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# **ARCHAEOLOGICAL EXCAVATIONS OF LANDSKRONA**

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## **Archäologische Ausgrabungen von Landskrona. Ein vorläufiger Bericht.**

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Die Festung von Landskrona wurde im Sommer 1300 an der Mündung des Flusses Ohta im Nowgoroder Land gebaut. Sie wurde von der schwedischen Armee im Jahre 1100 konstruiert, von Männern unter Leitung des Königlichen Generalgouverneur Torgils Knutsson. Erd- und Holzbefestigungen wurden auf der schmalen Landzunge zwischen den Flüssen Newa und Ohta errichtet. Die Heere Novgorods hatten sich der Hochburg nach deren Errichtung von rechts genähert, konnten sie aber nicht angreifen. Bald nach dem

Verschwinden der Novgoroder Heere segelte die schwedische Flotte nach Schweden, hinterließ aber eine Garnison von 300 Mann in der Festung Landskrona. Nach der Nowgoroder Chronik I hatte im Jahre 1301 der Nowgoroder Großherzog Andrey und Truppen aus Nordost-Russland die Festung belagert und sie am 18. Mai angegriffen.

Die 300 Mann starke Garnison ist teils umgekommen, teils gefangen genommen worden, während die Stadt niedergebrannt und zerstört wurde.

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## Introduction

The fortress of Landskrona was built in the summer of 1300 at the mouth of the River Okhta in the Novgorod Land. It was constructed by a Swedish army of 1,100 men under the direction of royal governor-general Torgils Knutsson.

Earth-and-timber fortifications were built on a narrow cape between the rivers Neva and Okhta. A brief description is found in the Swedish Chronicle of Eric from the beginning of the 14<sup>th</sup> century (Shaskolsky 1987: 18-25). „A wall of eight towers with loop-holes was over the moat; the moat had been dug between the two rivers, the whole of the army stood behind them“.

According to evidence from the Novgorod First Chronicle, architects from Rome took part in building the fortress, and it was strongly fortified – being of „inexpressible strength“. The defence of the fortress was reinforced with catapults.

The troops of Novgorod that approached this stronghold right after its construction could not assault it. Soon after they left, the Swedish fleet sailed to Sweden, leaving a garrison of 300 men at Landskrona. According to the Novgorod First Chronicle, Grand Duke Andrey, Novgorodians and the troops of Northeast Russia besieged the fortress and assaulted it on May 18, 1301. The garrison partly perished and was partly captured; the

town was burnt down and destroyed (PSRL 2000: 91).

## The location of Landskrona

The basic location of Landskrona was always considered to be the mouth of the River Okhta as this very river was mentioned in the Russian Annals. The Chronicle of Eric specifies that it was at the mouth of the River Chernaya. This is why some 19<sup>th</sup>-century historians located Landskrona at the site of the contemporary Aleksandro-Nevisky monastery, built at the confluence of the Chernaya and the Neva (Karta 1827) (Fig.1).

The lands at the mouth of the River Okhta, at the junction of the waterway across the Neva and the overland way connecting Novgorod and Karelia, were elevated and inaccessible to floods, with a good anchorage and protected by water boundaries. They were thus favourable for habitation at the lower reaches of the Neva since the earliest times. All this predetermined the formation of the centre of the village agglomeration at this location.

The centre developed at this site until the founding of Saint Petersburg. According to documents, a village of 18 homesteads existed there in 1500, along with some small villages. It was one of the largest settlements at the mouth of the Neva (Vremennik 1851:119-121). At the end of the 16<sup>th</sup> and the beginning of the 17<sup>th</sup> century, the Rus-

