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**CUSTOMER'S NEEDS AS A FACTOR
IN FORMING THE IMAGE OF ARCHITECTURAL OBJECTS**
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ABSTRACT

For the first time, the article puts forward the hypothesis about the influence of the existential needs of customers on the formation of the architectural image of buildings. A methodology to analyze customers' needs, their types and their relation to the development of buildings and structures typology has been developed. On the basis of the analysis carried out, types of customers' existential needs and their development in the time period from 1500 BC to the present day have been identified. Purpose: to create the notion of the way customer's subjective ideas influence the architectural image.

Key words: architecture, customer, order, existential needs, typology, construction.

1. PROBLEM STATEMENT

Designing and constructing an architectural object is not only a matter of architect's creative ambitions; a customer also makes a significant contribution being actively involved in the process of its creation. Often, their images are so closely intertwined in the history of architecture that upon recalling one, you instantly recall the second. Famous pairs like Schechtel – Ryabushinsky, Imhotep – Djoser, Rastrelli – Elizabeth I, and Bramante – Vatican convincingly demonstrate the fact that there can be no project without an architect, and in the similar way, architecture cannot exist without a customer.

Ambitious and expensive projects, the implementation of which sometimes lasted for centuries, needed that time and still need constant and stable funding. Therefore, it is so important and interesting to understand some of the mechanisms that drive people during the construction of architectural objects which exploit at first glance unreasonably enormous powers and resources. It is not the role of an architect (demand always creates supply) but the role of a customer and his existential needs in forming the image of an architectural object that is of interest for this study.

2. RESEARCH METHODOLOGY

2.1. The criterion for selecting architectural objects

253 masterpieces of world architecture, built in the time period from the 2nd millennium BC to the present day, were selected for the study. The selection criterion was the size of the buildings, resource costs necessary for their construction and international fame. The chosen objects are roughly divided into two groups: The first group consists of 85 objects built in the period from the archaic to the modern time (1500 BC - 1914); The second group consists of 168 selected objects built in the last 100 years.

2.2. Methods of identifying existential needs of a customer

Based on the analysis of works by E. Fromm "Humanistic Psychoanalysis", Manfred Max Neef and Abraham Maslow [4], the hypothesis about the specifics of the influence customer's existential needs have on the formation of architectural projects is made.

Erich Fromm defines 5 basic existential needs: A. Relatedness; B. Transcendence; C. Rootedness; D. Sense of Identity; E. the Frame of Orientation [2].

Manfred Max Neef specifies three contexts to meet human needs: (a) with regard to oneself (Eigenwelt); (b) with regard to the social group (Mitwelt); and (c) with regard to the environment (Umwelt) [3].

Abraham Maslow created a model of human needs: A. Physiological needs: hunger, thirst, etc.; B. Safety needs: comfort, stable conditions of life; C. Social needs: social connections, communication, affection, care for others, self-regard, and joint activities; D. Prestigious needs: self-esteem, respect from others, recognition, success achievement, appreciation, and career growth; E. Spiritual needs: cognition, self-actualization, self-expression, self-identification.

Consideration of the above mentioned models in terms of architectural paradigm does not allow creating a harmonious hierarchical model of customer's needs. However, as a working hypothesis, the needs that were of greatest importance for the study were identified: A. Legitimation of power; B. Self-identification; C. Faith; D. Group identity; E. Ideology; F. Commercial interest; G. The common good.

