



Archaeological investigations in the middle room of the ‘Clergy House’ of the Teutonic Order Castle in Viljandi

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In 2023 archaeological monitoring was carried out in Viljandi, in the ruins of the castle of the Teutonic Order. The work took place in the middle room of the ‘Clergy house’ just north of the High Castle (Fig. 1) which was emptied of debris, its aim was to open and conserve the upper parts of the walls and to make the structure of the building more visible and attractive for visitors. The western room of the same building was emptied from debris in 2022 (Valk 2023).

As in the previous year, the room was cleaned of debris until the absolute height of 84.00 m a.s.l. (Fig. 2). The removed fill consisted of brick and mortar rubble and smaller fragments of granite stones. Among the debris there were also some large blocks of fallen brick walls, bound with white lime mortar.

THE WALLS

Likewise in the western room, seven openings for cellar ceiling beams (31–40 cm wide and 43 cm high) came to light in the northern wall of the middle room. Evidently, their top surface indicated the lower level of the floor planks or other beams under them. Most of the openings were framed with granite, but the easternmost was lined with bricks. As in the western room, the vault top of a cellar window framed with bricks appeared in the central part of the middle room’s north wall.

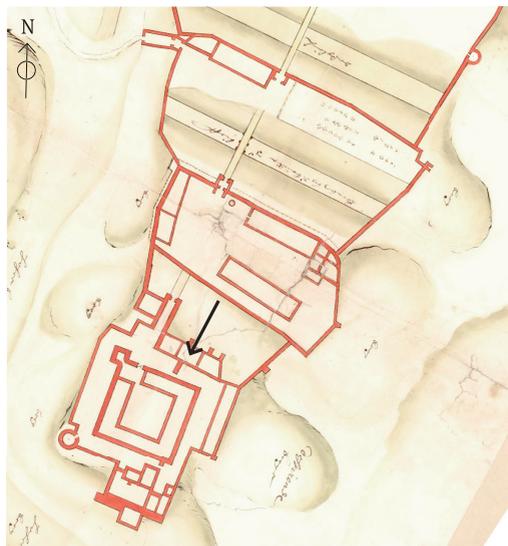


Fig. 1. Plan of Viljandi Castle from 1656.

Jn 1. Viljandi ordulinnuse plaan aastast 1656.
(Kra/0406/28/014/001.)



Fig. 2. The middle room of the 'Clergy house' of the Teutonic Order castle of Viljandi after the investigations. View from the south-east.

Jn 2. Viljandi ordulinnuse nn vaimulikehoone keskmine ruum pärast uuringuid. Vaade kagust.

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The eastern wall of the room was poorly preserved. When debris was removed from its western side, a large part of the granite wall fell down and only the eastern lining remained standing. The wall was 85–90 cm wide and secondary in relation to the northern wall. In the southern part of the wall, at the distance of 0.86 m from the south-eastern corner a ca. 1.35 m



Fig. 3. The southern wall of the room with remains of a flue system, and opening in the eastern wall (on the left), view from the north.

Jn 3. Ruumi lõunasein aknaava ja lõõridesüsteemi jäämustega ning ava idaseinas (vasakul), vaade põhja poolt.

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wide doorway or passage to the eastern room came to light. North of it, on the western side of the wall, traces of a vertical flue could be observed on a wall part made of bricks. Since the black, sooty bricks were still partly covered with plaster, the heating system did not belong to the final phase of the castle.

The southern wall, also made of granite, was well preserved. In its eastern end also an opening, originating probably from a window with a staircase-like stepped bottom (Fig. 3) was discovered at the distance of ca. 1.65 to 3.3 m from the south-eastern corner. The opening had originally been narrower, since bricks which had lined it in the east had not preserved. From the upper window sill, i.e. the level where the window had opened

to the courtyard, eight bricks had remained *in situ*. South of the southern wall remains of a cobblestone pavement were unearthed almost at the same level with the window sill.

Within the eastern end of the southern wall a flue lined with sooty bricks was found (Fig. 4). The preserved lower horizontal flat-bottomed part of the flue could be observed in the distance from ca. 0.6 to 2.1 m west from the south-eastern corner of the room. The flue was 26–27 cm, i.e. one brick wide and it was situated at the distance of 50–60 cm from the cellar wall. The flue within the southern wall of the building ran almost parallel to it, but at a slight angle – the wall thickness on its northern side increased towards the east. When the horizontal part ended, the flue rose almost vertically upwards within the wall, being directed towards the meeting place of the southern and eastern walls. Judging by the measuring tape that was stretched into it, the flue had preserved for 1.5 metres. The remains of both flues relate to stoves which were heated from the cellar of the room, not emptied of debris.

