



Niguliste Street in Tallinn in the 13th–14th century

Monika Reppo and Sander Nuut

OÜ Arheograator, Raekoja plats 11–16, 51004 Tartu, Estonia; monikareppo@gmail.com

Martin Malve

Tartu Ülikool, ajaloo ja arheoloogia instituut, arheoloogia osakond (University of Tartu, Institute of History and Archaeology, Department of Archaeology), Jakobi 2, 51005 Tartu, Estonia

Tartu Ülikool, loodus- ja täppisteaduste valdkond, genoomika instituut (University of Tartu, Faculty of Science and Technology, Institute of Genomics), Riia 23b, 51010 Tartu, Estonia

Ragnar Saage

Tartu Ülikool, ajaloo ja arheoloogia instituut, arheoloogia osakond (University of Tartu, Institute of History and Archaeology, Department of Archaeology), Jakobi 2, 51005, Tartu, Estonia

During the reconstruction and restoration of St Nicholas (*Est. Niguliste*) Church in 2022, the water mains were replaced along Niguliste Street. As directional drilling was employed to install the new mains, nine trenches were dug on the street instead of open cut trenching. In seven of these, traces of the earliest street level were discovered. Slag, animal bones and pottery indicate active use of the street and the surrounding area in the second half of the 13th century. As the graveyard surrounding the church extends beyond the modern-day churchyard walls, there was a significant risk of damaging preserved burials in the process of trenching; however no *in situ* or disarticulated human remains were uncovered during this study.

THE HISTORY OF THE STREET BY ST NICHOLAS CHURCH

Niguliste Street is located on the northern side of St Nicholas Church which was founded in the second quarter of the 13th century. The street was named after St Nicholas, the patron saint of the church. The street is first mentioned in 1367 as a road leading up to St Nicholas (*velur itur ad sanctum Nicolaum*; Kivi 1972, 84). The street is 135 m long and connects Rüütli and Harju with Kullasepa and Kuninga Streets (Fig. 1). The street used to be narrower and lined with buildings on both sides. In 1999, a small trench was dug on the modern-day sidewalk on the corner of Rüütli and Niguliste (Fig. 1) – a triple grave and a single grave were discovered here (Talvar 2000a; Talvar 2000b, 6–9), indicating the potential width of the old street. As these burials were below a mid-to-late-13th-century layer, they were dated to the 12th–13th century (Talvar 2000b, 6–9), new radiocarbon dates place the burials to the 11th–12th century – to the burial ground before the St Nicholas churchyard (Lätti-Aguraiuja & Malve 2023). Hence the medieval street could have also been built over a previous burial site. The 1999 survey revealed that the original street was not paved in cobblestone, but rather the

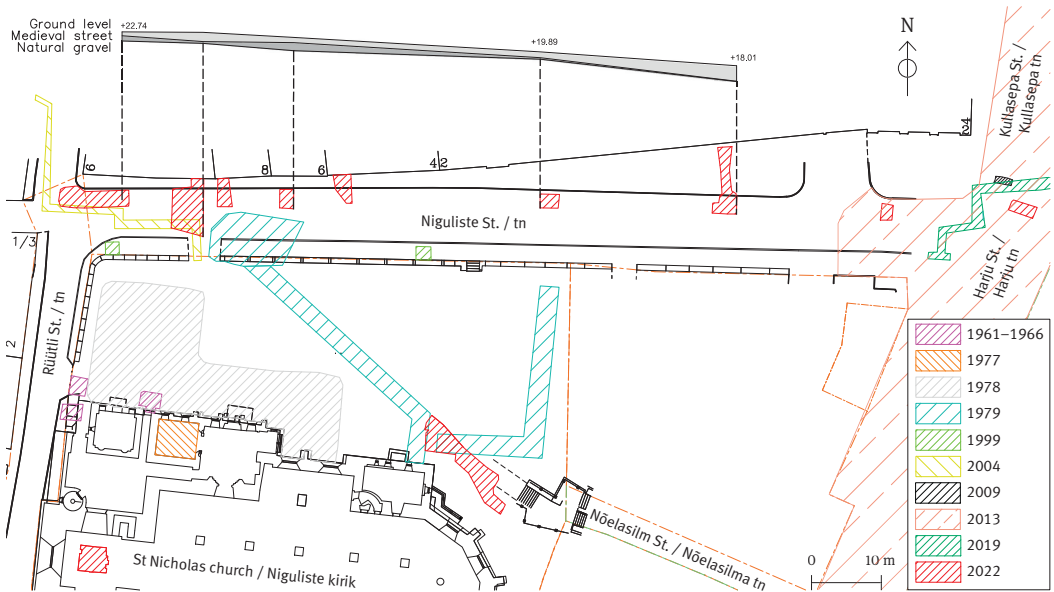


Fig. 1. Nine trenches and previously excavated areas on Niguliste Street with a section view of the studied area.

