Principles regarding integrated conservation of historical and archaeological sites to capitalize in the urban location

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Abstract. The promotion in Romania of the integrated conservation of the historical / archaeological sites from the urban areas represents a vector of the recognition of the importance of the archaeological patrimony, as a source of non-renewable and public development. The starting point of the article is to analyse the state of the built heritage, of the historical and natural sites in the peninsular area of Constanta in order to propose solutions for conservation / rehabilitation and their enhancement. The article will outline some principles of major importance: the need for an in-depth historical and archaeological study that precedes any intervention or enhancement, the obligation to respect with the utmost rigor the authenticity of the remains, preserving their original substance, the requirement that public accessibility not harm the quality of the sites, as the case may be, their integration in the urban structure. Case study - the wall of the Tomis fortress.

1. Introduction

The theme of the article highlights the concept of integrated patrimony starting with the definition of both terms – an element that defines the origin and age of a culture and represents what we have most precious for ourselves and for the coming generation viewed as an indivisible whole composed of inseparables elements.

To talk about integrated preservation of material heritage, in this case about above-ground or underground archaeological sites in urban sites, is to talk about all knowledge, legislation, techniques, methods, initiatives, interconnected concepts that result in the development of these sites.

The case study brings to the attention the vestiges of the ancient city of Tomis, Constanta today, the city with the highest continuity of habitation in Romania, for over 2500 years [1].

In the context of highlighting the sites classified as archaeological sites, there is the problem of developing these areas and capitalizing on the elements resulting or discovered following the archaeological research of the site during excavations, excavations for carrying out authorized works. This direction is also applied internationally, a well-known example being the Bank of Portugal in Lisbon where during the execution works was discovered underground an ancient wall of special archaeological importance which led to the restoration of the project in that area by including the new discovery wall in the tourist visiting circuit underground after putting into service the preserved and restored building.

In areas with historical archaeological sites, it is desired to capitalize on the underground elements
by preserving the historical substance and inclusion in the visiting / tourist circuits, raising the issue of choosing the best technical and architectural solution respecting the legislation in force, and internationally adopted principles of restoration and conservation.

In this paper, after a brief presentation of the legislative context and familiarization with the peninsular area of Constanta, with previous in situ studies by the National Museum of History and Archeology of Constanta, the authors propose to analyze the solutions of such a site in the area on Mihail Kogalniceanu Street.

2. Generalities regarding the concepts of restoration and conservation of historical sites
Carrying a spiritual message of the past, historical and archeological monuments remain today an expression of the historical past of the peoples, the living testimony of their traditions. Humanity is becoming increasingly aware of the unity of human values, of the need to preserve and restore this common heritage, and is aware of the duty to pass them on to their descendants with all their rich authenticity.

In its short history, the notion of restoration and conservation has gone through several stages, each time consolidating its position and responsible role of society.

Since the middle of the 19th century, there is a need to establish truthful principles in the restoration action, so that the specialized literature records four representative periods according to [2]:

- the first period, characteristic of the beginning of the 19th century, also called the empirical period, in which it was mainly chosen to consolidate those monuments that had a precarious technical condition, was characterized as the period of free will in which everyone proceeded to choose;
- the second period, also called the doctrinal period, belongs to the period of the second half of the 19th century, in which two conceptions of romantic but diametrically opposed essence dominated: in a first conception the doctrinal restoration was promoted based on the idea of unity of style, the promoter being the French architect Eugen Emmanuel Viollet le Duc; the other concept promoted the idea of respect for the monument without any intervention of the nature of consolidations, but exclusively maintenance interventions;
- the 3rd period corresponds to the end of the 19th century and it is the period of historical restaurating by preserving the state in which the past left us - respecting the history of each monument;
- the 4th period is the contemporary period in which, along with the historical restoration, there is also the restoration with additions loyal to originality.

These periods have been shaped by international scientific events - imposed as necessary by specialists in the desire to have common procedures and methodologies. Thus were organized:

- the Congress of Italian Architects, but with international participation, held in Rome in 1883, during which the doctrine of historical restoration was formulated [3];
- the 1931 Athens International Conference, which laid the foundations of the Athens Charter;
- the Second International Congress, held in Venice in 1964, when an international Charter known as the Charter of Venice was drafted and approved, which is in fact a draft amendment to the Charter of Athens by expanding the notion of historical monument, the preservation referring not only to the monument but also to its frame [4].

Thus, according to the Venice Charter, the notion of monument includes the isolated architectural creation but also the urban or rural settlement that bears the testimony of a civilization, of a significant evolution, or of a historical event. It extends not only to the great creations but also to the modest works that have acquired a cultural significance over time. The phrase monument can refer to above-ground and underground monuments. As it is known, the archeological patrimony defines the origin and the age of a culture, histories, traditions of a people, of a state in relation to other peoples and states. At present, the archeological vestiges have exceeded the limits of a state, these being, in many situation, cultural goods of humanity.
The valorization of the archeological sites supposes the research, the safeguarding and the dissemination of the information about the discovered vestiges.

