A-65707

ARHEOLOOGILISED VÄLITÖÖD EESTIS

ARCHAEOLOGICAL FIELDWORK IN ESTONIA

2004

Koostanud ja toimetanud
Ülle Tamla

Muinsuskaitseamet
Tallinn 2005

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Uus 18, Tallinn 10111, Eesti
National Heritage Board
Uus 18, Tallinn 10111, Estonia

Esikaas: ehtenaast Viskla II asulast.
Tagakaas: rihmajagaja Kämbla II asulast.
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RAAMATUKOGU
SUNDEKSEMPLAR

ISSN 1406-3972

ARCHAEOLOGICAL EXCAVATIONS AT MUSUMÄGI HILL IN VILJANDI

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INTRODUCTION

The archaeological excavations launched on Musumägi Hill in 2003, financed by Viljandi Town, continued in 2004. During the excavations both unfinished excavation plots[1] were finished – namely, a small north-south trench located on the deep southern slope (6 m²) and the eastern plot at the further eastern side of the mound (19 m²) (Rammo *et al.* 2004, Fig. 1). The aim of the fieldwork was to reach the undisturbed virgin soil, and to determine the dating of the different settlement phases.

In 2003 a shallow stone wall and a black cultural layer that showed traces of burning, unearthed in the southern plot at the end of the excavations, aroused great interest. The function and dating of the wall and the cultural layer remained unclear. The eastern plot, which enclosed a bigger area than the southern plot, was the focal point of the research in 2004. The plot enabled a better understanding of the whole site; thus, some of the preliminary results of 2003 were reassessed.

The aim of this article is to provide an overview of the excavations undertaken in 2004, and to analyse the different interpretation possibilities of the site. Three distinct settlement phases can be distinguished at the Musumägi Hill. These settlement phases form the outline of the article. Thus, the description of the excavations is untraditional, starting from the past and ending in the present, i.e. from the virgin soil till the turf of recent date. Henceforth, the eastern and southern plots will not be treated separately, but the site will be analysed as a whole.

THE BLACK LAYER ON VIRGIN SOIL ON MUSUMÄGI HILL

Musumägi Hill proved to contain more layers than initially thought. Next to the hilltop the moraine bottom layer was not reached until 3.5 metres from the surface of recent date. The virgin soil formed a fairly horizontal plateau that was

[1] Finds ViM 10952: 1078–3292.

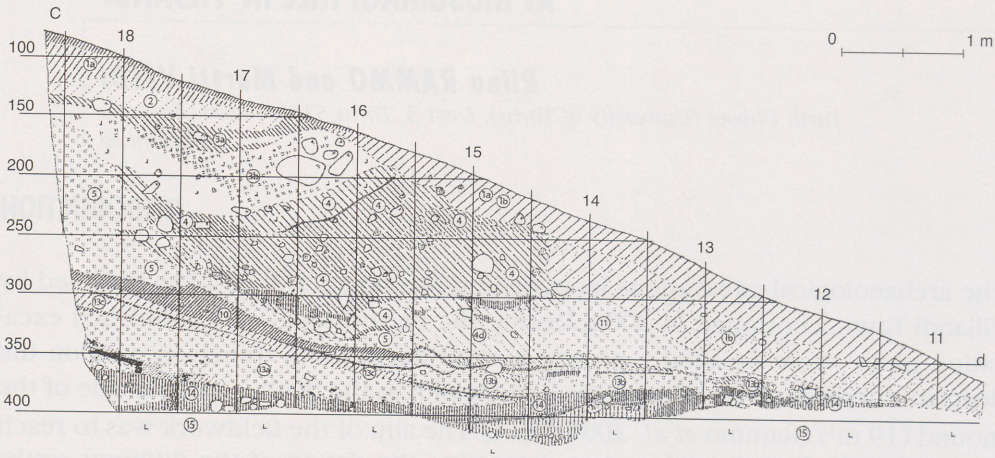

Fig. 1. Northern profile of the eastern plot. 1a - brown soil, 1b - red soil, 2 - mixed Devonian sand, 3a - black fill layer, 3b - yellow clay, 4, 6–9 - gray/black/yellow fill layer, 4d - mixed gray/black/yellow fill layer, 5 - Devonian sand I, 10 - brown layer, 11 - yellowish red sand, 13a–13c - Devonian sand II, 14 - black layer, 15 - virgin soil.

