

*View of Odessa, artist Carlo Bossoli, 1845*

# Genesis of the formation of the cultural and social core of Odessa

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## ABSTRACT

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The architectural and spatial environment of the city is an important part of the cultural heritage, a carrier of information about its formation. The life cycle of a diverse architectural environment forms a series of stages - from the concept-creation-realization-alterations-degradation and, finally, partial or complete loss. The main idea, the scenario of modeling the environment-phenomenon of Odessa was in the priority development of culture. The construction of the first City Theater in 1809 on the plateau of the coastal zone determined the formation of a system of rhythmically iridescent spaces of a social center. An analog of the ancient forum - "Odessa Acropolis or Odessa Agora" - was created at the intersection of Lanzheronovskaya and Rishlevskaya (Decumanus and Cardin) streets in full accordance with the recommendations of Vitruvius. After the theater was destroyed by fire in 1872, the project of the new theater was developed by the Viennese architects F. Fellner and H. Helmer. The size of the new Opera and Ballet Theater for 1,728 seats significantly exceeded the volume of the former, and the main planning axis of the theater was changed by 90 degrees (1884-1887). This actually became an act of destruction and the loss of the original intention of the script by architect G. Toricelli on the formation of the solemn "Road of Processions". Elements of the architectural environment of the cultural center gradually adapted to the new changes. The process of the evolution of the environment often creates more contradictions and problems than it solves. The problem lies not only in avoiding alterations and losses but in how to preserve the value-psychological core of culture.

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## KEYWORDS

*heritage, evolution, losses, cultural core, Odessa*

## 1. TOPICALITY

The successive development of all systems of the city, in fact, its permanent reconstruction necessitates the study and documentation of not only the existing state but understanding of the entire logic of the formation and formation of the city at all stages of its development, especially its cultural and social center. The evolution of the formation of a social complex is considered from the standpoint of the cultural conditionality of its origin and development, and the forms of architecture as cultural forms of expressing the ideals of society. The main idea, the "essential" core of modeling the urban environment of Odessa, was in the priority development of culture. The architectural ensemble arises when the material form and culture define a whole system of connections, interactions of people, create something valuable by contacting each other. Architecture is the result of our meeting with material space and bringing cultural meanings into it. The search for these meanings is possible only within the framework of the corresponding cultural tradition, in this case - the classicism of the end of the XVIII century. - the beginning of the XIX century, when the genetic code of the phenomenon of the port city of Odessa was laid.

## 2. CONCEPT CREATION

The project-concept of the military engineer Franz de Volan in 1794 defined the features of the composition-planning structure of Odessa, the solution of its central core, the basis for future development (Fig.1). The architecture of the center in question, as a form of cultural transmission, was formed gradually, acquiring various features. In full accordance with the recommendations of Vitruvius, the core of the future city - an analog of the ancient forum - was formed at the intersection of Lanzheronov- and the first City Theater, 1809-1810 skaya and Rischevskaya streets (Decumanus and Cardin) (Dobrolyubskii, 2016). In topographic terms, it is a long stretch on the slope of a plateau, with good perception from the sea.