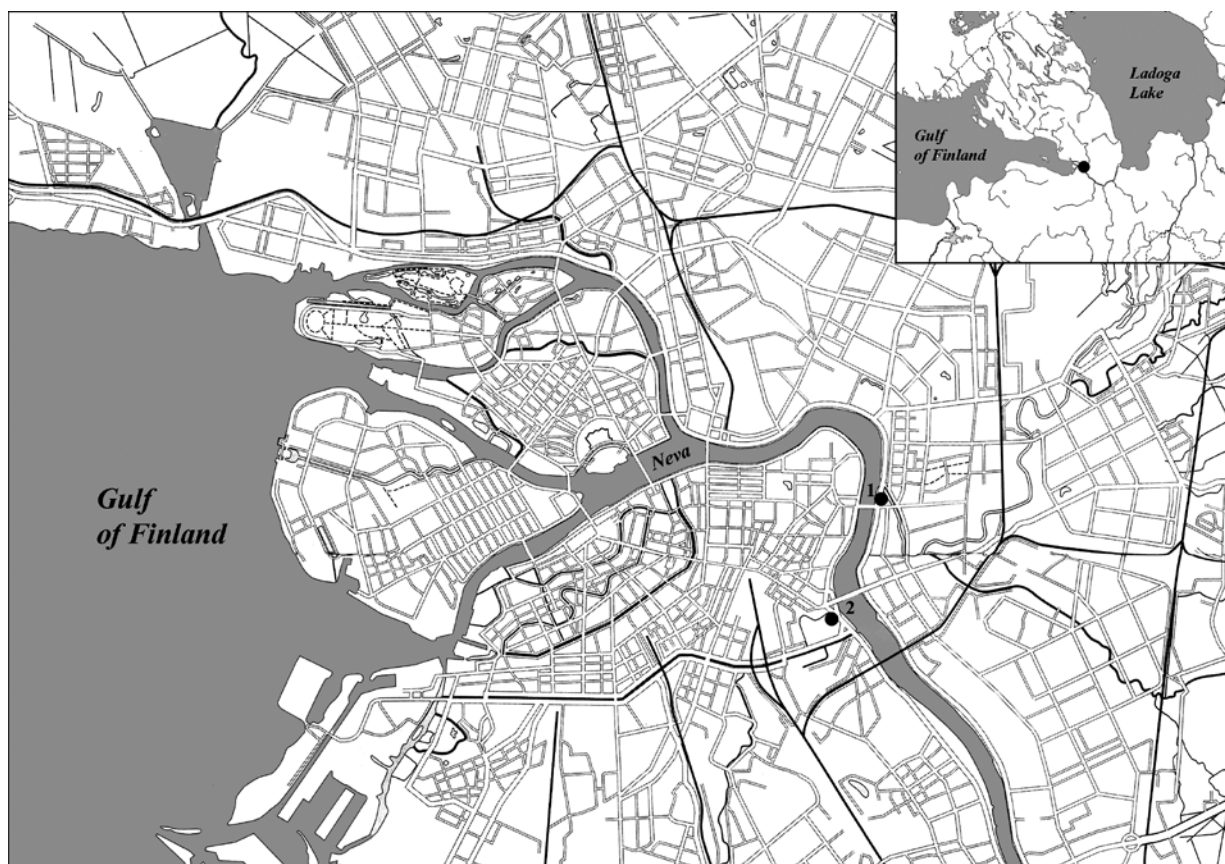
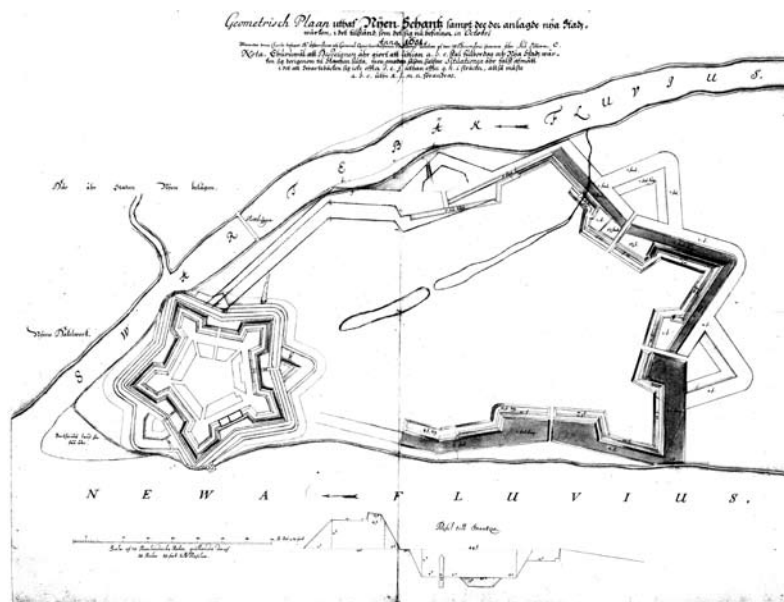


Fig. 1. Alternative locations of Landskrona on the map of Saint Petersburg:  
1. The mouth of the River Okhta, 2. The mouth of the River Chernaya.