Joon. 1. Idakaevandi põhjaprofiil. 1a - pruun muld, 1b - punane muld, 2 - segatud devoni liiv, 3a - must täitekiht, 3b - kollane savi, 4, 6–9 - hall/must/kollane täitekiht, 4d - segatud hall/must/kollane täitekiht, 5 - devoni liiv I, 10 - pruun kiht, 11 - kollakaspunane liiv, 13a–13c - devoni liiv II, 14 - must kiht, 15 - looduslik põhi.

much bigger and flatter than the present top of Musumägi Hill (up to 8 x 6 m) (Figs. 1: 15; 3).

An even (up to 35 cm thick) black cultural layer was deposited directly on the undisturbed soil. The layer was rich in burnt stones and stone debris (Fig. 1: 14). Pieces of burnt wood, an indication of a wooden structure destroyed by fire, were also present on the top of the black layer next to the hilltop.

The finds suggest that the black layer dates back to the Viking Age (AD 800–1050). Sherds of clay vessels recovered from the layer numbered 451 in all, most of these being small worn-out fragments of hand-moulded pottery. Fragments of vessels with holes (Rõuge type), smooth-surfaced pottery, and the absence of wheel-made pottery are characteristic of the Viking Age. A pendant made of beaver heel bone (:2979) (Fig. 4), and a coin from the second half of the 11th century (:2941) [2], recovered directly on the black layer, are other finds worth mentioning. It is possible that the coin was dropped in the find-spot during a later period. The majority of the bone finds [3] uncovered belonged to goat/sheep

[2] Frisian count Egbert II (1068–90), Stavoren (the coins were identifyed by Ivar Leimus from Estonian History Museum).

[3] Identification by Eha Järv (Estonian Agricultural University).

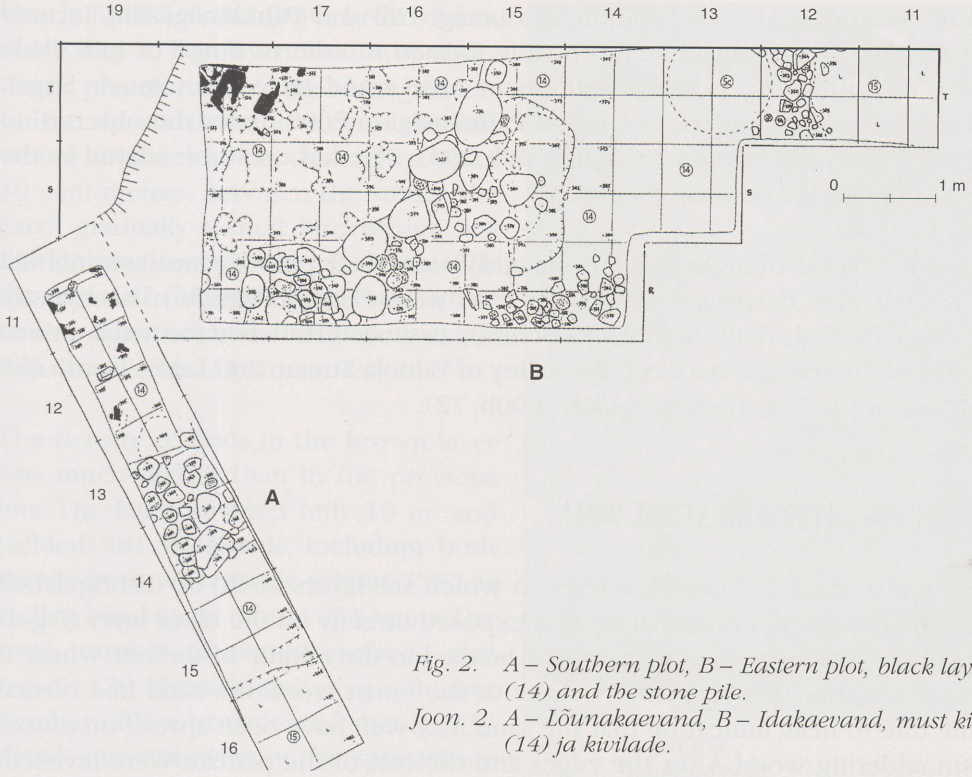

Fig. 2. A – Southern plot, B – Eastern plot, black layer (14) and the stone pile.
Joon. 2. A – Lõunakaevand, B – Idakaevand, must kiht (14) ja kivilade.

(52.38%); bones of other domestic animals – pig, cow and horse – were less common (respectively 5.71%; 7.62%; and 2.86%). 20% of all bones unearthed belonged to beaver.

