

Hybridization in Architecture

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ABSTRACT

Based on the analysis of modern architectural practice, the author proposes the concept of hybridization in architecture as a way of assimilation of globally distributed architectural practices by local structures. The intention of this paper is to investigate the impact of cultural globalization processes on the nature of architectural shaping, urban infrastructures, and natural elements, resulting in the emergence and combination of hybrid structures. The interbreeding of “local” with “global” in different patterns (functions, forms, elements or parts, combination methods) generates exaggerated polymorphism of objects forming the architectural space of a modern city. Various hybridization methods are disclosed, manifesting themselves in various forms from the urban scale of infrastructure to the architectural scale of a building form.

Keywords: architecture, hybridization, cultural globalization, shaping

I. INTRODUCTION

Hybridization has recently become a particularly discussed topic in research of contemporary culture. Mixing, interbreeding, the combination of uncombinable — these processes can be traced today in a variety of spheres: from hybrid art to hybrid wars. Hybridization has become one of the main terms in poststructuralist cultural theory as well as some variants of the theory of globalization; today it is used especially in the context of disputes about cultural globalization and the interpenetration of cultures. A number of widely discussed concepts such as global localization, creolization, and syncretization are also linked to these notions. The concept of hybridization of modern society’s culture rejects the common theory of understanding globalization as the unification of world cultures. The developer of this concept J. Nederveen Peters in his works argues that globalization has contributed to strengthening the processes of heterogeneity, which is expressed in the diversity of forms suddenly joining each other and giving rise to completely new entities [1].

The study of modern architectural practice shows that hybridization as a special method of morphogenesis is widely introduced in architectural

creative work. The questions of the regularities and features of the emergence of "architectural hybrids" as well as their future are the relevant issues in the study of the problems of modern architecture.

II. THE HYPOTHESIS OF THE STUDY

The theory of hybridization helps to understand some of the processes that take place in modern architecture, and explains the seemingly incomprehensible transformations of urban space. This article is devoted to the study of hybridization as a way of assimilating various globally spreading practices into established architectural and urban planning structures.

First of all, let us answer the question of uniqueness and repeatability of the hybridization process in the history of architecture. Cross-cultural mixing is itself a creative process, typical not only for the modern era. History shows amazingly rich architectural patterns that arise at the junction of sharply different cultures (e.g. the impact of Eastern architectural tradition on Roman architecture). However, in the current period of the spreading of cultural globalization, there are continuous clashes between local cultures and global trends. There is an ongoing process of increasing cultural diffusion and endless intercultural communications happening in the world. The result of the interaction of cultures that extended beyond their areas and spread to new territories are cultural hybrids in the form of a large number of mixed syncretic formations. The heterogeneity of the urban environment, architectural space, and form is increasing, and the so-called

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"explosion of polymorphism " can be mentioned among the most noticeable phenomena [2].

Among the first researches that noted a new way of architectural shaping which has received acceleration and a multi-vector direction due to the development of computer technologies, it is necessary to name works of American architect M. Novak [3] [4], as well as works of Russian researcher of architecture I.A. Dobritsyna [5]. The study of the development of architecture in the context of the usage of the resources of computer technology led researchers to the conclusion that the new method of architectural morphogenesis has a hybrid basis. Marcos Novak, describing the characteristics of architectural morphing with the use of computer resources, stressed its hybrid quality. He wrote that we should consider the process of morphing as alchemical mixing. "Sphinx and werewolf, gargoyle and griffin are iconic characters of the present time. The morphing technique is rather a genetic procedure than a surgical one; it is more like cross-breeding than skin grafting" [3]^{p.47}.

III. HYBRIDIZATION METHODS

Several characteristic interbreeding mechanisms can be distinguished in the process of hybridization. One of the most common is the way in which forms are separated from existing practices and interact with new forms in new practices, gaining new meanings and content.

A. Functional hybridization

Objects that appear as the result of the mixing of different functions can be seen as the simplest type of an "architectural hybrid". However, these are not regular multifunctional objects, but those that are now labeled with the "mixed-use" term. The basic idea of a "mixed-use" building or complex is to combine the functions that help each other in a synergistic way and thus diversify economic risks. Objects of this type can be called "functional hybrids", which are a combination of residential, commercial, cultural, manufacturing or other institutional functions. The construction of "mixed-use" buildings has become a global trend over the past twenty years. The advantages of such "functional hybrids" are a greater diversity of building typology, an increase of its density, the formation of more compact urban morphotypes that create the conditions for the development of pedestrian and bicycle traffic. Shopping malls, plazas, office parks, complexes that combine housing and jobs, housing and hotel apartments, housing and commercial functions, offices, service facilities, and other variations are the examples of urban "functional hybrids".