A) Legitimation of power

Developing the traditions of Max Weber, David Beetham suggests distinguishing three main types of legitimation of power that can be also applied to the legitimation of state

power. This is a traditional, charismatic and rational legitimation [1]. Each of these types of legitimation implies a special approach in architecture:

- Traditional legitimation is domination based on traditional authority which lies in respect for customs, belief in their succession, belief in the fact that government “expresses the spirit of the people”, and corresponds to the customs and traditions accepted in society as stereotypes of consciousness and behavior. A vivid example of projects created under the influence of traditional legitimation is palatial architecture of the heyday of archaic tyranny and absolute monarchies: Apadana in Persepolis, the customer: Darius I (Fig. 1), El Escorial monastery (Fig. 2) - monastery, palace and residence, the customer: Philip II, King of Spain. The Louvre, the customer: the French monarchs Henry II, Charles IX, Henry IV, Louis XIII and Louis XIV. the Winter Palace, the customer: Elizabeth I, the Empress of Russia, etc.
- Charismatic legitimation is domination based on belief in personal talents of the leader (less often - a small ruling group), in the exceptional mission of the leader. This type of legitimation is best demonstrated by the USSR architecture during the cult of personality and present-day architecture in North Korea (Fig. 3).
- Rational legitimation of state power is based on a rational assessment and is connected with the formation of conviction about reasonableness of the existing order, laws, and rules adopted in a democratic society for governing it. [6] (Fig. 4).



Fig. 1. Apadana, Persepolis. Photo by: Daniel Ortiz.



Fig. 2. Monastery of San Lorenzo de El Escorial. Architects: Juan de Herrera. Photo by: Hans Peter Schaefer.



Fig. 3. Monument to Kim Il Sung and Kim Jong Il. Photo by: J.A. de Roo / CC BY-SA 3.0



Fig. 4. Residence palace, Brussels. Architects: Samyn & Partners, Studio Valle Progettazioni and Buro Happold. Photo by: DBIngegneria

B) Self-identification

Two directions of demonstration of personal self-identification motives in architecture are studied. They are defined as:

- demonstration of the social importance of a customer (social status). In attempts to emphasize own importance, welfare of many noble and merchant families was radically undermined by the construction of buildings, the estimated cost of which exceeded their financial capacity. The clan of the Counts von Czernin (Czernin Palace, Prague, Czechoslovakia (Fig. 5), The Vorontsovs (Vorontsov Palace, Saint Petersburg, Russia (Fig. 6) and von Deviz (Russia), the merchant family of the Bons (Ca 'Rezzonico, Venice, Italy (Fig. 7), Hatton (England) and many other families went bankrupt in an attempt to surpass not only the neighborhood, but even the royal family by the luxury of their palaces.
- identification of the public benefit of an individual (patronage). The construction of many universities, schools, hospitals and libraries, i.e. objects bringing public benefit, is connected with this existential need.

C) Faith

With the largest number of samples available for analysis, it is one of the most difficult existential needs to study. Places of worship could be also built as a means of legitimizing power (archaic temple complexes), as objects of patronage (practically in every big city), group identity (the "race" for the construction of temples in Italian city-states or The Sagrada Familia in Barcelona), ideology (state religion) and even commercial interest (the church as a profitable enterprise in the time of Pope Alexander VI). It should be emphasized that despite the above mentioned arguments, the religious feeling was before and still remains an extremely strong reason for construction orders.



Fig. 5. Czernin Palace, Prague, Czechoslovakia. Architects: Francesco Caratti. Photo by: Frantisek Wohlmut



Fig. 6. Vorontsov Palace, St. Petersburg, Russia. Architects: Bartolomeo Francesco Rastrelli. Photo by: © A.Savin, Wikimedia Commons.

D) Group identity

Singling out a group of individuals from the general mass of people for a number of genetic, ethical, mental, religious or other features. It caused many wars and conflicts. Besides, it serves as the most powerful reason for stimulating architectural and construction activities. One of the most famous examples of the nation's identity is Mount Rushmore, a monumental granite rock in South Dakota, USA, in which giant sculptural portraits of four US presidents (George Washington, Thomas Jefferson, Theodore Roosevelt and Abraham Lincoln) are carved (Fig. 8).



Fig. 7. Ca' Rezzonico, Venice, Italy. Architects: Baldassare Longhena. Photo by: Nino Barbieri.



