



Archaeological fieldwork at the EV100 Park near the Gloria Bastion in Narva

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INTRODUCTION

During the last decade, the Narva municipal government has been actively repairing the bastions, beautifying the surrounding areas, reconstructing and constructing parks. Since town fortifications are under heritage protection all the work must be carried out under archaeological supervision. In this article we present the results of the work done on the construction of the new EV100 Park.

In celebration of the centenary of the Republic of Estonia, the town of Narva decided to construct a park – the EV100 Park – in the green space between Aleksander Pushkin, Vabaduse and Rakvere Streets near the Gloria Bastion (Fig. 1). Thus, fieldwork was carried out over a period of six months (Viljat *et al.* 2019). The site consists of a higher plateau on the edge of the Baltic Klint, a bedrock escarpment that is up to 30.5 metres a.s.l. in height, and a lower area in the northern front of the klint, which is only up to 17 metres a.s.l.



Fig. 1. Location of the EV100 Park in Narva. The investigated area is marked in red.

Jn 1. Uurimisala asendiplaan. Tööde piirkond on märgitud punase joonega.

Base map / Aluskaart: Estonian Land Board / Maaamet; processing / töötlus: Aivar Kriiska and Irina Khrustaleva

When the new fortifications were constructed at the end of the 17th century, a 10 to 12 metres deep moat was dug into the klint that separated the Gloria Bastion from the rest of the plateau. The front section of the bastion was added to the line of fortifications as glacis, a wide sloping area outside the moat that provided extra protection for the walls and for ease of firing (Soom 1936, 878). Its front remained a building-free zone – an esplanade.

When the fortification was in use, regular deforestation of the surrounding areas took place. This also meant that no stone buildings could be built outside the town walls (Kochenovsky 1991, 134). However, after 1863, when Narva was removed from the list of fortified cities, rapid suburban development began and a new network of north–south and east–west oriented streets was created. In the late 19th and early 20th century only the northern side of current Rakvere Street was built up. The southern part remained empty and the streets existed by name only (Kochenovsky 1991, 136). The historic maps (RA, EAA.1862.2.347; RA, LVVA.6828.4.542) show that the park area was not built up, but used partially as a vegetable garden.

FIELDWORK

The building of the park began in 2018 with the construction of walkways, under which lighting cables were installed at the depth of 0.7–0.9 metres, holes for the lamp posts were dug at 1.1–1.5 metres. In addition, drainage ditches at the depth of 0.5–0.9 metres, mainly right beside the already dug cable trenches, and water collectors at the depth of 1.5 metres were dug. On the klint plateau a semi-circular area was opened for a parking lot and holes for planting trees were dug.

On the plateau a prominent layer comprised of waste from the last century was evident. It included a variety of discarded items, such as Soviet-era ceramics and porcelain, glass, metal items and dishes, textiles and clothing, building materials and animal bones. This layer seemed to be thicker on the western side of the plateau, whereas the eastern side was barer with a lot of rocks. On the northern part of the plateau, the waste layer seemed to completely disappear and instead, there was a mixed layer of rocks and soil. In this area numerous pieces of clay pipes and flint finds were discovered along with fragments of Early Modern and Modern period pottery. This is probably the place where the construction debris from the city had been deposited for a longer period, possibly since the late 17th and early 18th century when the earthworks for the construction of the bastions were completed.

The waste layer was also apparent in the trenches opened on the southern section, in front of the edge. It is possible that the old dumping ground was pushed from the klint to this area. This is evidenced by the bumpy terrain, especially in the lower parts of the green area. In the northern part of the lower section, in front of the klint, closer to the present-day housing, the upper layers contained a lot of waste from new constructions, including the Narva Sports Centre. A damp and organic rich layer containing ash, wood and charcoal, animal bones, redware and glass was found under the waste, which in places was up to 1.5 metres thick. A thick and dark sooty layer was found under the construction debris near Rakvere Street. This contained burnt wood, as well as window glass and roof tiles from a burnt-down building. This layer, which is up to 0.7 metre thick, had probably been formed on this waterlogged area as filling soil was continuously mixed by farming.

