Development of the town Viljandi in light of the studies at Lossi Street

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INTRODUCTION

In autumn 2014 archaeological excavations took place at Lossi street in Viljandi old town, conditioned by the renovation and construction of water and sewage pipelines. The study area covered a street section between Kauba street and Varese Bridge leading from the south end of the town to the castle, also east of Varese Bridge on the territory of the moat (see Fig. 1). The trench for the pipes, measuring 1.2–1.8 m in width and 2–2.2 m deep (occasionally up to 3.5 m near Varese Bridge) reached the layer of natural sandy loam at Lossi street, allowing archaeologists to study the layers connected with human activities from the oldest layers until the present day. On the territory of the moat mostly Early Modern and Modern Times debris and fill layers were documented, the virgin soil in the bottom of the moat was not reached. In total *ca*. 365 m of trenches were studied, including archaeological excavations at the length of *ca*. 130 m, since in places new rainwater and water pipelines were planned to areas previously not excavated. Archaeological studies were commissioned by OÜ Taskar and carried out by archaeologist Eero Heinloo from MTÜ AEG. Finds collected during the studies are handed over to the Museum of Viljandi (collection number VM 11473).

EARLIER STUDIES AT LOSSI STREET

Previous knowledge about the cultural layer at Lossi street was rather modest due to minimal archaeological surveillance at this street section in Viljandi old town. Most of the water and sewage pipelines that were to be renovated now have been installed in the beginning of the 20th century (Haak & Russow 2013, 63), when archaeological surveillance in the modern sense was not required. Yet it was documented then that up to three cobble pavement levels had survived at Lossi street (Haak 2003, 79). Even four cobble pavement levels were distinguished during the 1992 studies at the area near the Tartu Gate, conducted by archaeologist Heiki Valk (Haak 2003, 80). In 1995 electric cables were installed at Lossi street, but since the trench was only up to 50 cm deep, archaeological surveillance conducted by Aare Kodar was limited to monitoring the trench.[1] However, cobble pavement was observed at Lossi Street 2 that lay directly on top of the 13th century cultural layer (Haak 2003, 80).

In spite of the fact that earlier excavations have contributed only modest information about Lossi street, it is obvious that the street played an important role, as testified by

[1] Information from Arvi Haak (AI).

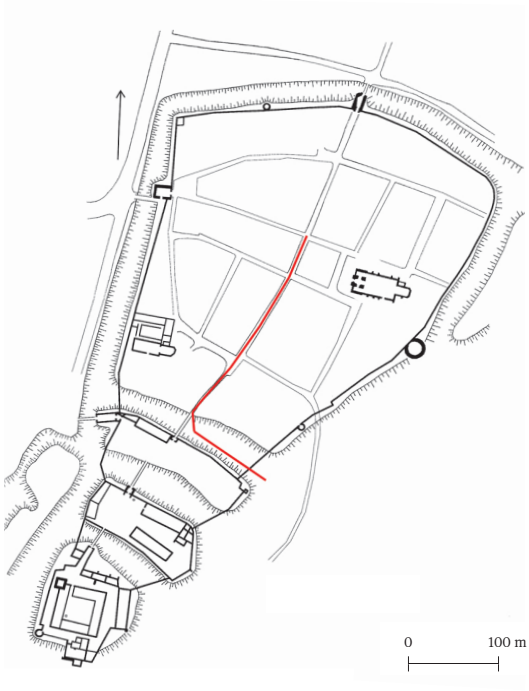

Fig. 1. *Site plan of pipelines and trenches at Lossi street.*
Jn 1. *Lossi tänavale rajatud trasside ja kaevandite asendiplaan.*
Drawing / Joonis: Eero Heinloo

