

ARCHITECTURE AND CONSTRUCTION

ELEMENTS OF URBAN DESIGN IN MODERN CITY
ARCHITECTURAL PARTERRE FORMATION

¹Professor, Doctor of Sciences in Architecture, *Dubinskiy V. P.*

²PhD student, *Skorobohatko O. V.*

¹Ukraine, Kharkiv, Kharkiv National University of Construction and Architecture

²Ukraine, Kharkiv, O.M. Beketov National University of Urban Economy in Kharkiv

DOI: https://doi.org/10.31435/rsglobal_ws/31032019/6401

ARTICLE INFO

Received: 27 January 2019

Accepted: 21 March 2019

Published: 31 March 2019

KEYWORDS

urban realm,
architectural parterre,
urban design,
elements of urban design.

ABSTRACT

The article deals with the problem of architectural parterre as an environmental object in urban realm structure. Tendencies in urban building are described, resulting in architectural parterre formation. The rates of urban density and number of floors, where architectural parterre is formed, are provided. The description of 3-D elements, that are included in architectural parterre structure, is indicated. This article gives the analysis of architectural parterre human perception peculiarities. On the grounds of conducted analysis, the article presents urban design elements, by means of which the architectural-artistic appearance of architectural parterre is formed. The article makes a description of the urban design revealed elements and systematizes them.

Citation: Dubinskiy V. P., Skorobohatko O. V. (2019) Elements of Urban Design in Modern City Architectural Parterre Formation. *World Science*. 3(43), Vol.1. doi: 10.31435/rsglobal_ws/31032019/6401

Copyright: © 2019 **Dubinskiy V. P., Skorobohatko O. V.** This is an open-access article distributed under the terms of the **Creative Commons Attribution License (CC BY)**. The use, distribution or reproduction in other forums is permitted, provided the original author(s) or licensor are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

Introduction. Urban design as a particular type of activity occurred as a result of unification in shaping of objective-spatial urban environment. Beginning with the 70s of the XXth century the usage of urban design and fine arts resources in urban environment shaping are being increased. Introduction of design is becoming more and more task-oriented and local.

One of the principal problems of urban design is community commitment increase in towns and cities. For this purpose, special attention is given to walking routes and open spaces. The tendency of organising in towns and cities walking routes directed at provision for pedestrians the whole network of recreation landscape objects. Namely in footways of urban environment a person participates much in social processes. The most common type of safe environment organising is the road surfaces liquidation in urban streets. The main goal of walking routes networks organising is the integration of cultural and natural resources in urban environment. The organising of the current recreational system takes place in the architectural parterre structure too. The amenities of urban environment for a human being is connected with physiological human features. The possibility of urban environment perceptual unity, facilities of obtaining information, proportion of 3-D elements and convenience of substantive content. The content of architectural parterre with elements of urban design depends on the human activity type. The human activity type in urban environment becomes more and more unpredictable and various, that causes hardships in any urban environment unification.

The relevance of research is determined by modern tendencies in urban environment formation, where the knowledge of systematization may become necessary for setting up a convenient

environment in architectural parterre structure. Thanks to the complex structure of architectural parterre is pending a decision of object shapes disproportional to a human being in urban environment.

Research data. The architectural parterre introduction in itself is connected with the theory of storeys number and urban density. The increasing of storeys number caused shaping discretionary to human architectural environment. Architectural parterre starts shaping under conditions of storeys number, from 5 to more storeys in a building, when urban density equals 200-250 persons per hectare. Under such conditions the physical conditions of architectural parterre can vary on the average from 0,5 to 5 hectares, depending on building density and total area of open spaces, that may belong to architectural parterre.

Architectural parterre is an environmental object in urban environment structure with the systems of interior and exterior spaces, limited by building facade at the level of primary two or three floors of building, including in itself elements of streets footways and small open spaces, restricted by building (Dubinskiy, 2017).

Architectural parterre includes in itself a variety of 3-D elements. These elements have differences on the basis of functional features and compositional location in urban environment.