Jn 1. Üheksa kaevandit ja varasemalt kaevatud alad Niguliste tänaval uuritud ala lõikega.

Map / Kaart: Monika Reppo

gravelly natural layer was initially used. Animal bones and pottery from the second half of the 13th century had deposited in the trample layers formed on natural soil (Talvar 2000b, 6). The gravelly street layer was also documented here in 2004 (Talvar 2004, 5; Fig. 1). Gravel was used as an early type of street paving all over the medieval town – a gravelly street layer has been recorded on Harju and Suur-Karja Streets as well as outside of the old town on the location of the former Väike-Tartu Road. The thickness and density of the gravel layer was depended on the foot and carriage traffic intensity (Russow 2020, 101–102).

Earlier researchers like Wilhelm Neumann (1849–1919) have believed that a 13th-century market was located on the northern side of the church, however later studies have shown that this area contained only a burial ground and houses (Russow 2020, 40–41). Although today there is a small park on the northern side of the church, this area lost its historic look and the buildings relatively recently. All buildings on the southern side of the street were destroyed in the Soviet air raid in March 1944 (Fig. 2); most of the buildings on the northern side were either destroyed or demolished after the war. The remains of these houses have been partially documented during later studies (Nurk & Püüa 2009; Heinloo 2014; Ööbik *et al.* 2019; Fig. 1). Even during this survey, the remains of a 19th-century cellar demolished in the 1950s were recorded in front of Niguliste 2 (Reppo *et al.* 2022).

THE MEDIEVAL STREET

The reconstruction of the water mains allowed for a closer look at the development of this street in nine areas along the east-west-oriented street. It became clear during the watching brief (Reppo *et al.* 2022) that the upper layers underneath the street have been heavily disturbed by trenching through the years, however the lower levels had been preserved. In all but two trenches, traces of a natural gravelly layer acting as paving and/or the layer of dark,



Fig. 2. Niguliste Street (starting from the crossing in the background) around 1912 as seen from Kuninga Street.
Jn 2. Niguliste tänav (alates fotol tagaplaanil olevast ristmikust) 1912. aasta paiku Kuninga tänavalt vaadatuna.
 Photo / Foto: J. & P. Parikas (TLM F 198.)



Fig. 3. Section view of the medieval street layer and a segment of the fieldstone boundary marker.

Jn 3. Keskaegne tänavakiht ja raudkividest tänavapiire profiilivaates.

Photo / Foto: Martin Malve

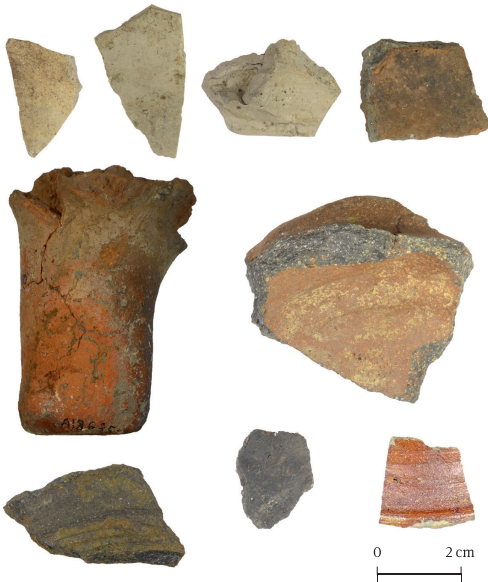


Fig. 4. Pottery fragments from the second half of the 13th century.

Jn 4. 13. sajandi teise poole keraamikaleiud. (AI 8635: 1–3, 5, 9–14.)

Photo / Foto: Martin Malve

organic-rich soil trampled into the ground was discovered (Fig. 3). The thickness of this medieval street level was 5–35 cm. As shown above, a similar gravelly street layer has been documented here in the past as well. In the westernmost point the dark layer was at +22.19 m a.s.l. and in the easternmost point at +15.81 m a.s.l., however it appears that in the latter point of this 87-metre stretch the top of the medieval layer is disturbed. Judging by the elevation at 59.3 metres (+19.07 m a.s.l.) where the medieval street layer is preserved, the slope of the present-day street (2.75° or 4.8%) is only marginally different from the medieval street (3.01° or 5.25%; Fig. 1).