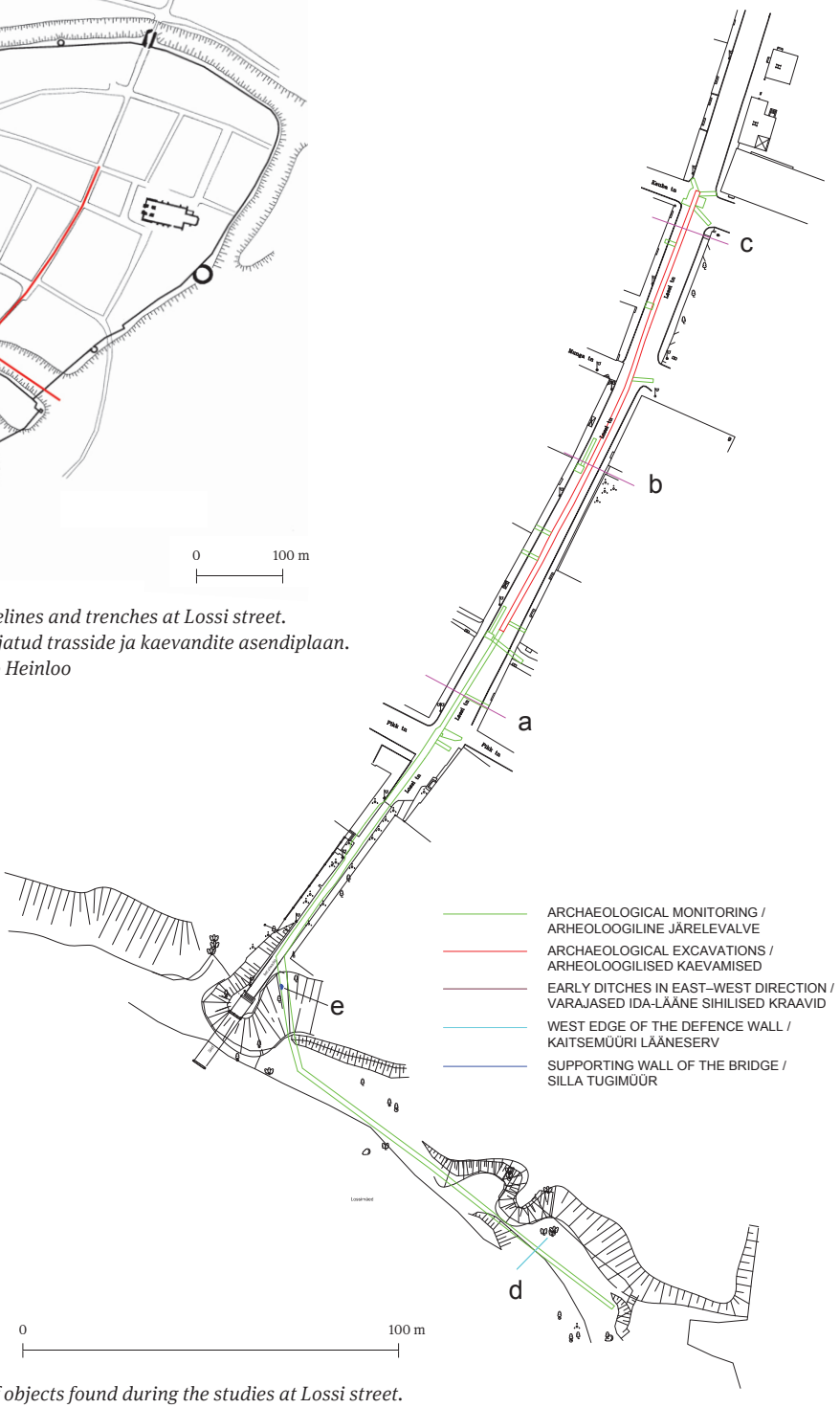

Fig. 2. *General plan of objects found during the studies at Lossi street.*
Jn 2. *Lossi tänava uuringutelt leitud objektide üldplaan.*
Drawing / Joonis: Eero Heinloo

archaeological studies carried out at neighbouring plots (e.g. in the courtyard at the Museum of Viljandi, by the former cinema 'Rubiin' at Lossi Street 25 and in the area by the Tartu Gate) (see Haak & Russow 2013), where a significant part of older find material of the Viljandi old town have been discovered.

STUDIES AT LOSSI STREET IN 2014

The uppermost geological layer at Lossi street is yellowish-beige sandy loam, with a 10–15 cm thick distinctive darker part on the upper verge; in the southern part the darker section being up to 20 cm in thickness. This darker section features the soil layer of natural plants with no traces of human activities. An exception was the street section south of the crossing of Lossi and Pikk streets, where the (soft) humus layer contained small brick and charcoal fragments; also one fragment of wheel-thrown pottery was discovered. In this section soil reflected clear traces of human activity, giving us reason to believe that the area was used as a field (although no traces of ploughing were documented in the natural loam).

The studied Lossi street section is naturally slightly sloping, the absolute height of the upper edge of virgin soil at Varese Bridge being 82.60 m and at the crossing of Lossi and Kauba streets 83.07 m, the ascent in 230 metres thus being merely 47 cm. Yet it is not a smooth northward rise, but rather with slight occasional ascents and falls. The highest points are located in the central part of the street section between Pikk and Munga streets and in the crossing of the Lossi and Kauba streets, while the somewhat lower areas[2] remain by the crossing of Munga and Lossi streets. The trench at the crossing of Pikk and Lossi streets revealed a shallow north-south directional natural furrow, which for the most part remained outside of the trench to the west.

The earliest permanent settlement at the Lossi street area is suggested by the dark sandy soil on top of natural soil, documented in the area between buildings at Lossi Street 3 and 4 up to the crossing of Kauba and Lossi streets. The thickness of the layer was modest, between 2–7 cm, being slightly more intense in the vicinity of the crossing of Lossi and Munga streets. The layer drops occasionally 20–70 cm into the (drainage) trenches in the ground that may also mark the former plot borders. In total three almost east-west directional ditches were distinguished in the studied area, erected with parallel *ca*. 70 m wide intervals (see Fig. 2: a–c). The ditch documented between the buildings at Lossi Street 3 and 4 (Fig. 2: a) was remarkable because it indicated the southern border of the earliest cultural layer. South of the ditch brownish loam with little organics could be observed instead of darker soil, which may rather be connected with a field or a garden layer. Hence field cultivation was continued in the area between the moat and the settlement after the early permanent settlement emerged. In addition to east-west directional ditches also early north-south directional ditches could be documented in the pit or at the sides of the pit. The finds collected from the dark soil included in addition to local wheel-thrown pottery also fragments of Siegburg proto-stoneware that allow to date the layer to the mid or third quarter of the 13th century.