Fig. 2. Map of Nyenschanz (Nyenskans) 1681. The Military Archives of Sweden, Stockholm.



sian settlement of Nevskoye Ustye is mentioned here. It included a ship landing-stage, the Tsar's Trade Court, a customs house and the Church of the Archangel Michael. This inhabited locality is known to have been visited by European merchants (Yakubov 1890.; Selin 1998: 269-272, Sorokin 2000, 2001:31).

In 1611 the fortress of Nyenskans was built on the cape between the Neva and the Okhta. It was completely rebuilt after its destruction by Russian troops in 1656 and changed its lay-out (Gadzyazky 1941: 272-275, Bonsdorff 1891: 5-6, Hipping 1909, Lappo-Danilevsky 1913: Nos. 4-6, Munthe D I, 1911:534, D II, 1911: 23-25, 225-227, 521-527, Bless 1938: 74-83) (Fig. 2). Nyenskans was attacked by Russian troops in 1703 and was subsequently partly destroyed (Kniga Marsova 1766: 14-18, Bless 1938:92, Sorokin 2001:81-99).

In the 19<sup>th</sup> century the Okhtinsky shipyard was founded at the site, and in the 20<sup>th</sup> century the Petrozavod factory was established. (Fig. 3). Petrozavod produced small and medium-sized vessels, and equipment for ships (Sorokin 2001:100-110).

### Archaeological excavations and the discovery of the Landskrona fortification

The first prospecting archaeological excavations at the mouth of the River Okhta were conducted by the St. Petersburg Archaeological Expedition in 1992 –1993 (Sorokin 1994, 2001: 40-42, 65-72, 110). In this connection, the cultural layer of the 17<sup>th</sup> century and a cemetery of the 16<sup>th</sup> century were revealed.

In 2006, in connection with a preparation for a new construction project, the buildings of Petrozavod were demolished, which made it possible to continue archaeological excavations in the area.

During excavations in 2007 –2009 on the cape at confluence of the Okhta and the Neva it was established that the ground structures of the fortifications appeared to have been almost complete-

ly razed and levelled in the period of the of the Okhtinsky Shipyard and the Petrozavod factory in the 19<sup>th</sup> and 20<sup>th</sup> centuries. The filled moats of the various periods of the fortification constructions in the area have survived considerably better. It is tentatively possible to indicate four stages of their construction. The last two stages (the third and the fourth) are connected with the construction of Nyenskans - in the first and second half of the 17<sup>th</sup> century (Vozgrin, Shaskolsky 1981., Lappo-Danilevsky 1913: Nos. 4-6). The second stage of for-

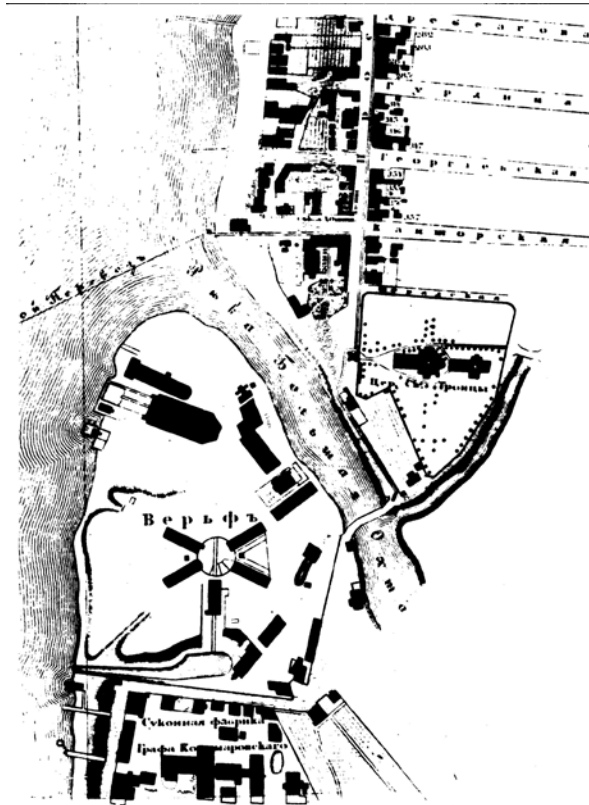


Fig. 3. Plan of the Okhtinsky Shipyard, 1828.

