Simulacrum as a Tool for the Design Predictive Modeling

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Abstract. At present, problems of modernization of Russia’s image have become a subject of public discussion. The article defines some actual methods and design technologies that could contribute to the solving these problems. The target of the article is an analysis of a range of problems related to modernization tasks and a search for actual means and approaches to solving problems of the primary stage – concept developing. As a solving method there can be considered design models creating visual representation of the future – a kind of a hypothesis of how the living environment can ideally be developed on the given territory. Forms of such modeling can be different, from computer models to animation. The content is determined by the depth of the penetration into the future. It can be a project based on concrete town planning programs or a project based on serious and complicated foresights or projects of so far future that they cannot be based on any scientific experience and foreseeing. The projects created by the members of the Chair of Art Design and Art History can be regarded as results: the project of the student campus “Rubik’s Cube”, the project of the sport area “World Pravi”, suburban agricultural settlement “Cucumber”, “Few-Chernikovsk”, and many others. These design predictions are based on experimental principles of arranging urban and suburban environment. The content of the article can become a start of a bank of creative ideas of development and modernization of our territories; this will help to form common stylistic principles of creating a new image of Russia.

1. Introduction

A notion of the future as well as notions of the past and the present is an inherent feature of the human thinking. This feature is expressed in design in a most vivid way for the main task of design is to suggest something new.

Often, designing a visual notion of the future is conjugated with creating of one’s own “Utopia” because of each generation’s desire how it would be possible to make the world better and to improve social structure by means of solving at least few problems out of all the existing ones in the world. In order to create hypothetic projects it is useful to get acquainted with existing writings, in which the authors propose solutions of such questions: from Thomas More’s “Utopia”, Tommaso Campanella’s “The City of the Sun” to modern futurologic concepts of Alvin Toffler and Vilem Flusser, for example.

In his book “Media Culture” Vilem Flusser gives an idea of future transformations in communication facilities (connecting people by means of permanent duplex as well as simplex communication, and broadcasting), he gives an idea of changes in dwelling, town space, and production. One of the topic themes in the chapter dedicated to the town (city) is that of the balance between the private space and the public one.
The deprivation of the traditional notion of home and the definition of the inner and the outer – it is always a question of borderline. By Flusser, in the information society there cannot be place for a home with distinct boundaries; such a notion about dwelling belongs to the past because nowadays it is penetrated by corporeal and incorporeal lines and channels of communication: antennas are fixed on the roof, telephone cables are led through the wall, TV-sets instead of windows, a garage and a car instead of the door.

It is through formation of particular grounds for life that architecture and environment design encounters problems of social structure. Construction organizes social relations and plays a role of a communication that supports, filters or blocks up interrelations of different levels. No other kind of art but architecture responds to the process of establishing new links in society by means of new technologies that were gradually introduced since the middle of the XIX century.

Each project solution based on particular today’s planning living space improvement awaits its implementation before long.

Other design projects based on scientific foresight put forward demands that designers should take into account the fact that what is only a possibility today, can turn into a routine procedure next day.

Creation of simulacra, project metaphors, and virtual worlds of the future is a process of creative competition for designers, the result of which can become a jump into a new reality; and not only that. Dreams are apt to come true. How fast it is going on one can judge by architectural models of the future. As early as 1926, Rudolf Schindler gave a description of a house of the future: “Our rooms will descend close to the ground and the garden will become an integral part of the house. The distinction between the indoors and the out-of-doors will disappear. The walls will be few, thin, and removable. All rooms will become part of an organic unit, instead of being small separate boxes…”

This bright architectural manifesto is now topical as before, but it cannot amaze anybody.

2. Materials and methods

According to the definition, simulacrum (from Latin “simulo” – pretend) is a “copy” having no original in reality; the aim of such pictures is different. The contemporary meaning of word simulacrum was introduced by Jean Baudrillard. Earlier, beginning with Latin translations from Plato, the word meant “a picture” or “a representation”. In our time, a simulacrum is understood in the meaning, which Baudrillard used: a picture having no original, or a representation of what does not exist actually. For example, a picture that seems to be a digital photo of something, but the something has not ever existed. Such a falsification can be made by means of usual graphic application programs.