A beige layer of sandy loam was distributed directly over the early cultural layer along almost the entire Lossi street, on top of which as a rule there was a pavement level that consisted of small limestone pieces, but also included some slag and pieces of brick. South of the crossing of Lossi and Pikk streets the beige sandy loam and pavement level could be distinguished as a fine 2–3 cm wide line in the sections, north of the crossing the thickness of

[2] Natural ground at the crossing of Munga and Lossi streets merely descends to absolute height 82.70 m.

Fig. 3. *Beige planning layer indicates the earliest street level.*
Jn 3. *Varaseimale tänavatasandile viitav beež planeeringukiht.*
Photo / Foto: Eero Heinloo

Fig. 4. *Hollows filled with sand refer to timber pavements.*
Jn 4. *Puitsillutistele viitavad liivaga täitunud süvendid.*
Photo / Foto: Eero Heinloo

the pavement layer varied. In the pit area and east of it the layer was 5–10 cm thick, over the natural furrow and in the west part of Lossi street the planning layer could be 20–25 cm in thickness (see Fig. 3). The planning layer and the pavement level on top of it are the earliest street level distinguished in the Lossi street area. The Siegburg proto- and early stoneware fragments discovered from the pavement layer and from the connected depositions date the foundation and use of the street to the 1270s or 1280s.

The early street level marked by the pavement layer and deposits connected with its usage were covered by a layer of dark grey sandy soil containing little organics. The layer was 15–20 cm

Table 1. *Imported ceramics from Lossi street.*
Tabel 1. *Lossi tänavalt leitud importkeraamika.*
Compiled by / Koostaja: Eero Heinloo

No. / Nr	Group / Rühm	Code / Kood	Sherds / Arv	Dating / Dateering
1	Proto-stoneware / Protokivikeraamika	PROTO	2	13a-c
2	Siegburg proto-stoneware / Siegburgi protokivikeraamika	SIEG1	10	13a-c
3	Grayware / Hallid savinõud	HSN	2	13B15a
4	South Lower Saxon yellow near-stoneware / Lõuna-Alam-Saksi kollane varakivikeraamika	LASX1	2	13B
5	Siegburg near-stoneware / Siegburgi varakivikeraamika	SIEG2	7	13d14a
6	South Lower Saxon gray near-stoneware and stoneware / Lõuna-Alam-Saksi hall varakivi- ja kivikeraamika	LASX2	42	13d14a
7	Langerwehe near-stoneware / Langerwehe varakivikeraamika	LANG1	2	13d14a
8	Siegburg near stoneware with inclusions / Siegburgi lisanditega kivikeraamika	SIEG3 lisanditega	3	13d14algus
9	Siegburg stoneware / Siegburgi kivikeraamika	SIEG3a	11	14a-d
10	Langerwehe stoneware / Langerwehe kivikeraamika	LANG2	2	14a-d
11	South Lower Saxon gray stoneware / Lõuna-Alam-Saksi hall kivikeraamika	LASX3	3	14a15a
12	Siegburg stoneware with ash glaze / Siegburgi lõõmutusega kivikeraamika	SIEG3b	1	14d16A
13	Waldenburg stoneware / Waldenburgi hiline kivikeraamika	WALD2	1	16B17a
14	Frechen stoneware / Frecheni kivikeraamika	FRECH2	2	17a-d
15	Stoneware mineral water bottle / Kivikeraamiline mineraalveepudel	-	2	18B19B
			92 in total	

thick, in ditches up to 35 cm. The dark grey soil is associated with timber paving in Lossi street. The logs of the timber paving have not survived (or may have been removed from the street area[3]), their former existence is indicated by stripes of decayed timber and hollows filled with sand (see Fig. 4). In total the study differentiated at least two levels of timber paving, the finds collected (Table 1: 6, 8) date the earliest level to the last decades of the 13th century and beginning of the 14th century, the later level was in use mainly in the first quarter of the 14th century (Table 1: 6, 9, 10). At the same time occasional stripes of rotten timber could be distinguished in the lower substrata of the dark grey soil, it is therefore possible that also a third and even earlier timber pavement existed in Lossi street.[4] Also a number of (drainage) trenches running in the direction of Lossi street originate from the period of timber pavement. The trenches may mark the east fringe of the paved street; it is therefore possible that the former street was located west of the central axis of the present Lossi street. It is significant that new trenches have been dredged over the previous trenches, thus testifying of lasting plot borders.

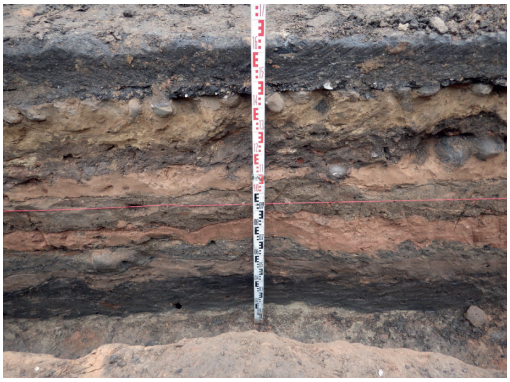

Fig. 5. *Beddings of red sand refer to three cobblestone pavements from different periods.*
Jn 5. *Kolmele eriaegsele kivisillutisele viitavad punased liivapadjandid.*
Photo / Foto: Eero Heinloo

