The experience of the university’s interiors decorating with monumental painting as an integral art space

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Abstract. The interiors of the educational buildings of the Irkutsk National Research Technical University (INRTU) are a kind of active art museum that solves both educational and aesthetic tasks. The exhibits of this unusual museum are represented by mosaics, paintings, stained-glass windows, textiles, volumetric and spatial compositions. All of them are the works of monumental and decorative painting graduates, performed at the department, founded more than twenty-five years ago by the Professor V G Smagin, who had the honorary title of People’s Artist of Russia. The article discusses in detail the issues of zoning and the organization of the spatial environment by objects of monumental painting. The choice of materials, techniques, compositional and semantic decisions is substantiated for interiors with different functional loads. There is discussed the problem of preserving the artistic integrity of the spatial environment of the university, as well as the possible loss of works of monumental painting during future reconstructions or constructive renovation of buildings.

1. Introduction

Monumental painting in the exterior and interior of temples, public and residential buildings, is always closely associated with their architectural features. It originated in the early stages of the development of the ancient civilizations of Mesopotamia, Ancient Egypt, the states of Central Asia [1,2,3]. Monumental painting is a common element of ancient pagan temples and Christian buildings of the Middle Ages, Renaissance and New Time [4, 5, 6, etc]. Monumental art as an integral part of the architectural space is habitually associated with temple architecture. Nevertheless, under a favorable set of circumstances, it can serve as a comprehensive decoration of socially significant buildings in which artists and architects strive for the synthesis of arts, for the plastic unity of painting and architecture.

The interiors of the Irkutsk National Research Technical University (INRTU) buildings are a unique example of the purposeful creation of an active contemporary monumental and decorative art museum [5,7,8,9,10,11]. The idea of this museum was born more than twenty-five years ago by professor Vitaly Smagin, who was at that moment the leader of the monumental and decorative painting department [12 p.3; 13 pp.134-136]. Graduation students were involved in interior decoration. The pedagogical idea allowed to realize the acquired artistic skills on the practice projects executed in the materials and techniques of monumental painting. Future monumental painters mastered the
process of creating monumental works of art step by step from sketch searching to completing the frescoes, mosaics, stained-glass windows, sgraffito, tapestries, and spatial compositions.

The university buildings were built in the 60s of the twentieth century in the style of constructivism. There were functional, strict as any state institution, but not designed for the aesthetic education of young people. The decision to place monumental paintings in the university’s interiors made it possible to implement both pedagogical and aesthetic ideas. In addition, works of monumental painting showed the university in a harmonious trinity, as a space of education, science and culture.

Changing the teaching technology with the practical implementation of theoretical knowledge in real projects was actively supported by the former rector of the university, Sergey Leonov. Interior decoration required financial support, which the university took upon itself. The art materials were bought at the university’s expense, but the development of projects and their implementation did not require a monetary reward. All works of monumental painting are graduate theses.

The University has a large central building, unique in its construction and architectural solution. The building was designed in the late 50s of the XX century. A not built up area has been chosen for the future of the University on the outskirts of the city. There were no old structures and communications on this territory, which allowed to build a unique building in plan with a deep basement. Deep foundation pit under the building made it possible to add to the three aboveground floors an additional functional underground one.

Structural solutions of the building were limited only by the high seismic activity of the region. An initial seismic assessment did not recommend the construction of tall buildings at the time. These circumstances were taken into account during construction. The university building consists of nine long sections, each comprising three aboveground floors and one underground. Two symmetrical groups of sections are connected by one central, elongated from south to north. Each of the groups, in turn, consists of three sections parallel to each other and connected by perpendicular sections-galleries.

All sections consist of corridors, classrooms and administrative auditoriums, sports and assembly halls, a library and an extensive entrance lobby, which regulates the movement between the northern and southern groups of sections with two small lobbies in each of them. The total linear extent of the building’s space from south to north and from west to east, measured along the corridors at all four levels, is about 13 km.

The master plan was not developed at the initial stage of the artistic ennoblement of the university building. At the same time, the zoning principle methodology was adopted. The interiors of the university have been viewed from the standpoint of emotional perception as an integral space [14]. This methodological approach has proven to be very important in the long-term perspective of decoration. This article is devoted to the principles of zoning of the university’s interiors, the rationale for the choice of materials and technologies of monumental painting and their combination in accordance with semantic and artistic ideas.

2. Principles of zoning of the university’s interior space
According to the functional criterion, five groups were distinguished: 1) lobbies, 2) communication spaces, including corridors and staircases of various sizes and purposes, 3) offices, 4) classrooms, 5) halls of various configurations, sizes and functions [7].