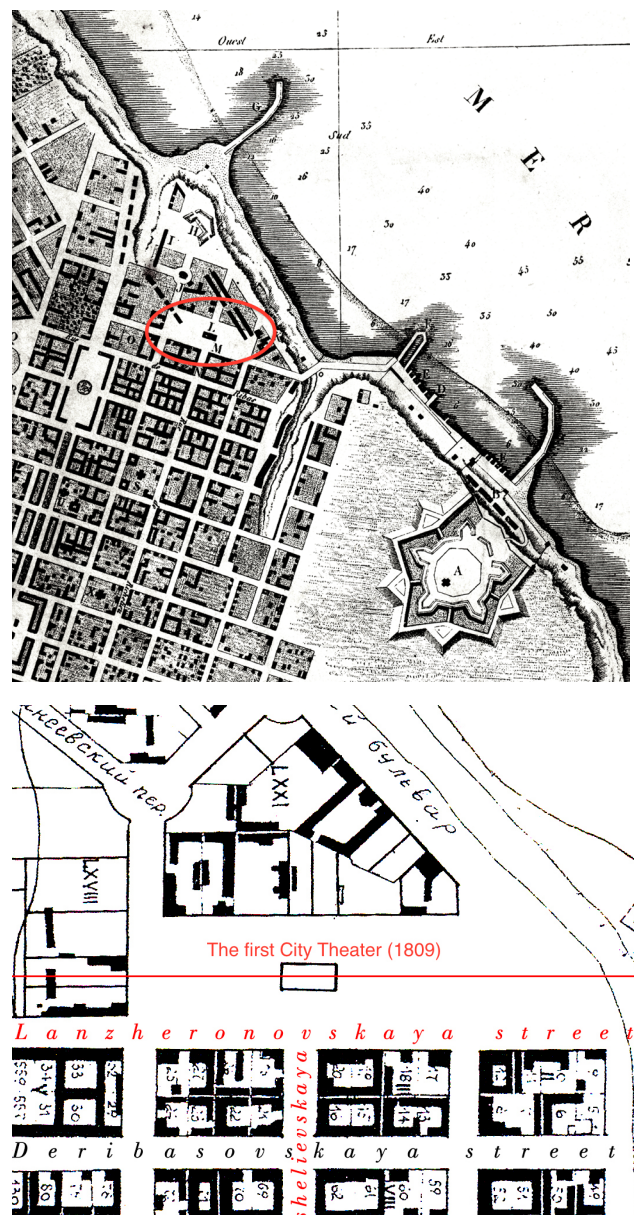
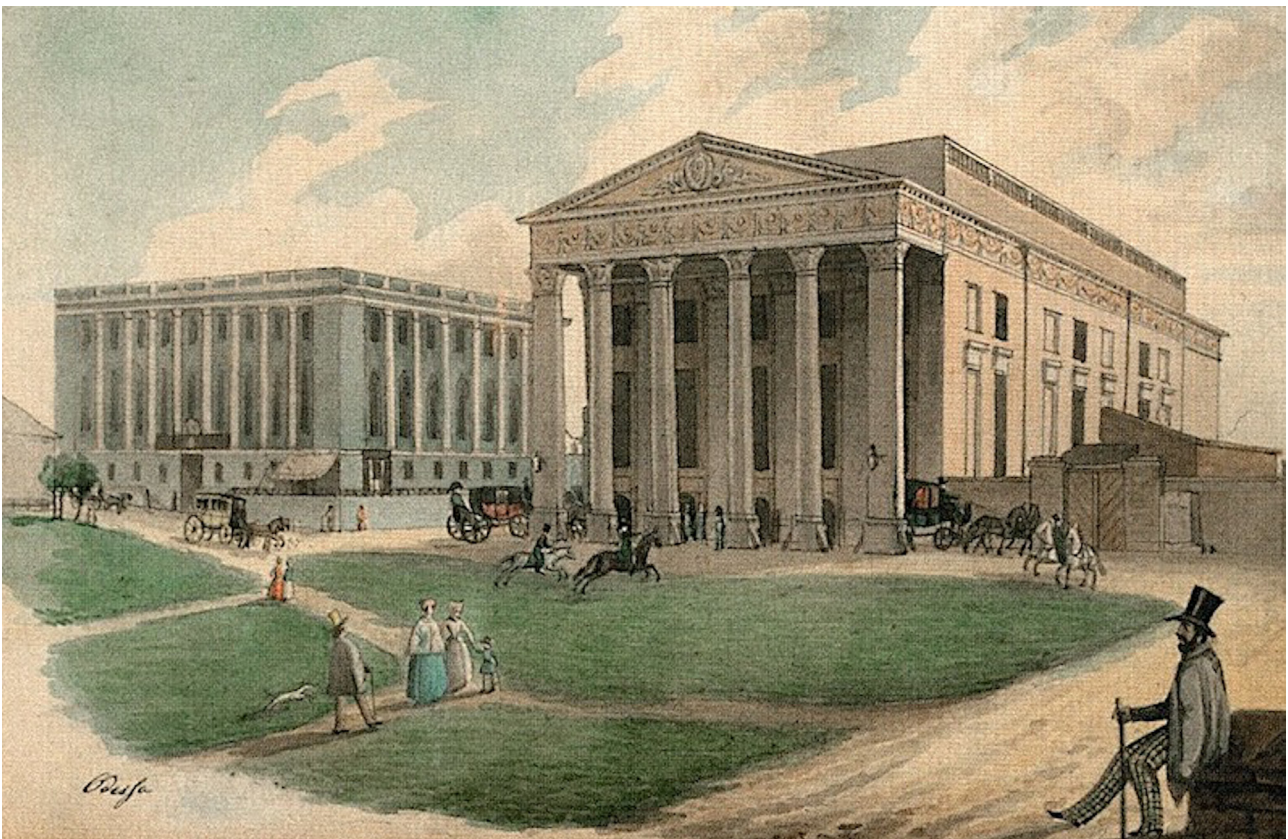