Timber pavements were abandoned in Lossi street in the second quarter of the 14th century at the latest and replaced by cobblestone pavement. In total three layers of bedding of red sand (see Fig. 5) that refer to medieval cobble pavements were documented in the studied Lossi street, even if sometimes it was impossible to distinguish intermediate layers and the bedding layers from different periods were observable as a uniform, up to 60 cm thick sandy layer. Only in the later bedding, paving stones have survived until the present day. Traces of the earliest cobblestone pavement may be observed from the crossing of the Lossi and Kauba streets until the line between the buildings at Lossi Street 9 and 7. From there the bedding of sand referring to cobblestone pavement has been shoved off, instead deposits characteristic to planning and filling the ground preceding the construction of the second cobblestone pavement could be distinguished. However, considering that both earlier and later street levels reached Varese Bridge, it is possible that also the earliest cobblestone pavement extended until the bridge over the moat. Similarly to the earliest cobblestone pavements, it was not possible to observe the later pavement in the entire length of the studied section of the Lossi street. It was absent starting from the buildings at Lossi Street 7 and 9 up to the crossing of the Lossi and Pikk streets. The reason may be the slight natural ascent of the ground in this section, due to which the cobblestones and sand from the bedding of the pavement may have been removed at later stages.

Find material from the darker strata separating the sandy bolsters (Table 1: 11) suggests that the second cobble pavement was constructed in the turn of the 14th/15th centuries, the later

[3] Logs removed from the street area and thrown to fill drainage trenches have been documented in Munga street (Valk 1990, 15–16).
[4] In case this earlier timber paving existed, it should according to stratigraphy originate from the 1280s.

Fig. 6. *Cannon balls discovered from the moat area.*
Jn 6. *Vallikraavi alalt leitud kahurikuulid.*
Photo / Foto: Eero Heinloo

Fig. 7. *Remains of the support wall of the bridge over the moat.*
Jn 7. *Vallikraavi ületanud silla tugimüüri säilmed.*
Photo / Foto: Eero Heinloo

cobble pavement probably in the first half of the 16th century.[5] The later cobble paving that was in use during the Livonian War (1558–83) and the Polish-Swedish wars (1600–1622/23), lost its function not earlier than mid-17th century,[6] when general recession took place in the destroyed town. In the area around Laidoneri Square cobble pavement was generally covered with rubbishy and earthy debris, brought to the street as filling. Sandy planning layers that suggest newer cobble pavements were dated to the end of the 18th century or 19th century, the cobble pavement underneath asphalt was laid only in the 1910/20s, directly after the construction of the first water and sewage pipelines (see Haak & Russow 2013, 63).

In addition to the pipes at Lossi street, new sewage and rainwater pipelines were installed to the bottom and slopes of the moat (see Fig. 2). Mainly Early Modern and Modern Period crumbling and fill layers were documented in the trench in the bottom of the moat, which was up to 2.2 m deep towards Varese Bridge and in the eastern end only 90 cm deep. The bottom of the trench revealed fieldstones that had fallen from the north wall of the third outer bailey, but also a complete (diameter 40 cm) and another broken cannonball (see Fig. 6). On the basis of the measurements of the cannonballs and the pottery fragments from the fill layer directly on top the crumbling layer (see Table 1: 14) the collapse may be associated with the Polish-Swedish wars in the first quarter of the 17th century. The crumbling layer was covered by Modern Times filling and layers of soil washed down from the slopes by rain.

Also two stone structures were documented in the moat area. In the eastern side of the moat a stone structure crossing the moat was unearthed, marking the remains of the defence wall that linked the town with the castle (see Fig. 2: d). The western brim of the wall could be marked; the eastern brim remained, however, unclear due to fallen fieldstones. On the slope by Varese Bridge (see Fig. 2: e) the north-eastern corner of a stone construction came to light, probably indicating the supporting wall of the timber bridge across the moat (see Fig. 7). The supporting wall consisted in a footing in the height of one stone line with field stones on top, survived in the height of *ca*. 120 cm. The corner of the wall was covered by a layer, prior to which the slopes of the moat had been extensively re-shaped, when also the above-ground

[5] The stratum below the third cobble pavement was characterized by annealed Siegburg stoneware (SIEG3b) and fragments of glazed redware (PGLK2).
[6] Fragments of clay pipes were collected between paving stones.

remains were demolished. On the basis of the finds the re-structuring work of the moat may have taken place during the 16th/17th centuries, hence the discovered supporting wall is most probably a medieval construction. Unfortunately no datable finds could be obtained from the trench dug for constructing the wall that would allow dating the construction time.

Fig. 8. *Siegburg proto-stoneware refers to the earliest settlement at Lossi street.*
Jn 8. *Lossi tänava varaseimale püsiasustusele viitav Siegburgi protokivikeraamika.*
Photo / Foto: Eero Heinloo

FINDS

The majority of the finds is formed by pottery. In addition to local wheel-thrown pottery also a significant number of imported ceramics were found (see Fig. 8), incl. Siegburg proto-, early stoneware and stoneware, and early stoneware and stoneware from South Lower Saxony and Langerwehe. In total 92 fragments of imported ceramics were collected (see Table 1), the majority (83 fragments) dated from the mid-13th century to the second quarter of the 14th century. Occasional metal objects (e.g. construction and ice studs, horseshoes and -studs, a couple of knives, a crossbow arrowhead) were discovered in addition to ceramics. Noteworthy finds were bone processing residues that may refer to a bone workshop by the medieval market place.