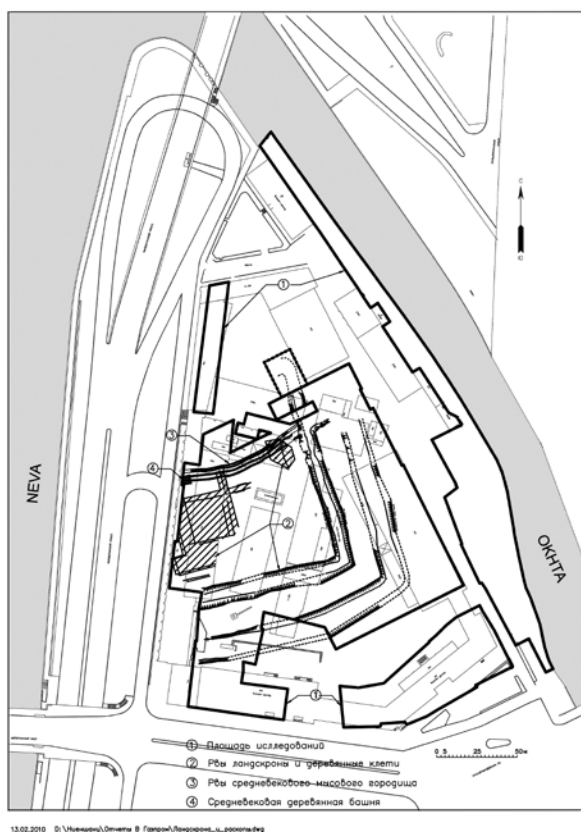


Fig. 4. The Plan of the Landskrona moats according to archaeological research:

1. The excavated area
2. The Landskrona moats and the earthen-wooden line of stronghold structures
3. The moats of the oldest hillfort.
4. The tower.

tification is connected with Landskrona. The first stage has not yet been studied completely.

### The two moats of Landskrona

Two lines of moats related to the Landskrona fortress were investigated on the east side of the cape along the bank of the River Okhta, at a distance of about 40–60 m from it. They proceeded also from the south — the mainland side. The extent of the studied part of the inner moat reaches about 110 m from the southern and about 110 m from the eastern side. (Fig. 4). The extent of the external moat is 145 m and 125 m accordingly (in the northern part the Landskrona moat is blocked by the Nyenskans moat). The moats are dated to the turn of the 13<sup>th</sup> and 14<sup>th</sup> centuries on the basis of archaeological finds and radiocarbon (C14) and dendrochronological analyses.

The southeast corners of both of the moats, which have only been investigated by now, are almost at right angles. The northeast corners have not yet been found. The construction of the moats and their structural features do not have analogies among the medieval fortifications of Eastern Eu-

rope. The medieval moats of the ancient Russian towns were mainly of almost triangular section. (Rappoport 1961: 113–114). The discovered moats of Landskrona were of cut trapezoid form, with a flat bottom, and were faced with timber. The width of the outer moat is about 15 m in the top part and 9.5–10 m at the bottom, with a depth up to 2.4 m. The walls of the moat were strengthened against collapsing with the trunks of young trees, mainly pine, or with split log planks laid on the sloping sides close to each other. At the bottom they were sharpened and sunk into the bottom of the moat and at the base were fixed by a row of vertical stakes, hammered into the soil and strengthened by planks laid horizontal laid horizontally along the sides of the moat. At a distance of 14 to 20 m from the external moat, and running in parallel to it was an inner moat of similar design (Fig. 5). It was approximately 11 m wide in the top part, and 6 m wide in the bottom part, with depth of up to 2.8 m. The walls of this moat had a more abrupt angle of slope of about 60° (Fig. 6).

Thus, the depth of the moats could exceed the named parameters as the level of the surface inside the fortress near the edges of the moats appeared to have been razed in the course of later earthworks and construction. In a number of places it was possible to trace a sandy embankment between the two moats, about 1 m high. It may have represented a rampart formed during the digging of moats. However, it is not possible to trace its full construction because of later construction at the same level.