West of the opening the southern wall was compact and of homogenous structure. Likewise in the western room, no traces of openings for wall beams could be observed in it. The western end of the southern wall was hidden by the large hypocaust, the mouth of which had been revealed in the western room in 2023.



Fig. 4. The flue in the southern wall. A – view from the north-west, B – view on its horizontal part from above.
Jn 4. Lõõr ruumi lõunaseinas kagunurga lähedal. A – vaade loodest, B – vaade horisontaalsele lõigule ülalt.
 Photo / Foto: Heiki Valk

THE HYPOCAUST

As suggested by the location of the hypocaust mouth discovered in 2022, the stove appeared under the layer of soil and debris in the south-western corner of the middle room (Fig. 5). The heating stones had the diameter of 20–30 (in some cases up to 35/40) cm (Fig. 6). The top layer of stones and soil between them were removed before conservation to make a waterproof ceiling for the stove.

Although debris was eliminated with utmost care from the south-western corner of the room, the brick walls of the hypocaust



Fig. 5. The hypocaust stove in the south-western corner of the room.
Jn 5. Hüüpkaustruumi edelanurgas.
 Photo / Foto: Heiki Valk



Fig. 6. *The heating stones of the hypocaust.*

Jn 6. *Hüpokausti kerisekivid.*

Photo / Foto: Heiki Valk



Fig. 7. *The lintel of the entrance to the hypocaust heating chamber.*

Jn 7. *Hüpokausti kütteava sillus.*

Photo / Foto: Heiki Valk



Fig. 8. *The heating chamber of the hypocaust.*

Jn 8. *Hüpokausti küttekamber.*

Photo / Foto: Marie Anna Blehner

turned out to be severely damaged in the past, probably, for re-using the easily available material, and above the level of 84.00 m a.s.l. only a few bricks had preserved. The measures of the hypocaust were ca. 2.95 m in the north–south and 3.2 m in the east–west direction. The southern wall of the room became 30–50 cm thicker beside the hypocaust, – possibly to diminish warmth losses into the ground. In the northern wall of the hypocaust there was an opening for a beam (25 × 26 cm) lined with bricks, but its height and location did not correspond to those in the northern wall.

A test pit made at the meeting point of the stove and the southern wall of the room showed that the hypocaust was built contemporaneously with the wall. When looking for the lower, preserved part of the brick lining of the hypocaust's eastern wall (below the level of 84.00 m), an opening framed with bricks unexpectedly appeared in it (Fig. 7). After further digging it became evident that the hypocaust had two chambers overlying each other and that the opening was the mouth of the lower chamber.

The lower chamber, probably also meant for heating, was perfectly preserved (Fig. 8) and it was possible to enter it. The chamber was 3.05 m deep and 1.2 metres wide and had a cylinder vault made of bricks. The height of the side walls was 1.1–1.15 m, the maximal height of the chamber in its middle was 1.3 metres. On the left side of the chamber there were two openings for flues, both filled with debris. The walls, vault and floor of the chamber had no traces of soot or smoke on them and the chamber had never been used for making fire. Evidently, in the course of construction work the original plans were changed and it was decided that the hypocaust will be heated not from the middle,

but from the western room of the building. When comparing the heights, it appeared that the vault top of the lower chamber was located ca. 60–70 cm below the floor of the upper one, the mouth of which was discovered in 2023. The height of the stove from the floor of the lower heating chamber up to the top of the highest heating stones was ca. 3.2 metres.

After the excavations the trench in front of the hypocaust mouth was re-filled with debris and the top of the hypocaust was conserved. To replace the perished brick lining, new walls were built for the hypocaust during the conservation.