In many cases, the archaeological heritage is subject to major risks due to the influence of factors and phenomena that significantly damage its originality, value and integrity. In many cases the destruction of archaeological sites is due to human activity [5].

Romanian legislation in the field of cultural heritage protection has its roots in the interwar period, being developed in the postwar period. But most actions in this regard were taken after 1989 and are in the context of political changes in Romania that contribute to the development of a democratic society and that correspond to its European aspirations. However, the political, economic and social problems encountered by Romania in recent decades affect the most sensitive areas, including the protection of cultural heritage in general and the archaeological heritage in particular.

3. Presentation of the studied area. Historical and urban implications

Tomis is one of the richest archaeological sites in Romania (figure 1). As known, the modern city of Constanța was built on the ancient Tomis fortress. The research conducted in the second half of the twentieth century and today has highlighted a number of cultural values of exceptional importance such as: Romanesque mosaic building, late Roman baths, network of underground galleries of Tomis, fortress walls, tower areas, basilicas with underground apses and crypts, public buildings, traces of urban housing, mosaic floors, colonnades, streets and aqueducts, commercial markets.

According to the List of Historical Monuments (LMI) 2015 - Constanța County, only one of the streets, which is the object of the case study, respectively Mihail Kogalniceanu Street, is located in:

a. Urban site "Central commercial area" LMI code: CT-II-s-B-02811,

b. The urban site "Peninsular area Constanța" LMI code: CT-II-a-02832.03,

c. Urban site LMI code: CT-II-s-B-02842.

In addition to the above, the buildings can be located in protected areas of some monumental constructions. The building that is the object of the case study is also in the protection area of the monument construction: Traian Bellu Law Firm, located in Constanța, 15 M. Kogalniceanu Street, LMI code: CT-II-m-B-02815 (figure 2).

Figure 1. The plan of the ancient city with the main monuments (after Buzoianu L, Bărbulescu M, Tomis. Historical and archaeological commentary, Constanța, Ed.Ex.Ponto, 2012).
4. Presentation and analysis of protected historical site. Technical implications

According to the preventive research work of the case study site carried out by the researchers from the Museum of National History and Archeology Constanta, it was discovered (figures 3, 4 and 5):

- The enclosure wall - was discovered on a portion of about 8 m in the southern corner of the researched area. The wall is strongly dismantled, but the foundations on the outside are still quite well preserved, as well as three large blocks. The mortar is whitish, different from the one used to build the tower. In the area of deep dismantling was identified the block of the foundation – construction within the period 324-328 AD [6].

- The tower - the eastern side was delimited and a limited part of the northern front - the tower is U-shaped. The foundation is made in several stages, being adapted to the situation on the ground, which requires reinforcements in the front area of the tower due to the presence a trench of appreciable size, slightly clogged at the construction stage of the tower. Thus, on the outside of the east side, up to the starting point of the arched front, the foundation of the tower is made "in the limelight" and smoothed with mortar (probably as a waterproofing solution); the operation was carried out in a large trench, based on a stone foundation tied with mortar with a thickness of about 0.70 m (well finished at the top by pouring a mortar screed from which the construction of the foundation started themselves) [6]. As the foundations of the tower were raised, the outer trench was filled with successive layers of heavily compacted earth. The tower was identified on a length of 8.30 m and a width of 5.50 m; based on the analogies with the other tower, it can be assumed that the total dimensions on the outside are 9.00 x 7.50 m. The thickness of the wall is 2.45 m;

- Masonry structures in the extramural area;

- Late Roman trenches: they were executed in the construction phase of the tower (F2) and in the next period (F3);

- Early Roman trenches: the safest frame in this period is the F4 trench, oriented in the NV-SE direction; graves M1, M3 and M5.

Another important component of the preliminary report was the precinct of the site where a new building is to be built; the new building is adjacent to other buildings on the 3 sides, buildings with a certain age that have a poor construction technology (the building in the rear area has no foundation) and at the same time a state of degradation of the structural elements arranged towards the open ground enclosure (the construction without foundation shows visible settlements generated by losses from water pipes, special aspects to be recorded on the present date, the wall of the building with similar number 7 shows significant degradation).
In this context, measures were proposed and taken to protect existing buildings along the site but also in the background by removing from these existing properties the foundations of the new building proposed to be executed on site, to quantify the condition technical elements of the neighboring buildings in order to ensure the necessary findings of evidence, but also proposals for intervention works to protect the buildings identified underground, the protection of the archaeological site.

![Figure 3. Highlighting historical research report and technical expertise of the studied location (photo collage).](image_url)

According to a preventive research report prepared by researchers from the Constanta Museum of National History and Archaeology, with a view to building a future building on a site in the historical area (Constanța, 5, Kogălniceanu Street)\(^n\), were discovered portions of:

- the enclosure wall of the ancient fortress,
- the U-shaped tower,
- ancient masonry structures,
- late Roman ditches,
- early Roman ditches.