The first group consists of vestibules of various sizes and configurations. This group includes a very large entrance lobby measuring 150x50 m. Six large square windows are located on both sides of the hallways. It is visually divided into two parts by the entrance group of doors and a wide staircase leading to the assembly hall located opposite the entrance doors. Three other large vestibules belong to the assembly hall. They differ in functionality and design features. One of them has a small wardrobe and three glass doors, while the other two are limited by solid glazed windows along one of the sides, that has long near the 20 m. They are used as rehearsal and exhibition halls.

Lobbies of chamber configurations are located at the entrances to the Meeting hall of the Academic Council has an area about 60 m². There are three wide doorways and two large windows. Another chamber lobby is located at the entrance to the hall of the TNK BP Training Center. It is represented
by a closed semi-oval space with an area of about 30 m$^2$ and is separated from the hall by a frosted glass wall.

The second group is horizontal and inclined communication spaces of high ability to pass a large number of people. More than 15 thousand people are actively moving along the stairs and corridors daily. Corridors are usually devoid of windows. Daylight penetrates only through open recreations, but this is always not enough, therefore, artificial lighting is used everywhere. There are usually not a lot of continuous spaces for decoration due to the large number of doors, but there are exceptions to this rule. The space of wide staircase is much more interesting for monumental painting. Each floor of them usually finishes of an almost square space of the wall. Often there are windows at different heights. The walls and windows are good objects for monumental art [8,9,11].

The third group is administrative and teaching offices. As a rule, these are chamber rooms intended for continuous work of only a few people. Some of the offices perform an additional representative function, for example, the room of editorial board, international department, offices and receptions of rector and vice rectors etc [10].

The fourth group contains the many classrooms with special laboratory or multimedia equipment. These rooms are not intended for monumental painting, regardless of their size and configuration.

The fifth group includes the different halls. There is an assembly hall with 800 seats. It has a correctly designed stage, equipped with special equipment and two screens. In addition, the hall has a parquet for ballroom dancing. This group of interiors also includes two conference halls. The main hall is used for conferences and academic council meetings, the other one, the smaller, is used for negotiations and international meetings. It performs a representative function. Conventionally, the fifth group of interiors includes the premises of the coworking center. It is a loft with a capacity of about 60 people. Coworking center is used for various student events.

The emotional and psychological impact of these interior groups is different. This is the most important aspect both for zoning the interior space, and for the principles of decoration. So, the lobby is the space where the first overall impression of the interior will be created. The decor of a lobby should be light and restrained. The emotional impact of the lobby is short-term. However, it should form the general positive mood of any person entering the university building.

Communication spaces are connected with active dynamics. A large number of people are moving along university corridors and stairs. At the same time, the emotional impact of the interior is short-term. For communication spaces are most appropriate the bright color accents and generalized forms devoid of fractional detailing. The plots of paintings should be visually recognizable and easily readable during a quick inspection. The decor of the communication parts of the interior should be made in tune with the dynamic rhythm of movement in accordance with the characteristics of this space.

Chamber, confined spaces of offices and teaching rooms are designed for a long stay of a small number of people. The decor of such rooms must create a feeling of security and comfort. Too small drawings should be avoided, as well as too large of ones. Both will have an annoying effect on the people working there. The choice of material and techniques of monumental painting are the great importance for decorating of the chamber spaces. They should be carefully thought out.

Classrooms and conference halls are designed for hard work. Monumental painting is here unclaimed most often due to active emotional impact. Easel painting may be more appropriate in this case than monumental one, for example, as portraits of great scientists or a calm landscape.

Gyms may be an exception. The character of the educational activities in the gym is associated with the active dynamics of the students, so the monumental decor with the appropriate theme will increase the dynamic tension. In this case, the plots of painting should be used in accordance with the sports theme and the awards of the university sports teams.

Thus, the first, second and fifth functional groups are most suitable for using the possibilities of monumental art. In decorating of the third group of the interiors, both works of monumental painting and easel one can be used. The rooms of the fourth group can be decorated with easel works of art, but it will be better to remain them without any decor at all.
3. Justification of the choice of monumental art’s materials and techniques

Artistic decisions were based on several criteria, such as the functionality of the interior, the number of people in the room per unit of time, the planning organization and viewing angle of the decorated space, the compositional ratio of walls, door’s and window’s openings etc. The size of the space and each element, as well as their configuration were important for the choice of material and decoration technique [7].

The functional purpose of the interiors was the basis for the future perception of the university as an integral art space. The duration of the perception of the interior is always closely related to the psychological impact, which can be long- or short-term. This characteristic influenced the choice of material and color scheme of the compositions. The nature of the psychological and emotional impact can be long-term and short-term. It can be dynamic, for example, maximum only at the first impression, then increasing or decreasing over time, and sporadic. This effect can be a static, simultaneously changing mood, relieving psychological tension or, on the contrary, concentrating attention.