Any idea and hypothesis needs to be thought over and its correctness needs to be tested. The visualization of almost realistic images of complex objects and systems, in this case fantastic future megalopolises, can at first sight seem just a graphic curious fun. However, if such images are characterized by such aesthetic attributes as integrity, expressiveness, and novelty, i.e. the visualized concepts are cardinaly different from the usual environment, then there appears a possibility to undertake the next step – modeling. This step suggests more complicated technologies and more expensive materials. To make a model is a serious attempt of searching and testing new principles of construction and new technologies. The model can sometimes create an illusion of a really existing micro-world. Besides, animation being used, it is possible to present this fantastic micro-world as a live one.

The art of modeling is called for and actively developing today. New technologies have appeared and influenced the quality of modeling and shortened the time of making the model. For the up-to-date modeling a wide range of newest facilities can be used that makes it possible to apply different materials and technologies. There are 3D printers, 3D scanners, plotters, 3D milling and engraving lathes, spray paint cabinets, professional hand tools, and many others. But the most important are new graphic applications allowing visualization of any idea.

Today’s modeling is attractive not only by new technologies that can probably be used in construction in future, but also by expressive images. Any model compositions are visually interesting; they make borderlines of design planning wider and mark social, technological, formal,
and cultural development trends. At present, they are actually installations embracing large-scale models and environmental or natural elements. The aim of such creations is to familiarize the public with a concept structure, to show the character of forms and their interrelation, to show a full notion of a system as a whole and possibilities of its development. Nowadays, large models play a role of a kind of a prototype, they are made of expensive materials; and they are rather often included in collections of most popular museums in the world. However, generally these models are made before the construction begins; and the moment the project is implemented, they become a historical fact of no interest. Making models based on simulacrum can grow into an important stage in fixing design ideas. One of the projects mentioned in the beginning of the article is an example of a simulacrum.

The project “Few-Chernikovsk” looks into the future. It is a futuristic forecast of renovation of a district of Ufa. Such works are so far rare in designing. The author must completely get rid of a real image of the existing architecture; he must invent, create, and build a model of a certain “Tomorrow”. The intricacy is concluded in the fact that ideas of such a scale are always based on some scientific prediction, for example, a foresight of the civilization development.

The “Few-Chernikovsk” is a virtual image of an ironical and enchanting limited area, where there are focused high technologies, advanced science, and virtual reality. The concept of the future suggests an intellectual leisure time, a game of the mind, and a constant stimulation of fantasy. In a way, the “Few-Chernikovsk” is a refuge for professors, experimentalists, students, artists, writers, lovers of fantasies and newest technologies.

3. Discussions

Making art models of the future world was always popular. From the very beginning futurism was the first trend in art to present itself by its program and its works as a product of contemporaneity.

One of the brightest representatives of futurism was Antonio Sent’Elia. Between 1912 and 1914, being under the influence of the architecture of US big industrial cities and works by architects Otto Wagner and Adolf Loos from Vienna, Antonio Sent’Elia began his series of famous project drawings “Citta Nuova” (New City), in which he created a unique outstanding image of a new technological age notions. A great part of the drawings was shown at the first and the only in its way exhibition of the group “Nuove Tendenze” (he was a member of the group). His famous “Manifesto dell'architettura futurista” (Manifesto of Futuristic Architecture) was published in August, 1914.

The author envisioned a modern city as a complex mechanized and electrified system. The city was supposed to be formed of gigantic step-like multilevel buildings connected by passages, galleries, bridges, and fantastic roads; there were futuristic factories and power stations.