CONCEPTIONS ABOUT THE EARLY SETTLEMENT OF VILJANDI

Previous archaeological studies in the old town area of Viljandi have associated the earliest cultural layers that have been affected by human activities already with pre-history. At the same time it is thought that at the end of the Iron Age the territory of the old town was in use rather as arable land and no permanent settlement existed (see e.g. Valk 2005, 99; Tvauri 2001a, 106; Haak 2005, 22). The earliest traces of permanent settlement date presumably from the second quarter of the 13th century, yet more intense activities began only from the mid 13th century (Haak & Russow 2013, 73). Opinions of researchers differ about the original core of the town: some suggest it was in the area of St John's Church (Valk 1993, 222), others

are of the opinion the core was in the part of the old town north from the medieval market square (Haak & Russow 2013, 76–77). It has also been suggested that two independent from each other settlement areas may have existed, which merged together in the second half of the 13th century (Haak & Russow 2013, 74). Erecting the town wall set physical boundaries to the town, which served as a basis for determining the street plan by the mid 14th century at the latest.[7]

Archaeological studies at Lossi street showed that traces referring to human activities were absent in the natural soil underneath the layers associated with permanent settlement – except for the area south of the crossing of the Lossi and Pikk streets towards the moat, which was in use as arable land. This area can be associated with the discovered fields in the surroundings of St John's Church (see Valk 2005, 99; Tvauri 2001a, 106), but the present studies found no proof of the existence of prehistoric fields. Moreover, so far traces referring to an ancient settlement have been found only south of the pre-historic hill fort (see Valk 2005, 99–101). Hence the discovered fields may rather be connected with post-conquest time farming, meeting the needs of the inhabitants engaged in the building of the fort.

Finds from Lossi street suggest that layers referring to the earliest permanent settlement in Lossi street may be associated with the previously known depositions connected with the earliest permanent settlement in Viljandi. Studies demonstrated that the earliest deposition that can be connected with permanent settlement has reached from the crossing of Lossi and Kauba streets up to the area between buildings at Lossi Street 3 and 4. A significant feature is the regularity of almost east-west oriented border ditches, connected with the early cultural layer. This refers, at least partly, to conscious planning of the territory, i.e. dividing the area into plots. The southernmost ditch (Fig. 2: a) marks also the southern border of the early permanent settlement. Therefore the early permanent settlement should not be regarded as detached settlement sites, but rather as a unity that extended from the north-south directional natural depression at the northern border of the old town to the territory between the building at Lossi Street 3 and 4.[8] Still, the early cultural layer differed in thickness, and it is therefore probable that the early settlement had core area(s). In the context of the studies of the Lossi street area adjacent areas to the crossing of the Lossi and Munga streets stood out, where the cultural layer was slightly more intensive than elsewhere. Unfortunately the studies of the Lossi street could not determine where the connection between the settlement and the castle was. However, presumably it did not take place at the line of the Lossi street, because there was no bridge connecting the settlement with the outer bailey, and also early medieval fields continued to be cultivated in the area between the south border of the settlement and the moat. However, it cannot be excluded that in planning the plots the location of the future bridge over the moat was already taken into account.

Dating the early cultural layer is, unfortunately, difficult due to the scarcity of find material. Considering the modest intensity of the layer and the nature of the finds, the current conclusion is that permanent settlement emerged not earlier than the mid 13th century.[9] This is indirectly supported also by the lack of early finds from the Lossi street area connected with the discovery of a potter's kiln (see Tvauri 1999; 2000) at Pikk Street 4 (see also Haak &

[7] Completing the town wall has been associated both with the beginning of the 14th century (see Tvauri 2001b, 105–107) and also the mid 14th century (see Bernotas 2013, 286–287).

[8] In recent years finds dated to the second half of the 13th century have also been discovered during the excavations of Sepa and Munga streets (VM 11458) and the Oru street area (studies in 2015 by the author of the article), which also extend the borders of the permanent settlement.

[9] From the pottery finds at Lossi street theoretically only a rim profile of a single fragment of proto-stoneware may be dated earlier than the mid 13th century (find VM 11473: 595; see Russow 2006, fig 11: 1).