The main types of 3-D elements of architectural parterre in urban environment:

- *Linear space.* Linear spaces include pedestrian streets, street elements out of road surface, footpaths in the middle of quarter building.

- *Angular intersection of two streets.* Angular intersection of two streets can have rather different compositional features: it can be interior or exterior corner, fascia, conduction, lean-to and etc.

- *Street niche or inner court.*

- Spaces, *protecting against external impact*, such as: porch, gallery and so on.

- *Interior spaces*, that by means of constructive solution integrated into street.

The architectural parterre shaping often emerges within specified city-planning criteria. Primarily they are urban density, block sizes, street footway width etc. The street footway width is determined, as a rule, based on human size, flow intensity and acceptable distance for different types of human activity (Lang, 2006). Based on the size of pedestrian spaces, emerge certain acceptance visible angles of facade buildings, and 3-D elements of architectural parterre. The acceptance in itself takes place at two levels: optical and sensory (Harris, 1998).

At the sensory level of perception peripheral vision and different kind of analysers are used. A human being perceives touching, scents and acoustic information. Such information may include: finish and slope of pavement, objects elements under touch, environmental temperature, aerodynamical alterations because of surrounding objects and others. Under the conditions of peripheral vision, the floor flatness is perceived, that is located below the vision conus, as a rule it is 6-6,5m ahead of pedestrian (Harris, 1998).

At the optical level of perception, the zone of high vision activity is used. In the zone a human perceives the outside environment within the range 30° in vertical direction and 60° in horizontal direction. Under the conditions of many multi-storeys building this angle allows to embrace in full measure the primary 2 or 3 floors of building, depending upon the width of street footway and storeys height.

The perception of architectural parterre can be performed both in horizontal direction, and in vertical direction, depending on objects locality according to human vision conus. The most convenient conditions for human perception are those, that a human being can perceive integrally, in addition having relatively strong rate of space protection. The urban environmental protection is carried out based on human being movement in the system of space limits.

In the course of architectural parterre formation urban design is embodied at the level of separate object and space formations in the city. The urban design elements that form the image of architectural parterre include: *architectural solution of facades at the level of primary two or three storeys, urban sculpture, meaningful high technological content, street furniture, light and colour design, means of visual communications* (Михайлов, 2011).

Architectural solution of facades at the level of primary two or three storeys of building. Under the life's activity variety in modern city the primary floors of high-density building have rather various catalogue of functions. The facade detachment at this level permits visually to restrict urban environment, that could be perceived integrally by the vertical angle of vision. Under such an acceptance much attention is paid to primary levels of building and multi-storeys buildings become not so massive and heavy for visual perception. The designer's facilities in such a situation are rather

various, namely: style contrast, constructive detachment, compositional accent and so on. The introduction of such a method can be under way in the course of existing facade system reconstruction, using supporting or other protecting structures. Also, on facades are created the separate artistic compositions made of object forms, letter compositions et cetera.

Landscape design. The usage of natural elements in shaping of architectural parterre allows to decrease deleterious influence of anthropogenic environment to a human being, and also to recreate an imagery of habitual for a human being natural habitat. The natural elements are embodied in greening of architectural parterre spaces, wall gardening, container-type planting, water elements etc. On the contrary to traditional type the usage the landscape design is introduced under conditions of prevailing artificial territories over natural ones. It causes the strong deficit of territories, available for landscape greening. In architectural parterre for the given problem solution the following means are used: wall planting, container-type planting, water elements, plant barriers etc. Artificial landscape forms are also widely used, that needn't extra care for themselves.

Small architectural forms. These elements are the most various content of the urban environment, they include: shadow shelters, arbours, fountains, public transport stops, booths, informational stands, phone boxes, etc. Small architectural forms can emphasize the urban environment, being architectural monuments, works of park and garden and landscape architecture, municipal improvement elements. Small architectural forms use for design of streets, main lines, parks, squares, palace territories. They can fully reflect environment originality of environment, national colour, originality of the created object and also to perform their function (Осипов, 2015).

