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MONUMENTS OF THE OKHTA CAPE. REAL AND VIRTUAL ARCHAEOLOGY

Under factory buildings

In 1751, one of the first Petersburg historians, a staff member of the library of the Imperial Academy of Sciences Andrei Bogdanov complained of the absence of ancient monuments in the city and recommended preservation of the Swedish fortress Nyenschantz in the mouth of the Okhta River, which had been taken by an assault of the troops of Peter the Great in 1703, as a monument to Russian victories in battles. In the early 19th century, the first historian of Nyenschantz Andrei Gipping made a similar appeal. The remnants of the fortress ramparts and moats were preserved on the Okhta up to the middle of the 20th century and disappeared completely from the urban landscape only when new buildings of the Petrozavod factory were built in the 1970s. Taking into account ever-growing compact industrial planning of this territory, many historians were of the opinion that no traces of ancient monuments remained there.

Nevertheless, in 1992 the St. Petersburg Archaeological Expedition of the North-Western Research Institute of Cultural and Natural Heritage began operations on the site of the Swedish town of Nyen and the Nyenschantz fortress under the program "Studies of pre-Petrine monuments in the territory of Petersburg". Ten prospecting shafts around 3.5 m deep with about 20 m² total area were dug using the Swedish layout plans of the 17th century in several pocket-size areas free from factory buildings, engineering services and asphalt-concrete pavements. The first findings referred to the 16th – 17th centuries were discovered there. Thus, it became clear that traces of the past were preserved there, and further studies were required. Based on the obtained results, we prepared accounting records, and in 2001 the cape where the Okhta met the Neva was put under the state protection as a newly revealed object of cultural heritage. Thus, a legal framework to continue archaeological studies of the territory came to hand. By the 300th anniversary of Petersburg we managed to carry out the memorialization of the place, using funds of Russian and Swedish patrons of arts, namely, to produce a memorial badge devoted to ancient events and to open the first historic-archaeological museum "Landskrona, the Neva Mouth, Nyenschantz" in Petersburg (fig.1). The further large-scale excavations were undertaken in 2006–2009 by the St. Petersburg Archaeological Expedition in connection with the plans of constructing the Okhta public and business high-rise center there. A territory with a total area of about 30,000 m² was studied during that period. Archaeologists were surprised to find a monument under the factory buildings demolished in 2007, unique not only for Russia but also for the whole of North-Eastern Europe. In beddings up to 5 m thick cultural layers and objects were discovered, which were widely separated in time, namely, sites of the Neolithic and early metal age, the medieval hill fort on the Okhta Cape, the thirteenth-century Landskrona fortress, a late medieval burial ground of Nevskoye Ustye, a Russian



Fig. 1.
Model of the Nyenschantz fortress and the town of Nyen at the museum
"Landskrona, the Neva Mouth, Nyenschantz"



Fig. 2.
Excavations of the wooden constructions of the Neolithic sites

settlement of the 16th – 17th centuries, and the seventeenth-century Nyenschantz fortress. Each of them will be discussed below.

Settlements of the Neolithic and Early Metal Age

The cultural layers and findings of the Neolithic and Early Metal Ages (4th – 3rd millennia BC) were revealed across the whole cape, where the Okhta meets the Neva. The first people settled there after the retreat of the Littorina Sea. It is evident from the remnants of wooden structures found there and related to commercial and economic activity of people (fig. 2). Various stone implements, bark goods, a set of amber decorations and also numerous articles, such as ornamented crockery and fishing traps made of pegs and plates, are preserved fairly well. According to a hypothesis of the scientific community, the Neva was always a wide channel between Lake Ladoga and the Gulf of Finland, which remained intact up to the Middle Ages. However, our excavations disprove this point of view. As it has turned out, the settlements of the Neolithic period are separated from the overlying medieval soil layers by sand drifts up to 1 m thick, and scientists referred them to the time of the Neva origin. According to paleogeographers, it appeared about 3,100 years ago as a result of water breaking through from Lake Ladoga to the Gulf of Finland. Our findings testify that after several hundred years people returned to this area. The studies of the central part of the Okhta Cape revealed traces of man's stay there in the Bronze Age (particularly for the northwest 2000–1000 BC) and also in the early Iron Age (mainly in the middle of the 1st century BC – middle of the 1st century AD).