THE FINDS

Archaeological monitoring and detector investigations of the debris revealed several finds.¹ From the debris a Russian arrowhead (Fig. 9: 1), a chain mail fragment (Fig. 9: 2), a bone knob (Fig. 9: 4), a spindle whorl (Fig. 9: 5), some metal details of firearms (Fig. 9: 6, 9) including a trigger guard, two iron buckles (Fig. 9: 7, 8), a knife (Fig. 9: 10), a horse shoe (Fig. 9: 11), a calk (Fig. 9: 12), a halberd fragment (Fig. 9: 13), a stirrup (Fig. 9: 14), an osmund fragment, a blacksmithing slag cake, four pieces of lead window came, three bone fragments with traces of processing, some unidentified fragments of metal artefacts, a few sherds of wheel-thrown pottery and window glass, and some nails were found.

When sieving the cultural layer formed on top of the hypocaust in the second half of the 16th or in the early 17th century a probable lace ending (Fig. 9: 3), a lead bullet (: 30), a thumbtack (: 151), a cattle tibia with traces of processing (: 40), and about a hundred fragments of wheel-thrown pottery were found.

When looking for the western wall of the hypocaust below the depth of 82.00 m a.s.l., several mostly iron artefacts were collected from a limited area. The assemblage, evidently



Fig. 9. Finds from the debris in the 'Clergy house' of the Teutonic Order castle in Viljandi. 1 – arrowhead, 2 – chain mail fragment, 3 – lace end (?), 4 – knob, 5 – spindle whorl, 6, 9 – firearm details, 7, 8 – buckles, 10 – knife, 11 – horse shoe, 12 – calk, 13 – halberd fragment, 14 – stirrup. 1, 2, 6–14 – iron, 3 – copper alloy, 4 – bone, 5 – stone.

Jn 9. Leide Viljandi ordulinnuse nn vaimulikehoone rusukihist. 1 – nooleots, 2 – rõngassärgi katke, 3 – paela otsik (?), 4 – nupp, 5 – värtakeder, 6, 9 – tulirelvadetailid, 7, 8 – pandlad, 10 – nuga, 11 – hobuseraud, 12 – kontsaraud, 13 – hellebardi katke, 14 – sadulajalus. 1, 2, 6–14 – raud, 3 – vasesulam, 4 – luu, 5 – kivi.

(VM 11662 A: 5, 8, 29, 86, 107, 106, 90, 171, 9, 6, 89, 170, 31, 105.)

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¹ VM 11662 A 1–183.

thrown away together, included a bucket handle (Fig. 10: 1), a belt or strap hook (Fig. 10: 2), two musket matchlock springs (Fig. 10: 3, 4), a decorated bone plate (Fig. 10: 5), a fragment of bullet moulds (Fig. 10: 6), a vice (Fig. 10: 7), a fragment of a knife with a flat tang, two nails and some fragments of copper alloy waste. These finds date from the late 16th or early 17th century, indicating that the building was ruined and the cellar of its middle room was filled with debris already in that time.

Animal bones from the debris and the black cultural layer on top of the hypocaust belong to cattle, sheep/goat, pig, horse, hare, rat, and bat.² The bird bones include chicken, *anseriformes*, and a large bird species. Fish bones from top of the hypocaust were represented by perch, pike, and *cypriniformes* (bream?). The same species occurred also in the debris which filled the room, and also a sturgeon bone was found there. Cut marks on some horse