A recent article on Viking Age trade in South-East Estonia by Ivar Leimus and Mauri Kiudsoo (2004) analysed the current data on beaver bones recovered from Estonian hill-forts and concluded that settlements and hill-forts with high beaver bone concentration were important trade centres. The proportion of beaver bones unearthed from the cultural layer of Rõuge stronghold – 26.5% – (Шмидехельм 1959, 162) correlates with the proportion of beaver bones found from the Musumägi Hill cultural layer.

The unmixed soil and uniform finds suggest that the black layer was deposited on the hill in the course of local activity. Burnt stones, large amounts of stone debris and fragmented ceramics indicate a possible settlement site. However, the location of the settlement site on the hilltop is questionable. On the other hand, then plateau could have been about 4 metres lower and also larger than the present

top of Musumägi Hill. In addition, Musumägi Hill and Pähklimägi Hill, located directly east of Musumägi Hill, probably formed a uniform range of hills (Valk 2000a, 46); thus, the possible settlement area could have been much larger. During the excavations conducted on Pähklimägi in 2000 under the supervision of Heiki Valk, a charred post remain (Valk 2001, 73) that could be related to the end of the Viking Age were recovered.

Andres Tvauri has thought that Musumägi Hill was once part of a small stronghold of the same date, destroyed during later earthwork (Tvauri 1999, 26). This hypothesis could be realistic if the hillocks behind Lossimäed Hill once formed a unified plateau in the triangle between the valley of Valuoja Stream and Lake Viljandi (for criticism of the hypothesis see Valk 2000b, 72).

THE BROWN LAYER AND STONE WALL

A 0.5 metre thick reddish sand layer, in which sub-layers could be distinguished based on the level of disturbance, was exposed directly on the black layer (Fig. 1: 13a, 13b). Obviously the sand was first heaped in the middle of the hill, where it formed a higher hillock. In the vicinity of the burnt wood the sand had turned white due to heat, indicating that the sand may well have been spread on pieces of smouldering wood. After the edges and the rest of the plateau were levelled. Only the areas near the edges of the sand layer mixed with the cultural layer yielded a few ceramics and some animal bones. A brown layer (Fig. 1: 10), which can be related to the stone wall recovered last year, overlay the pile of sand (Fig. 5).

The stone wall (1.3–1.4 metres wide; Rammo *et al.* 2004, 97, Fig. 3) continued in the south-western corner of the larger plot, where it soon ended. A much more uneven and irregular north-east/south-west stone pile that had about the same measurements as the stone wall (width up to 1.5 and height 0.5 metres) ran through the eastern plot along the present slope of Musumägi Hill. The pile was formed of large boulders piled neatly next to each other (diameter about 0.5 metres); smaller boulders of different sizes were piled between, on top, and around the large boulders. The eastern plot did not include a cobblestone step in front of the stone wall like the one recovered from the southern plot in 2003. (Figs. 2; 5)

The result of the 2003 excavations of the southern plot suggested that the structure could be related to the settlement phase of Viking Age or the black layer, but we had to reassess that view in 2004. The finds showed that the stone pile was

clearly linked to the above brown layer, encircling it. The layer was most abundantly present west of the stone pile, *i.e.* on the side next to the core of the hill, where at places its depth reached up to 30 centimetres. Between the stones the earth gradually turned into brown soil that did not contain many finds. Outside the area surrounded by the stones the brown layer occurred only as a vague thin stripe (Fig. 1: 10).

The density of finds in the brown layer was much higher than in the previous one. The layer covered only 10 m^2 and yielded 481 potsherds, including both sherds from wheelmade (about 75%) as well as hand-made (about 25%) pots. The large number of smooth-surfaced clay vessels (29 sherds), and even a higher number of line ornamented sherds (139 sherds) are noteworthy. The appearance of the wheelmade pottery was fairly uniform, and could well be the handiwork of one master[4].

The brown layer contained more fragments of jewelry and other finds than the black layer, including: a fragment of a bronze brooch (:2233), two spiral rings (:2546, 2701), some spirals (:2584, 2585) and chain links (:2278, 2456, 2625, 2695), a cowry shell (:2364), two broken glass beads with gilded folios (:2279, 2511), and a striped glass bead (:2628). The utilitarian objects recovered included: an iron knife (:2627), an iron ring (:2267), and three fragmented

[4] Based on consultation with Andres Tvauri (TÜ).

Fig. 3. Virgin soil.
Joon. 3. Looduslik põhi.