Figure 1.  
Map of Odessa

This "spot" is the cradle of Odessa, the center of its crystallization, the first socio-cultural complex (Gybar, 2003). Allocated space and time are considered in the work as a category of philosophical and cultural values. This space was originally a gathering place for city dwellers. At the intersection of these two streets, a lot was happening, about which we can say "the first" or "for the first time." In the Asporidi coffee house on September 14, 1789, José de Ribas with officers celebrated the capture of Hadzhibey fortress. And five years later, on the day the city was founded, on August 22, 1794, the first building was laid here - the house of Prince G. Volkonsky. The first Odessa hotel. The first City Theater. The first restaurant where "wine from the cellars is brought to the table by the complaisant Otton" (A. Pushkin). In fact, this "local lore reserve"

concentrates times and mores, past and present. The construction of the City Theater on the plateau of the coastal zone determined the compositional axes of the public center of the city (Fig.2). According to ancient Greek mythology, entertainment facilities of the sanctuary, the sacred habitat of the god Apollo and nine muses, this is a theater and a stadium. Theatrical, musical life of Odessa began long before the construction of the theater. On noisy bazaars and squares, wandering troupes gave presentations, shows and festivities were held.

Figure 2.  
*First City Theater of Odessa*



Taking into account the principles of ancient town planning in 1803, Academician of the St. Petersburg Academy of Arts, Jean-François Thomas de Thomon, designed the theater on a dais with the possibility of a review from land and sea. Construction work was led by local architect Franz Frapolli. He made most of the changes as the building was erected. Six columns on a high base supported the triangular pediment of the main entrance, facing the sea. The theater made a great impression on the audience, on Prince I. Dolgoruky: "The theater is one of the most beautiful buildings in the city and in the best place" (Il.). A. Pushkin often visited this theater, as he wrote in the poem "Eugene Onegin": "But the evening is getting dark blue, It's time to go to the opera soon! There the delightful Rossini, Europe's darling - Figure 3. Buildings Rishelyevskaya street Orpheus! "(1823-24). Staging the theater on an elongated plateau - the longitudinal axis of the building parallel to Lanzheronovskaya street - determined the further modeling of the space around the theater - organizing semicircular and rectangular squares, continuing Rishelyevskaya and Ekaterininskaya streets to the edge of the plateau. (Timofeyenko p. 8). The maximum width of the streets between the houses (30 m) set the scale of the "scene" of human behavior with a commensurate spatial "ramp".



**Figure 3.**  
*Building Rishelyevskaya  
street*

### 3. ADDITIONS

The decision of Duke de Richelieu on the construction of the theater has intensified land acquisition and building along adjacent streets (Fig. 3). A number of public buildings were built next to the theater - the residence of the governor and military governor, police chief, stock exchange, the first aristocratic club, a hall for balls and meetings, a commercial casino, a hotel and a restaurant, a bank, etc. A compact system of the administrative and cultural center was gradually formed from the connected and rhythmically iridescent spaces of the boulevard, the Stock-exchange and the Theater Squares.

The use of trade as a means of attracting the public to an environment "sanctified" by cultural objects is quite natural for the urban environment. Architect G. Toricelli designed a square of retail shops, inscribing a multi-functional complex into the existing space of the parade ground behind the theater (Fig.4). Trading benches in the form of a continuous order arcade were called Red benches, the Shopping Gallery, the Gostiny Dvor, and even, by analogy with the French, the Palais Royal. This chamber space for trade and entertainment

has become a favorite vacation spot for Odessans and guests of the city (Parrinello, 2015).

The archive has preserved the conceptual proposal of G. Toricelli on the completion of the unified ensemble of the cultural and social center of Odessa in the 30s of the XIX century. In addition to solving on one urban axis - the Palais Royal shopping complex, the Municipal Theater, the English Club, the Museum of the Society of History and Antiquities, public buildings were fixed, fixing the Theater Square. Initial figure, materials by Pisimak Y.) However, they were not implemented.