FINDS

The collected finds were most likely deposited at the site over a long period of time as part of the demolition debris or garbage brought here from the town. Since there have not been

many large-scale or thorough archaeological investigations carried out in Narva, these finds provide important knowledge about the everyday items and tiled stoves used in the town from the 17th to the 19th century. This is also an excellent opportunity to discuss the usage of flint of the historical period, including gunflint, in Estonia. These are important artefacts, and as such, they should be collected, documented and analysed as other finds are. Until now, this has been done rather sporadically and optionally, and in some cases, as is true also elsewhere (see Galimova *et al.* 2014, 256), the historical flint artefacts have been dated to the Stone Age. Since the gunflint resembles the Stone Age scrapers made of the fragments of wide blades, the chance of a mistaken identification being made is often very high. In Estonia, active metal detecting has also created a situation whereby gunflint is being collected by detectorists, documented poorly or not at all, and usually ending up in private collections. This means that an important source of information is destroyed, particularly in the case of battlegrounds.

In total, 327 archaeological finds were recovered and catalogued. The typical finds from this site included fragments of glazed stove tiles, sherds of glazed or unglazed redware, simple unglazed wheel-thrown pottery, porcelain and faience, as well as fragments of glassware, white clay pipes, some flint and metal artefacts (cannonballs, commodity seals etc.) and various coins.

The most datable finds were the coins. Eight coins were found, two of which were silver Russian wire coins (one of them a *kopeck* of Peter the Great) and five Swedish copper $\frac{1}{6}$ and $\frac{1}{4}$ -*öres* dating from the 17th century.

A number of stove tile fragments (21) were gathered, which is normal for demolition debris (see e.g. Kriiska *et al.* 2011, 28). The most common pieces were black glazed Baroque-style stove tiles with floral ornamentation (Fig. 2: 1) dating back to the 17th century (reference material e.g. Tvauri & Metsallik 2006; Vunk 2006, 83; Ose 2008, 147–148). Some blue- and white-painted tiles were found; among others was also a Dutch Delftware wall tile depicting a person and a landscape (Fig. 2: 2). A similar tile was found in EV100 Park, together with other painted blue tiles these were used to decorate a wall in Councillor Hoffman's house in Narva in the late 17th or early 18th century (Kodres 2005, 162). A white glazed tile with deep blue raised floral decoration (TÜ 2717: 63) (reference material e.g. Vunk 2006, 83) also probably dates from the 17th century.

Different types of pottery were collected. Some were fragments of simple, unglazed wheel-thrown pottery (Fig. 3: 1–4). They were made of clay mixed with either sand or very fine rock debris. They belong to the so-called NW-Russian-style wheel-thrown pottery and were probably made in northwest Russia. The out-turned rims that characterise the sherds found in the EV100 Park are inherent to pottery made in Pskov between



Fig. 2. Fragments of tiles. 1 – stove tile, 2 – wall tile fragment.

Jn 2. Kahlite katked. 1 – ahjukahlist, 2 – seinakahlist. (TÜ 2717: 1, 68.)

Photo / Foto: Aivar Kriiska



Fig. 3. Pottery finds from the investigations. 1–4 – fragments of coarsewares, 5, 7 – fragments of redwares, 6 – faience fragment.

Jn 3. Uuringutel leitud keraamikat. 1–4 – hallide savinõude, 5, 7 – punaste savinõude ja 6 – fajanssnõu katked. (TÜ 2717: 225, 223, 99, 41, 159, 113, 120.)

Photo / Foto: Aivar Kriiska

the 16th and 18th centuries (Kildyushevsky 2002, 12–14). These vessels made their way to Estonia's towns and castles, and sometimes into villages, during the Russian-Livonian War in the second half of the 16th century (Tvauri 2000, 107; Tvauri 2004, 398–401). A fragment with wavy ornamentation (Fig. 3: 2) is similar to the ones found in Narva city centre, as well as to fragments found in Ivangorod dating back to the 16th and 17th centuries (Haak & Kriiska 2006, 97 and the literature cited there). One fragment originated from a vessel with a black polished surface (TÜ 2717: 124), which could be from Moscow, like other similar Estonian finds made in the second half of the 16th century (Tvauri 2004, 405–406).

Most of the found fragments come from redware vessels that are glazed on one or both sides; only a few vessels were unglazed. Some were decorated with a simple coloured glaze, others had various patterns (Fig. 3: 5, 7). Tripod pots, bowls and plates were all represented. Similar redware finds can be dated to the 17th – 19th century. It is not likely that redware was widespread in Narva before the 17th centuries (Haak & Kriiska 2006, 100). A few fragments of porcelain or faience vessels are also represented, and the oldest fragments may date from the 17th century (Fig. 3: 6).

A large number of wheel-thrown pottery fragments were covered by a layer containing burnt crusts of food (Fig. 3: 1, 4). This fact, and their overall burnt appearance, suggest that such pots were used mainly in food preparation. Some redware pots, like the tripod vessels, were also used for cooking. That is evident by their handles with burn marks on the underside, suggesting that they were used on an open fire. It seems that most of the found redware was used as tableware or for storage.

