Building of alleviated territories of Vasilievsky Island

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Abstract. Reconstruction of coastal area has become an important topic in modern urban development. In St. Petersburg, an active project is underway to reclaim the territory off the western coast of Vasilievsky Island, during which neglected circumstances are revealed, and many criticisms of design concepts appear. It seems that major omissions are caused by the lack of due attention to the experience of urban development in St. Petersburg. The article analyzes the development of coastal area in the east of Vasilievsky Island, identifies the key points that determined the formation of the Spit ensemble during the 1800s and radical reconstruction during the 1900s.

1. Introduction
The reconstruction of coastal area has become an important goal of modern urban development in many coastal metropolises - from Singapore and Dubai to Oslo and Copenhagen. In 2005, the Government of St. Petersburg announced its intention to additionally reclaim more than 400 hectares of land off the west coast of Vasilievsky Island with the purpose of “developing territories, building main waterfront and increasing the attractiveness of St. Petersburg for tourists” [1]. This project is being actively implemented. In the course of work, neglected circumstances are revealed, additional conditions are put forward. Many critical comments are made both on the content of the project concepts and on their implementation. It seems that major omissions are caused by the lack of due attention to the experience of urban development in St. Petersburg. The article analyzes the development of coastal area in the east of Vasilievsky Island, identifies the key points that determined the formation of the Spit ensemble during the 1800s and radical reconstruction during the 1900s.

2. Alluviated territories of Vasilievsky Island
Vasilievsky Island has a special place in St. Petersburg city planning:
- firstly, its territory located in the central part of the city is washed by the waters of both the sea gulf (in the west) and the rivers of the Neva delta along the rest of the perimeter;
- second, approximately half of the island's modern territory is made up of land obtained as a result of three alluvial deposits.

Urbanization processes on Vasilievsky Island, which is clung to the water, were largely determined by the possibility of developing waterlogged or periodically inundated lands. The attention paid to the hydrological conditions in St. Petersburg in the XVIII-XIX centuries is shown in figure 1, where the indistinctness of coastlines and the outlines of coastal shoals are revealed in detail. At the first stage, relatively dry coastal strips were used for construction. Here the soil was compacted with sand and gravel drifted by the river. An important role in the development plans for the island was given to the
system of canals designed to drain the land of its mainland. When they decided to turn Vasilievsky Island into the central part of the future metropolitan city, the dumbbell layout of functional centers appeared, which was predetermined by the presence of two naval services: for the navy – the Galernaya harbor with a sailor’s settlement was created on the Gulf of Finland in 1721, and for commercial fleet – they began to develop a warehouse complex along the banks of the Malaya Neva (its main buildings are located near the Spit). These two ports were connected by a road that led along the clearing from the Menshikov Palace through the undeveloped grounds of the large wooded swamp of the Smolensk field. In figure 1 the route is indicated by a red dotted line.

Figure 1. The formation of the territory of Vasilievsky Island at the expense of alluviums (based on the map “The mouth of the Neva River”, 1834 [2] (from the collection of the Russian National Library. Fragment).

3. The transformation of the Spit in the XVIII – early XIX century.
Reconstruction of the Spit, which began at the end of the XVIII century, was the first link in the chain of urban planning transformations that radically changed the appearance of St. Petersburg by the end of the 1830s. The cargo port located here was on the rise, and it needed to be expanded. Since 1783, according to the project of D. Quarenghi, one of the warehouses was built in the Northern part of the site, and they began to build an exchange, necessary for the customs and excise authorities. When the building was about topping out, they had to stop the construction – it was considered that the architectural appearance of the building did not correspond to the high artistic level of the landscapes along the Neva river. "Between the South-Western Cape of the Vyborg side and the Spit of Vasilievsky Island, the river is particularly wide. Its width reaches almost 600 meters, and in front of the Spit the banks part for almost a kilometer. This central water area of the Neva river with a length of approximately 2.5 kilometers can be considered the main square of the city. This unique landscape is the most important monument of urban planning and architecture of St. Petersburg"[3]). Even Peter I and D. Trezzini highly appreciated the potential of the Neva water area in the place where the river channels off to the Big Neva and the Malaya Neva. They decided to turn the 400-meter facade of the Twelve colleges to this space, placing the huge building with its side facing the Big Neva. The construction of the building on a swampy, waterlogged cape required considerable effort. More than 2,000 piles had to be driven into the foundations, and a canal was dug up along the main facade for drainage [4].