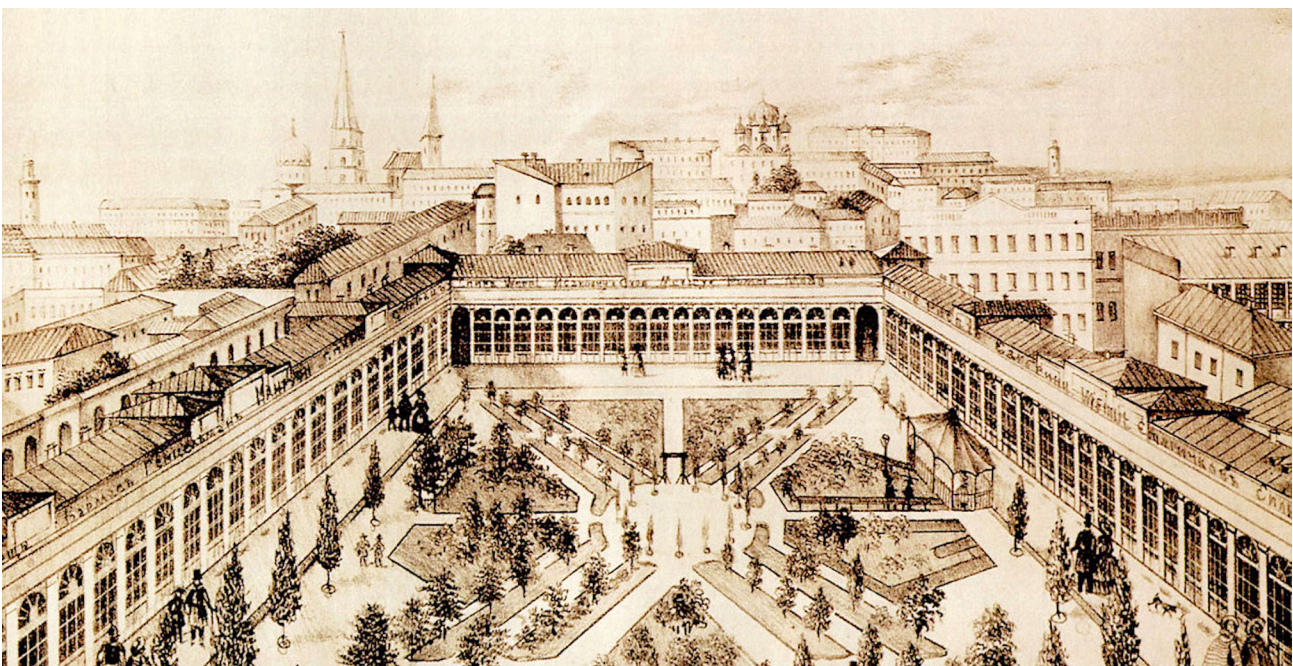


Figure 4.  
*The Palais Royal*

#### 4. CHANGES

The building of the first Municipal Theater was rebuilt several times, after the next reconstruction, on the night of January 1, 1873, it completely burned down and was not subject to restoration (Fig.5.). This destruction was a turning point in the subsequent changes in the spatial composition of the city's core.

The rapid economic development of the port city with a population of 250 thousand inhabitants demanded the creation of a decent municipal theater.

By decision of the Duma in 1875, a competition was announced for the project of a new theater. The idea of building an opera and ballet theater in the south of the Russian Empire attracted architects from many countries. However, none of the 40 projects submitted by the jury was deemed worthy. The work of the theater commission was interrupted by the Russian-Turkish war (1877-78).

The project of the theater for 1800-2000 spectators was commissioned to develop the famous Odessa architect A. Bernardazzi, who prepared many sketches and drawings. However, the estimated cost of the theater building exceeded the amount of 600 thousand rubles, therefore the city authorities turned to the architectural bureau F. Fellner and G. Helmer in Vienna. According to their projects, theaters have already been built in Vienna, Budapest, Prague, Krakow, Warsaw, and other European cities. The project of the theater of Viennese architects was approved by the city government of Odessa and Emperor Alexander III.

In 1887, the construction of a new city theater was completed (Voloschyk, 2003).