The medieval hill fort

The land in the Okhta River mouth is a high terrain inaccessible for floods, having a good harbor for moorage and protected by water boundaries. Therefore, since the olden times it was considered one of the most favorable places for human habitation in the lower reaches of the Neva. This place occupied a convenient geographical position. It was located at the intersection of the then most important communication routes, i.e. the water route running down the Neva and the land route connecting Novgorod and the Izhora land to Karelia and Finland. The initial fortification was situated in the northern and highest part of the cape. The excavations revealed a defensive ditch of about 80 m long, up to 3.5 m wide and around 2 m deep, which crossed the cape in the east-west direction between the Neva and the Okhta. It was followed by an earthen wall (it is partly preserved), which ceased its existence due to the seizure of this locality by the Swedes and construction of new fortifications by them.

Landskrona fortress

The Swedes set up a Landskrona fortress in the summer of 1300. The first Novgorod chronicle reads: "The formidable Swedish troops came from over the sea and brought with them skilled craftsmen from great Rome from the Pope, founded a town over the Neva in the mouth of the Okhta River and gained a foothold with tenacity, mounted projectiles, boasted of it and named it the Crown of the Land". In line with the Swedish chronicle, the fleet with troops was headed by the governor-general Torgils Knutsson. According to the chronicler, upon completion of the construction, a ditch was dug between the two rivers, and a wall with eight towers equipped with embrasures was built over it, and the troops were placed behind them. After the fleet sailed off, a garrison consisting of 300 men was left in Landskrona. According to the first Novgorod chronicle, on 18 May 1301, the Russian troops headed by Great Prince Andrei, a son of Alexander Nevsky, approached the fortress, and "the town was seized, some townsmen were killed and hacked to pieces,



Fig. 3.
Moat of Landscrona

others were bound hand and foot and taken away from the town, and the town was burnt down and destroyed”.

The traces of Landskrona are found in an area of about 15,000 m². The modern excavations allowed to establish the rectangular form of a regular fortification surrounded by two lines of ditches of 11 m and 15 m wide (fig. 3). The wooden sidewall lining protected them from sliding. It should be noted that our studies did not confirm the idea of Landskrona as a typical cape fortress of those days, which had been formed earlier on the basis of documentary records. It has also been found that to strengthen a site for initial construction, a wooden-earth platform was set in its base. It appears that the fortress was constructed according to a uniform project and involved a regular layout. We studied the base of the burnt down fortress tower in the western line of the fortifications. The tower basement served as a well. Probably, there were plans for construction of more solid structures instead of those built. Some traces of the assault and destruction of Landskrona were found on the slope of the internal defensive ditch. They include burnt down parts of the fortress walls and arbalest bolts, arrow and spear heads.

Nevskoye Ustye

Soon after the downfall of Landskrona, the local population set about developing the territory in the Okhta River estuary. The first description of local settlements (three small villages and a big village with eighteen houses) is found in the Register Book of Vodskaya Pyatina of 1500. The lands in the lower reaches of the Okhta River belonged to two noble boyar families in Veliky Novgorod and after its joining to Moscow in 1478 were included into the property of the Great Prince. Judging by fragmentary documents, as early as in the 16th century these settlements gave rise to a trade center called Nevskoye Ustye. It



Fig. 4.
Moat of the Nyenschantz fortress

included the Church of Michael the Archangel, a pier, the Sovereign's Arcade and a custom-house. International trade was also carried out there. It is known that only in 1615 sixteen ships came here from European towns and Russia. The findings related to the said settlements of the 14th – 16th centuries are represented by fragments of ceramic vessels. A cemetery in the Neva estuary on the left bank of the Okhta River refers to the 16th – 17th centuries. It turned out that a part of them was destroyed or transferred when fortifications were constructed in the 17th century, and another part was damaged by modern engineering services and constructions. As the burials were held in Christian tradition, the associated findings were scarce.

Nyenschantz

In 1611 the Swedish King Karl IX started a military intervention in Russia and ordered to build a fortress in the estuary of the Okhta River holding initially 500 people. The fortress was called Nyenskans (Neva fortification), but later on in the Russian language it acquired a somewhat different, German, sounding, namely, Nyenschantz.

Initially the fortification situated on the cape between the Neva and Okhta Rivers had a rectangular form, but later on its geometry changed. During the Russo-Swedish war of 1656–1661, Nyenschantz was seized and destroyed by Russian troops. However, after the war the city and its surroundings were left to Sweden. The new star-shaped citadel had five bastions and two ravelins. But as far back as the 1670s, the concept of the fortress defense underwent some changes. In his design the architect Erik Dalberg offered to transfer the whole city to the cape between the Neva and Okhta, defending it by an external line of fortifications.