Nowadays, there is a steady demand for "hybrid housing", i.e. the housing that is interbred with some other additional functions. Numerous competitions for

this type of housing are being organized. Recent examples include the "Hybrid Housing" competition in Hamburg, which was held in 2015.

Interest in the development of housing combining residential and public or commercial functions has led to the emergence of new principles for architectural form-finding. Hybrid housing is often enclosed in completely unconventional and unrecognizable forms.

The "Linked Hybrid" complex (2003-2009) in Beijing is particularly well known as a new type of housing complex and was awarded an honorary award as the best high-rise building in 2009 ("Fig. 1"). It combines residential, educational, recreational, and commercial functions. Its authors built upon the idea of forming a complex as a social capacitor for both Hybrid's residents and citizens. This complex consists of eight towers interconnected in a single closed system by means of so-called "skybridges" which contain: a large swimming pool and a fitness center, cafes, exhibition galleries, a small cinema hall, and a night club.



Fig. 1. The "Linked Hybrid" complex. Beijing, China, S. Hall. 2009.

^a Source: <http://www.stevenhall.com/projects/beijing-linked-hybrid>

The author of the project is the American architect Steven Hall, who is one of the pioneers of "hybrid architecture". Opposed to the surrounding buildings of Beijing which traditionally have an enclosed perimeter, this complex continues the theme of "porosity" - the openness to the outside and the relationship with the surrounding landscape and buildings, which is an integral part of all the works of S. Hall [6].

B. Typological hybridization

One more direction can be distinguished in the architecture of the dwelling, which can be denoted as "typological hybridization", which is when two or more different typological architectural and spatial patterns are combined. For example, the integration of urban and rural housing types was proposed in the "Urban Hybrid" -the project of a residential quarter developed by the Dutch firm MVRDV in 2013 for construction in

Emmen (Switzerland). This complex combines the features of rural (abundant greenery and individual houses) and urban housing (central location, developed infrastructure, apartment buildings) [7]. The appearance of the quarter creates a diverse street facade of the "city", while the interior space creates the image of a green and cozy "village".

Another example of a "hybrid typology" is the "Sail Hybrid" project (2005), developed for the resort town of Knokke-Heist, Belgium. The authors of the project were S. Hall and his team [8]. The complex was born as the result of the reconstruction of an old casino building. The source of inspiration was interior paintings associated with images of a sailing boat and a fantastic creature -the "fish man" sitting on the seashore. As the result of rethinking these images, the new building has become a combination of three architectural themes: the "sea" — cylindrical forms of the reconstructed casino building in the Art Nouveau style, the "hybrid creature" — a fragment of "porous architecture" (congress hall), and the "sailing boat" - a glass prism-tower (hotel and apartments) ("Fig.2").



Fig. 2. Project "Sail Hybrid", Knokke-Heist, Belgium. S. Hall. 2005.

^a Source: <http://www.stevenhall.com/projects/sail-hybrid-knokke-heist/>

C. Formalistic hybridization

The next direction of the development of the hybridization practice is the connection of well-known functions with non-traditional spatial forms to enclose them [9]. This scheme can be called a "formalistic hybrid". Among the examples, there are such objects as a "bridge" in the form of a "park" ("Garden Bridge", London, England, by T. Heathcric), a "museum" in the form of a "mill" (Küppersmühle Museum, Duisburg, Germany, by J. Herzog and P. de Meuron), "housing" in the form of a "market". It is the latter combination - an unusual mix of form and function, which can be seen in the architecture of the "Markthal Rotterdam" complex in Rotterdam, Holland (MVRDV, 2009-2014). It is an 11-story building with the shape, resembling a giant hangar. The city market occupies the inner open space under the vaults of the residential

building. The premises on the ground floor house shops, restaurants, snack bars, and a cooking school. Two hundred residential apartments whose windows look out over the market, hang above the covered shopping area.