On the internal slope of the inner moat piles of burnt wooden constructions, possibly the remains of the fortress walls were investigated (Fig. 7). In some places there are considerable concentrations of them, suggesting reinforcements of the fortress towers. Tanged arbalest bolts and socketed arrowheads were found in the timber constructions and in the bottom part of the filling of the inner moat. Among them were two massive 19-cm long arrowheads from ballista-machine arbalests. Two spearheads were found in the moat and in the fortress area (Fig. 8). All these finds of armament can be dated to the turn of the 13<sup>th</sup> and 14<sup>th</sup> centuries. Other finds included wooden items, including stretchers used during the building of the fortress, a decorated beam, and approximately 30 metres of rope.

In the inner moat three layers of filling can be distinctly discerned. The bottom layer with inclusions of charred wood is connected with the destruction of Landskrona in 1301. The middle layer of grey sandy loam, blocked by a cespitose layer, had accumulated until the beginning of the 17<sup>th</sup> century. The top layer of mixed sandy loam, it is connected with the definitive filling up of the moats at Nyenskans construction in 17<sup>th</sup> century.

In the external moat only two layers of filling can be discerned — the layer of the natural destruction of the moat from 1301 to the beginning of the 17<sup>th</sup> century and the layer of the filling up of the moat in the 17<sup>th</sup> century. Judging from the finds, which have been found in the top part of both of the moats,



Fig. 5. The inner Landskrona moat. Photo by the author.

they could have been used in the 16<sup>th</sup> and also at the very beginning of the 17<sup>th</sup> century, when building the initial strongholds of Nyenskans.

About three hundred re-burials were found in the top layer of the fill of the moats of Landskrona on the south side. They included the remains of about 200 hundred people in two places in the external moat, where approximately two hundred

human remains including skulls and bones with traces of re-interment had been placed. Separate human bones and small clusters of them were also found in the fill of the inner and external moats and in other places.

Part of them were the remains of women and children, which permits a connection with a destroyed late medieval cemetery discovered previ-

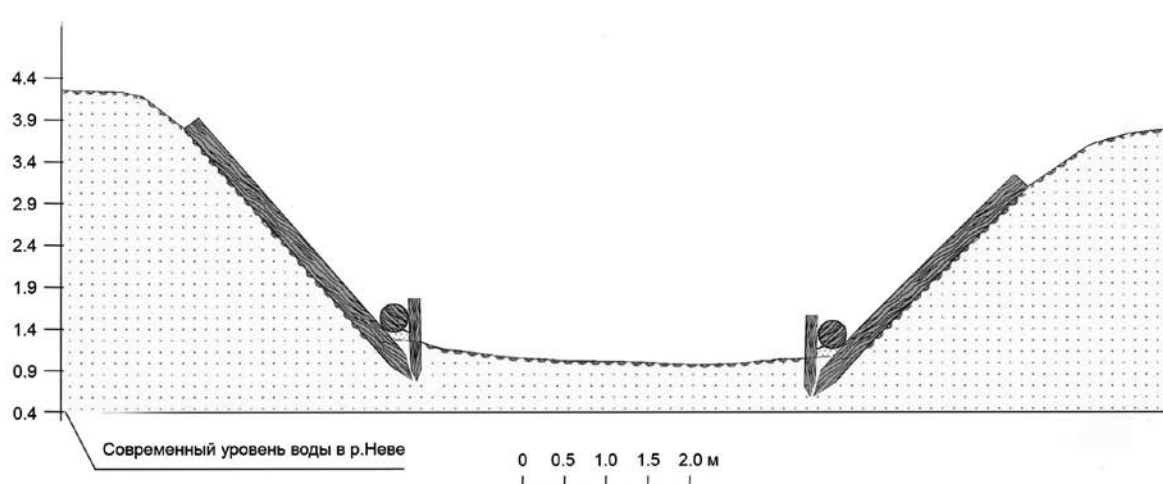


Fig. 6. Reconstruction of the cross-section of the Landskrona moats.