The conditions of visual perception are usually closely related to the angle of view and the scale of the space. Perception can be deep perspective, frontal or foreshortening. At the same time, interiors can be large, accommodating several dozens of people, or chamber, for no more than 10 ones. All this is important to consider not only the choosing of materials and techniques, but also the choosing plots and spatial-compositional solutions.

The aesthetic harmonization of the university’s interiors began twenty-five years ago, as mentioned above. During this time, extensive experience has been accumulated in the development and implementation of art projects. All of them are graduate theses, carried out under the guidance of teachers who are themselves experienced monumental artists.

The first group of interiors includes two types of lobbies: large and chamber. The entrance lobby of the central building of the university belongs to the largest of them. The main element of this lobby is large windows providing good lighting. They diverge in continuous rows along the walls to the right and left of the entrance. The windows are located along the wall opposite the entrance and have the best position for visual perception. These windows are a visual accent of the lobby and determine the choice of decor using the stained glass technique. The perception of the interior is short-term. Emotional tension for him should be minimal. For stained-glass windows of this lobby was chosen the scheme with a light, restrained color, the plot is correlated with the essence of the educational process, the compositional solution is based on large generalized forms, devoid of fractional details (figure 1).

The lobby, that is located in front of Meeting hall of the Academic Council, is an example of a chamber one. The area of this lobby does not exceed then 70-75 m². It is lit by one large window, which offers a beautiful view of the campus. The interior is filled with soft sofas, armchairs and several office desks. The decoration of this interior can be supplemented with only restrained textile composition (figure 2). Other materials and techniques of monumental painting would be inappropriate here.

The interiors of the second group were the most convenient for monumental painting. They are different in functionality, configuration, size, types of connection with each other, illumination, occupancy by people. Horizontal communications, corridors of various lengths, can be end-to-end or dead-end, narrow or almost square. Windows are not an obligatory element of the corridor, but the doors are often present here in large numbers.
Figure 1. THE CITY ON THE ANGARA RIVER. 1997. The stained glass windows in the entrance lobby of the central building of the university was made by E Sidelnikova under the guidance of Prof. V Smagin. Colored glass, mastic, brass. [12, p.5; 13, p.137].

Figure 2. OEUVRE. 1999. This is an example of a textile composition in the lobby of the INRTU Conference Hall was made by T Anisimova under the guidance of Prof. V Smagin. Wool, sisal, cords, hand weaving. 300x300 cm. [12, p.9; 13, p.138].
Corridors are always filled with many people, especially during breaks between lectures. Students have enough time before classes to consider monumental painting. This is the possibility of placing quite complex drawings here. In addition, it is possible to post multi-composition narrations on the same topic in narrow long corridors, for example, on the narrative of science or art history. Good preservation of works of monumental painting in the corridors of the university can only be ensured by mosaics made of colored stone or ceramic tiles. Tiles are undoubtedly more profitable material from point of view, and the mosaic technique allows to cover large spaces of walls [7, 11].

An interesting example is the mosaic panel dedicated to the history of science. The panel is located on the third floor of the Energy’s Institute building in a narrow, dead-end corridor (figure 3). The number and arrangement of the doors ensure the presence of large gaps between them. There are located the composition reflects the stages of the emergence and development of the different physics sciences. Stylized portraits of scientists associated with the main sections of physics. The viewer reads the story step by step along familiar symbols, moving along the corridor. The calm narrative is resolved in a light blue palette. It leaves a sublime sensation from meeting with the creative power of science.

![Figure 3. THE QUANTUM PHYSICS. 2017. The fragment of a mosaic panel in the corridor of the Energy’s Institute building was made by A Onuchina under the guidance of Ass. Prof. E Sergeichuk. Ceramic tile, acrylic. [13, p.196].](image)

The inclined communications include numerous stairs between floors. They vary significantly in size and nature of the stairwells and corridors that they connect. The most successful example of a flight of stairs is a fragment of the third-floor it is leading to the administrative building. The several techniques of monumental painting were used simultaneously here: fresco, mosaic, volumetric mosaic, hinged stained glass window (figure 4). This is the result of the three final students works, that were defended at different times, but in the end they are representing an artistically finished composition.

The wall of the lower landing is almost square. Dry plaster acrilic paintings were placed on it and complemented by mosaic fragments. The mural plot is dedicated to the unity of the three principles of any university: education, science and culture, therefore, the figure of Leonardo da Vinci is chosen as a main symbol. The painting is done in bright blue, which is also symbolic and emphasizes the complexity of meaning and artistic decision (figure 4a).
Figure 4 a. DEDICATED TO LEONARDO DA VINCHI. 2004. This is a mural with some mosaic fragments was made by N Dovnich under the guidance of Prof. V Smagin. Acrilic, ceramic tile. [13, p.149].