The plan of the building is formed by the characteristic horseshoe-shaped form of the auditorium with the

covering galleries of the foyer and the complex of the stage part. The auditorium with unique acoustics has five tiers for 1600 spectators and 320 doors for entry and evacuation. Overlapping of buildings metallic truss system. The area of the stage for staging operas and ballet performances was 500 m<sup>2</sup>, the rear scenes were 200 m<sup>2</sup>, the portal width was 15 meters, and the height was 12 meters. 1.5 million rubles were spent on the construction and equipment of the theater (Voloschyk, 2003). When reviving the classical language of architecture, different aspects become accents, contributing to its numerous interpretations. The volume of the building consists of three levels. The first (ground) and second floors of the theater are decorated with loggias with columns of the Tuscan order, which give the building a rhythm and stability. The upper floor - with the refined processing of details of arched loggias, columns, pilasters of the Ionic and Corinthian order - creates the illusion of airiness. On both sides of the theater, there are side porticoes typical for the Viennese Baroque, three-arcade galleries that contribute not only to the visual

expansion of the building but also to the feeling of its "tightness" and "capture" of the public garden space. All the gestures of the building - wealth, extravagance, exoticism - were conceived for the sake of theatrical effect, every detail became part of the whole. The central two-tier portico is designed as the most monumental and expressive part of the facade. The main entrance to the theater is framed by two sculptural compositions on the themes of ancient works. Mythological plots are filled with meaning, imbued with vitality. The compositional decision of all five sculptural groups of the main portico was made by the Viennese sculptor F. Fridl. The synthesis of sculpture, painting, and architecture formed a monumental-decorative unity, struck the audience's imagination with its scope. All kinds of arts are masterfully applied also in the drama-turgy of the interior. Magnificent staircases with pink and granite balustrades decorated with elegant bronze candelabra figures. The ceiling of the auditorium is painted by the Viennese artist F. Lefler in the form of medallions, which were picked up by the ascending air flow. The openwork details of a huge 1.5 tons chandelier are made with special grace. All sorts of lamps, chandeliers and bronze inlays are originally solved (Interiors, 2014).

In the beautiful building, a rich creative atmosphere raged. In Odessa Opera and Balet Theater, many great artists performed works by great authors - E. Izai, P. Sarasate, T. Ruffo, Battistini, P. Tchaikovsky, N. Rimsky-Korsakov, S. Rakhmaninov, F. Shalyapin, S. Krushelnitskaya, A. Nezhdanova, L. Sobinov, and many others. The cultural traditions of the architecture of the new theater were based on the best standards of the past with the introduction of creative ideas.

The building of the new theater began to dominate in the historical environment of the heart of the city (Fig. 6). Great, as a rule, are buildings that contribute to changing the events of history, and their architectural image "is ahead of its time." Often, huge buildings seem to be the expression of the only possible ideal - the indestructible and immortal, personifying a fleeting flash of eternity. However, at the same time, a separate visual frame, landscape or part of the urban space ceases to exist ...