Since the 1730s, construction activity on the Spit stopped. The urban development endeavours of Peter I and D. Trezzini were not continued until the beginning of the XIX century, during the reign of Alexander I, who attached exceptional importance to the aesthetics of St. Petersburg. I.E. Grabar quotes the text of the magazine "Otechestvennye Zapiski" ("Domestic notes"): "He wanted to make St.
Petersburg more beautiful than all the capitals of Europe he had visited." The emperor decided to give a proper image to the Exchange, the decaying walls of which were visible from the windows of the Winter Palace, and charged J.-F. Thomas de Thomon, who had arrived in Russia shortly before, to restruct it. On January 30, 1802, a decree was issued: "I order to include Architect Thomon, accepting him to the Russian service, in the Cabinet department and pay him a salary of two thousand rubles a year" [5].

By that time, Saint Petersburg had become a major metropolis, with a population of more than 200 thousand people. The center was being improved, and a dense front of luxury mansions was being built on the imbanked English and Palace embankments. The wide water of the Neva, lying opposite the windows of the Winter Palace, was already perceived as the main open space of St. Petersburg, requiring a representative design [6]. In the emerging front perspective, the unfavorable site in the eastern part of Vasilievsky Island looked dissonant. At the end of the 1790s, "a large irregular, still unpaved, partly swampy area, surrounded by the buildings of the Academy of Science, State colleges, Stock Exchange and Customs barns" [7] preserved there.

Under these conditions, the decisive factor for the project of Thomas de Thomon was not the utilitarian and applied side of the reconstruction, but the compositional and artistic settings that determined the development of St. Petersburg in the late XVIII - first third of the XIX century. Then the figurative expressiveness of the soldier’s barracks or industrial facilities being built in the northern capital could compete with aristocratic palaces (one can recall the Tuchkov Buyan, which many called the Biron Palace, the Izmailovsky proviant warehouses, the barracks of the Pavlovsky Regiment on the Field of Mars, and the Salny Buyan). Thomas de Thomon's ambitious ideas found receptive audience. The fresh look of the architect revealed the previously unnoticed potential of interaction between coastal development and the Neva river. Using his experience and accumulated impressions, he found opportunities to use European images in St. Petersburg. A. Zakharov joined the work. Variants of the Parisian Dauphin Square and the Repet Roman Embankment appeared on the banks of the Neva - but already at a new qualitative level, and in the Russian style (figure 2).

Work on the Spit continued for almost three decades. To achieve the desired effect, huge financial and production resources were attracted. With the help of soil filling, not only the mark of the swampy lowlands was raised, but also the shallow water adjacent to the cape was covered. Thanks to this embankment, it was possible to form a semi-circular area with a diameter of almost 200 meters in the adjacent water area and create a base for two 30-meter massive rostral columns (for each of them,
bases of six-meter piles and a stone grillage with a thickness of 5 m and dimensions in plan of 18x21 m were additionally prepared) [4].

The transformation of the Spit of Vasilievsky Island in the first third of the XIX century demonstrated many innovations in Russian urban planning:

- for the first time, an architectural ensemble was purposefully fully formed, planned in advance;
- the urban planning composition combined two different elements - the open spaces of the coastal College Square with the large expanses of water of the Neva;
- on such a scale and so actively was used the invasion of sharply defined coastlines on the city's water area.

The length of the granite embankments was 600 meters. The business building of the exchange acquired the shape of an ancient temple, and the utilitarian bulks of bonded warehouses (short-term storage of commercial goods) flanking it - the monumental architectural design. The result exceeded expectations - the framing of the “central Neva square” received a key accent element, which became one of the symbols of the “northern Palmyra”. G.K. Lukomsky in 1911 described it as follows: "The exchange of Thomon and the entire project of splitting the semicircular embankment of the island are truly grandiose" [8]. A unique ensemble emerged, combining the buildings of classicism with the buildings of the Peter the Great era, which became one of the universally recognized symbols of the “sea capital of Russia”.