The crossbreeding of different structures — natural (landscape) and artificial (urban elements) — has led to the emergence of a new trend in urban planning practice - "landscape urbanism" [10]. Numerous hybrid spaces in the context of landscape urbanism have been built in different cities around the globe. These include new objects in Spain (Madrid Rio zone, Madrid), China (a park on the coastal territory of Shanghai) and Russia (Zaryadye Park, Moscow, shown in "Fig.3").



Fig. 3. Project "Zaryadye Park", Moscow. Diller Scofidio+Renfro architectural bureau (New York), competition. 2013.

^a Source: <https://tass.ru/obschestvo/1894261>

IV. MERGING LOCAL AND GLOBAL

Cultural hybridization is the result of the merger of "native" and "foreign". English sociologist F. Anthias stresses that "globalization comprises a quantitative increase of the number of movements that both intensify the foreignness and normalize it at the same time. The condition of "comprehensive foreignness" becomes the predominant state of the global society" [11]. So, it's the mechanisms of hybridization that are becoming widely used in various fields to adapt to this state in the conditions of cultural globalization. It can be assimilation (merging, assimilation, the substitution of old samples with new ones), interpretation (translation, rethinking), imitation (imitation, mimicry, disguise), syncretism (connection of controversial forms or functions, connection of the unconnectable) or some other forms of integration and interpenetration.

An example of the imitation of Western models in Russian architectural and urban planning practice is the famous project of the first decade of the XXI century "Rublevko-Arkhangelskoye Residential Area" (2004-2006). The authors proposed to build a settlement imitating the morphological structure of the European historic city with all the elements of urban fabric typical of such a city ("Fig.4"). In the center, there should have been a citadel with fortress walls, as if it has survived

its past and been rebuilt for new purposes. Adjacent to the citadel, next to the "fishing village" there was the "Old Town" (a kind of an imitation of "Altstadt"), the layout and of which should have resembled the XIX century districts of European cities. The project involved the construction of the "New Town" ("Neustadt") and the surrounding low-rise areas (townhouses, cottages, "villas in the groves").



Fig. 4. Project "Rublevo-Arkhangelskoye Residential Area", Moscow region. Urban Design and Architecture - John Thompson & Partners UK, Landscaping Design and Architecture - SWA Group USA, Engineering Feasibility - Ove Arup & Partners UK, Marina Design - Marina Projects Limited UK. 2004-2006.

^a Source: <https://www.arup.com/ru-ru/projects/rublyovo-arkhangelskoe>

Researching the processes of the interaction of different cultures, the Soviet researcher of culture Y.M. Lotman used the model of interiorization of external influence, at which any cultural artifact is extracted from one context and placed in another, where it acquires additional meanings, being assimilated (or rejected) by culture. Lotman stressed the ambiguity of the result of such mastery of "foreign": "In order to communicate with an external culture, the culture must internalize its image into its world. This process is inevitably dialectically contradictory. The internal image of the external culture has the language of communication with the cultural world into which it is incorporated. However, this communicative ease is associated with the loss of certain, and often more valuable, ... qualities of the external object being copied" [12]. If we look at the project through the Lotman's "lens" of interiorization, it becomes obvious that the "Rublevo-Arkhangelskiy" project has lost the content of Western models with its simplification to the level of Disneyland's architectural images. The result is a toy-like, illusory environment, the inhabitants of which feel as if they live "somewhere in Europe".

V. CONCLUSION

In conclusion, it can be said that in the conditions of the global "information onslaught" and invasion of foreign cultural examples of architectural forms, hybridization became a softening method of adaptation of these invasions. Interbreeding of "local" and "global" in different schemes (of functions, forms, elements or

parts, methods of combination) gives rise to hypertrophied polymorphism of objects forming the architectural space of a modern city. The proportions of heterogeneous elements and the schemes of their connection are extremely diverse, giving rise to new typologies of architectural and urban hybrids. These hybrids appear both in historical centers (urban core) and on the peripheral territory of the city, transport and communication hubs, landscape and recreational areas. The ubiquity of hybrid structures should be assessed as a response to the challenges of globalization, the invasion of elements and mechanisms of other cultures into the urban environment, and at the same time as a counter-trend towards the unification of urban sites and spaces. Emerging from the intersection of forms, functions and activities, new types of activity are making cities more resilient to the increasingly complex conditions of their development.

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