Figure 5.  
*Ruined Theater*



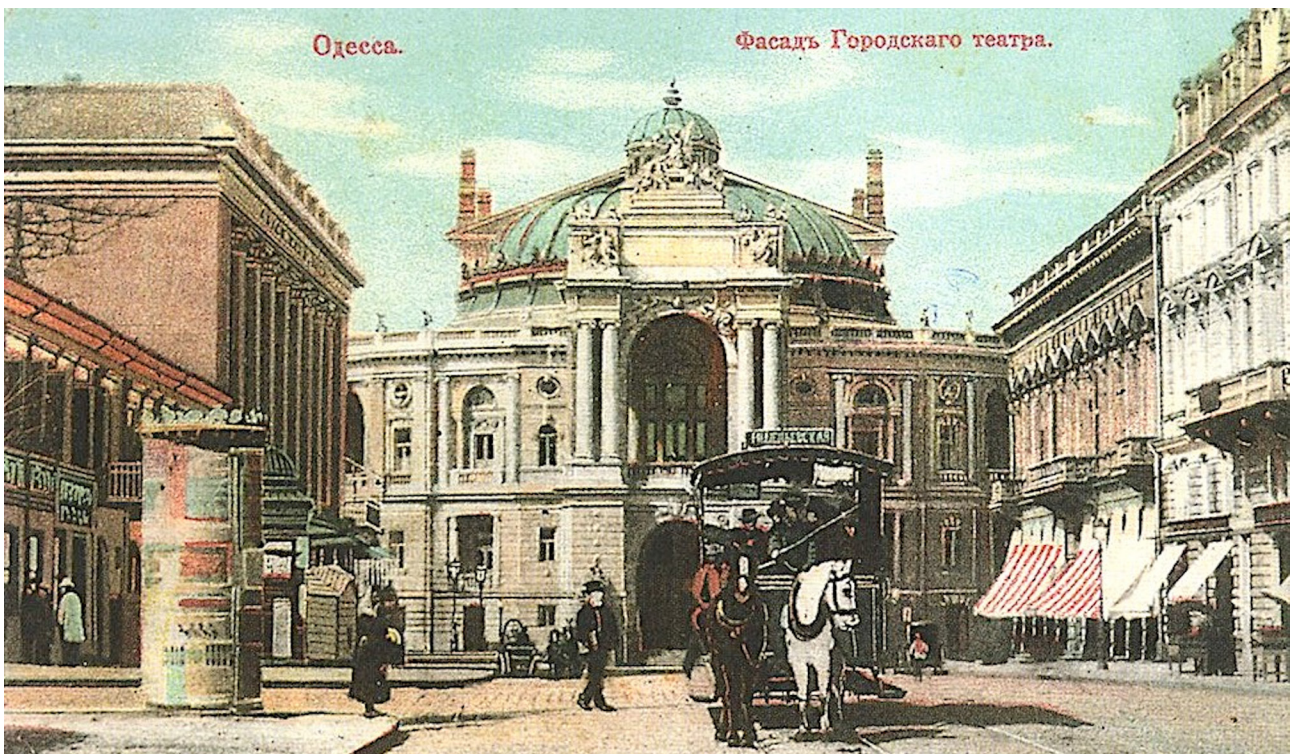


Figure 6.  
Main facade of the theater

## 5. LOSSES

The life cycle of the historical architectural environment forms a series of stages - from the concept-creation-realization-alterations- degradation and, finally, partial or complete loss of its elements. The main disappearances of the urban environment stem from the causes of gradual degradation programmed extinction - to sudden destruction, doom as a result of an act of intolerance, war, and climatic factors. The so-called planned disappearance, as a rule, is determined by the framework of state policy Sudden losses are, as a rule, the consequences of active will, intentional harm-radicalism, war, as well as natural and climatic factors. Not always the symbolism laid down in the development of the ensemble remains

the same text, which is understood by the modern observer. The experience of attracting foreign experts has shown that the more distant the culture is from us, the more the conceived and understood are different from each other. The scale of the whole ensemble has changed significantly, the level of the "blue line" of development has risen. The rotation of the main axis of the new theater by 90 degrees, in the alignment of Rishelyevskaya Street, radically changed and actually became an act of ... destroying the original idea-scenario of arch G. Toricelli - symmetrically organized solemn "Road of Processions» (Fig. 7). A significant amount of the new theater was clamped down by the existing buildings of the adjacent



neighborhoods, with no distribution space in front of the main entrance of the theater. All this determined completely different spatial experiences.

By the end of the XIX century, only traces of the Palais Royal trade modules and the name itself remained; different buildings appeared instead of elegant shops (Gubar, 2003). Only a cozy inner garden with a fountain has been preserved. The transformation of the ensemble of Palais Royal occurs today, unfortunately, not as a result of the concept of comprehensive rehabilitation, but due to the chaotic insertion of separate new blocks - "fillings".

Terrible losses suffered housing stock, the material base of cultural institutions, engineering, and transport system of Odessa as a result of hostilities and occupation from 1941 to 1944 (Timofeenko, 2006). Two emergency buildings opposite the main entrance to the theater collapsed after the war. Funds were allocated for the restoration of strategic facilities, but the amount of work was enormous and there was a lack of human resources. In their place were created two squares. Thus, in front of the theater, free distribution spaces were formed (Fig.8).

## 6. TECHNOLOGY TO STRENGTHEN THE FOUNDATION

The first deformations of the new theater building appeared 10 years after construction. Cracks appeared and began to quickly expand in the walls and floors. The Eastern side of the building soon sank 13 cm below the Western side. This caused deformation in metal trusses. During the construction of the theater were not created expansion joints. The walls of the building were erected from shell limestone, and in the most tense places to create plastic facades - from bricks. The ceiling over the basement is brick vaults over metal beams. Interfloor overlappings are made in the form of metal flooring on beams. The covering of the spectator part and the scene is based on metal trusses of a complex configuration.