4. Reconstruction of the Spit in the 1900s.

The wonderful ensemble remained unchanged for almost 70 years. The start for a radical reconstruction was given in 1894, when they finally built a bridge from the Spit to the Petrograd Side (previously there was no such possibility, since the channel of the Malaya Neva was filled with merchant ships of the cargo port). The shortest direct route from the city center to the Petrograd Side appeared. The Spit lying on this way turned out to be a key element of the transport communication system - a magnet for placing various important objects (figure 3).

In a short time, infill development began, which involved the destruction of the existing historical objects:

- in 1899, the Old merchant court, built by D. Trezzini, was dismantled in order to make way for the Ministry of Trade and Industry and the General Directorate of Unassessed Tax and State Sale of Drinks;
- in 1899-1904 College Square ceased to exist - its open space was densely filled with the buildings of the Imperial Clinical Midwifery Institute, which moved from the remote shores of the Fontanka closer to the Winter Palace.

![Figure 3](image-url). Reconstruction of the Spit of Vasilievsky Island on the verge of the XIX and XX centuries. The bulk area is highlighted in a dark tone. The red line is a traffic flow that appeared after 1894. Black and white coloring shows the objects of reconstruction: Γ - the Old merchant court, Ω- College Square, З- the planned alluviation with the installation of a concert and exhibition hall.
These manifestations of "urban-planning vandalism of the end of the XIX century" [6] were soon supplemented on the Spit of the Vasilievsky Island. In 1901, it was proposed to place a large concert and exhibition complex on the Spit. The local territorial resources were already exhausted, so it was planned to get a building site by overfilling in shallow water in front of the semicircle of the exchange square. The design concept was determined solely by financial calculation: invasion to the Neva was much cheaper than buying a large plot of land in the center of the capital [9].

The project successfully passed all stages of expertise. However, in the end, they took into account that the new bulky structure claimed to be the dominant element in the panorama of the Neva banks, and (although at that time the protection of historical heritage in St. Petersburg was only beginning to manifest itself), investors were asked to find another place for the complex. The idea lost commercial interest, the project remained on the shelf.

5. Problems of the modern Spit.
In 1925, according to the project of L.A. Ilyin, a green area on the cape in front of the Exchange was given an updated look. This transformation can be seen as a unique demonstration of the possibilities of "beautification of small forms". By minimal means, the architect achieved a remarkable urban-planning effect - a series of cut trees conceived by him revealed the characteristic semicircle of the Spit coastline and became an important element of the wide Neva panorama (figure 4). In the 1960s, it was possible to remove from this magnificent picture the brick pipe from the Ott Clinic, which caused a negative reaction from the very moment of its appearance. At the beginning of the XX century V. Ya. Kurbatov wrote: "... a magnificent view of the branching of the Big and Malaya Neva, the palaces and the fortress. Unfortunately, the view is spoiled by a factory chimney that has grown up behind the Exchange" [10].

![Figure 4. The view of the Spit of Vasilievsky Island.](image)

Nowadays the Spit has become a place of active urban life. Mass events are held and the citizens walk here. It attracts numerous groups of tourists who come from all over the world to admire the famous panoramas. A lot of people, especially in the summer months, are cut off from the Exchange and the mainland of the complex by a heavy traffic flow, and concentrated in the pedestrian zone of the coastal square. To make full use of the unique potential of the place, experts suggest freeing the exchange square from cars by moving all transport underground [11], but no one has decided to implement such projects yet.

The prospects for using the view potential of the Exchange and former warehouses look more realistic. Panoramic cafes on the terraces of the Orly and Ufizzi museums, a viewing platform on top of the Triumphal arch have been enjoying success for many years. In the Peter-and-Paul Fortress, a pedestrian gallery was built over the walls of the bastion [12], options for access of tourists to the roofs of the Hermitage [13] are considered, and the tourism industry of St. Petersburg became
interested in such objects [14]. In connection with the planned reconstruction of the Exchange building, it is possible to equip an observation deck on the podium of this building and place an open cafe on the flat roof. It can be assumed that in the former warehouses there is a place for such tourist facilities. The potential of the Spit allows citizens and tourists to view the wonderful landscapes of the "main square of the city" from the top points [3].