Fig. 8. Mount Rushmore National Memorial. Photo by: dangtravelers.com

E) Ideology

The problem of ideology in architecture is most clearly reflected in the projects and concepts of the first five-year plans of the Soviet period in Russia and, to a lesser extent, the national socialism in Germany and Italy (Fig. 9). Mythological understanding of time is characteristic of a totalitarian culture. The starting point for totalitarian ideology is the ruling party coming to power, and the leaders of the revolution acquiring a heroic, if not divine, status.

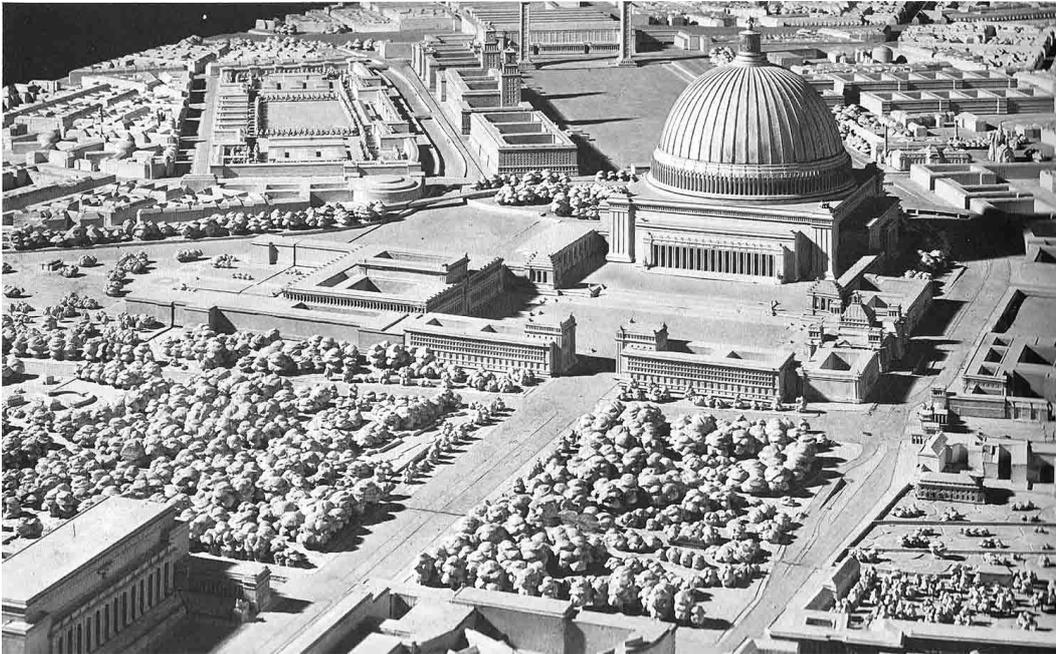


Fig. 9. Welthauptstadt Germania. Architects: Albert Speer. Photo by: <http://www.diedrica.com>.

F) Commercial interest

Commercial interest, as an existential need, is complex in nature since it includes many other types of needs. It is singled out into a separate type because it is most characteristic of the last century of architecture development. Prior to the First and Second Industrial Revolutions, construction of buildings for sale was not so widespread.

2.3. The method of analyzing customer’s existential needs that have motivated him to construct the architectural objects selected

As a basic method for analyzing texts which describe architectural objects, the method of step-by-step content analysis was adapted (Prof. Rozov N. S. [5]).

- a) Dividing the text to be analyzed into fragments. The simplest and most effective solution is 1 page = 1 fragment. For small (less than 20 pages) and ideologically “dense” texts, the fragment can be reduced (for example, up to 1/2 or 1/4 of the page or up to 10,5 lines). It is important to set the size of the fragment first and not change it until the end of work with the text.
- b) Preparing the table form.

Table (Tab. 2.1) is a matrix for comprehension of philosophical texts.

Table 2.1. A matrix for analyzing the descriptive part of the architectural concept.