The period of the 20-s – 30-s of the XX century was time of greatest social transformations in Russia, of creating a society based on principles of equality and justness. The architecture played an important role; it was to create an appearance of “bright future”, i.e. such a visual environment that could meet spiritual and aesthetic needs important for that new society and serve a substantial realization of the ideas implied.

One of the outstanding builders of new “Utopian” architecture was Ivan Leonidov. He was the author of constructivist masterpieces and at once he was an architect who was very far from our avant-garde practice – very few of his projects were implemented. He devoted his creative activities to a construction of an ideal city of future.

The “City of the Sun” (middle of the 40-s – the end of the 50-s) is the last work of the architect. This work discloses his ideas as fragments of a project of a new ideal world order. The “City of the Sun” was a new system of settlement pattern that rose a whole wave of imitation in France in the 60-s. The project was made by the architect just for himself, it was neither an order nor made for a contest. Leonidov’s City of the Sun is an ideal country, Utopia, a country that does not exist. This is a country where amidst the forests there stand glass towers of skyscrapers, resembling tree trunks. These buildings should be understood as average towns. They are not very big and one can go around them on foot. Average towns are connected with one another and with the capital – the City of the Sun - by highways. The City of the Sun is the social and cultural center of the country having its subsidiaries
evenly allocated among average towns. The City of the Sun’s subsidiary is a social forum where cultural and scientific life goes on. Each subsidiary is engaged in a certain branch of culture, science, and art.

Interesting ideas were suggested by the group “Archigram”. It was formed in 1961; young British architects Warren Chalk, Peter Cook, Dennis Crompton, David Greene, and Michael Webb were members of the group. They were convinced in social responsibility of design and searched unusual ways to introduce their ideas to the world. The Archigram was focused on examining a phenomenon of mass communication. Among their projects the most remarkable were Utopian manifestoes on the subject of advanced technologies, mobility, and the town as a space for living. The Plug-in-City by Peter Cook and the Walking City by Ron Herron were most famous ideas of that time disclosing both positive and negative characteristics of the technological progress. The Archigram’s projects are emotional Utopian images of the world of framework structures, pipes, capsules, spheres, balls, robots, submarines, plastics, and coca-cola bottles in society orientated to hi-tech, relaxation, and amusement. The Archigram produced rather an ironic version of science fiction than serious solutions suitable for an actual realization. The Plug-in-City project was created by Peter Cook in 1964. It is a mega-structure having no buildings, while dwelling cells and other standardized components being slotted into a massive framework.

In 1964, Ron Herron made his Walking City project. This city was planned of huge intelligent robot buildings with pods; the latter were supposed to be able to move about the city, to grow larger or smaller, and to unfold. This form was a combination of insect and machine to literally interpret Le-Corbusier's saying of a house as machine for living. The buildings were to include functions and services important for the inhabitants: hospitals, offices, entertainment centers, dwellings, etc.

The next project of the Archigram was the Instant City. It was supposed as a mobile event supported by balloons, which moved to poorly developed glum towns with provisional structures (performance spaces) in tow. It was to possess all resources as a cultural and educational center. It was to land in remote areas to let the inhabitants taste civilized city way of life.

Nicolas Schöffer was an inventor of cybernetic art and a forefather of video art. He was a professional artist, sculpture, and architect – one the most remarkable figures in culture of the second half of the XX century. He began with innovatory painting and unique spatio-dynamic sculptures, then he came to an idea to create an inter-active cybernetic city, which was planned to become a kind of show. He suggested dividing the city according to the coordinate axis: residential areas were to be situated horizontally but business offices, commercial and production companies were to occupy gigantic skyscrapers up to 1500 meters high. From Schöffer’s point of view, such a compact arrangement would make the whole city infrastructure more adaptable and all inner contacts easier. The skyscrapers would be enclosed into coloured casings illuminated by powerful lamps from inside and outside. The city functioning, i.e. from lighting and air conditioning to transport systems and public services, was to be controlled by an electronic brain. Cybernetic cities were supposed to be built in different genres: Rest City or Leisure City (something resembling multiplex centers of today). The cybernetic city project was made by Nicolas Scheffer in 1969.