6. Conclusion

The exceptional success of the Spit formation project at the beginning of the XIX century shows that the nature and character of the architectural structure at a fundamental level was predetermined by a combination of circumstances:

- the change in the directive, the formulation of a major urban development task (from the construction of business buildings for the needs of the port and the reconstruction of the exchange to the formation of an accent element in the ensemble of the "main square of the city");
- the availability of the necessary funding and a focused, comprehensive management (in 1825, the authorized “Commission for the completion of the buildings on the exchange square” was created, which ensured the coordination of all design and construction activities);
- active use of the entire potential of the site (from the shallow water that allowed the land to be filled up to the unique architectural landscape that was formed at the beginning of the design);
- creative potential of architects and highly qualified builders.

Not all of these features can be taken into account in modern urban planning practice, but the circumstances of the reconstruction of the complex at the beginning of the XX century are also of interest:

- the motive for radical transformations was a change in the transport situation, a close connection to the functional structures of the city center;
- an unprecedented pressure, caused either by financial considerations or by the personal interest of persons in authority has such power that it can lead to unpredictable and shocking changes in the existing development.

These considerations suggest that the current state of the quarters of the “Waterfront” island created in the west of the island, which provokes stinging remarks by journalists who fear the appearance of the Vasilievsky version of “Shushary-2” [15], or “Murino-2” [16], should be considered temporary. The ensemble on the Spit remained unchanged for about 70 years, the Leningrad version of “access of the city to the sea” in the north-west of Vasilievsky Island lasted no more than 40 years. The current pace of urban development suggests that the currently implemented concept of the “Waterfront” might undergo radical corrections in the foreseeable future.

References

[1] On alluviated territories. Fontanka.RU. https://www.fontanka.ru/2005/06/21/144530/
[2] Kronstadt - 300th Anniversary. http://expositions.nlr.ru/Kronstadt/
[3] B.M. Kirikov The Main Square of St. Petersburg. https://adresaspb.ru/category/geography/chast-goroda/glavnaya-ploshchad-peterburga/
[4] Sorokin P E and Semenov S A 2003 Archaeological excavations at the building of the Twelve Colleges in 2000-2002 Archaeological heritage of Saint Petersburg (Saint Petersburg) 1 124–159
[5] Grabar I E1912 History of Russian art. Architecture. Volume III. Petersburg architecture of the XVIII-XIX centuries (Moscow: ed. Knebel)
[6] Lisovsky V G 2004 Architecture Of St. Petersburg. Three centuries of history (Saint Petersburg: Slavia JSC)
[7] Georgi I G 1794 Description of the Russian-Imperial capital city of Saint Petersburg and the sights around it (Saint Petersburg)
[8] Lukomsky G 1911 Our architecture from Peter I to Nikolas I (about the architectural exhibition) Apollon 5

[9] Design of a concert hall in St. Petersburg in 1901. 1900 Builder's Week 41

[10] Kurbatov V Ya 1913 Petersburg: an Artistic and historical essay and review of the artistic wealth of the capital (Saint Petersburg: brotherhood of St. Eugenia)

[11] Experts suggest relocate cars from the Spit of Vasilievsky Island under the ground. https://www.dp.ru/a/2012/05/08/Specialisti_predlagajut_ub

[12] Overview route "Neva panorama". https://www.spbmuseum.ru/events/61/47021/

[13] Guided tours will begin on the roofs of the Hermitage. http://www.visit-petersburg.ru/ru/news/241/

[14] St. Petersburg roofs have become a legal tourist attraction of the city. http://spbtourkit.ru/2017/07/03/peterburgskie-kryishi-stali-legalnym-turisticheskim-obektom-goroda/

[15] How they make Shushary-2 from the waterfront of St. Petersburg. https://www.fontanka.ru/2017/11/08/105/

[16] Alluviated territories of St. Petersburg. https://gre4ark.livejournal.com/468623.html