Fig. 4. A pendant made of beaver heel bone
Joon. 4. Kopra kannaluust ripats.
(ViM 10952: 1591.)

iron objects (2358, 2411, 2496). In addition to the ceramics, two coin pedants from the 11th century (2322, 2395) helped to date the layer[5]. It is possible that the coins used as jewelry found their way to the find location during a later time. The pottery sherds, and the artefacts suggest that the layer dates to the Late Iron Age (AD 1050–1200/1250).

The bone finds unearthed from the brown layer were of great interest. The layer contained less wild animal bones than the previous layer (elk 0.8%; beaver 5.7%). The majority of the bones belonged to pig (52.85%), followed by goat/sheep (25.2%), bird (8.13%), and cow (6.5%). The high percentage of pig bones is due to the bones of a newborn pig, all of which were found clustered within 1 m^2, and probably belonged to the same individual. The only horse bone recovered from the brown layer was a horse skull (Fig. 5). It was a 15-year old stallion, probably of a local breed. For comparison, the bone finds from a Late Iron Age (1050–1200/50) household unearthed from the nearby ski jumping hill showed that the majority of bones found belonged to chicken (39.6%), followed by cow (26.2%), goat/sheep (19.6%), and pig (11.6%) (Valk 2003, 61).

The brown layer contained a substantial amount of fish bones and scales[6]. Altogether, 1368 identifiable fragments of fish remains were unearthed from the brown layer, while the black layer that was twice as large contained only 53 fragments. The fish were specimens common to Estonian lakes (perch and carp dominated, respectively 58.14% and 34.70%).

The study of the brown layer on a larger area gave us reason to believe that the layer was formed on the spot Based on the preliminary research results it is difficult to explain why the heavy stones were carried to Musumägi Hill or why sand was spread over the fire at a time when the site was already covered with the black layer. Probably the site was not a settlement area, i.e. a place where people lived day-to-day. The granular and crumbly character of the layer indicates that the place was not visited often.

The ceramics suggest that the clay vessels got broken on the spot, as the appearance of the sherds is uniform, and a number of sherds found came from the same vessel. Moreover, the fragments are relatively large and wellpreserved, compared to the crumbly ceramics unearthed from the black layer. On the other hand, it is common knowledge that wheel-made ceramics usually do preserve much better than hand-moulded ceramics, which are not of such high quality. The above men-

[5] Anglo-Saxon aftercoin (Æthelred II, Long cross rev. / Cnut, Short cross rev.); Frisian count Egbert I (1057–68) aftercoin.

[6] Identification by Lembi Lõugas (AI).

tioned skull of a 15-year old stallion, and the bones of a newborn pig were interesting finds. The stallion was too old for eating, and the piglet was also probably of symbolic meaning. The finds suggest that the hill might have been a sacrificial or cult site. The concept of an area encircled with stones also fits the above interpretation. Other material finds were random and it is not possible to speak about certain sacrifices or cult objects.

It can well be that the above area contained wooden structures. Although it was impossible to detect clear traces of decayed wooden structures, some organic remains were present in the whole layer. As decayed remains were quite sparse between and on the stones, it can be assumed that the structure was located in the area encircled with stones.

Theoretically, the stone structure could have been a peripheral part of a stone grave, but no fragments of human bones that are characteristic of cremation burials, or burnt items were found. The stone structure does not seem to have served defence purposes, because it was too shallow and uneven. In conclusion, the site raised many questions that need to be answered. It is obvious that the part of Musumägi Hill that has been archaeologically researched is the edge of the site, and thus a thicker cultural layer rich in finds should be situated in the area closer to the hilltop.

THE EARTHWORKS ON MUSUMÄGI HILL

Musumägi Hill was artificially elevated during the last settlement phase. On the hilltop the height of the fill layer could probably reach up to 4 metres. During the earthwork all other layers - yellowish red sand (11), Devonian sand I (5), grey-black-yellow fill layer (4), black fill (3a), yellow clay (3b), mixed Devonian sand (2), red soil (1b), and brown soil (1a) (Fig. 1) - were deposited on top of Musumägi Hill. First, Devonian sand was heaped at the centre of the hill, then a mix of virgin soil and the cultural layer (grey/black/yellow fill layer, black fill layer, yellow clay) that contained traces of wooden structures to retain the soil (Rammo *et al.* 2004, Fig. 4) was transported to its sides.