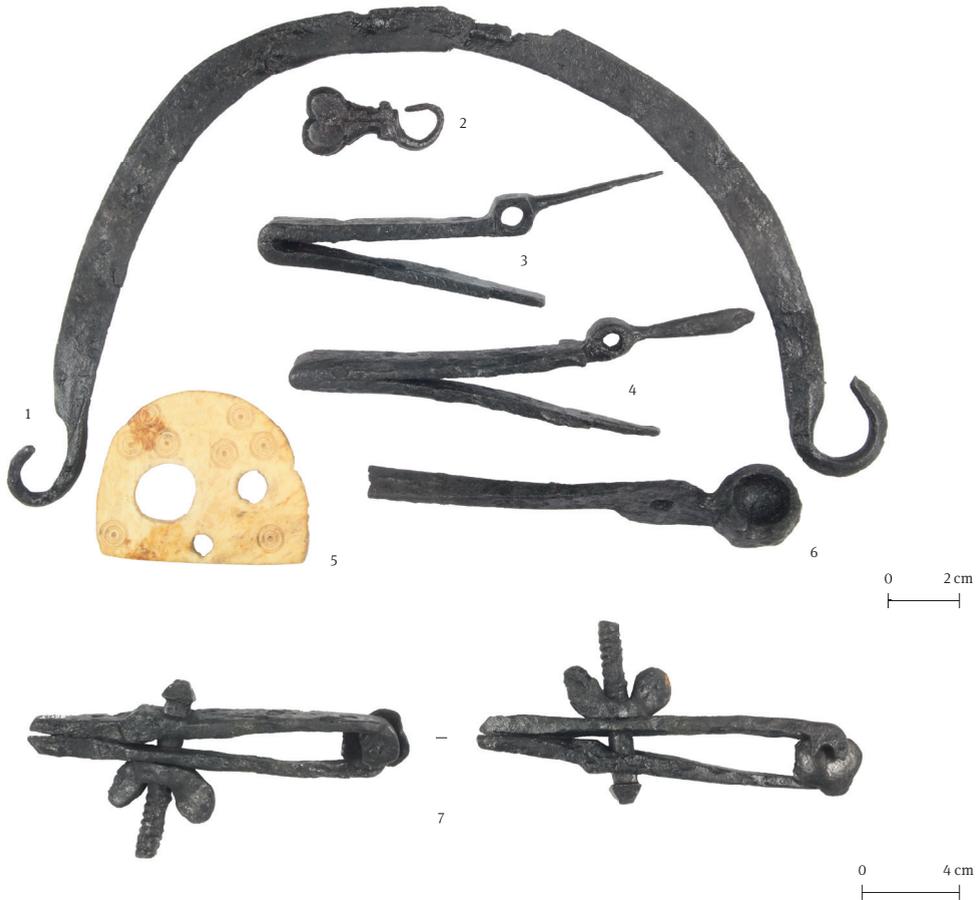


Fig. 10. Find assemblage from the debris in the 'Clergy house' of the Teutonic Order castle in Viljandi. 1 – bucket handle, 2 – strap hook, 3, 4 – musket matchlock springs, 5 – decorative bone plate, 6 – bullet mould's fragment, 7 – vice.

Jn 10. *Leiukogum Viljandi ordulinmuse nn vaimulikehoone rusukihist.* 1 – pajasang, 2 – vöö- või rihmahaak, 3, 4 – musketiluku vedrud, 5 – luust ehisplaat, 6 – kuulitangide poolmik, 7 – kruustangid.

(VM 11662 A: 102, 160, 157, 158, 154, 156, 159.)

Photo / Foto: Heiki Valk

² Identified by Eve Rannamäe (TÜ).

bones suggest using horse meat, probably for food by Muslim warriors, during the Livonian War when Viljandi was occupied by Russian troops. Horse bones formed over 5% of animal bones from that period also among the material from excavations on Munga Street in 1989 (Valk 1990).

CONCLUSIONS

The removal of debris from the middle room of the ‘Clergy house’ confirmed the impression gained in 2023 in its western room: the northern wall of the building was older than others which were added later. The excavations provided new knowledge on the heating systems of the castle. The remains of flues give evidence of two different heating installations in the south-eastern corner of the cellar, with traces or remains of flues in its southern and eastern wall.

The most noteworthy finding was the hypocaust. Hypocausts were widely used for heating stone buildings in medieval Livonia (Ose 2001; Tvauri 2009), and they have formerly been found also from Viljandi – both from the town and the third outer bailey of the castle (Tvauri 2008, 75–78, 92–96). The discovered hypocaust with two chambers, the lower of which had not been used for heating, is, however, a unique find from the area of Medieval Livonia. The two-level hypocaust with its well-preserved lower chamber might become, when fully opened and conserved, a unique tourist attraction.

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ARHEOLOOGILISED UURINGUD VILJANDI ORDULINNUSE NN VAIMULIKEHOONE KESKMISES RUUMIS

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2023. aastal jätkus müüride konserveerimisele eelnev rusueemaldus Viljandi ordulinnuse esimesel eeslinnusel asuvas nn vaimulikehoones. Tööd toimusid keskmises ruumis (jn 1, 2) ja rusu eemaldati, nii nagu aasta varemgi, absoluutkõrguseni 84 m ümp.