The theater building weighs over 52,000 tons but is composed only from a few major sections, each from three to five stories in height, and supported by a three-level foundation. Tape foundations of recrystallized limestone have a different width - from 0.6 to 2.4 m. The total area of the foundations is approximately 1940 m<sup>2</sup>. The first works on the

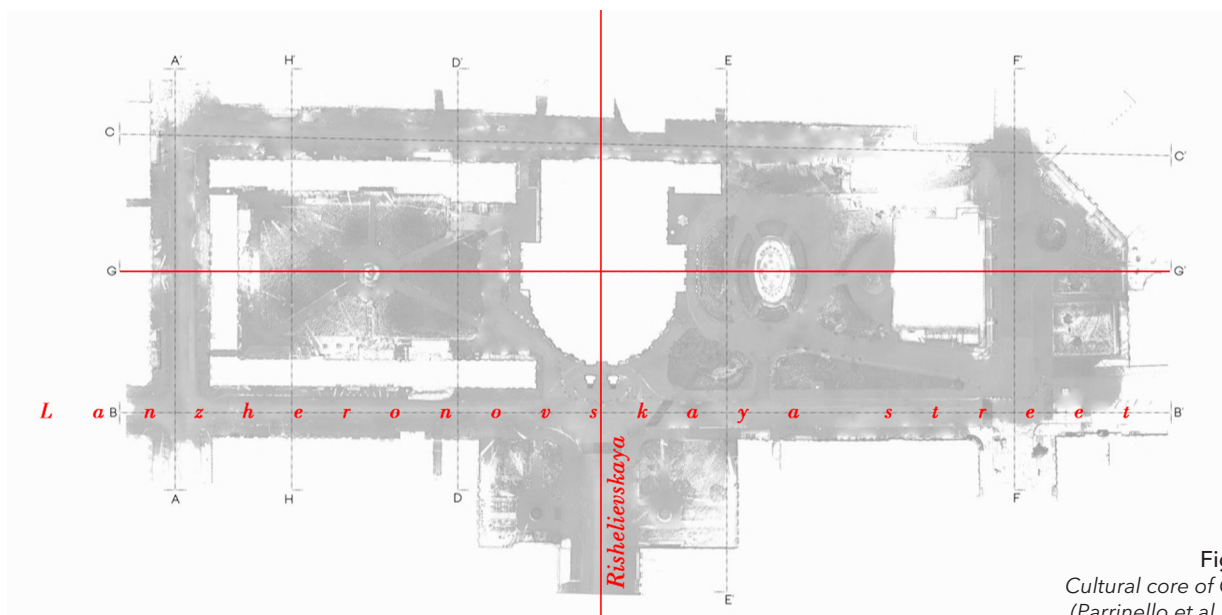


Figure 7.  
Cultural core of Odessa  
(Parrinello et al., 2015)



**Figure 8.**  
*Bird's eye view.*

expansion and strengthening of the foundations, the reconstruction of water supply networks were carried out already in 1901 (Voloschyk, 2003). Additional deformations occurred in 1918-19196, when the pylon of the portal are settled further into the ground. In 1925 the stage, the curtain burned down and the decoration of the theater hall suffered. The installation of a new technological equipment weighing 46 tons determined the large-scale work to strengthen the foundations using the method of "silicization" of loess soils under the building in 1955. A unique technology was applied – through a multitude of drilled holes (about two thousand) to a depth of 8 to 15 meters, about 6 million liters of sodium silicate solution was pumped into the foundation. When solidifying, liquid glass bound the loess ground, turning it into a monolith of more than 15,000 m<sup>3</sup> in volume. 40 years after silicization, the situation has become catastrophic. By the late 1980's, the building of the Odessa Opera Theater began to remind one of the slowly opening

rose. Her «petals» were formed by over thirty separate sections formed by the cracks, that pierced the walls from top to bottom. The peculiarity of the geological structure of the territory of Odessa is due to the microblock geodynamics of the pontic base, as well as the properties of heterogeneity of loess rocks. Based on this, the researchers of the Department of Engineering Geology and Hydrogeology of Odessa National University I. Mechnikov proposed a strategy to protect the building in the form of a "hard slab" (Shmyratko, 2003). However, in 1996, the variant of the "pile" protection of the building was adopted - strengthening of the foundation by injection molding piles, it was implemented by 2005 (Fig.9).

The main task concerned the strengthening of the foundation. The essence of this method requires boring metal and concrete stilts through the eroded soil of the buildings foundation all the way down to the bedrock. Boreholes are drilled to the depth of 13 to 18 meters, a metal frame is placed in them. A

concrete solution is then pumped under pressure into the borehole. Each of the 1800 still wasted to withstand 50 tons of stress, even though each of the stilts will only bear a maximum of 30 tons of stress from the building. The goal of this project was to ensure the general stability of the theater's building, strengthen the construction, eliminate the emergency condition of individual sections, mason the multi-kilometre web cracks.

