2.11: 2), which in Estonia, as was mentioned above, has an 11th-century parallel. At the same time, a fragment of the rim of a Slavic wheel-made pot (Fig. 2.18: 12) that cannot be dated to an earlier period than the mid-12th century, was recovered from a layer 10 cm below the floor. As the clay floor was not entirely intact and sterile, particularly in the vicinity of the finding place of this sherd (close to stove IV, see chapter 1), this date cannot be used for the dating of the clay floor.

The assumption that the hill fort was destroyed in 1224 (see chapter 1) is also supported by the fact that the two crossbow bolts (Fig. 2.12: 2, 4) were found in the floor layer of the northern building.

One can conclude that the find assemblage of area I contained Viking Age potsherds, which were recovered from the lowermost horizons of the occupation layer. In addition, some artefacts from these horizons could be of the Viking Age date. The greater proportion of the find assemblage comes, however, from the Final Iron Age with all of the artefacts that could more precisely be dated only to the first quarter of the 13th century. This particular detail does not necessarily bear direct relation to the intensity of the use of the hill fort during the Iron Age. The Keava fort was abandoned after it was destroyed in a fire. Due to the destruction of the site, more artefacts always remain than would from everyday activities. Some items become buried under the rubble and ashes, the owners of the buried goods may have died and nobody would pick up the broken pottery. Analogous picture emerges at the excavation of Estonian medieval stone forts – greater proportion of artefacts date to the period of wars during the second half of the 16th century and the beginning of the 17th century, and only a few medieval finds are actually recovered.

In terms of all find categories, area II was much poorer than area I. This is understandable because unlike the latter, which encompassed mainly the area of buildings and the compound, area II was wholly at the site of the rampart and its narrow gateway. An occupation layer of everyday life deposits was not found here – the excavated area mainly presented rampart remains and the layer that formed through its collapse.

### **Summary**

Most of the finds from the Keava hill fort belong to the types that were used from the 11th–13th centuries. In the deeper layers of area I, pottery fragments dating to the Viking Age were also found. A javelin-head and the spearhead found in 1904 can be dated to the 11th century. All other finds that could be dated more precisely belong to the second half of the 12th century or the first quarter of the 13th century.

The assemblage retrieved from the Keava hill fort so far is rich, but also typical of the Estonian Late Iron Age hill forts. From better-studied hill forts, Keava finds resemble those of Varbola, Soontagana and Lõhavere. Most of the find assemblage is made up of ornaments, personal belongings and metal details of clothing, fragments of ornaments related to handicraft, scrap metal and bronze work residues.