Urban Square Covering as the Environmental Design Element

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Abstract. The article presents complementary synthesis method. It is necessary for students to form design thinking when designing urban environment. The method is revealed through mutually complementary aspects: social aspect and the aspect of objective filling of architectural environment. Social aspect develops through research and context analysis. Architectural, aesthetic and culturological requirements were taken into consideration. Psychological features of an individual when perceiving small architectural objects were also taken into consideration. The aspect of objective filling of architectural environment is presented by 3D modeling approach. The objectives of compositional design, engineering and technology were taken into consideration. Synthesis is revealed in a creative act of developing objects of environmental design. It is the environmental design that puts the interiors of streets and public gardens into cultural shapes creating a kind of “design-space”. The method of including the requirements of Russian Federation regulations on the area into the design work has been shown. Modeling resulted in draft design of urban square covering meeting the involved requirements.

1. Introduction

The article presents complementary synthesis method necessary for forming design thinking within the comprehensive approach to design solutions of urgent urban environment planning, namely: social aspect in designing and the aspect of objective filling of architectural environment. Jan Gehl, an expert on urban environment quality, also puts it like this about the importance of encouraging social life of urban community. He calls special attention to safety, sustainability and social focus of cities. He says it will increase the scope of social facilities and affect prosperity and wellbeing [4].

Mastering the skills of developing objects of environmental design gains even more importance since in the city life it is the environmental design that puts social activities taking place in the streets into cultural shapes accepted by contemporary aesthetics. “Giving consideration to training for developing such design-patterns is imperative. Nowadays in the interiors of city streets and public gardens they are capable of creating a kind of “design-space” transforming separate environmental elements or fragments into compositional structures” [3p.262].

2. Formulation of the problem

For the Russian society and urban existence culture to move to a new higher level at present the society and authorities are solving one of the most important tasks, namely: implementing a priority project Forming a comfortable urban environment whose program includes, among others, the following aspects: forming the cultural value (identity) of cities; eventive filling of spaces under improvement; encouragement of street trading, services, weekend markets, etc. [8].
In this process outdoor amenities and their particular case, design-patterns, are one of the core street decorative elements of the cities in the XXI century which make possible a comfortable high quality environment. In this article we will examine the participation of one element out of the whole typological variety of design-patterns, namely, urban square covering. This urban area has historically been and remains the most popular place where the most of the community’s social life takes place. Therefore, the ability to implant a new object into the established development is very valuable. “Their major task is to carry comfort and convenience, but in addition, to introduce humane measure into the urban environment which is overloaded by the architecture of “large” buildings and structures. The appearance of such objects of street decoration makes the space more comfortable and human-friendly.

Let us illustrate on the examples how the covering is “implanted” in an organic way into the established urban environment. The first example. The covering over the tram platforms in the city of Łódź (Poland) (Fig.1.).

![Figure 1](image-url) The covering over the tram platforms in the city of Łódź (Poland).

The analysis of local situation reveals two fundamental aspects. The first is social basis (context) of the general architectural solution. A tram as a contemporary mode of public transport is in urgent demand. Quite often several tram routes cross at one point of the city, this is logistically convenient and justified by operating efficiency. But how often we can see platform shelters with minimum aesthetics, having purely utilitarian purpose of shelter from precipitation. Here the authors applied a rather progressive trick adding to the ordinary function of platform shelter a deliberately intense aesthetic loading. They could introduce an original charm of symbolic aerial basilica temple which from culturological point of view is quite contextual for Catholic Poland. Besides, the covering also contains a dramatic accent raising recognizability of the site. Beyond doubt, this design-pattern modernized the urban environment in whole. The whole range of visual and cultural aspects joined in a single object is the sign of modern design [6p.500]. If the first example of covering can be attributed to everyday support of living, the second solution belongs to festive condition of the urban square. This is the object erected by the World fair of Expo-2015, Milan (Italy) (Fig.2). Here we are interested in glass coating over the central promenade connecting exhibition halls. In social and culturological context any street exhibition goes back to fair booths which often took place on urban squares. Thus, we deal with one of holiday transcriptions and its architectural and design support. Symbolically, this is the image of the curtain, covering, diverting and even “guarding” festive mood of a human from pervasive daily routine. It should be noted that perfect technical aesthetics of the object by no means
contradicts the status of world fair. That in the modern world with rapidly changing views on the habitat it is necessary to follow solutions in favour of place and time [6p.482].

3. Method

Using the presented method we will disclose, what benefits the city gains acquiring an all-weather covering over one of its squares. It is clear that a city in its planning structure will always have large open public spaces, namely, urban squares. Therefore, to examine the method we will take not very large urban area.

Any complete architectural object always contains an answer to three requirements made by the time, society and individuals, that is, strength, convenience, beauty. To some extent, this is the author’s centuries-old professional code of honour guaranteeing the quality of architecture in whole.

