Architectural-artistic image of Chelyabinsk Drama Theater

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Abstract. The article focuses on the project of the Chelyabinsk Drama Theater (sits 1200 persons) made by the authors. The idea of solving problems connected with an unusual ellipsoidal shape in the plan of the building is given. The detailed proposals for external and internal decoration with various kinds of finishing stones are presented. Three basic colors, typical of the Ancient Greeks theaters, were adopted: purple, gold and white. The exception was the wall lining of the couloirs on the main stairs in the foyer. Their stone slabs were brought from all parts of the former USSR. These are marble and granite slab quarried in Karelia, Georgia, Armenia, Uzbekistan, Siberia and Sverdlovsk. The entry portals were decorated with cast-iron sculptures of classic playwrights, which was the first experience in Russia. There are bas-relief scenes from their plays on the portals walls. Yuri Alexandrov, a Moscow sculptor, took this idea from the famous “Kasli” casting. To create the dimensional effect on the facades above the bars in the stage box, the scenic-decorative double-lighted workshop was designed, from which the finished settings could be launched without damaging the stage tablet through a special hatch. The article notes the fact that in 1991 the authors of the project were the first who took the state award in modern Russia.

1. Introduction
The main purpose of the theater building is providing a set of necessary amenities to perceive the performance for the spectators, and to prepare and conduct it for the troop. This purpose has not changed since the first theater structures were constructed [1].

In 1973, designing the Chelyabinsk Drama Theater began. The area for its construction (between the Revolution Square and Pushkin Park) determined its ellipsoidal shape in the construction plan. But, this form posed a lot of problems for the designers in course of its designing.

2. Body
This article is urgent as it considers the problem of internal and external decorating spectacular public buildings based on the example of the Chelyabinsk Drama Theater. The main purpose of the research was to study using natural materials in designing drama theaters and their combining with each other, their impact on the internal and external environment, including the people in it.

2.1. The main premises of the Chelyabinsk Drama Theater
The building houses all the necessary facilities that meet the state regulatory requirements: two auditoriums with 1200 seats. In the larger auditorium, the stage is equipped with a circle and a ring,
which was quite new at that time, there are also two screens for direct and reverse film projection (Figure 1).

![Figure 1](image)

Figure 1. The plan of the first floor of the Chelyabinsk Drama Theater: 1 – the auditorium; 2 – the scene; 3 – artistic rooms.

Various settings moved through the hatch without any damaging from the workshop located above the stage. The auditorium provides both perfect natural and electronic acoustics. The ventilation system is also unusual. Due to high prices, the engineers, didn’t use air conditioners, they designed a unique system which supplies performed heated and moistened fresh air from the city park [2, 3].

Between the larger and the smaller auditoriums the ceiling has a static pressure chamber, which provides each spectator in the stalls with fresh air. The foyer stained-glass windows (8 meters high) provide air blowing, which prevents fogging of glasses.

2.2. Architectural and artistic image

The architectural and artistic image of the building was designed as an enlarged section of a Greek column with flutes interlaced with gold stitches of stained glass, which is reflected in the decoration of the theater interiors.

Like in the Ancient Greeks Architecture, three basic colors were used: purple for mahogany panels, gold for brass details of railings, chandeliers, sconces, false ceiling, etc., and white for cladding of internal and external walls with white marble. The harmonious combination of these decoration materials in the main premises creates an atmosphere of solemnity, calmness and does not distract spectators in intervals from the impressions received during the performance [4].
2.3. Interiorfinishing

According to Fersman, the stones beauty does not strike the eye. It is for a delicate connoisseur who can find the enchanting charm of the material, the inconceivable subtlety of the stone patterns and the completed composition [5]. Thus, to furnish the interiors various stone textures, patterns and colors were used. Their placement was a certain author's design and depended on the functional purpose of the premises.

The main buffet of the theater is in the basement, which specified using "warm" materials to decorate the premises. The walls are steened with a gold color stone of volcanic origin travertine with a matte surface. The floor is decorated with white and red marble slabs ("Kolginsky" marble and Siberian "Burovshchina").

The wall behind the bar is made of red wood and polished brass. The bar counter and the visitors' chairs are decorated with red leather. The floors are covered with forged panels of terracotta and gold colors [6-7]. In the main vestibule with cooled air decoration materials of "cold" shades are used: black (Karelian "Gabro" granite), gray (Sverdlovsk granite) and white "Koelga".

Rising along a wide marble staircases of mahogany handrails with brass pillars, a spectators enters a three-light foyer reaching 15 meters high. The space has 5 magnificent crystal chandeliers with gold color elements. Exterior walls are paneled with white polished "Koelga" marble. There are terracotta stained-glass windows of the entire height in the foyer with bindings of anodized aluminum between them. The inner wall is decorated with mahogany panels. Railing of balconies are made from monolith mahogany with polished decorative stands [8, 9, 10, 11].

