On the Issue of Conservation and Protection Status of Old-aged Trees at Landscape Architecture Objects

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Abstract. At the moment, there is no definition of an "old-aged tree" and evaluation criteria for assigning a tree to protection as an element of Cultural Heritage Objects. In Federal Law No. 73-FZ "On Objects of Cultural Heritage (Historical and Cultural monuments) of the Peoples of the Russian Federation", the concept of "old-aged tree" is absent. The subject to protection is the entire ensemble, where trees are part of appearance and a structural component of the historical monument itself. As a result, the restoration of plantations is reduced, not to restoring the ensemble, but to preserving old-aged trees. The significance of individual trees for conservation and protection obligations becomes a priority task in the modern era and the preservation of artistic appearance of the historical park is moved to the background. Preserving only old-aged trees, which is often considered as the main goal of the conservation and protection status, will eventually lead to the degradation of the entire ensemble as a whole.

1. Introduction

According to the basic law, which defines and regulates work with cultural heritage objects, every object of landscape architecture which is identified as a cultural heritage object and included into the Cultural Heritage Objects (CHO) registry must have a passport. The passport is drawn up in a form determined by the state. Among other things, the passport describes in detail the subject of conservation. The subject of conservation is architectural structures in combination with the three-dimensional structure of the park. There are three counterparts that determine the identity of the park: Topography, hydrological conditions and plant species. These three parts form a complex that develops according to the natural process of plant communities’ dynamics and allows an object of cultural heritage to remain resistant to ever-increasing recreational loads. And all this, undoubtedly, should be the subject of careful protection and conservation. However, according to the established practice, the subject of protection in terms of plantings includes items that not only determine the species composition, but also prescribe the protection of old-aged trees.

In these circumstances is often very difficult to protect a monument, because in the pursuit of preserving old-aged trees, the issues of preserving the ensemble as a whole are forgotten or relegated to the background. In this regard, it is important to start a dialogue in the professional community in order to come to an understanding of what is to be the subject of protection, how and under what circumstances it should be protected and, most important, to understand the suitability of ongoing restoration activities.
2. Methods and Materials
Research methods include the examination of legislation framework and the analysis of old-aged trees conservation experience at landscape architecture objects included in the Cultural Heritage Objects registry of Russia.

3. Results and Discussion
Currently, there is no concept of "old-aged tree" in the legal field of nature protection. This is obvious, because it is very difficult to define the common criteria for the entire variety of tree species growing in Russia, especially taking into account the conditions in the place of growth. However, there is a concept of "natural monuments", and Federal Law No 33 "On Specially Protected Nature Territories" provides a comprehensive description of such objects: "... unique, irreplaceable, valuable in ecological, scientific, cultural and aesthetic terms natural complexes, as well as the objects of natural and artificial origin [1, 2]. The "Wildlife Conservation Center" (WCC) provides a more detailed description of objects that are natural monuments – "an object can be considered a natural monument if it is “long-live trees and those of historical and memorial significance” [3]. It was this definition according to which in 2010 the Council for the Nation Natural Heritage Conservation of the Federal Assembly Federation Council began to implement a unique project - the All-Russia program "Trees-monuments of wildlife". Currently, in St. Petersburg and the Leningrad region, 12 trees have the status of natural monuments, mainly petiolate oak, half of which are the part of a space composition of garden and park ensemble. Moreover, over the past decade, changes have been made to the register due to the loss of trees-monuments. This directly confirms the fact that the register will always and continuously change - the process of more trees getting older and old trees dying is constant and connected with natural processes.

In Federal Law No. 73-FZ "On Objects of Cultural Heritage (Historical and Cultural monuments) of the Peoples of the Russian Federation", the concept of "old-aged tree" is also absent [4]. And there is also an explanation of this circumstance – it is the entire ensemble which is subject to protection, where plantings are an appearance defining feature, a structural component of the historical monument itself. At the same time, preserving only old-aged trees, which is often considered as the main goal of the conservation and protection status, will sooner or later lead to the degradation of the entire ensemble as a whole. In addition, according to the law, the CHO administration is responsible (up to criminal liability) for the loss of a protected object. Thus, the age of trees as a characteristic of a protected object inherently creates a conflict situation.

The original appearance of the historical park has changed over many tens or even hundreds of years. All the metamorphoses occurring in the park can be divided into two categories: natural processes that occur in artificial plant communities, as a reaction to changes in soil, hydrological and even climatic conditions, and transformations associated with human activity. Such changes could be catastrophic (World War II) or be influenced of trending garden style. In this regard, conservators and restorers face an important task of determining the value and the expediency of preserving one or the other of elements formed as a result of cultural layerings.