It is possible that the yellowish red soil was heaped at the same time with the grey/black/yellow fill layer to the slopes of the hill. The existence of some kind of a barrier between two fill layers can be assumed - the line between the fill layers was almost vertical (Fig. 1: 4, 11). Devonian sand mixed with gravel was on the hilltop (Fig. 1: 2), and the slopes were covered with an erosion layer (brown and red soil (Fig. 1: 1a, 1b).

FINDS FROM THE FILL LAYER

The layers of sand yielded relatively few finds, but the grey/black/yellow fill layer was rich in finds. The earlier finds, including several local and imported flint flakes, blade fragments, and quartz debitage (for example :1314, 1481, 1637) are of Mesolithic age[7]. The layer was rich in pottery sherds, numbering 1280 sherds in all. The majority of the ceramics are hand-moulded and date from various periods. The earliest of the ceramic fragments is probably a textile-impressed sherd that most likely dates to Pre-Roman Iron Age (:1700)[8]. Striated surface ceramics (for example :1113, 1251), and sherds similar to striated ceramics but with more vague striae and textile-imprints (:1208, 1288) are also present. Rim sherds of Rõuge type clay vessels (with small holes at the rim), and Viking Age fine ceramics (smooth-surfaced ceramics) constitute a considerable number of the finds. The layer also yielded some sherds of wheelmade pottery that date to the end of the Late Iron Age (AD 1050–1200/50; only 123 wave and line ornamented sherds). The concentration of wheelmade pottery sherds was highest in the lower parts of the fill layer that was directly on the brown cultural layer.

Mostly obscure fragments of iron and bronze artefacts represent the metal finds. A spiral ring (:1154–1156), pieces of chain (:1333), an almost intact bracelet (:1901), a trapeze pendant (:1951), and a small bronze bead (:2000) are some jewelry finds worth mentioning; about two dozen pieces of slag suggest iron processing. The fill layer yielded three beaver heel pendants (Fig. 4) in addition to the one found from the black layer. The inclusion of the disturbed Viking Age cultural layer can be clearly distinguished in the grey/black/yellow fill layer. In addition to the above pendants, the abundance of hand-moulded ceramics (including the fine ceramics of the relevant period), and a relatively high proportion of beaver bone finds (15.94%) indicate the Viking Age. It is quite probable that the soil originates partly from

Fig. 5. Stone pile and the brown layer, the stallion's skull in the upper right corner.
Joon. 5. Kivilade ja pruun kiht, hobuse kolju üleval paremas nurgas.

[7] Identification by Aivar Kriiska (TÜ).

[8] Identification by Valter Lang (TÜ).

the depression dug between Musumägi Hill and Pähklimägi Hill, where today the top humus layer is directly deposited on the undisturbed soil.

The abundance of beaver bones, and the presence of beaver heel bone pendants is typical of the Viking Age hill-forts of south-east Estonia. Five such pendants have been found from Rõuge hill-fort, several from the earlier stratification of the Tartu stronghold and Unipiha hill-fort, as well as from the Kivivare settlement site (Leimus & Kiudsoo 2004, 42). Two pendants were unearthed from Vooru stronghold in southern Estonia. Four such pieces of ornaments were recovered from the area of only 25 m^2 at Musumägi Hill[9] in Viljandi, although three of them were recovered from a two metre thick fill layer. For comparison, it can be mentioned that three similar finds were unearthed from Rõuge hill-fort, with the reservation that in 1951–1955 the hill-fort (an area of 850 m^2) was almost entirely archaeologically excavated (Jaanits *et al.* 1982, 257). The finds suggest that in the area of Musumägi Hill beaver was not only eaten, but its fur was also traded. Moreover, the area might have been a trade centre at that time. A beaver pendant was probably not valued only for esthetic reasons, but also somehow indicated the wearer's religious beliefs, giving supernatural powers to the beaver.

New archaeological information from the top layers of erosion and soil (Fig. 1: 1a, 1b) is minimal. A crossbow bolt (:3160), which was recovered during the cleaning of the eastern profile from the brown soil (Fig. 1: 1a), is a noteworthy find. The find is of a type similar to the crossbow bolt unearthed in 2003 (Rammo *et al.* 2004, 103; Fig. 9: 7); the find locations were also quite near to each other, only 0.5 metres apart. A small fragment of a bracteate (:3160), recovered from the mixture of brown and red soil of the eastern plots' western profile, was the first Middle Age find. Ivar Leimus estimated that it probably dates from the 16th century.