In this context, out of a total of 140 sqm, it is found that 34 sqm are lost by distancing the future construction from the neighboring properties and 30% of the enclosure is occupied by the fortress wall. Therefore, only on an area of 70 square meters could be adopted an infrastructure solution capable of supporting GF + 3F.

![Figure 4. Situation plan studied location, M. Kogălniceanu street, Constanța.](image_url)
These aspects do not give the possibility of direct foundation.

In this context, analyzing the available free area (excluding the archaeological constructions of historical monument to be preserved) according to the conclusions of the archaeological research report and the technical expertise report and the need to withdraw the infrastructure from neighboring buildings, it was decided to address one of the solutions [7]:

- creation of a basement with the valorization of the enclosure wall that remains visible after it is restored. In this variant it is not possible to achieve GF+3F but a building with maximum GF+2F;
- giving up the basement and covering the enclosure with earth after piles were made for the foundations of the building. In this last variant, GF+3F can be achieved.

For the realization of the infrastructure:

a) Carrying out the pilots according to a pilot plan that should take into account the protection of the existing constructions in the underground, the protection of the existing constructions perimeter of the enclosure.

b) The pilots will be joined by a reinforced concrete slab with a thickness of approx. 40 cm, with turned concrete beams arranged along the rectangular axes of the construction A, B, C and 1, 2, 3, whose height will be established in agreement with the expert AF, the structural engineer and the architect, so as to protect the walls existing archeological sites.

c) The foundation of the new GF + 2F or GF + 3F building will consist of a general slab. The construction of the slab will take into account that on a width of at least 2.60 ml from the building with number 7 to ensure the access level equal to the level of the protection sidewalk, the rest being with the level ± 0.00 by 40 cm above the level of the sidewalk so that in heavy rains there are adequate protection conditions.

In this context, the realization of pilots in diameter and number capable of supporting the new construction appears as a possible foundation solution.

The preventive research from Mihail Kogălniceanu site allowed the identification of a new segment belonging to the late Roman enclosure of Tomis, a fragment almost similar in geometry to the butcher's tower unveiled by Vasile Pârvan, which represents the North East Gate, or the Great Gate of the Tomis fortress.

![Figure 5. Image from the archaeological research report of the studied site, M.Kogălniceanu street, Constanța.](image)

Figure 6 shows examples of conservation solutions, protection of archaeological sites in an urban site. In situations where the sites belong to the public domain or to areas adjacent to the urban areas,
the archaeological site can be capitalized by making constructions with the role of protection, conservation. These structures discharge on independent foundation systems, usually pilots.

The uncovered walls are usually consolidated with stone - fillings made of quarry stone and mortar with hydraulic lime.

The mortar used for the intervention works on the existing foundations and identified by archaeological research is an M5 mortar with very low capillary absorption. Joints are made and the mortar bed is applied to the interior and exterior walls of ceramic material, brick, tuff, natural stones with compact mortar with very high hygroscopicity and breathability of pure natural hydraulic lime NHL 3.5, extra-fine natural stink and inert materials of siliceous sand and dolomitic limestone 0-1.4mm.

Other solutions for arranging and enhancing the ruins identified in the archeological sites [8]:

The researches highlighted a possible typology of interventions on archaeological sites in urban areas, a typology aimed at restitution. In the current approach restitution varies between two extreme approaches: a conservative directive promoted by John Ruskin that supports their conservation as they are at one time. Contrary to this opinion, Viollet le Duc is a supporter of complete restoration.

As shown above, a type of conservation restoration is the construction of protection structures.

![Figure 6. Examples of conservation solutions, protection of archaeological sites in an urban site (photo collage, photo source - internet).]
5. Conclusions
Following the analysis carried out for the site studied in the Constanţa peninsular area, which was the case study of this article, it was possible to highlight the principles underlying the concept of conservation and integration of historical / archaeological sites and the concept of highlighting discoveries. archeological sites in urban areas. Following the excavations, it was found that in the site of a total of 140 sqm, 34 sqm are lost by removing the future construction from the neighboring properties and 30% of the enclosure is occupied by the fortress wall. Therefore, only on an area of 70 square meters could be realized infrastructure solutions capable of supporting the desired level of the new GF + 3F construction.

In this context, analyzing the available free area (excluding the archeological constructions historical monument to be preserved) according to the conclusions of the archaeological research report and the technical expertise report as well as the need to withdraw the infrastructure from the neighboring constructions, two possible solutions were identified. -is to create a basement with the enhancement of the enclosure wall that remains visible after it is restored (in this variant it is not possible to make GF + 3F but a building with max GF + 2F). The researches highlighted a possible typology of interventions on archaeological sites in urban areas, a typology aimed at restitution.

It is noted that the restoration and enhancement of archaeological sites aims to ensure that the intervention is minimal, reversible, justified, with the conservation of resources and respect for authenticity [9]. The reference documents are the "European Convention for the Protection of the Archaeological Heritage" and which is partly based on the "Venice Charter". Some of the elements of the archaeological heritage are components of some architectural structures that must be protected in accordance with the Venice Charter.

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