The finds included numerous white clay pipe fragments (70), mostly stems. These were usually simple with only a few pieces having modest line or dot decorations. Four pipe bowls were also found (Fig. 4). They were as simple as the pipe stems with only delicate line ornaments on the rims. Maker's marks were found on four pipe fragments. In one instance, the heel stamp depicted a hound and a crown (TÜ 2717: 222; a stamp used between 1709–1759; van der Meulen 2003), another heel stamp portrayed a man in a boat (TÜ 2717: 48; a stamp used between 1718–1807; van der Meulen 2003). Two fragments had both a heel stamp and a side stamp – a pig on the heel (Fig. 4: 1, a stamp used between 1724–1898; van der Meulen 2003) and Gouda's coat of arms on the side; 2) a double cross on the heel (TÜ 2717: 194;

a stamp used between 1692–1865; van der Meulen 2003) and a dot on the side. Taking into account the shape of the bowls (van der Meulen 2003), these pipes may be dated to the first half of the 18th century. Some thicker pipe stems could also date from the 17th century. All the identifiable pipe fragments were made in the Netherlands, possibly in Gouda. Dutch products also comprise the vast majority in other collections from Narva (Kriiska & Küng 2008, 126).

During the fieldwork in the EV100 Park, nine pieces of flint were collected. All the modern uses for flint – ballast flint (Fig. 5: 1), strike-a-lights (Fig. 5: 2–4) and gunflint (Fig. 5: 5) – were represented. A lump of unworked flint probably originated from a ship’s ballast. The finds include five flint flakes, of which two were heavily burnt (TÜ 2717: 128, 129). It is unlikely that the flakes were split from lumps for no reason; rather these pieces were made for strike-a-lights. Three of the found sherds had been used for strike-a-lights and one as gunflint.

In Estonia, the medieval and post-medieval use of the flint artefacts has gone virtually unnoticed until now. The only paper that discusses flint and its use in fire-making, among other things, has been based on ethnographic, linguistic and folkloristic sources. It covers the use of flint by country folk during the 19th and 20th century (Saar 1975). However, from an archaeological point of view, this subject remains unexplored, although many flint finds are added to museum collections each year from the fieldwork carried out in various towns. In addition, some flint is certainly left behind in the digs.

Strike-a-lights are directly connected to ballast flint. Lumps of flint were used to stabilise empty ships or those carrying light loads on sea voyages by giving the vessel the necessary draft and incline (*ibid.*, 175). This way tons of flint arrived in Estonia and in many other Baltic seaports during the Modern period, since large amounts of it were thrown overboard before the cargo was loaded onto the ships. This was the main source of flint used

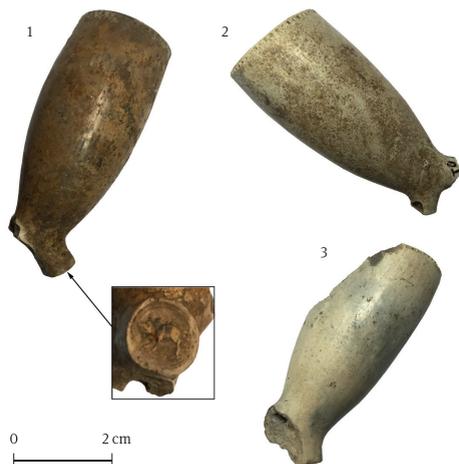


Fig. 4. Bowls of white claypipes.
Jn 4. Valgete savipiipude kahad.
 (TÜ 2717: 168, 195, 222.)
 Photo / Foto: Aivar Kriiska



Fig. 5. Pieces of three different kinds of flint found during fieldwork. 1 – ballast flint, 2–4 – strike-a-lights and 5 – gunflint.
Jn 5. Välitöödel leitud kolme tüüpi tulekivi: 1– ballast tulekivi, 2–4 – tulelõõmise tulekivi ja 5 – püssilukutulekivi.
 (TÜ 2717: 38, 29, 29, 29, 285.)
 Photo / Foto: Aivar Kriiska

for fire starters in Estonia, and also in places where Silurian flint was not found in nature (for more about the spread of natural Silurian flint, see Johanson *et al.* 2015). Narva, just like the coast of the Gulf of Finland, is exactly like the area discussed above. Data collected during the 20th century shows that people used to gather flint in the harbours or get it from sailors. Flint was also sold by local shops or peddlers (Saar 1975, 175). Narva-Jõesuu has been mentioned as one of the places where flint was collected (*ibid.*, 175).