## 6. CONCLUSIONS

An analysis of the evolution of the social center of Odessa confirmed that losses can occur due to different reasons or actions, varying degrees and at different times. The topic of disappearance spontaneously evokes memories of tragic events, natural disasters or actions to destroy monuments and cities. Losses are a process of disappearances - from being invisible to the limit states. This last step - the disappearance - a crucial symbolic and emotional moment is essentially an act of denial, violence. Stones do not change, culture changes. The nature of architecture is understood as a resolved contradiction, where different opposites transform into each other, determining its development. Therefore, the architectural environment exists as a constantly created and constantly resolving the contradiction of the material and the ideal, sustainable and changeable, old and new..

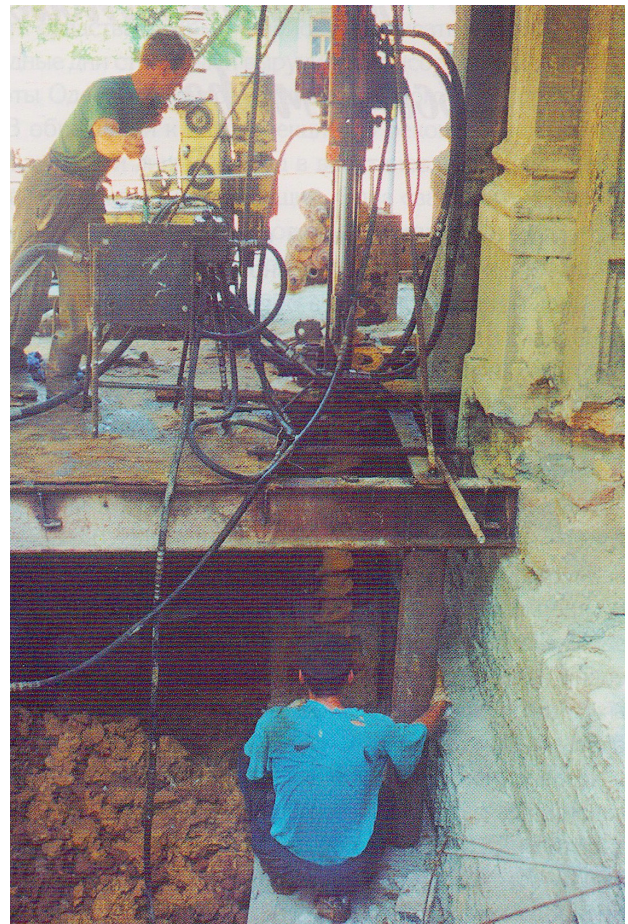


Figure 9.  
Installation of piles



Figure 10.  
Scan buildings on the street Lanzheronovskaya  
(Parrinello et al., 2015)

## REFERENCES

Agnoletti, M. (2014). Rural landscape, nature conservation and culture: Some notes on research trends and management approaches from a (southern) European perspective. *Landscape and Urban Planning*, 126, 66-73.

Dobrolyubskii, A. Ieksarova, N. Yeksarov, V. (2016) Smart port city of Odessa: brilliant embodiment of Vitruvius' theories of beauty. *Vitruvio. International Journal of Architecture Technology and Sustainability*, Vol.1, 0-10

Gubar, O. (2003) *Odessa: Pale Royal. Illustrated album*. Odessa, 92 (in Russian)

Interiors Opernogo teatra. Zritelinyi zal i scena (2014). *Architectura Odessa*. URL [http:// archodessa.com/all/opera-theatre-interiors-hall/](http://archodessa.com/all/opera-theatre-interiors-hall/) (in Russian)

Parrinello, S. Yeksareva, N. et al. (2015) *PALEROYAL ODESSA. Analisi per pianificazione e la documentazione dell'immagine urbana*. Firenze, Edifir, 219

Shmyratko, V. Cherkez, E. i dr. (2013) O prishine prodolzhauschihsia deformacii odesskogo teatra opery i baleta. *Visnyk ONU: Geografichni ta geologichni nayki*. T.18, V.1(17), 38-55 (in Russian)

Timofeenko, V. (2006) *Vidrodzhennia Odesy. Architectura povoennogo desiaterichia*. Kyev, 484 (in Russian)

Voloschuk, I. Mihaluk, U. Snisarenko, V. (2003) *Vozrazhdaem teatr-skazky*. Odessa, 160 (in Russian)