Apart from animal bones and slag, some pottery was found from the organic-rich layer which enabled dating this street level. Pottery was only present in trenches 1 and 3 which were situated in the upper western part of the street. In addition to Siegburg-type proto-stoneware jug (AI 8635: 1–3, 11, 12) fragments (SIEG1 after Russow 2006), sherds from lightly fired coarseware vessels (AI 8635: 4–7, 13), a southern Lower Saxony stoneware jug fragment (AI 8635: 14, (LASX2, Russow 2006) and a greyware pipkin leg (AI 8635: 9–10) were found (Fig. 4). Based on the artefacts, the gravelly street dates from the second half of the 13th century. A horse-shoe (AI 8635: 16) found with the pottery is subsequently a remnant of the movements on Niguliste Street during this time.

No medieval buildings were discovered during this study. The ceramics and a piece of a brick (AI 8635: 8) and an iron padlock push key (AI 8635: 17) found in trench 1 are the only signs of habitation by the street. Under the sidewalk by the churchyard, a potential medieval demolition layer was recorded in 1999 (Talvar 2000b, 6) and a 15th-century cellar first discovered in 1979 was unearthed again in 2004 (Talvar 2004, 5–6). During this

survey, an east-west oriented fieldstone street boundary marker (i.e. curb) and limestone slab pavement was found by the intersection of Rataskaevu, Rütli and Niguliste Street running along the medieval Niguliste Street. Based on their context, the marker and pavement are

also from the second half of the 13th century. The boundary marker was built without mortar in a single row with smaller fieldstones and limestone pieces wedged between the larger ones (Fig. 5). Boundary markers like this have generally not been preserved. On Linda Street in Haapsalu, a similar boundary marker from the 15th century was found connected to a rubbly gravel street layer with occasional limestone slabs (Russow 2003, 213) as was the case on Niguliste Street.

Although until 1860 a well was situated on top of a wooden water pipe directing water from Harju Gate to Town Hall Square (Raekoja plats) on the intersection of Niguliste, Harju, Kullassepa and Kuninga Streets (Kadakas 2019, 23), no traces of earlier utility lines were discovered during this study. It is likely that these were destroyed by the construction of a system of groundwater collection tunnels built in limestone in the second half of the 19th century, a part of which was also documented in 2022 (Reppo *et al.* 2022).

FOOD, WORK AND NATURE – ZOOARCHAEOLOGY AND SAMPLES

702 animal remains were found among the medieval layers. Most of them belonged to cattle, pig, goat/sheep and to unidentified artiodactyls, who were probably pig, sheep or goat as well. In addition, two horse bones, one seal and one dog bone were recovered. Furthermore, three unidentified fish remains were found among the material. Because of the fragmentation of the material, more than half of the remains were identified only as mammals and one specimen as a vertebrate. Cut marks were present on 126 bones, of which the majority belonged to livestock. It is interesting to note that a dog's tibia (Fig. 6) – the withers height of the animal was around 38 cm and both horse bones – phalanx and a mandible – also had cut marks. The characteristic of the cut mark on the dog specimen indicates a skinning and/or meat removal of this animal. Whether dog meat was part of the human or animal diet (or both) is unclear, but dogs could have been eaten during times of famine and warfare (Murphy 2001, 21). Interestingly the cut marks that were present on horse bones imply that these animals



Fig. 5. Fieldstone boundary marker.

Jn 5. Raudkividest tänavapiire.

Photo / Foto: Martin Malve



Fig. 6. Right tibia of a dog showing a cut mark on the distal part of the diaphysis.

Jn 6. Koera parem sääreluu, mille kaugmises osas on lõikejalg.

Photos / Fotod: Sander Nuut



Fig. 7. Metatarsal bone of a seal with several cut marks from the 13th century layer.

Jn 7. Mitmete lõikejälgedega hülge põialuu 13. sajandi kihistusest.

Photos / Fotod: Sander Nuut

were eaten regardless of the Christian belief that horse meat intake should be avoided (Leteux 2012). In recent years, dog bones with cut marks have been found during rescue excavations in other Estonian towns, such as Rakvere (Malve *et al.* 2020) and Tartu (Malve *et al.* 2022).

Of wild mammals, only the seal was represented – also with a cut mark on a metatarsal bone (Fig. 7). This find indicates that seal hunting was part of the economic sphere of the inhabitants of Medieval Tallinn. In conclusion, a large part of the analysed faunal material seems to be typical butchering and kitchen waste with some unique specimens. Wet sieving of the soil samples with a 2-mm mesh produced only fragmentary mammal bones; no fish bones were found during wet sieving.¹ Animal bones associated with the 13th-century street were also mentioned in 1999 (Talvar 2000b, 5) and 2004 (Talvar 2004, 5). As those zooarchaeological remains were not collected, it is unclear whether the bones represented food or production waste.