Strike-a-lights were usually simple flint flakes that were struck with fire-steel to create sparks. Each strike left a mark on the flake and the examples found thus far usually have one or more structured or serrated edges. This is clearly seen on the three pieces of flint found on the grounds of the EV100 Park (Fig. 5: 2–4). Its colour (black, grey, dark brown), and in some cases the remaining cortex, suggest that the flint used for strike-a-lights, like the flakes found on the park grounds, come from Cretaceous sedimentary deposits. On the shores of the Baltic Sea, Cretaceous flint can be found in south Scandinavia, but it is not impossible that the flint made its way to Estonia's harbours from England (on the spread of natural Cretaceous flint, see Herforth & Albers 1999, 15), among other places.

Gunflint was specially processed from blades or flakes and made mostly of selected, high-quality flint. The use of flintlock guns started in the 16th century, but became widespread during the 17th century (Mason 1978, 42; Schirren & Sobietzky 2003, 310). However, gunflint could only be used for a limited amount of shots. For example, in the Russian Army in the early 19th century it was required that the flint be turned after 20–25 shots and replaced after 40 shots had been fired (Galimova *et al.* 2014, 264 and the literature cited therein). It was only possible to fire more shots with very high-quality flint (Mason 1978, 45). Experiments have shown that after every 25–30 shots the edge of the flint becomes significantly rounded (Galimova *et al.* 2014, 263). This is why massive amounts of flint with the correct size and processing was needed during military training and warfare. And therefore, it was massively produced. Many places in Europe, including France, England, Spain, Italy, Denmark and Russia, where high-quality flint could be found in abundance, developed local production centres (e.g. Engström 1983; Weiner 2014; 2016). It became an important part of the economy and an export article (e.g. Schirren & Sobietzky 2003, 311). Industrial production of gunflint brought along the standardisation of materials, as well as technology and form, which allowed for the localisation of products based on their characteristics.

The gunflint found in the EV100 Park is made of grey flint and was most likely made in south Scandinavia (for analogues, see e.g. Weiner 2014, 232). The size (21.9 × 12.1 × 8 mm) of the find suggests it was indeed at some point a gunflint. Attached to it was a lead casing. These were used as middle pieces to attach the piece of flint onto the lock mechanism.

CONCLUSIONS

The archaeological fieldwork carried out at the Narva EV100 Park supports the situation as depicted on the historical maps. In the 19th century, after the fortifications had been installed in the town of Narva in the late 17th and early 18th century, no houses were built in this area. During the 20th century, the area next to Rakvere Street was used as a pasture or a vegetable garden and the higher klint plateau was used as the town's dumping ground. On the western part of the plateau, a thick layer of trash was observable on top of natural limestone. In the eastern and northern sections, a layer of rock, dirt and demolition debris was observable that contained finds from the Early Modern and Modern periods. This debris was probably carried out from the city and deposited here while the earthworks were being completed, during the construction of the bastions in the late 17th and early 18th century.

The finds collected in the park contained fragments of glazed stove tiles, sherds of glazed or unglazed redware, simple unglazed wheel-thrown pottery (incl. NW-Russian-style wheel-thrown pottery sherds), porcelain and faience, as well as fragments of glassware, white clay pipes, some flint and metal artefacts and coins (incl. Russian and Swedish coins) from the late 16th to 19th centuries.

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Arheoloogilised välitööd Narvas, linnakindlustuste kaitsevööndi (asulakoht, reg nr 27276; Narva linnakindlustused, reg nr 13999) äärealal, Gloria bastioni lähedal, seoses EV100 pargi rajamisega 2018. aastal. Tartu. (*Manuscript in MA.*)

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ARHEOLOOGILISED VÄLITÖÖD EV100 PARGI ALAL GLORIA BASTIONI LÄHEDEL NARVAS

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Narva linnavalitsus on viimasel kümnendil asunud korrastama bastioneid ja nende ümbrust, rajades ja rekonstrueerides sinna parke. Kuivõrd tegemist on muinsuskaitsealuste aladega, siis toimuvad tööd arheoloogilise järelevalve all. Käesolevas artiklis anname ülevaate uue rajatava EV100 pargi alal Gloria bastioni lähedal (jn 1) tehtud uuringute tulemustest.