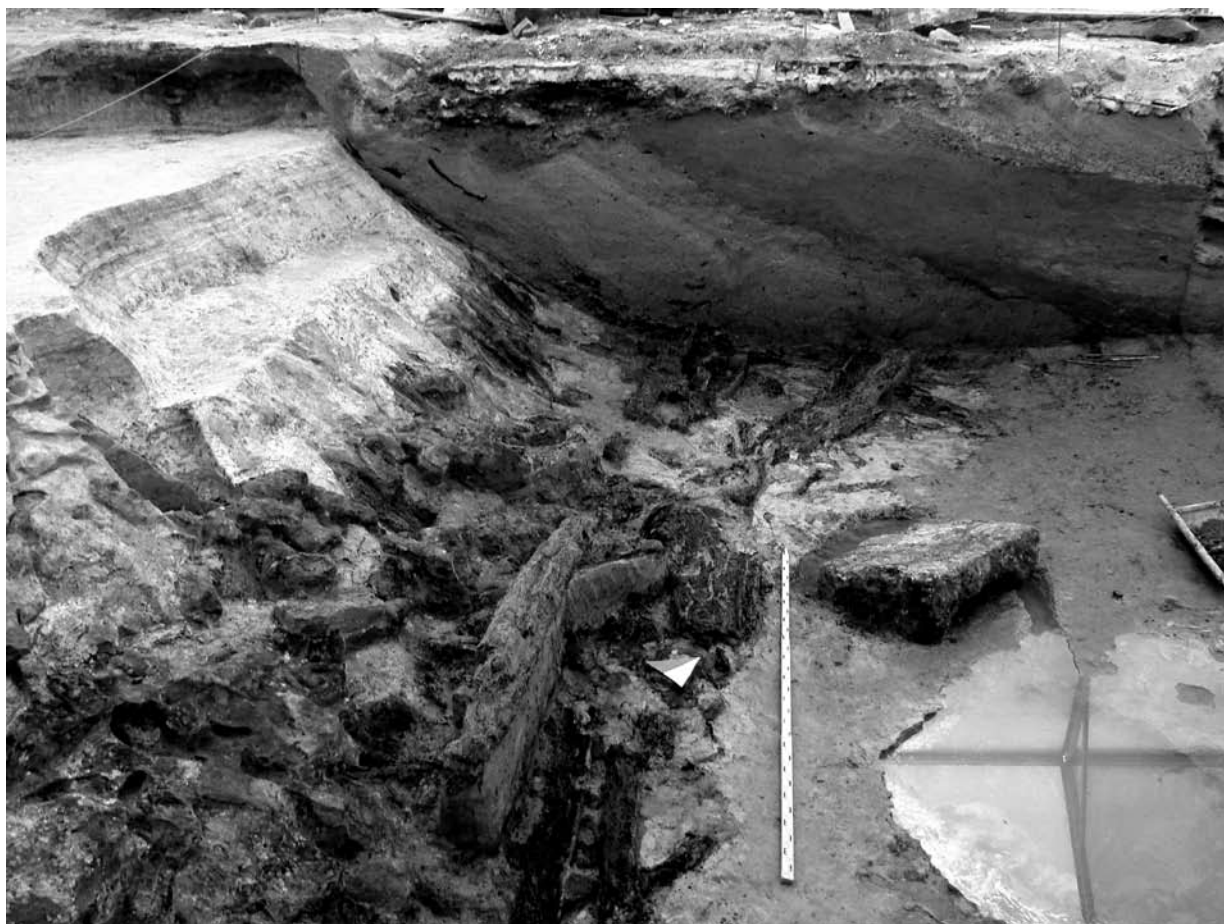


Fig. 7. Burnt wooden constructions on the slope of the inner Landskrona moat. Photo by the author.

ously close to this site on the bank of the Okhta. The preliminary dating of the burial ground is the 16<sup>th</sup> – beginning of the 17<sup>th</sup> century. Although this cemetery is not shown on Swedish maps of the 17<sup>th</sup> century, finds of coins of the time in separate burial locations show that it had coexisted for some time with the original fortress of Nyenskans. The burial ground was partially destroyed in the middle of the 17<sup>th</sup> century, when a bastion known as the Dead Bastion was built at the location.

About 100 remains and re-burials, a considerable part of which were of women and children, have been investigated on the bank of the Okhta, south of the Dead Bastion. It is necessary to note that such a considerable number of burials so far discovered in the whole investigated area is not characteristic of local late medieval cemeteries.

The considerable prevalence of human remains of men of mature age among the 17<sup>th</sup>-century re-burials in the moats of Landskrona can testify that these could be the remains of the Swedish soldiers who perished in Landskrona in 1301, reburied together with other remains in the 17<sup>th</sup> century.