A high proportion of wild animal bones was characteristic of the grey/black/yellow fill layer (in addition to beaver, elk bones accounted for 12.35%). Five bone fragments of wild cattle were also present in the mixed fill layer. For comparison, the bone analysis of Pähklimägi Hill (Saks & Valk 2002, 56, Table) showed that the bones of goat/sheep (31.06%), cow (31.7%), and pig (19.1%) were dominant; wild animal bones (beaver 2.08%, and elk 0.69%) were relatively rare.

[9] It must be noted that the cultural layer was in some places more than 4 m thick.

TREBUCHET FOUNDATION?

The brown layer suggests the presence of human activity on the hill in the Late Iron Age (1050–1200/50), with finds typical of the Middle Ages generally absent. Thus, it can be assumed that the earthwork took place some time at the end of the Late Iron Age, presumably at the beginning of the 13th century. The current research data shows that most probably Heiki Valk's hypothesis that the hill may have been elevated to accommodate a trebuchet is correct. In that case the trebuchet foundation could have formed a part of a wide-scale siege system that could be related to the 1223 August events in Viljandi, described in the *Henrici Chronicon Livoniae* (HCL XXVII, 2). The fact that Pähklimägi Hill, located directly to the east of Musumägi Hill, was also artificially raised supports the above hypothesis (for more information see Valk 2000a; 2001; 2003).

Still a number of questions remain unsolved. First of all, the character and the finds of the two elevated hills – Musumägi and Pähklimägi – are quite different. The transported soil of Pähklimägi Hill contained a large number of stones, while they were absent in the top layers of Musumägi Hill. The transported layer of Pähklimägi Hill revealed 41 crossbow bolts (Valk 2001, 67–68), but Musumägi Hill yielded only 2 such finds. Ain Mäesalu believes that the crossbow bolts unearthed on Musumägi Hill represent a later type, and the possibility that crossbows were used in the area after the siege of 1223 cannot be ruled out. The earlier date of the bolts also cannot be precluded (Rammo *et al.* 2004, 103). A possible explanation for the low number of bolts can be that the hill was elevated at night when the defenders were unable to fire bolts or throw stones at the stronghold [11].

The rest of the finds are also of a different character. The cultural layer transported to Musumägi Hill yielded a considerably larger number of finds and animal bones of earlier date than Pähklimägi Hill. The complete absence of pieces of brick that were widespread at Pähklimägi Hill (Valk 2001, 70) is striking.

Taking into consideration the above differences, it is possible that the time and reason for elevating Musumägi and Pähklimägi Hill were different. Presuming that a trebuchet foundation has never been located on Musumägi Hill, unlike the adjacent hillock, it is most unlikely that the hillock existed already at the time of the 1223 siege. It would also be illogical to elevate a hill, located in the vicinity of the Teutonic castle, after the conquest. Can it be that the earthwork took place some time later, for example at the end of the Middle Ages, and no traces of archaeological material were left behind? The only traces from that period are an obscure

[11] Heiki Valk orally to the authors.

fragmented *bracteate* that could have been lost at a later time, and wood remains from Pähklimägi Hill that probably date from the Livonian War or the Swedish-Polish War (Valk 2000a, 48). Still the question remains – why such a high hillock?

SUMMARY

Three phases that date from different periods and have a different character, can be clearly distinguished in the cultural layer of Musumägi Hill. First, a Viking Age cultural layer was deposited on the hill. The layer could be the result of the activities of one household, or part of a destroyed hillfort. Probably the inhabitants of the area then hunted intensively for beaver and traded its fur. It is likely that at the end of the settlement phase a fire (broke out) occurred in the studied area, and the function of the site probably changed too. Second, a sand layer was transported to Musumägi Hill; an area encircled by a stone construction, containing a brown layer that yielded interesting finds, was deposited directly on the sand layer. The preliminary excavation results are not sufficient to explain the origin or the function of the archaeological complex. It may be assumed that the complex used to be a place for sacrificial or cult activities. Third, Musumägi Hill was artificially elevated. The transported fill contained a mixture of virgin soil, a cultural layer, and various sand layers. The rich finds suggest that the adjacent area was settled already from the Middle Iron Age till the beginning of the Middle Ages. The precise origin of the different deposits is unclear; taking into account the large scale of the earthwork, the soil must have been taken from some place nearby. One of the hypotheses is that a trebuchet was located on the elevated hill during the 1223 August siege. The possibility that the hill was elevated some time later cannot be ruled out.

To sum up, the present stage of the archaeological study of Musumägi Hill has raised several questions that need to be solved. How the different settlement phases fit in the overall settlement framework of prehistoric Viljandi is unclear. The hillocks 100–150 m south of the Order Castle and the archaeological material recovered from there need to be thoroughly analysed to gain a better understanding of the area.