In consideration of contemporary task, namely, creating a comfortable and high-quality environment we can see the following aspects revealing substantial program of the designed object: a) beauty, b) convenience, c) prestige.

Thus, in our case aspect A-beauty has three components. First, this is enrichment of urban environment when we obtain an increase in the diversity of impressions. The emergence of a new, artistically elaborate public object fills emotionally and adds certain aesthetic novelty to the established environment. A new beautiful object is like a new beautiful and expensive toy. It invites you to play with it making it yours through emotional affection. It is this that emotionally supplements the impressions of staying in a familiar part of the city. As professor V.T. Shimko states: “What are quality factors of design-pattern solution? It is able to “put into shape” and accompany human experience and joy of communicating with friends and feeling into some cause in a team, community, subculture” [2 p.121].

Secondly, “beauty” as style. Object novelty is accepted by urban community better and more exactly in case if artistic image of the object contains sea motifs, poetics of sea romance, waterside surf.

Thirdly, beauty as uniqueness. The presence of small architectural objects (design-patterns) has a splendid potential of city look individualization. Uniqueness is that which makes recognizable and inimitable. It is uniqueness that singles out a number of alike, which is especially important for contemporary cities.

Aspect B-convenience contains an idea (conception) of comfortable urban environment. With regard to covering this idea is shown through the scenario of everyday and festive.

By everyday life we mean daily addressing by people for shelter from precipitation (rain, snowfall, excessive solar radiation). As architect and historian Paolo Portoghesi noted, “the objects which adorn our home and which we use in everyday life as architectural details breathes feeling into the room we live in. And this broadens means of communication” [6c.494]. Also a passerby daily needs psychological refuge when taking a short rest, for meeting with friends. It is much more comfortable
to stop under cover just to stare at passersby, when one can “absorb” the atmosphere and “mood” of the street. Festive application, when fair trade, other public arrangements like street festivities, street actors performances and newfangled social flashmobs take place under cover (fig. 3a, b).

Aspect C—“prestige” is revealed through acquisition and translation. It is obvious that square covering is the commons of every city dweller, and such acquisition everyone is able to appraise. This way the city translates concern and respect for everyday and festive life of its people. The through and inexpressive square will acquire a new status when covering appears over it. In addition, the chosen place will acquire the complementary element to the established architectural ensemble. A stylish object (covering) enhances a poetic image of a marine city. Besides, a new expensive downtown object will add to certain tourist lustre. Object implementation in modern high-tech materials translates to foreign visitors a signal about economic strength and wealthy stability of the city raising international prestige of Vladivostok. The importance of this criterion is pointed out by professor Efimov A.V.: “… Only the object which fully expresses not only its social value for a human, but also social essence of the human himself can be identified as beautiful”. [5p.94].

![Figure 3. a) daily routine, b) fair in the square.](image-url)

4. Results
The investigation has resulted in design solution developed during studies. For the design modeling a small street square between Fokin and Semyonovskaya Streets in Frunzenskiy district of Vladivostok has been determined (fig.4).

![Figure 4. The street square of Vladivostok.](image-url)

“Modeling as the process of creating, constructing a new spatial reality generates not some aspect or characteristic of an architectural form, but an architectural form in whole with all dialectical complex of its characteristics, properties and aspects” [1p.177].

Everyday life of the site in question is provision of pedestrian transit and brief rest. Festive constituent is organization of the ground for street fair trade evolving on city squares at days of
various holidays: state, occupational, religious, national. Building a covering here will bring about a necessary architectural accent. When, “As a result, the image of urban environment – this is the city or its district originality – forms as kaleidoscopic continuously changing picture co-opting the tempo of its life, measure and perfection of its decoration and comfort of its streets and squares” [5p.165].

Thus, an architectural image of the covering is the symbol of sea wave, sunshades and girder booms of harbor cranes. The material of covering filling is stained glass with “marine” palette.

The specification of the proposed model is as follows. Structural engineering scheme of the covering is cellular shell supported by 15 pillars of 250 mm round section of high-carbon 70 grade steel. Cellular shell is executed of steel electro-welded straight-line-seam pipes with outer diameter of 100mm and wall thickness of 8mm. (fig.5а, b).

![Figure 5. a) facad, b) 3D model.](image)

5. Conclusion
The method presented shows the importance of studying social processes taking place in urban communities. When the design proposal is the result of careful and intent analysis of needs and expectations of the community. It concerns the level of residents’ claims to the presence of necessary urban environment facilities. As K.Tange pointed out: “… it should be remembered that neither material, nor spiritual reality we are to perceive is static. They have myriads of constantly changing aspects we should continuously influence again and again” [7p.407].

Such object successfully introduced into the development “awakes” the point of urban space. When instead of ordinary and common site it turns into an attractive and memorable fragment of urban environment, recognizable and unique. The appearance of the covering will undoubtedly improve urban environment, comfort of residence and prestige of Vladivostok.

6. References
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