### The fortification of Landskrona

The surface of the part of the cape where Landskrona was located was markedly covered by mixed forest. Differences of elevation (within the level

area) were as much as 2–3 m. In a hollow in the centre of this area was a stream running into the Neva. Extensive foundation works for the fortress had accordingly been made. The standing timber was originally cut down, and minor vegetation was cleared by burning. The channel of the stream channel and other lower parts of the area were filled by fascines cut from the branches of pines, firs, birches, oaks and alders growing there, which served as a corduroy road during the work and provided drainage after it was filled with soil.

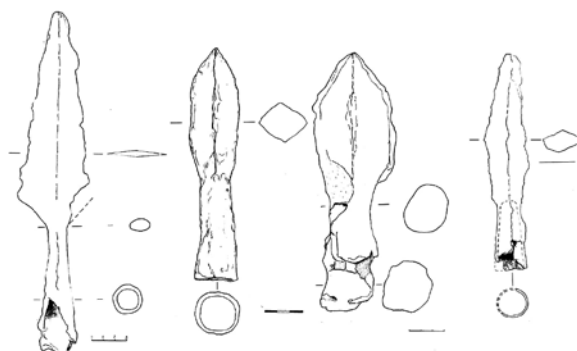


Fig. 8. Spearheads and ballista projectiles.





Fig. 9. The earthen-wooden line of strongholds.

The whole area of the future fortress had been planned with additions to the moats and raised to the level of the highest parts of the cape. For this purpose a level platform area was constructed, the base of which contained lines of cage-like timber enclosures 8 and 16 m wide, made mainly of pine, partially with framework and partially with cross-beam technique. The interior parts were filled with the trunks of young trees, branches, turf and sand. The free spaces of the platform also had the same fill.

The lines of wooden constructions were directed toward parts of the area along the fortress moats and were located at a distance of about 10 m from them. They were best preserved in the lower western part of the fortress.

On the south side, the earthen and timber line of fortification structures has been studied along a distance of more than 45 m. It was aligned east-west and consisted of two parallel lines of enclosures 16 m wide, with the remaining height of over 2 m. In the southwest part, this wall at a turned at a right angle to the north, continuing for a distance of 35 metres along the bank of the Neva and extending beyond the investigated area. The width of this part of the wall is more than 8 m; the height is 3 m. (Fig. 9).

We can assume that the lines of enclosures mark the design of the fortification. The under-

ground wooden constructions were placed in the foundation of the future fortress buildings and they protected the platform from becoming dislodged.

It is difficult to judge the design of the internal constructions of the fortress, since the top level of the constructions was completely razed through later building and construction in this area. This, however, testifies that the fortress was erected as a uniform project and should have had a regular lay-out. It is impossible to exclude also the plans of the erection of stone blocks on the wooden-earthen constructions. Unlike in Finland and Karelia, where the Swedes built masonry fortresses, there was not enough stone here for this. At the same time, granite cobble-stones used as missiles were found in significant numbers in the fortress area, mainly in its moats.

### The strongest tower

In the western part of the internal platform area of the fortress a medieval framework construction was interpreted as the foundation of a tower of the Landskrona fortress (Fig.10). It had been laid at a depth of roughly 4 metres under the ancient surface of the ground – 2 m below the modern level of the Neva. The discovered construction is of square plan (5.5 x 5.5 m). Its surviving height is



*Fig.10. The foundation of the tower of the Landskrona fortress.*

more than 4 m. The tower was built of large dove-tailed logs with a diameter of up to 30 cm.

Inside the framework, which was damaged by fire, cuttings for ceiling logs and the remains of floors at two levels and other constructive details were identified. On the logs of the walls there were notches marked with the number of the log course, showing that the framework was prepared in parts elsewhere.

In the sandy fill of the tower there scorched logs and planks testifying that there had been a strong fire, cobble-stones of various sizes, iron slag, and medieval household goods, the wooden parts of wheels, barrels, and shovels. The revealed tower represents a rare example of a medieval wooden fortification in Northern Europe. Located inside the fortress stronghold it could have served as a lookout tower over the bank of the Neva and a well. At the present time, after the removal of the fill, the construction was temporarily preserved before measures for its conservation.

The revealed tower with its underground parts is a unique construction which can be compared to the cellar mentioned in the Chronicle of Eric as the last haven of the remainder of the fortress garrison during the attack in 1301.