Street graphics. Street graphics includes fine arts works, which integrated into urban environment. Such elements are the cheapest remedies against monotony and utility of urban environment, in this case the main sphere of activity are solid gable facades, continuous end faces of buildings and simple in form facades of commercial institutions (Михайлов, 2011).

Urban sculpture. Sculptural compositions most often integrate into the structure of architectural parterre in combination with small architectural forms and elements of improvement. Materials and stylistic component of sculptures are rather various and often depend on area image in already formed town-planning situation. Sculptural forms create the image of architectural parterre at the expense of their thematic and semantic component and also at the expense of their scale optimum for visual perception (Михайлов, 2011).

Meaningful high technological content. In the structure of architectural parterre for comfort increasing, informational content and functionality of urban environment use meaningful high-tech content. The content includes: thermometers, watches, television screens, surveillance cameras, ATMs, solar batteries, etc. These elements become smaller by size, more dynamic, functional, wearproof and informative. In architectural parterre it is necessary to stipulate conditions for easy mounting and dismantling of such elements.

Street furniture. Street furniture includes: benches, urns, added to facades show-windows, artificial barriers, etc. Use of street furniture allows to provide the use of architectural parterres for recreation and informal communication. Also, the synthesis of object and urban design is provided that emphasizes the environmental image. The main criterion during formation of these elements is their ergonomics.

Light and colour design. The design in architectural parterre forms the image of urban environment at night-time, however making it more artistic, safe and attractive from the commercial point of view. Lighting can emphasize the plasticity of facades at the level of two or three floors of the building, keep composition and image of 3D elements of architectural parterre. For this purpose, use facade lighting, outdoor lightning, lighting of separate object forms, street lighting (Крижановская, 2006).

Means of visual communications. In the structure of architectural parterre these means of urban design are used for urban environment orientation improvement and increasing of informational content. These means include: advertising, informational displays, signs, type compositions. By means of visual communication facilities rational usage, becomes easier fulfilment of living abilities in urban environment.

Conclusions. The article examines the town-planning conditions under which the architectural parterre is formed. The types of 3-D elements of architectural parterre were characterized. The peculiarities of architectural parterre perception by human being were examined. On the basis of the conducted by the article analysis the elements of urban design, that form the artistic image of architectural parterre were researched. The following elements of urban design were discovered: *architectural solutions of facades at the level of primary two or three floors of building, landscape design, small architectural forms, street*

graphics, urban sculpture, meaningful high technological content, street furniture, light and colour design, means of visual communications. The discovered element allows to approach to the problem of architectural parterre forming for making comfortable urban environment proportional for the urban realm inhabitant at the level of two or three floors of building.

REFERENCES

1. Дубинський, В. П. (2017). Скоробогатько О. В. Еволюція формування архітектурного партеру. Архітектурний вісник КНУБА, (11-12), 224-235.
2. Иконников, А. В. (2006). Пространство и форма в архитектуре и градостроительстве. URSS.
3. Lang, J. *Urban Design: A Typology of Procedures and Products*. 2005.
4. Harris, C. W., & Dines, N. T. (1998). *Time-saver standards for landscape architecture*. McGraw-Hill.
5. Яргина, З. Н., Косицкий, Я. В., Владимиров, В. В., Гутнов, А. Э., Микулина, Е. М., & Сосновский, В. А. (1986). *Основы теории градостроительства*. М.: Стройиздат, 319.
6. Михайлов, С. М. (2011). *Дизайн современного города: комплексная организация предметно-пространственной среды (теоретико-методологическая концепция)*. Москва.
7. Осипов, Ю. К., & Матехина, О. В. (2015). Малые архитектурные формы в пространстве городской среды. *Вестник Сибирского государственного индустриального университета*, (2 (12)).
8. Беляева, Е. Л. (1977). *Архитектурно-пространственная среда города как объект зрительного восприятия*. М.: Стройиздат, 127.
9. Розенсон И. А. *Основы теории дизайна: Учебник для вузов. Стандарт третьего поколения. 2-е изд.* – Издательский дом " Питер", 2012.
10. Крижановская, Н. Я., & Дубинский, В. П. (2006). *Светоцветовой дизайн городской среды*.