The ventilated ceiling in the foyer has individual anodized octagonal elements made from the aluminum profile.

The platforms areas between two main staircases are rather big and serve as back rooms. They house the theater museum, the exposition of marble sculptures, the branches of the buffet.

To decorate the walls in the corridors, marble plates with various patterns and colors were used: red (the Georgian deposit "Saliety"), brown-white (Siberian deposit "Kibik-Cordon"), white-green (Siberian deposit "Sayano-Shushensk"), golden (Uzbekistan deposit "Gazgan") [12]. First, the stone patterns were selected at the stand, then the plates were fixed on the walls, which created unexpectedly unusual compositions like "a map of an unknown country" or "a star nebula."

When the five eight-meter chandeliers were placed in the foyer, a number of problems arose. To find the materials and the manufacturers, the architects went to Georgia and Armenia (where some theatrical buildings were recently put into operation). At the Tbilisi Theatre, chandeliers were produced in Austria, and at the Yerevan Theatre the chandelier elements were manually carved of crystal glass. And the cost of five chandeliers for a drama theater would have been 5 million rubles (the planned construction costs is 5.4 million rubles), which of course was unacceptable (Figure 2).

Figure2. The fragment of the foyer in the Chelyabinsk Drama Theater.
Finally, the architects chose pressed crystal produced by the Saransk Electric Lamp Factory. It was used to produce home chandeliers, sconces and nightlights. Based on our sketches, the five chandeliers sparkling with crystal and gold consisting of separate elements were assembled at one of the Chelyabinsk plants.

The entrance portals into the auditorium, fences of the balconies and lodges were planned to be made with wooden carvings, which turned out to be impossible to realize for artists and builders. To solve the problem, according to our sketches, the mahogany elements were cut and sawn along and then placed instead of carving.

Originally, the authors of the project planned to line the walls in the auditorium with wooden shields. But, at that time, furniture factories produced only dark brown furniture panels with glossy surfaces, which was absolutely not suitable for the theatre interior. Finally, the authors found the factory to produce the minimally tinted surfaces, and thus, a matt polyurethane lacquer was delivered by plane from Almaty [13].

2.4. The Auditorium
The form of the auditorium with a large opening of the side walls and the radial back wall did not fully meet the classical requirements of acoustics. There was a fear for echo, sound overlay and sound distortion. Both graphic and physical calculations of sound propagation from the stage to the viewer were made. The main, reflecting and amplifying sound element was a monolithic ceiling formed by separate planes, which allowed to achieve the necessary difference (in fractions of a second) in the propagation of direct and reflected sound from the source to the spectator in each row [14].

The side and back walls have triangular elements, which allowed to create sound reflecting planes perpendicular to the red line of the scene [15,16].

At the final stages of the construction and decoration there appeared a problem with the seats in the larger auditorium. The products of furniture factories were not suitable from the aesthetic point of view, and imported chairs were too expensive. Finally, suitable chairs were found in St. Petersburg, in the Smolny Palace. Their oak veneer was replaced with mahogany and their plating of red cloth was replaced with a "golden rug". Thus, the chairs perfectly fitted into the interior of the larger auditorium. The unusual architect’s solution was to place the smaller auditorium on the floor under the larger auditorium. The 300-seats auditorium had a stage with a rotating central circle, which allowed to transform the visual spots and expanded the creativity of stage directors. The real technological breakthrough was the controlled stage lighting. More than 30 different soffits, spotlights and other elements were placed on the walls and the ceiling trusses, and the light project became the pride of the Theatre [17-19]. The light engineers are proud of the fact that all the stage and sound equipment has served faultlessly until now [20].

2.5. The outside finish
The outside facades of the theater are lined with polished slabs of white "Koelga" marble from the Chelyabinsk deposit (Figure 3).

At the entrance you can see the unique "Kasli" casting portals with sculptures of well-known playwrights (Shakespeare, A Pushkin, A Ostrovsky, A Chekhov, M Gorky, V Mayakovsky) created by YuAlexandrov, a Moscow artist. On the marble walls of the portals there are bas-reliefs of scenes from the plays based on their plays (Figure 4).
3. Conclusion
Thus, using natural finishing rocks in the Chelyabinsk Drama Theater, allowed to create a solemn and noble internal and external space within a limited budget.

In 1991, the team of architects, which was awarded the title of laureates of the state award of the Russian Federation in the field of architecture, the first State Prize in the new history of Russia, included: B. Baranov, V. Glazyrin, Yu. Pertkatin, N. Semeikin, A. Rudik, engineer A. Averin, sculptor Yu. Alexandrov.

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