At the beginning of the XX century in the Soviet Union the necessity of scientific restoration principles elaboration and formulation became imminent. This was due to the changes in the ownership of palace and park ensembles, which began to be considered a national heritage. The first serious experience of scientific approach was the restoration of the Peterhof Ensemble. On the one hand, the restorers faced the result of the ensemble ruining due to natural processes that usually occur due to the lack of maintenance, and on the other hand – with the so-called cultural layerings that appeared as a result of spontaneous or purposeful planting. In the chronicles devoted to the restoration work process there is indicated, for example, the work on uprooting of trees planted in the middle of the XIX century in the Upper Garden parterres [5]. In fact, these plants, according to the modern understanding, can be attributed to the old-aged. In this case, in the context of contemporary legislation, the issue of the admissibility of the work carried out by N I Arkhipov to restore the compositional integrity of the Upper Garden ensemble becomes very acute.
The Florentine Charter, which guides the decision-making process of conservation and protection committees and supervision authorities, states: "The evolution of a garden should be taken into account in the course of restoration work. In principle, they should not give preference to one era at the expense of another..." [6]. But the same Charter states: "Maintaining the historical garden is a primary and constant task, since the main material – vegetation- needs cyclical renewal (cutting down and transplanting trees which are already mature) in order to preserve the monument in this state" [7].

In addition, it should be remembered that an integral natural complex of landscape architecture objects develops according to the laws of plant communities. And, as in any other wildlife object, in the natural complex of garden and park ensembles aging or succession processes occur, which directly depend on climatic factors, on local soil characteristics, on changes in the urban planning situation and function. Therefore, the preservation of only old-aged trees, without a thorough analysis of the changed environmental conditions, can only aggravate the situation and lead to the fact that protected trees will be transferred from the category of memorial trees to the category of hazardous trees.

The All-Russia program "Trees-Monuments of Living Nature" offers the methodology of age determining, growing conditions description, and, in some cases, considers the circumstances of tree planting. The combination of all these factors makes it possible to assign a protected status to a tree. This status determines the significance of the tree itself, but it does not determine its value as part of an ensemble. A striking example is the petiolate oak (No. 581 in the register) [8]. Its age, according to the applicant's data, is defined as 200 years. The oak tree was preserved during the restoration on the parade ground in front of the southern facade of the Konstantinovsky Palace, but the compositional integrity of the ensemble was not considered when putting it under protection. The current environmental practice does not take into account all the artistic and compositional significance of the protected tree in the ensemble, because other tasks are pursued. At the same time, old-aged trees that are not included into the nature conservation and protection register are included in the passport of a cultural heritage object and are subject to mandatory protection, but they are not investigated according to the "Trees-monuments of wildlife" program methods or are investigated in extreme cases only. Often, the inclusion of a tree in the category of old-aged trees is made only regarding its diameter, without taking into account the location and biological species. Most often plants planted in the post-war period fall into this category.

The achievements of post-war restoration and, first of all, the amount of restoration work performed in a very short period of time, were "recognized by the world community in those years, and in the Soviet society they were considered absolutely indisputable" [9]. Restoration of parks took place in conditions of almost complete loss of plantings. For instance, according to the testimony of Anna Zelenova: "It is difficult to measure the damage that the invaders caused to the Pavlovsk art ensemble. 70 thousand trees were cut down on the territory of the park. Bridges and dams were blown up" [10]. After the liberation of Peterhof, Leningrad newspapers published a note by a LenTASS (Leningrad branch of the News Agency of the Soviet Union) war correspondent: "The majestic Samson was sawn and taken away. The entire fountain system was put out of commission. The trees of the park were cut down by fascist scoundrels..." [11]. The same situation was in the town of Pushkin at the moment of its liberation on January 24, 1944: "On one side - ruins, deadened, plundered houses, on the other-the beautiful trees of the park cut down by the enemy and bending down. A huge, shattered, scorched ravine blocks the way. Leaving, the Germans blew up the dam, and the water from the palace ponds flows under the ice along the black, burnt blocks" [11].

During the complex restoration of palace and park ensembles, creating of all the necessary conditions for opening parks to the public was considered to be the priority task. Therefore, first of all, the territory demining, heaps of trees clearance and traces of bombing eliminating were carried out. In the complete absence of nurseries and standard planting material, in place of lost trees in alleys, groups and massifs, plants were planted without a formed trunk and crown, which was not always justified historically. When discussing plans to restore suburban palace and park ensembles, an opinion was often expressed that restoring park spaces in full made no sense: "... to reconstruct parks in such a way as to arrange sports grounds in them, to organize something like a stadium, because it
makes no sense to plant trees and wait one hundred years to get the same look as it was before the war” [12].