Russow 2013, 73). The kiln that was originally probably built by the fields belonging to the castle remained in the periphery of the settlement after the settlement was established and developed.[10]

The planning layer (beige loam) with the rubbishing on top that covered the early cultural layer also refers to the regular formation and development of Viljandi. The planning layer marks the earliest ground level in the Lossi street area that can be distinguished as a street level. This street level also means that by 1270/80s at the latest a bridge must have existed over the natural depression at Varese Bridge and the former fields at least at the Lossi street line had lost their function. Probably also the previous connection between the settlement and the castle was abandoned during the foundation of the planning layer and communication with the castle was probably re-directed mostly to the bridge at the south end of the street. In addition to Lossi street, a stripe of beige loam has also been documented on other streets, e.g. Sepa and Munga streets (see Tvauri & Metsoja 2013, photos 26, 46–50), and also Oru street.[11] Hence the construction of streets was an activity characteristic to a large area in the old town. Yet it is also possible that the beige sandy loam used to create the planning layer was obtained from building the moat,[12] i.e. the paving of streets with sandy loam and stone rubble took place in the town parallel to digging the moat. Deepening the moat has in turn been associated with building the town wall, which is also been dated to the second half of the 13th century (see Tvauri 2001b).[13]

Direct connections with other streets can be seen also in further developments of Lossi street. Traces of timber pavements have been documented in Munga, Kauba and Väike-Turu streets (see Valk 1996, 31; Tvauri & Metsoja 2013, 6–7; Tvauri 2014, 10–13), similarities occur also in drainage trenches, first documented during archaeological research at Munga street in 1989 (see Valk 1990, 17–19). Cobblestone pavements that followed the timber ones also demonstrate common features: a large part of the old town (Sepa, Munga, Kauba, Väike-Turu streets) is characterised by three medieval stone pavements on red sandy bedding (see Valk 1997, 131; Haak & Valk 2002, 102; Haak 2003; Tvauri & Metsoja 2013, 5; 2014, 114), from which the cobbles of the latest pavement that was in use during the Livonian War and lost its function probably in the mid-17th century have as a rule survived until the present day.

The development scheme of the territory of Viljandi old town could be summarised on the basis of the studies at Lossi street as follows:

- The 1220/30s: early medieval fields are started to be cultivated in the area near St John's Church and the south end of Lossi street, meeting the needs of people living in the castle. No permanent settlement exists in the old town area.
- The 1230/40s: on the verge of the fields (plot at Pikk Street 4) a potter's kiln is built.
- The 1250/60s: plotting the area from the natural depression on the north side of the old town up to the area at Lossi Street 3 and 4 and emerging of permanent settlement. At the

[10] Finds collected from the area around St John's Church and Pikk street demonstrate that the area was taken into active use only in the end of the 13th century or beginning of the 14th century (Haak & Russow 2013, 76). Therefore it is probable that the development of Pikk street was directly connected with the erection of the town wall and Riga Gate.

[11] Studies in 2015.

[12] As an alternative explanation, the beige loam may have been obtained from digging draining ditches, yet studies at Lossi street demonstrate that the ditches connected with the planning layer were dug not prior, but after the beige loam had been bedded, which means that the loam had been brought from elsewhere.

[13] According to R. Bernotas the construction of the town wall started only in the beginning of the 14th century (Bernotas 2013, 286), yet admitting that in the case of Viljandi only approximately 50 years remain between the emerging of the early settlement and the completion of the town wall (Bernotas 2013, 287). Therefore it is more probable that erecting on the town wall started already in the 13th century and was finished at the end of the first quarter of the 14th century.

same time fields are continued to be cultivated in the area between the south end of the settlement and the moat. There is no street at the Lossi street line.
- The 1270/80s: a bridge is built over the natural depression near Varese Bridge, bringing about also the planning of Lossi street. Parallel to the planning of Lossi street also other streets are planned (e.g. Sepa, Munga, Oru), in addition also the deepening of the moat and beginning of the construction of the town wall may have occurred in the same period.
- The 1280/90s: purposeful development of the town scheme (construction of the town wall, first timber pavings).
- Beginning of the 14th century: replacing earlier timber pavings.
- The 1320s: the construction of the town wall is completed, replacing timber paving to cobblestone pavements.
- Second quarter of the 14th century – end of the 14th century/beginning of the 15th century: I stage of cobblestone pavements.
- End of the 14th century/beginning of the 15th century – first half of the 16th century: II stage of cobblestone pavements.
- First half of the 16th century – mid 17th century: construction and usage of III stage of cobblestone pavements.

SUMMARY

Archaeological studies at Lossi street in Viljandi provide a lot of new and valuable information on the intensity and development of the early settlement in Viljandi. The studies demonstrate also that extensions at Lossi street had a number of common features with developments at other streets (similar depositions, pavings, ditches, etc. stood out), which means that actions affecting the exterior of medieval Viljandi (paving the streets, digging ditches etc.) were carried out consentaneously and simultaneously. Coordinated activities are possible only in a well-organised and prosperous town with a reasonable territory, which was the case in medieval Viljandi.

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VILJANDI LINNA KUJUNEMISEST LOSSI TÄNAVA UURINGUTE VALGUSES

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Viljandi vanalinnas, Lossi tänaval toimusid 2014. a sügisel vee- ja kanalisatsioonitorustike renoveerimise ja arendamisega seoses arheoloogilised uuringud. Uuringute ala jäi Kauba tänava ja linna lõunaservast linnusesse viiva Varese silla vahelisele tänavalõigule, täiendavalt leidsid kaevetööd aset Varese sillast ida poole jääval vallikraavi alal (vt jn 1). Kokku tehti arheoloogilisi uuringuid u 365 trassimeetril, sh toimusid u 130 m pikkusel alal arheoloogilised kaevamised, kuna sadevee- ja veetorustikud olid seal kavandatud varem läbi kaevamata alale.