Park paikneb Balti klindi serval (kõrgus kuni 30,5 m ü.m.p) ja selle jalamil (kõrgus kuni 17 m ü.m.p), mille kohta on kaardimaterjali ja kirjalikke allikaid alates 17. sajandist. Bastionide vööndi rajamise järel paiknes seal kuni Narva kustutamiseni kindluslinnade nimekirjast ja maa üleandamiseni linnale 1863. aastal ehitusvaba glassii ja esplanaad. Ka hiljem jäi see piirkond hoonestamata, osa sellest kasutati aiamaana.

Eesti Vabariigi sajandale aastapäevale pühendatud EV100 pargi rajamine algas 2018. aastal kõnniteede ehitamisega, mille alla paigaldati tänavavalgustuse kaablid, rajati дренаaže, kollektoreid ja parkla ning istutati puud. Klindipealse osas moodustas suure osa looduslikul paepõhjal lasuvatest kihtidest eriaegne prügi ja lammutuspraht. Selle lääneosa on kasutatud prügi ladustamise kohana veel nõukogude ajal, ida- ja põhjapoolses osas paiknes valdavalt varasem ja sageli kivine rusu, mis sisaldas varauusaegseid ja uusaegseid esemeleide. Sinna on linnast toodud ja laiali aetud hoonete lammutuse prahti, võimalik, et juba bastionide rajamise ajal 17. sajandi lõpul ja 18. sajandi algul. Ka klindiesisel alal oli rohkesti erinevat prügi ja täitepinnast, kusjuures osaliselt on see lükatud sinna kõrgemalt platoolt. Pargi põhjapoolses osas, Rakvere tänava lähedal, paiknes nõukogudeaegsete prügist kihtide all kuni 0,7 m paksune tume orgaanikarikas esemeleidudega pinnas, mis tekkis arvata- vasti liigniiskete aiamaade täitmise ja põllutööde põhjustatud pideva segamise tulemusel.

Uuringutel koguti enam kui 300 esemeleidu, peamiselt keraamikat (savinõude, kahlite ja piipude tükid) ja metallesemeid (mündid, püssikuulid, plom-

mid jne). Kaheksast mündist kaks on hõbedast Vene traatkopikad ja viis Rootsi 1/6 ja 1/4 vasköörid 17. sajandist. Kahlite hulgas on tükkke nii musta glasuuriga baroksetest taimornamendiga (jn 2: 1) kui ka sini-valgetest reljeefsetest ja maalingutega ahjukeraamikast, milliseid kasutati Narvas 17. sajandil ja 18. sajandi algul. Üks kild pärineb sinise maalinguga valgest seinaplaadist (jn 2: 2), mille täpne analoog on üks raehärra Hoffmani maja seina 17. sajandi lõpul ja 18. sajandi algul Narvas kaunistanud eksemplar. Kogutud savinõukildudest on mitmed loodevenepäraste pottide tükid, millel on iseloomulik lühike väljapoole pööratud serv (jn 3: 1–4). Sellise kedrakeraamika saab Pihkva leumaterjali alusel dateerida 16.–18. sajandisse ja juhul, kui Eesti teiste piirkondade analoogid on pädevad, siis ennekõike Liivi sõja perioodi, 16. sajandi teise poolde. Üks kild pärineb musta lihvitud pinnaga savinõust, mis võiks olla, nagu arvatavasti teisedki analoogsed Eesti leiud, Moskva päritoluga ja valmistatud 16. sajandi teisel poolel. Enamiku kildude puhul on tegemist punaste savinõudega, mis on kas ühelt või mõlemalt pinnalt glasuuritid, glasuurimata nõukilde on vähem. Nende hulgas on nii ühevärvilisi glasuuri kui ka erineva muustriga kilde (jn 3: 5, 7), mis pärinevad kolmjalgnõudest, pottidest ja taldrikutest. Analooide järgi võib leitud killud dateerida 17.–19. sajandisse. Üksikute kildudena on esindatud ka portselan- ja fajanssnõud, kusjuures vanimad fajanssnõude killud võiksid pärineda juba 17. sajandist (jn 3: 6). Arvukalt leiti ka valgete savipiipude katkeid (jn 4). Kannamärkide ja kahakuju alusel on need valmistatud 18. sajandi esimesel poolel, üksikute jämedate varretükkide puhul on võimalik ka 17. sajand. Üheksast tulekivileiust on üks kamakas tõenäoliselt laevaballastist (jn 5: 1), viiel juhul on tegemist killuga ja kolmel juhul tule lõõmiseks kasutatud tulekivitükkidega (jn 5: 2–4). Üks leidudest on hallikat tooni püssitulekivi (jn 5: 5), mis on valmistatud tõenäoliselt Lõuna-Skandinaavias ja mida mõõtu järgi otsustades kasutati püstoli kukes.