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ARHEOLOOGILISED KAEVAMISED VILJANDI MUSUMÄEL

Riina RAMMO and Martti VELDI

2004. aasta suvel jätkusid Viljandi linna rahastamisel eelmisel aastal alanud arheoloogilised kaevamised Musumäel, mille käigus lõpetati mõlemad pooleli olevad kaevandi (leiud ViM 10952: 1078-3292) - künka järsul lõunanõlval väike põhja-lõunasuunaline tranšee (Lõunakaevand, 6 m²) ja laugemal idaküljel Idakaevand (19 m²). Käesoleva artikli eesmärk on anda ülevaade 2004. aasta kaevamistest ning analüüsida muistise erinevaid tõlgendamisvõimalusi. Musumägi osutus oodatust palju mitmekihilisemaks ning loodusliku moreenpõhjani jõuti kaevandite mäelaepoolsetes otstes alles 3,5 m sügavusel tänapäevasest maapinnast. Looduslik pinnas moodustas suhteliselt horisontaalse ning tunduvalt suurema ja tasasema platoo kui nüüdisaegse Musumäe lagi (kuni 8 x 6 m) (joon.1: 15; 3).

Vahetult puutumata pinnasele ladestus ühtlane (kuni 35 cm paksune) must kultuurkiht, mis kattis ilmselt kogu toonast platood ning sisaldas rohkelt põlenud kive ja kivipurdu (joon. 1: 14). Mõlema kaevandi mäelaepoolsetes otstes leidus kihi pealispinnal tukke, mis annavad tunnistust tules hävinud puitkonstruktsioonidest. Musta kultuurkihi võib leidude põhjal dateerida viikingiaega (kokkuleppeliselt 800–1050 p.Kr.). Kokku leiti 451 savinõukildu, millest suurema osa moodustasid väikesed ja kulunud käsikeraamika fragmendid. Luuleidudest olid kõige enam esindatud liikideks kits/lammas (52,4%), samal ajal kui teistest koduloomadest esines vähesel määral sea, veise ja hobuse luid (vastavalt 5,7%, 7,6% ja 2,9%). See-eest kuulus tervelt 20% luid koprale.

Vahetult musta kihi peal paljandus kuni 0,5 m paksune punakas liivakiht, mille sees võis segatuse astme järgi eristada alakihte (joon. 1: 13a, 13b). Nähtavasti kuhjati liiva esmalt mäe keskele, kus see moodustas kõrgema künka. Tukkide ümbruses oli liiv kuumuse mõjul muutunud valkjaks ning klaasjaks – ilmselt toodi liiv veel hõõguvatele tukkidele. Seejärel tasandati servaalasid ja ülejäänud platood. Kultuurkihiga segunenud liivakihi äärealadelt saadi vaid vähesel määral keraamikat ning loomaluid. Liivakuhjatise peale ladestus järgmisena pruun kiht (joon. 1: 10), mis seostus kivikonstruktsiooniga.

Eelmisel suvel Lõunakaevandis pruuni kihi seest avastatud 1,3–1,4 m laiune "kivivall" jätkus suurema kaevandi edelanurgas, kus see peagi lõppes. Edasi kulges läbi Idakaevandi kirde-edelasuunaline märksa ebaühtlasem ja korratum kivilade, mis oma mõõtmetelt jäi "valliga" enam-vähem samaks (laius kuni 1,5 ja kõrgus umbes 0,5 m) ning järgis praeguse Musumäe nõlva (joon. 2; 5). Kivilade seostus selgelt just eelpool mainitud pruuni kihiga ning piiras seda. Kõige intensiivsemal kujul leidus pruuni kihti kivivarest läänes, s.t mäe südamiku pool, kus kihi paksus jõudis kohati isegi 30 sentimeetrini. Kivivare vahel muutus pinnas sujuvalt pruuniks mullaks, mis ei sisaldanud enam sellisel määral leide. Leiumaterjali poolest oli vaid umbes 10 ruutmeetri ulatuses esinenud ladestus tunduvalt rikkalikum eelmisest kihist. Pruunist kultuurkihist saadud 481 savinõukillu hulgas leidus nii kedral (umbes 75%) kui ka käsitsi valmistatud keraamika kilde (umbes 25%). Mainimisväärne on kõrge kiilapinnaliste savinõukildude arv (29 kildu) ning veel kõrgem kedral valmistatud joonornamendiga kildude arv (139 kildu). Tunduvalt enam kui mustast kihist leiti siit ka ehete ning tarbeesemete katkeid.