The square wall of the upper landing has a wide door in the central part. The decor frames the door and it is made in the technique of volumetric mosaics in the form of a large bird, that is symbolizing the flight of creative imagination. The volumetric mosaic is solved in a bright red colour scheme (figure 4 b). Decorative fragments of the lower and upper staircases are connected by the decoration of a long window, that is located between them. The window is decorated with a hinged stained-glass, consisting of several decorative fragments (figure 4 c). The pastel palette of the stained glass balances the open colours of the decorative panels to the right and left of it.
The third group of interiors includes chamber spaces of offices and teaching rooms. These are usually located small rooms with an area of 18-25 m² with one or two windows. There are no more than 5-10 people work here during the day. It means the most of monumental painting technics are not suitable for decoration except the textile compositions. The tapestry, patchwork or appliqué technique on fabrics fully correspond to both the volumes of decorated rooms and the emotional mood of the people working here [8,10]. Textile artworks are commensurate with the person and they are usually based on a nuance composition, which provides soft colour transitions, the effect of textures and lines. Textile creates an initial feeling of comfort, do not distract or irritate with unnecessary details.

The decor of the Central Admissions Committee office can be used as an example. Here is a textile panel created on the principle of an “island” composition of several elements. The elements are interconnected by coloured threads creating in combination with compositional pauses a feeling of airy lightness. All structural elements are mounted on a frame, which consists of aluminum tubes in textile shells. The frame carries an artistic load and provides decorativeness, flexibility and plastic "fluidity" of the composition forms. The textile panel is called "Development" and made in the form of outstretched wings and symbolizes the rapid rise of abilities through education [12, p.32].

Patchwork textile compositions create a warm atmosphere in chamber spaces. Soft forms of draped fabric emphasize picturesquely the beauty of natural subjects. As an example, we can use a decorative panel of the educational department. Three fragments create a feeling of widened window sashes, behind which the cityscape opens (figure 5).

As mentioned above, for the fourth group, the use of monumental decor is redundant. The only exception to this rule is the gym. The most successful example is the mosaic panel SPORT (figure 6). A vibrant composition fits well with the common atmosphere of a sports hall designed for playing sports.
Figure 5. OUTSIDE THE WINDOW. 2002. The decorative panel in the technique of applique on fabric in the interior of the educational department was made by A Censkich under the guidance of Ass. Professor E Zmanovskich [12, p. 28].

Figure 6. SPORT. 2007. This is example decoration of central wall of gym. The decorative composition was made by G Sverdlov Gunder the guidance of Prof. V Smagin. Ceramic tile, acrylic. [13 p.159].
4. Conclusion
The interconnected active decorative elements create a bright, positive feeling from the interiors of the university. Differently decorated space of halls, corridors, flights of stairs, halls and offices creates a generalized artistic image of the building, shows the university as a modern centre of education, science and culture.

Mosaic compositions play an important role in the complicated architectural plan of a building. They concentrate the viewer's attention at the borders of transitions from one section of the building to another, direct and accompany the movement, fix the structural and planning nodes, orient the viewer in the complex space of numerous transitions, prepare for the perception of the next interior. Stained-glass windows provide festive accents. Textile compositions create a comfortable working environment and often take on the meaning and convey a special emotional charge to the viewer. The general artistic plasticity of the medium is built as an indissoluble whole. This is simultaneously both a great advantage and disadvantage. The advantage is the transformation of the university's interiors into a museum of modern monumental painting. A disadvantage could be a conflict of interests in the long run [15,16,17].

The building was built over 60 years ago. It loses naturally its modernity and, one way or another, the building will need make some reconstruction and updating. If it becomes necessary to carry out large-scale reconstruction, it will be possible to lose some large fragments or individual works of monumental painting. The idea of harmonizing the interiors of the university was based on the general integrity of their artistic appearance. None of the artworks existing on the walls and windows of INRTU cannot be seized without harming the organic emotional perception of the unique art space as a whole.

The university’s interiors perform several functions today: they serve as objects of practical work for students of monumental painting; serve as evidence of acquired competencies at the level of professional excellence; demonstrate the level of art and technical training at the university; create a favourable emotional and psychological atmosphere for the entire staff of the university and its guests; serve to form a positive image of the university in the educational, scientific and cultural community of the country and the world. The museum of monumental painting in the interiors of the university is an extraordinary phenomenon. The museum has been formed over 25 years and requires an extraordinary approach to the operation, renovation and reconstruction of the entire building.

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