Another project, Chemical City, was invented by William Katavolos – philosopher and chemical scientist - from the USA in 1960. His passion was town planning based on organic design and newest technologies. To be more exact it was based on his dreams of such technologies, because no one substance used as material for construction in his fantasies existed then. Moreover, no one has appeared up to now. The only real substance in his project was sea water. The latter was a foundation, on which bright future of the humankind was going to be built. The chemical city might be built by adding special powder into ring casings floating in the sea; then the substance would become solid in the form of large bulky discs. Next, rooms for dwelling and other useful purposes were supposed to be made by extracting necessary volumes in desired forms. In this way a very flexible city structure might be created. Inside the building the inhabitants could transform their individual space using plastic material at hand to carve shelves in the wall or to make a chair or a bed out of the floor material. It was supposed that all household equipment should be powered by chemical reagents.
In the 60-s, architects necessarily took into account such global problems as overpopulation of the planet and ecological and environmental disasters. This fact prompted one of the main directions of European visionary architects’ activities - multilevel urban constructions. The American architect Stanley Tigerman – one of the influential representatives of the Chicago school – made up his mind that beside the above mentioned problems it was necessary to take into account the inhabitants’ convenience. So, a city project was created, in which he composed a number of bridges over the highway. According Tigerman’s idea, it was necessary to built huge bridges - drive-through pyramids. The upper floors of the skyscrapers were intended for restaurants, inclined face blocks – for living quarters and offices, basement floors – parking garages. Life in such a city could add nothing to the inhabitants’ health but it would be very convenient. In the United States of the 60-s, the automobile was most popular means of transport; and the idea to live just over the highway seemed extremely attractive to many Americans.

Brave visionaries and dreamers of the XX century were making future nearer with all might and power of their fantasy. Some of their ideas have already been implemented; some of their ideas stopped being science fiction only.

4. Results
Main targets of the creation of the simulacrum are searches for new imagery, it is an attempt to step beyond the habitual and to approach solving problems of actual modernization.

Such a work can become a basis for developing new visual systems; it can be applied not only as design prediction but also as virtual environment for game technologies, interactive methods of teaching, etc. Today, unusual and fantastic projects can be used in a new branch of microeconomics – economics of impressions.

The main task of the simulacrum is a capability of an emotional, aesthetic, structural, and technological evaluation of prediction, of an analysis of the variability and degree of the possible approach to reality.

At first, expressive visualization is always perceived as a dream but in a short time this dream comes true, and this “new reality” turns habitual.

The simulacrum is applied in actual design technologies for initialization of searches for new concepts, new technologies and constructive solutions. It is one of effective methods for emotional involving influential factors in the environment modernization activities.

In the XXI century scientific knowledge is growing so extensive and focused that the exchange of results requires time comparable with that of the research itself. In order to make a quick analysis of the current researches under study it is necessary to look through a huge number of scientific publications from various sources. In case one needs data from related branches the task is getting far more complicated. Predictions concerning the data space development and the data exchange speed increase have come true only partially. The processing and absorption of new scientific researches takes the greater part of the time that is preplanned for the search for scientific results.

A visual image system (simulacrum) is a problem, in which the gift of a designer or an artist creating a bright and integral picture, can attract experts from different scientific branches and unite those who possess knowledge and fantasy by a common purpose – to make their dreams come true. In such projects the scientific search has a chance to become goal-oriented, concentrated, and effective.

A keen interest in art and its technologies, in creative work and methods for its activation is probably explained by a great part of the scientific society’s understanding the importance of this experience. Art can become a source of inspiration and a fastest way to implement new ideas. A strong visual image, the implementation of which requires an invention or an application of new knowledge and technologies, can become a factor of uniting scientists from different branches into groups. The question who will be an ideological leader – a designer or an engineer – does not play any role. The most important here is their joint creative work [1-25].

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