### **The lay-out of the fortification**

On the basis of the studied part of Landskrona it is possible to believe that the fortress had the almost rectangular outline characteristic of regular fortresses. The fortress was surrounded by two lines of moats of almost rectangular lay-out close to the

bank of the Neva. It can be assumed that the western and northern parts fortified in a similar manner. The studied part of the stronghold shows that the internal platform area of the fortress measured at least 110 x 110 m, amounting to 12,000 sq. m. The total area of the investigated fortress is 19,600 sq. m, and the perimeter of the external moat is 140 x 140 m. Landskrona was thus quite a large fortress. It considerably exceeded the size of the initial Vyborg Castle constructed by the Swedes in 1293 under the direction of the same Torgils Knutsson.

The representation of Landskrona as a typical cape stronghold that could be built in a short time, as based on written sources, does not prove to be true.

### **The workforce**

The data of the archaeological research show that besides the digging of the moats here there was large-scale work for creating the wooden-earthen platform for the fortifications. At the same time, according to the written documents, this work had been conducted for only three months from the middle of June to the middle of September; and there were 1,100 men in the Swedish army. Thus, military operations were simultaneously conducted: the expedition of the Swedes to the Karelian Lands and the siege of the fortress by Novgorodians, which undoubtedly would have disturbed the building work. Moreover, the notable warriors who formed considerable part of the army, possibly, did not participate in the building works.



It has been suggested that there were more than 1,100 participants of the campaign as only soldiers were mentioned in the Chronicle of Eric. However, there were also armour-bearers, servants and oarsmen (Jaakkola 1958: 391). But also in this case the forces of the Swedes should not have exceeded 2,000–3,000. At the same time according to the Chronicle this campaign was the largest aggressive naval operation in the East Baltic, as shown by the phrase: «...never have there been seen more good ships on the Neva than then». According to I. P. Shaskolsky, the proportion of soldiers to servants is defined by the similar proportion in the garrison that remained after the Swedish fleet departed, i.e. 2:1. Thus, with a total of 1,100 Swedish troops, there would have been about 370 workers. If the total number of troops was 3,000, there would have been around 1,000 workers (Shaskolsky 1987: 18, 33, 36).

The considerable scale of the work carried out in 1300 on the promontory between the Neva and the Okhta, as noted in the course excavations, confirms the assumption that more men took part in the campaign from the Swedish side than were mentioned in the Chronicle of Eric. The captured local Izhora and Karelian population may have taken part in the work. This alternative course of events could explain fast construction of such a scale and the well-strengthened new fortress.

### **Before Landskrona**

There were no signs of permanent settlement at the site apart from Neolithic, Eneolithic and Early Iron Age finds. The soil layer blocked by the buildings at Landskrona contains a charcoal seam in its top part, testifying that the vegetation had been cleared by burning before the earthworks and building began. A study of the soils showed they were not cultivated at the site. This is also proved by pollen analysis data testifying that there was a mixed forest with a prevalence of pine. In the cen-

tral part of the level area occupied by Landskrona, a natural hollow 20–30 m wide and 1.5–2 m deep leading towards the Neva was discovered. Apparently an ancient stream flowed at its bottom. It had been filled with branches and sandy soil before the construction began.

In the central part of the promontory, to the north of the hollow, the remains of the constructions of a moat and a ditch, deepened from the level of the ancient soil and crossing the cape laterally to the length of approximately 80 m were discovered. The moat was of V-shaped section, with a converging bottom part. It was filled with sandy soil. It was roughly 3–4 m wide at the top and 1.6–1.8 m deep. The ditch dug 1.5–2 m north of the moat and located parallel to it had a humus filling. It was 1.3–1.5 m wide and approximately 0.60 m deep. On the slopes and the bottom of these constructions were timber remains indicating brushwood and tree bark were found. In the moat filling fragments of worked timber were discovered.

Both of these constructions had been filled in the construction of the earthen-wooden fortification of Landskrona, which blocked them stratigraphically. Besides, from the east side they are crossed on the east side by an internal moat of the Landskrona fortress. No datable finds have been found in them. However, considering their stratigraphical position under the buildings of Landskrona of 1300 it is possible to connect their occurrence with earlier times. They could be the remains of the defensive constructions of a cape site of an ancient settlement that existed here before the foundation of Landskrona and belonged to Novgorod or Izhora, which was dependent on it.

### **Conclusion**

Further archaeological research of the area at the mouth of the River Okhta will provide new data on the history of Landskrona and other historical sites existing there.

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