Lossi tänava alal moodustab loodusliku pinnakatte kollakas-beež saviliiv, mille ülapiiril eristus 10–15 cm, lõunapool kuni 20 cm paksune tumenenud osa, mis kujutab endast loodusliku taimkatte mullakihti ning milles inimtegevuse jäljed puudusid. Erandiks on Lossi ja Pika tänava ristist lõuna poole jääv tänavalõik, kus võis (pehmes) huumusekihis täheldada pisikesi telliselisandeid ja söetükke, samuti leiti kihist üksik kedrakeraamika katkend. Võib oletada, et see inimmõju seostub omaaegse põllukihiga.

Vanimale püsiasustusele viitab Lossi tänava alal loodusliku mullakihi peale jääv tume liivane pinnas, mida võis täheldada Lossi tn 3 ja 4 hoonete vaheliselt alalt alates kuni Kauba ja Lossi tänavate ristini. Kihi paksus oli tagasihoidlik, jäädes valdavalt 2–7 cm vahele. Kiht täidab ka kohati 20–70 cm sügavusele maapinda rajatud (drenaaži)kraave, mis ühtlasi võivad markeerida omaaegseid krundipiire. Kolm ida–lääne sihilist kraavi olid rajatud võrdsete, u 70 m vahedega (vt jn 2: a–c). Tähelepanuväärne on Lossi t 3 ja 4 hoonete vahel dokumenteeritud kraav (jn 2: a), mis tähistab varaseima kultuurkihi leviku lõunapiiri. Kraavist lõuna pool võis tumedama pinnase asemel täheldada vähese orgaanikasisaldusega pruunikat saviliiva, mida võiks pigem seostada põlluvõi aiakihiga. Lisaks ida–lääne sihilistele kraavidele dokumenteeriti kaevandi kohal või külgedel ka varajasi põhja–lõuna sihilisi kraave. Tumedast pinnasest saadud leidude hulgas olid lisaks kohalikule kedrakeraamikale esindatud Siegburgi protokivikeraamika killud, mille põhjal võib kihi dateerida 13. sajandi keskpaika või kolmandasse veerandisse.

Vahetult varajase kultuurkihi peale on pea terve Lossi tänava ulatuses planeeritud beežikas saviliivakiht, mille peal võis reeglina eristada prügitatud tasapinda, mis koosnes pisikestest lubjakivikestest, sisaldades kohati ka šlakki ja tellisetükke (vt jn 3). Planeerimiskiht koos prügitusega moodustab varaseima Lossi tänava alal eristatava tänavatasandi. Vahetult prügitatud tasapinna vahelt ja tasapinna kasutusega seonduvatest ladestustest saadud Siegburgi proto- ja varakivikeraamika killud dateerivad tänava rajamise ja kasutuse 1270. või 1280. aastatesse.

Varaseimat tänavatasandit markeeriva prügituskihi ja selle kasutamisega seonduvate ladestuste peale jääb tumehall vähese orgaanikasisaldusega liivane pinnas paksusega 15–20 cm, kraavides kuni 35 cm. Tumehalli pinnasega seostuvad Lossi tänava kohal paiknenud puitsillutised. Puitsillutiste palgid pole säilinud, kuid neile viitavad kihis esinevad kõdupuiduviirud ning liivaga täitunud süvendid (vt jn 4). Eristati vähemalt kaks puitsillutisetasandit, millest varasema kasutusaeg jääb leiumaterjali (jn 9: 6, 8) põhjal 13. sajandi lõpukümnenditesse ning 14. sajandi algusesse, hilisem oli kasutusel valdavalt 14. sajandi I veerandil (jn 9: 6, 9, 10). Ei saa välistada, et Lossi tänava kohal on eksisteerinud ka kolmas, veelgi varasem puitsillutisetasand. Puitsillutiste perioodist pärinevad ka mitmed Lossi tänava sihis kulgevad (drenaaži)kraavid. Uued kraavid on süvendatud varasemate kohale, andes tunnistust püsivatest krundipiiridest.

Hiljemalt 14. sajandi II veerandil on Lossi tänaval puitsillutised asendatud munakivisillutistega. Uuritavas Lossi tänava lõigus leiti kolm keskaegsele kivisillutistele viitavat punast liivapadjandit (vt jn 5). Vaid hiliseimal

liivapadjandil on sillutisekivid ka tänaseni säilinud. Liivapadjandite vahele jäävatest tumedamatest vahekihtidest saadud leiumaterjali põhjal jääb keskmise kivisillutise rajamine 14/15. sajandi vahetusse ning hiliseima kivisillutise rajamine tõenäoliselt 16. sajandi I poolde. Hiliseim kivisillutis, mida kasutati nii Liivi sõja kui Poola–Rootsi sõdade ajal, on oma funktsiooni kaotanud kõige varasemalt 17. sajandi keskpaigas, mil purustatud linnas leidis aset üldine tagasilangus. Laidoneri platsi piirkonnas kattis munakivisillutist reeglina rusune ja kivine mullakiht, mis on tänavale toodud täiteks. Uutele kivisillutistele viitavad liivased planeeringukihid jäävad Lossi tänava uuringute põhjal 18. sajandi lõppu või 19. sajandisse ning asfaldi alla jäänud kivisillutis on paigaldatud alles 1910/20. aastatel.