The town smithies are known to have been located in the surroundings for centuries at least from the second half of the 13th century. A smithy was here also after World War II – it operated in the vestry of St Nicholas' church until 1977 (Lumiste 1977, 4). In 1999, a 15-cm thick layer with iron slag inclusions was documented above the medieval street level (Talvar 2000b, 5). In the trenches dug in 2004, the iron slag was present in a layer that was only 2 cm thick (Talvar 2004, 5). Slag was also found in 2022 in the western end of the street from the same layers and trenches the pottery was found.

The slag originates from smithing or reheating operations and such plano-convex slag cakes are common throughout the Baltic Sea Region. The 13th and 14th century slag cakes could originate from working the locally produced iron, which had a considerable slag content, but the same could be said for bloomery iron imported from Sweden or Denmark. The green copper oxide and metal fragments were analysed with a portable spectrometer SPECTRO xSORT. A qualitative analysis from the surface showed that the green slag from trench 1 is copper oxide, which is probably formed during casting. A metal piece turned out to be leaded bronze, which has an antimony content. This alloy is also commonly found from crucibles and it was used to cast tripods and cauldrons (Saage & Russow 2020; Dungworth & Nicholas 2004). From trench 3, the oxide contained both copper and tin, and a metal fragment was leaded bronze. Both of these finds indicate a casting workshop in the vicinity.

¹ Lembi Lõugas (TLÜ AT), written communication 11.04.2023.

CONCLUSIONS

Although several utility lines have been dug and replaced over the years on Niguliste Street, significantly disturbing the upper layers, the nine trenches dug in 2022 demonstrated clearly that the earliest street level is still preserved to a remarkable extent. The gravelly street and the dark humus-rich layer deposited on top or trampled into the street were dated to the second half of the 13th century. They had been preserved at a thickness of 5–35 cm in seven trenches. Due to the elevation of the street towards the west, in the easternmost trench, the organic-rich layer was located at +15.89 and in the westernmost point at +22.19 m a.s.l. The slope of the street has remained similar in time. The gravelly street, limestone pavement and fieldstone boundary marker were the only medieval structures discovered. No medieval buildings were found during this survey, but signs of a nearby casting workshop were found in the form of ferrous and non-ferrous slag.

ACKNOWLEDGEMENTS

We wish to thank everyone who participated in the excavation and post-excavation processes. This paper has been supported by research project of the Estonian Research Council grant nos PRG29, PRG1931 and PRG1027. The elemental analyses were carried out with the support of the Postimees Fond research grant POST126.

REFERENCES

- Dungworth, D. & Nicholas, M. 2004.** Caldarium? An antimony bronze used for medieval and post-medieval cast domestic vessels. – *Historical metallurgy*, 38: 1, 24–34.
- Heinloo, E. 2014.** Arheoloogiline järelevalve Tallinnas Harju ja Kullassepa tänaval 2013. aastal. Tallinn. Unpublished excavation report. (*Manuscript in MA.*)
- Kadakas, V. 2019.** Puhas vesi Tallinna ajaloo. Pure water in Tallinn's history. Tallinn.
- Kivi, A. 1972.** Tallinna tänavad. Tallinn.
- Lätti-Agurauja, Ü. & Malve, M. 2023.** Dietary habits in Medieval and Early Modern Period Estonia – evidence from stable isotope analysis. – *EJA, Supplementary Series*, 3. In print.
- Leteux, S. 2012.** Is hippophagy a taboo in constant evolution? – *Menu: Journal of Food and Hospitality*, 1, 47–54.
- Lumiste, M. 1977.** Ettepanekud ja kaalutlused pikihoone ja koori, väikese kabeli ning tornialuse ruumi restaureerimiseks-rekonstrueerimiseks. Tallinn. (*Manuscript in MA.*)
- Malve, M., Ehrlich, F., Haak, A., Lõugas, L. & Hiie, S. 2022.** Town under siege: The Great Northern war mass graves from the suburb of Tartu. – *AVE*, 2021, 249–262.
- Malve, M., Viljat, J., Rannamäe, E., Vilumets, L. & Ehrlich, F. 2020.** Archaeological fieldwork at Pikk Street and St Michael's churchyard, Rakvere. – *AVE*, 2019, 189–212.
- Murphy, E. M. 2001.** Medieval and Post-Medieval butchered dogs from Carrickfergus, Co. Antrim, Northern Ireland. – *Environmental Archaeology*, 6: 1, 13–22.
- Nurk, R. & Püüa, G. 2009.** Vundamendi fikseerimine Tallinnas Harju, Kullassepa, Kuninga ja Niguliste tn ristmikul. Tallinn. Unpublished fieldwork report. (*Manuscript in MA.*)
- Ööbik, P., Lillipuu, K. & Reppo, M. 2019.** Arheoloogiline järelevalve soojatrassi rajamisel Kuninga tänava alusel alal Tallinnas (2019). Tallinn. Unpublished excavation report. (*Manuscript in MA.*)
- Reppo, M., Nuut, S. & Malve, M. 2022.** Arheoloogilised uuringud Tallinnas Niguliste tänaval toimunud trassitöödel. Aruanne. Tallinn. Unpublished excavation report. (*Manuscript in TLPA.*)
- Russow, E. 2003.** Archäologische Rettungsgrabungen in Haapsalu. – *AVE*, 2002, 210–220.
- Russow, E. 2006.** Importkeraamika Lääne-Eesti linnades 13.–17. sajandil. Tallinn.
- Russow, E. 2020.** Lood ja leiud Tallinna algusest. Tallinn.
- Saage, R. & Russow, E. 2020.** Urban Casting Tools as Evidence for Transfer of Technology across the Baltic Sea in 13th- to 17th-Century Estonia. – *Medieval Archaeology*, 64: 2, 330–353.
- Talvar, P. 2000a.** Archaeological investigations in Old Tallinn. – *AVE*, 1999, 86–91.
- Talvar, P. 2000b.** Aruanne arheoloogilisest järelevalvest ja uuringutest telefonikaabli trassil Niguliste, Rütüti ja Müürivahe tänaval (1999. a.). Tallinn. Unpublished excavation report. (*Manuscript in MA.*)
- Talvar, P. 2004.** Aruanne arheoloogilisest järelevalvest Tallinnas, Niguliste – Rataskaevu tänava keskkütetrassil. Tallinn. Unpublished excavation report. (*Manuscript in MA.*)