In Nyen, whose population made up about 2,000 people by the middle of the 17th century, the Swedes, Germans, Finns und Russians were engaged in trade, crafts, farming,

fishing and navigation. Its center was represented by a town hall, Swedish and German churches, a school, a port and a shopping place. The urban estate – the village of Spasskoye with an Orthodox church and Russian and Izhora population – was located on the opposite bank of the Neva River on the site of the Smolny Cloister.

In the course of the Northern War, after the Russian troops seized Noteburg, the Swedish command evacuated the population of Nyen in October of 1702, and the town itself was burnt down. On 25 April 1703, the corps of Russian troops under command of Peter the Great started a siege of Nyenschantz. After a mass bombing, which inflicted heavy losses on the fortress, the Swedes surrendered on 1 May.

The excavations revealed a section of the Nyenschantz fortification ramparts which was referred to the first half of the 17th century and consisted of three lines of turf layers. We discovered and studied sizable sections of the fortress ramparts of the second half of the 17th century preserved there at a depth of about 4 m (fig. 4). Their internal slopes in the newly constructed fortress were lined with turf layers about 1.5 m wide protecting the slope from sliding. The round log paling preserved at a height of about 1.2 m was found within 3 m from the rampart wall.

The destruction of the fortress constructions during the assault is traced in different places. The evidence of those days is represented by bullets, canister shots, cannon balls, fragments of cast-iron bombs, stretchers and wheelbarrows revealed at the ditch bottom and also inside the fortress.

Finally, different articles were found in the structures of Nyenschantz which were related to the North-European cultural tradition, including fragments of ceramic and glass vessels, stove tiles, roof tiles, fragments of clayey pipes, leather footwear, woodwork and stone millstones. The substantial quantity of findings on the Okhta Cape refers to the 18th – 19th centuries, when a nursery for plants and a shipyard were located there.

Conclusion

In conclusion we should point out that the excavations revealed unique objects containing information on the historical layout and design of fortification structures of different periods. In line with the federal law on objects of cultural heritage, they should be preserved at a place of discovery. The archaeological studies carried out on the Okhta Cape resulted in obtaining new scientific information on the history of the Neva region and a valuable collection of artifacts related to the 4th millennium BC – 17th century, which allows to pose a question of creating an archaeological museum in St. Petersburg. Organization of an archaeological park would be the best way of preserving the discovered fortress structures (fig. 5).

In 2006 the site of the concentration of unique objects of cultural heritage on the Okhta Cape was allocated by the city authorities for the construction of the “Okhta” social and business center. The project for this complex included buildings set deep into the territory of the cape (up to 12 m), which would have interfered with the preservation of archaeological objects. As a result of mass protests of the public in 2011 the authorities made the decision to carrying out this project in some other place. But plans for building modern structures on the territory of the Okhta Cape, which contradicts the existence of the objects of archaeological heritage here, still exist.

Now a partial conservation of the discovered objects is discussed, together with the transfer of the basic part of the territory with its monuments located under buildings. The creation of their virtual computer models based on the results of three-dimensional laser scanning, which could allow showing them in museum space is offered as one of the ways of replacement of actual archaeological objects.



Fig. 5.
Project for an archaeological museum on the Okhta Cape (architect Elena Melnikova)

The revealed multilayered monument in which it is possible to observe the relief parts of the constructions from various periods of history is unique not only from the scientific point of view but also as museum object. It is necessary to protect both the lay-out of the revealed fortresses and their design features. According to the law such historical constructions get under protection from the moment of their discovery. New construction in the territory containing objects of cultural heritage is forbidden by the law. The works approved by the law on all the territory of the cape are works on the restoration of objects of cultural heritage.

The basic works of the laser scanning of significant sites in Landscrona and Nyenschanz were carried out by experts of the Geographical Faculty of St. Petersburg University alongside the works of the Archaeological Expedition of the North-Western Research Institute of Cultural and Natural Heritage in 2008–2009. This method applied for the first time for the fixing of archaeological objects in the Northwest of Russia allows keeping the full scale of information on the objects and making their three-dimensional reconstruction. However, in this case there is an opportunity of conserving all the archaeological objects discovered in the district, both in the underground space and on the surface. The virtual breadboard model should in no way replace the authentic archaeological monuments. Such reconstruction can serve only as an additional means of conserving and exhibiting the archaeological monuments and starting point for their reconstruction.