Uued reo- ja sadeveetorustikud paigaldati ka vallikraavi põhja ja nõlvale (vt jn 2). Vallikraavi põhja rajatud kaevises täheldati valdavalt varauus- ja uusaegseid varingu- ja täitekihte. Kaevise põhjas ilmnesid III eeslinnuse põhjamüürist alla varisenud maakivid, aga ka üks terviklik (diameetriga 40 cm) ning üks katkine kahurikuul (vt jn 6).

Vallikraavi alal dokumenteeriti ka kaks kivikonstruktsiooni. Vallikraavi idapoolses osas ilmnes kraaviga ristuv kivikonstruktsioon, mis pärineb linna ja linnust ühendanud kaitsemüürist (vt jn 2: d). Varese silla juures nõlval (vt jn 2: e) leiti looduslikku pinnasesse rajatud kivikonstruktsiooni kirdenurk, mis ilmselt tähistab vallikraavi ületanud puusilla alust tugimüüri (vt jn 7).

Leiumaterjalist moodustab valdava osa keraamika. Kohaliku kedrakeraamika katkete kõrval leiti mainimisväärsel hulgal importkeraamika katkeid (vt jn 8), sh on esindatud Siegburgi proto-, varakivi- ja kivikeraamika, Lõuna-Alam-Saksi ning Langerwehe varakivi- ja kivikeraamika. Kogutud 92st importkeraamika katkendist (vt tabel 1) valdava osa (83 katket) moodustavad 13. sajandi keskpaigast kuni 14. sajandi II veerandisse dateeritavad keraamikakillud. Keraamika kõrval võeti leidudena üles ka üksikud metallesemed (nt ehitus- ja jäänaelad, hobuserauad ja -naelad, paar nuga, üks ammunooleots) ning eraldi väärivad ära märkimist Laidoneri platsi piirkonnast leitud luutöötlemisjäägid, mis võib osutada keskaegse turuplatsi servas tegutsenud luutöömeistrile.

Lossi tänava arheoloogilised uuringud näitasid, et püsiasustusega seonduvate ladestuste alla jäänud looduslikus mullakihis inimtegevusele viitavad jäljed puudusid. Erandiks oli Lossi ja Pika tänava ristist lõuna ehk vallikraavi poole jääv ala, mis oli kasutusel põllumaana. Ilmselt seostub antud ala Jaani kiriku piirkonnas leitud põldudega. Uuringute tulemused ei luba oletada, et tegu oleks muinaspõldudega, seda enam, et seni on muinasasulale viitavaid jälgi leitud vaid muinaslinnusest lõuna pool. Seega võiksid antud põllud pigem seostuda vallutusjärgse linnusega seotud põlluharimisega.

Lossi tänava vanimad püsiasustusele viitavad kihid on leiumaterjali põhjal seostatavad Viljandi seni teadaolevate varaseimate püsiasustusega seonduvate ladestustega. Uuringud näitasid, et varaseim püsiasustusele viitav ladestus on ulatunud Lossi ja Kauba tänavate ristist kuni Lossi tn 3 ja 4 hoonete vahelise alani. Korrapäraselt paiknevad ida–lääne sihilised piirikraavid, mis seostuvad varajase kultuurkihiga, viitavad vähemalt ühe osa territooriumi teadlikule planeerimisele ehk ala kruntideks jagamisele, sealjuures markeerib lõunapoolseim kraav (jn 2: a) varajase püsiasustuse lõunapiiri. Varajase kultuurkihi dateerimine on vähese leiumaterjali tõttu keeruline, kuid arvestades kihi tagasihoidliku intensiivsust ning leiumaterjali olemust, ei saa hetkeseisus püsiasustuse algust dateerida varasemaks kui 13. sajandi keskpaik.

Viljandi linna korrapärasele kujundamisele viitab ka varajase kultuurkihi peale jääv planeeringukiht (beežikas saviliiv) ning selle pealne prügitus, mis markeerib varaseimat Lossi tänava alal eristatavat tänavapinda. Ühtlasi tähendab antud tänavapind seda, et hiljemalt 1270/80. aastateks on Varese silla juures eksisteerinud looduslikku vagumust ületanud sild ning endised põllumaad on vähemalt Lossi tänava joonel kaotanud oma funktsiooni. Lossi tänava kõrval on beeži saviliivaviirgu dokumenteeritud ka teistel – nt Sepa, Munga, Oru – tänavatel, seega on suures osas vanalinnast rajatud selliseid tänavakatteid.

Otseseid seoseid teistel tänavatel toimuvaga võib näha ka Lossi tänava edasises arengus. Nii on puitsillutistele viitavaid jälgi dokumenteeritud nii Munga, Kauba kui Väike-Turu tänavatel, samuti on drenaažikraave leitud teiste tänavatel, esmakordselt 1989. a Munga tänava arheoloogilistel uuringutel. Puitsillutistele järgnenud kivisillutiste rajamises esineb samuti ühiseid jooni. Suures osas vanalinnast (Sepa, Munga, Kauba ja Väike-Turu tänavatel) on teada kolm keskaegset punasel liivapadjandil olevat kivisillutist, millest hiliseima kivisillutise munakivid on reeglina ka tänaseni säilinud.