No Fragn.	Customer/Object	Goals, objectives	The main thesis	Need
Result				

c) Consecutive filling in the table according to the fragments.

The table is filled in after the text is split into conditionally independent fragments.

An object and its customer are identified in each fragment.

Then, only those goals and objectives are identified that are related to the object and the customer. Check on validity of the made choices is carried out in the following way: those needs are considered significant the existence and “behavior” of which is essential for the establishment of the most important objectives. Those objectives are significant that lead to the achievement of the identified goals. Those goals are significant that reflect the most important needs of a customer.

The theses connect all the elements of the matrix.

d) (Quasi)statistic processing of columns.

After filling in the entire table (by fragments – lines), the final analysis is carried out mainly on the column aspects. An assumption is made that the elements which appear systematically in text fragments are the most significant ones. At the same time, we should pay close attention to the final choice of “leaders”, since they will form elements of the subsequent conceptual models (and all the other elements will serve only for clarification).

This method of analyzing text descriptions of concepts is an adapted and shortened version of the method devised by prof. N. S. Rozov. For this study, the developed matrix is a necessary and sufficient condition for obtaining a stable and reliable result.

To increase the objectivity of the study, 83 architecture students were involved in it. Each of them was given 25 concept descriptions and asked to evaluate them according to the attached template (Table 2.1). As a result, each concept was analyzed by at least five respondents. If the assessment of the concepts differed by more than 30%, then additional explanatory materials were searched for and studied, after that, they were distributed to at least 10 respondents. The process was repeated until a positive result was achieved.

2.4. The method of grouping statistical data as part of the analysis of the influence that customer’s existential needs have on forming the architectural image of a building

To determine the influence of the customer’s needs, the method of statistical analysis, namely, the method of grouping the materials of statistical observation, is chosen for the study.

Grouping is the process of dividing or uniting individual units of the whole into groups that are homogeneous by some criterion, and characterizing such groups by a system of indicators in order to identify types of phenomena, study their structure and interrelationship.

When grouping something, a number of objectives are fulfilled:

- singling out a grouping criterion;
- determining the number of groups and the size of intervals;
- if there are several grouping criteria, a description of how they are combined among themselves;
- establishing indicators by which groups should be characterized, i. e, the predicate of a grouping;
- making models of tables and presenting grouping results.

According to the results of the research, three groups of graphs have been created.

The first group is distribution of building types analyzed in the study according to the time periods. Religious building, Residence, Sports and entertainment facilities, Urban infra-

structure (housing, parks, hospitals), Transport infrastructure facilities, Scientific and educational institutions, Museums and libraries, Shopping mall, Public centers, Production, Office and administrative buildings.

The second group contains graphs describing the distribution of customers types analyzed in the study according to the time periods: Monarch, Priesthood and clergy, Municipality, Community, State, Private capital, Corporate capital.

The third group consists of graphs describing the distribution of objects according to the type of identified customer's needs for construction: Legitimation of power, Self-identification, Faith, Group identity, The common good, Ideology, Commercial interest.

3. THE RESULTS OF THE STUDY

The purpose of the study was to identify the impact of customers' needs on forming the architectural image of the ordered building. The connection between the type of a customer, the type of construction and the type of customer's existential needs for construction was evident. This study was necessary in order to see those changes and challenges that have arisen in modern architecture through the lens of historical processes.

The study has confirmed that architecture is a reliable indicator of the development of socio-economic relations in society. Peaks and decline of architectural and building activity coincide with the corresponding historical periods. Thus, the dark ages, the great plague, the creation and dissolution of the USSR and several other, global but less significant, events stood out clearly in the fluctuations in the number of typologies of structures, needs and types of customers.

Analysis of the development of customers' needs for construction enabled us to identify the following historical periods of domination of certain types of needs:

The 1st period: XXX century BC - VI century BC. The main types of needs during this period were legitimation of power and religion. The theme of kinship between divine and royal power was being actively developed.