Nagu lääneruumis, tuli ka keskmise ruumi põhjaseinas nähtavale seitse esimese korruse pöran-

dat kandnud talade pesa (jn 2), samuti tellistega vooderdatud aknaava ülaserv seinä keskel. Ruumi 0,85–0,9 m paksune väga halvasti säilinud idasein oli tehtud ülinõrga mördiga ning varises pärast seda toestanud rusu eemaldamist osaliselt kokku. Seinä lõunaosas kagunurga lähedal avastati 1,35 m laiune tellistega raamistatud ukse- või läbipääsuava ida-

poolsesse ruumi. Sellest veidi põhja pool oli tellistega vormistatud seinalõigu välispinnal jälgitav püstise lõõrikoha ase.

Lõunaseina lääneotsas, kagunurgast 1,65–3 m kaugusel tuli müüris nähtavale avaus (jn 3). Kuigi selle tellisvooderdu oli peaaegu hävinud, on ilmselt tegemist olnud eeslinnuse õuele avanenud astmikpõhjalisel aknaga, mille õuele avaneva ava alaserv asus ligikaudu hoovi munakivisillutise kõrgusel. Lõunamüüri idaotsa sees tuli nähtavale lõõrikoht (jn 4), mis oli horisontaalsena jälgitav ligi 1,5 m ulatuses ja tõusis seejärel püstjalt ülespoole. Lõunaseina müüritises polnud põhjaseina talapesadele vasteid.

Ruumi edelanurgas puhastati välja $2,9 \times 3,5$ m mõõtmetega hüpokaustahi (jn 5), mille keris koosnes suurtest, 20–30 cm läbimõõduga raudkividest (jn 6). Läbi uuriti ülemiste kerisekivide vahel olev pinnas – leide sisaldav tume Liivimaa sõja aegne kultuurkiht. Ahju põhja- ja idaseina tellisvooder oli 84,00 m tasemest kõrgemal peaaegu täielikult hävinud. Põhjaseina tellisvoodri säilinud lõigus avastati 25×26 cm mõõtmetega palgipesa, millele põhjaseinas puudus vaste. Selgus, et ahi on ehitatud samaaegselt hoone lõunaseinaga, mis oli ahju kõrval 30–50 cm paksem kui mujal.

Ahju ja hoone lõunamüüri liitekoha otsimiseks tehtud šurfi laiendamisel tuli ootamatult nähtavale tellistega vooderdatud ava serv (jn 7). Selgus, et hüpokaustahju 2022. aastal avastatud ja lääneruumi avaneva suuga küttekambri all asus veel teine kamber,

mille suu avanes ida poole. Kamber oli ülihästi säilinud (jn 8). Selle pikkus oli 3,05 m, laius 1,2 m, seinte kõrgus 1–1,15 m ja silindervõlvi keskkoha kõrgus põranda suhtes 1,3 m. Lõunaseina ülaosas algas kaks nelinurkset, telliserusuga täitunud lõõri. Kambris polnud kordagi tuld tehtud. Nähtavasti toimus pärast selle valmimist ehitusplaanides muudatus ja otsustati, et hüpokausti hakatakse kütma mitte keskmisest, vaid läänepoolsest ruumist. Uuringute lõppedes kaeti ahjusuu taas rusudega, põhja- ja idaseina tellisvooder laoti uuesti üles ning kerise peale tehti konserveerimistööde käigus vettpidav kate.

Rusueemaldusega kaasnenud järelevalve ja detektoriuuringute käigus saadi mitmesuguseid esemeleide (jn 9–10), varauusaegseid savinõukilde ning looma-, linnu- ja kalaluid (sh üks tuuraluu). Ahju lääneseina eest rusu eemaldamisel avastati kogum ilmselt ruumi rusudega täitmise ajal üheskoos ära visatud esemeid (jn 10), sh pajasang, kaks püssiluku vedru, ilustustega luuplaat ja kuulitangide katke. Leiud pärinevad 16. sajandi lõpust või 17. sajandi algusest ja näitavad, et juba siis täideti keskmise ruumi keldrid rusudega.

Sarnaselt 2023. aastaga ilmneb ka „vaimulikehoone“ keskmise ruumi uurimistulemustest, et ruumi põhjasein on lõunaseinast varasem, sest põhjaseina palgipesadele ei olnud lõunaseinas vasteid. Rohkem kahe ülestikku küttekambriga hüpokaustahjusid keskaegselt Liivimaalt seni teada ei ole ning konserveerimise ja eksponeerimise korral võiks tegemist olla esindusliku turismiobjektiga.