Citizens of the country that experienced the greatest catastrophe of the twentieth century had every right to such an opinion. The restoration of parks in the shortest possible time became the symbol of moral victory in the country being gradually restored after the war. But over time the opposite situation emerged and it has been particularly obvious during the last decades. The phrase "there is no point in waiting a hundred years to get the same look” has a completely different connotation. In such a well-established opinion of conservationists, first of all, there can be traced their unwillingness to cause a wide public response, and, of course, a shift in priorities to the area of cultural heritage objects commercialization.

The life of a tree is several times longer that of a human. This allows to preserve the appearance of the park during the life of several human generations. Everyday life of any person is somehow connected with images of wildlife. Childhood memories, lyrical impressions of youth and other experiences that a person seeks to consolidate and pass on to his descendants are associated with the usual appearance of parks, streets, squares and yards. Any changes in favorite images leads to discontent, which is dictated primarily by emotions, and not by understanding what processes are going on. The growth of cities, the increase in vehicles traffic and, as a result, the deterioration of air quality, populist Western trends in the field of ecology led to the emergence of public organizations that supposedly protect human health and protect his memory. Their loud statements drown out scientific arguments and fuel philistine negative interest in the restoration of parks. As a result, the process of plantations restoration is reduced not to creating a "picture of how it looked like one hundred years ago", that is, not to restoring the ensemble, but to preserving old-aged trees. The issue of individual trees significance for the fulfillment of conservation and protection obligations becomes a priority in the modern consciousness and the preservation of artistic appearance of the historical park is relegated to the background.

Ultimately, this leads to the fact that alleys lose their harmony, free-standing trees lose not only decorative features, but also become a threat, and diseased and old trees in the groups continue to be a source of diseases.

It is important to understand that during restoration work, first of all, it is necessary to take into account what type of plantings the protected tree is located in and what compositional role it plays in this case. For instance, in the Montplaisir ensemble of the Lower Peterhof Park, the problem of oak trees preserving in the parterre has not been solved yet. Preserved plants destroy the aesthetic integrity of the parterre perception as an open space, screen the facades and pose a threat of the architectural monuments destruction as well as pose a threat to the life and health of visitors. In addition, the appearance of protected trees itself is far from being decorative. Another example is the situation when during the Fir Alley restoration in Alexandrovsky Park, existed linden plantations in the inner space of the alley were preserved, that cause to narrowing the visual perception of spatial characteristics of the alley as a compositional element. The image of the Fir Alley was destroyed by the preservation of plants alien to this compositional element.

Preserving individual trees "to the end" in a landscape composition is also not always justified. The main condition for the perception of a landscape picture is the artistic expressiveness of each element that formed it. Solitaire plantings are the focal points of perception of the picture and old-aged trees are especially attractive due to their mature image. But with the loss of ornamental qualities as a result of aging, old-aged trees cause the destruction of the integrity of a landscape perception. An oak tree preserved for a long time with a single living branch in the area of the Parade field caused the sense of bewilderment and destroyed the lyricism of the overall picture.

Old-aged trees in massifs are not always so clearly perceived as separate units of a landscape. However, since they support the volume dimensions of enclosed spaces, they are also included in the subject of protection and the administration is obliged to ensure their safety. The protection of these trees in massifs becomes an end in itself, but changes in growing conditions are not taken into account and measures to ensure the sustainability of old-aged stands are not carried out. In
particular, the eastern part of the Lower Park and the territory on Elagin Island, where the disturbance of hydrological conditions is leading to a gradual destruction of the tree massif may be not safe for visitors and the architecture of the park.

Returning to article 16 of the Florentine Charter, it is important to note that there is a contradiction in the article itself. It consists in simultaneous stating the importance of preserving all cultural layerings and understanding that the park is a living organism subject to biological aging. In other words, the value of all plantings of all historical periods is opposed to the expediency of care measures aimed at preserving historical authenticity. The protection measures prescribed in the Federal Law No. 73 FL state preserving the works of landscape art as ensembles, and therefore they are aimed at preserving all types of plantings, their size characteristics, color and texture solutions, without taking into account the value of old-aged trees.

4. Conclusion
At the moment, there is no definition of an "old-aged tree" and evaluation criteria for assigning a tree to protection as an element of a CHO. Thus, until the regulation on old-aged trees is formulated at the legislative level, scientific restoration of landscape architecture monuments is out of the question.

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