The 2nd period: VI century BC - I century AD. Development of early republican forms of government. The common good, collective self-identification and religion became the needs that stimulated the appearance of new types of buildings in architecture.

The 3rd period: I - IV centuries AD. Legitimation of power, the common good, religion and personal self-identification are the most characteristic types of needs in the era of the formation and fall of the Roman Empire.

The 4th period: V-VII centuries AD. The period of stagnation in architecture, the Dark Ages.

The 5th period: VIII-XII centuries AD. Domination of the need "Religion" over all other needs.

The 6th period: 13th - 15th centuries AD. Personal self-identification, legitimation of power, religion, and collective self-identification. Externally, architecture of this period resembles the ancient world, needs in the construction orders demonstrate deep internal differences. These differences, probably, lie in the degree of freedom of the free cities in the Middle Ages and the ancient cities-states, and noticeably less strong influence of the need "The common good" in this period.

The 7th period: XVI - XVIII centuries AD. Personal self-identification, legitimation of power, and religion. Need for the formation of state system and absolutism. Architecture acquires an unprecedented splendor under the influence of the customers' need to emphasize their own social importance.

The 8th period: the 19th - the early 20th century AD. The common good, economic interest, and personal self-identification. These types of needs are formed under the influence of the established monarchies in the leading states of the world. The role of such needs as "Religion" and "legitimation of power" is significantly decreasing. A new type of a major customer connected with the development of capitalist relations appeared.

In the early 20th century, a radical change took place in the minds of architects from the developed economies of the world; they began to operate with quite different numbers and concepts. Time has shrunk, the population size has grown to millions, and travel speed has increased by several times. Cities rise "like mushrooms", and architects are faced with increasingly grandiose tasks to ensure the livelihoods of a huge number of new citizens.

The 9th period: 1918–1993. The common good, economic interest, and personal self-identification. The need "legitimation of power", which existed for millennia, almost completely "disappeared from the historical arena". Religious buildings are still being built, but they lose state support and cease to be such a significant phenomenon as before. Industrialization and scientific revolution ensure a rapid growth of cities and raising of the need "Economic Interest" to the leading positions.

The 10th period: 1993 – the present day. Economic interest. The common good. The period is singled out into a separate one due to the fact that large architectural objects under construction are changing their orientation from the internal needs to servicing external geo-ballistic relations.

The study of the typology of large architectural projects, implemented in the last decades, highlighted once again the issue of "globalization" of modern architecture. Out of the 53 studied architectural objects which belong to the postindustrial period, only one focused on servicing the internal needs of the city. In fact, it should be asserted that in our time a special direction in architecture has arisen and developed. It is designed to serve the multimillion human traffic arising due to a sharp increase in the mobility of the world's population.

The architecture of the period under study is characterized by:

- a) a decrease in the value of the need "Personal self-identification" in the 20th century and its rise in the 21st century at the expense of representatives of the economic elite from different countries;
- b) a clear domination of the need "Commercial interest". Within this need, the number of office buildings under construction has become especially notable over the last 30 years;
- c) growth in the need "The common good". In many respects, this growth is provided by the number of transport infrastructure facilities, such as railway stations, airports, bridges, transport interchanges, etc., built since the beginning of the century;
- d) growing role of the state, which is evident from orders for construction of museums, concert halls, libraries, theaters and other cultural objects, is notable for other types of customers in the need "The common good";
- e) almost complete loss of interest in industrial architecture by the world community.

The result of the study was a hypothesis about the existence of a difference between the objective requirements for style, formal and functional characteristics of the building under construction and the subjective views of a customer on the thoughts and ideas that it should express. This difference is often a source of huge unreasonable financial costs. Identifying the means of optimal combination of customer's existential needs and functional efficiency of a building under construction should be the topic of further study examining the customer's influence on the formation of the architectural image of an object.

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