NIGULISTE TÄNAV 13.–14. SAJANDIL

Monika Reppo, Sander Nuut, Martin Malve ja Ragnar Saage

Niguliste kiriku ümberehitus- ja renoveerimistöde raames pühakojas põhjaküljel asuval Niguliste tänaval aset leidnud torustikutöödel avati suundpuurimiseks üheksa kaevandit (jn 1). Kuigi aastate jooksul on tänaval korduvalt kaevetöid tehtud ning kultuurkiht suuresti kahjustunud ka 1944. aasta märtsipommitamise (jn 2) järgsete tegevustega, näitasid 2022. aasta uuringud, et vanimad ladestused on siiski märkimisväärses ulatuses säilinud. Juba 1999. ja 2004. aasta arheoloogilistel välitöödel täheldati Niguliste tänaval 13. sajandi II poole kivipurust tänavakihti. Sarnaselt pinnati ka teisi Tallinna 13.–14. sajandi tänavaid. Loodusliku klibu sisse trambitud või selle peale ladestunud 5–35 cm paksust huumusrikast tänavakasutuskihti (jn 3) sai jälgida koguni seitsmes kaevandis üheksast. Läänepoolseimas mõõdetud punktis jäi keskaegne tänav kõrgusele +22.19 m ü.m.p. ning idapoolseimas +15.89 m ü.m.p. Paraku oli viimases punktis kihi pealispind hävinud. Kalle oli tänavasäi-

linud pealispinnaga lõigus (59,3 m) 3.01° ehk 5.25%, mis sarnaneb sama lõigu tänapäevase kaldega (2.75° ehk 4.8%; jn 1). Kahes idapoolses kaevandis leidis mainitud huumusrikas kihis Siegburgi tüüpi proto- ja varakivikeraamikat, sh kannu katkeid; kohaliku nõrga põletusega savinõude ja ühe hallist savist graapeni katkeid (jn 4). Peale selle leiti 13. sajandi II poole teega seonduv hobuseraud, läheduses paiknevale sepatöökojale viitavat raua- ja valukojale iseloomulikke värvilise metalli šlakki ning hulgaliselt loomaluud. Viimaste seas domineerisid veise, sea ja kitse/lamba luud. Samuti leidis loomaluude seas lõikejälgedega hobuse, koera ja hülge luud (jn 6, 7). Samast kihist saadi ka suruluku võti ja tellise katke, kuid ühtegi keskaegset hoonet tööde käigus ei leitud. Siiski avastati Rataskaevu, Rüütli ja Niguliste tänav ristmiku lähedal 13. sajandi II poole raudkividest tänaväärekivi ehk piire ning paeplaatidest sillutus (jn 5).