Huvitavad olid pruuni kihi luuleiud, mille hulgas oli metsloomaluid tunduvalt vähem kui eelnevas kihis (põder 0,8%; kobras 5,7%). Ülekaalukalt domineeris siga (52,9%) ning talle järgnesid kitse-/lamba- (25,2%), linnu- (8,1%) ja veiseluud (6,5%). See-eest sisaldas pruun kiht silmatorkavalt palju kalaluid ja -soomuseid. Luuleidudest väärib tähelepanu 15-aastase täku kolju ja vastsündinud põrsas. Söömiseks oli esimene liiga vana ning ka vastsündinud põrsas on rohkem sümboolse tähendusega. Kõik see võib viidata võimalusele ohvri- või kultuskoha olemasolule, ent ülejäänud leiud seda ei kinnita.

Viimase järguna on Musumäge kunstlikult tunduvalt kõrgendatud ning mäelael võib täitekihi paksus ulatuda isegi kuni 4 meetrini. Rikkaliku leiumaterjali andis hall/must/kollane täitekiht. Varasemad leiud, mille hulka kuuluvad kohalikust ja imporditud tulekivist killud, laastukatked ning kvartsi töötlemisjäägid, pärinevad juba keskmisest kiviajast.

Eriti rohkelt oli keraamikat, kokku 1280 kildu. Valdav enamik keraamikast on valmistatud käsitsi ning pärineb erinevatest perioodidest. Keraamikakatketest varaseim on ilmselt üks tekstiilkeraamikakild,

mis võib kuuluda eelrooma rauaaega. Leidude hulgas esineb riibitud keraamikat, ka aukudega nõu ülaservas ning riibitud keraamikale sarnanevaid, kuid ebamäärasemate riibete ja tekstiilijäljenditega kilde. Rohkelt on leidude seas nn rõuge tüüpi savinõude servakilde (augukestega serva all) ning viikingiaegset peenkeraamikat (kiilapinnalist, nivendiga). Samuti leiti siit lisaks mustast kihist saadud kopra kannaluust ripatsile veel kolm samalaadset eksemplari (joon. 4).

Viikingiaegse kultuurkihi sisaldus on hall/must/kollase täitekihi sees selgelt äratuntav. Lisaks eelpoolmainitud ripatsitele viitab viikingiajale rohke käsikeraamika (sh vastavasse perioodi dateeritud peenkeraamika) esinemine ja suhteliselt kõrge kopraluude osakaal (15,9%) osteoloogilises materjalis. Võimalik, et see pinnas pärinebki osalt Musumäe ja Pähklimäe vahele kaevatud süvendist, kus tänapäeval on vahetult pealmise huumuskihi all looduslik pinnas. Hall/must/kollast täitekihti iseloomustab taas kõrge metsloomaluude osakaal, mis moodustas praktiliselt kolmandiku kogu kihi luuleidudest (lisaks koprale oli põdraluid 12,4%). Segatud täitekihist pärinevad ka viis tarva luufragmenti. Metsloomade luud (sh. tarvaluud) viitavad varastele asustusperioodidele. Võrdlusmomendiks võib tuua Pähklimäelt saadud luude analüüsi (Saks & Valk 2002, 56, tabel), kus rõhuv osa luudest kuulus kitsele/lambale (31,1%), veisele (31,7%) ning seale (19,1%). Metsloomaluid – kopra- (2,1%) ja põdraluid (0,7%) – oli silmatorkavalt vähem.

Pruun kiht annab tunnistust inimtegevusest mäel veel hilisrauaajal, samas kui keskajale iseloomulik leiumaterjal üldiselt puudub. Praeguse uurimisseisu juures võib tõenäoliseks seletuseks mäe kõrgendamise kohta pidada Heiki Valgu poolt välja pakutud oletust, et tegu on kiviheitemasina platvormiga. Kunstlikult on kõrgendatud ka Musumäest vahetult idas asuvat Pähklimäge. Sellisel juhul moodustaksid Musumägi ja Pähklimägi osa laiaulatuslikumast piiramissüsteemist, mida võib seostada Läti Henriku kroonikast pärineva kirjeldusega 1223. aasta augustisündmustest Viljandis. Vaadeldes Musumäe ja Pähklimäe kuhjatiste erinevat iseloomu, tasub kaaluda ka võimalust, et mullatööd Musumäel on aset leidnud hiljem.