

SPECIFIC ASPECTS OF ARCHITECTURE INFLUENCING HUMAN ACTIVITY AND BEHAVIOR

¹Nazirakhon Fazliddinovna Ubaydullayeva, ²Murod Saidovich Egamberdiyev

¹Teacher of the Department of Primary Education, Pedagogy and Psychology of Zarmed University.

²Candidate of technical sciences, professor.

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Abstract. *In this article, the connection aspects and differences of architecture and psychology, the impact of the constructions currently being built on human behavior, the manifestation of geometric shapes on the human mind, and the reaction of relationships are highlighted through the world experience.*

Keywords: *architecture, psychology, environmental psychology, Evans and McCoy, sensory deprivation, cognitive science, Fritz Haider and his student Marianne Zimmel geometric shape, rectangle, triangle, mental state model.*

Architecture is an integral aspect of human existence and has countless effects on people's daily lives. However, despite its widespread influence, it is often overlooked and underappreciated. It is not just a matter of constructing buildings, but a holistic approach to design that takes into account the needs and experiences of individuals and communities. Architects must recognize the social, cultural and environmental impact of architecture and their responsibility to shape our built environment. In doing so comes a new commitment to creating spaces that are not only aesthetically pleasing, but also serve the greater good of society and our planet.

Architecture is a (practical) art. It is designed for people to perceive and use. Psychology, on the other hand, studies human experience and behavior. One of its branches is environmental psychology, which relates the environment to human experience and behavior. Today, the environment is dominated by architecture primarily created or at least defined by people. According to Evans and McCoy, "we spend 90 percent of our time in architecture and the other ten percent around it." [1] Unlike psychology, the subject matter of architecture is concerned with evaluation. Architecture is the art of building and construction. [2] In order to free the interdisciplinary debate from the question of evaluation and to keep the scope of interaction between the disciplines as wide as possible, architectural psychology is studied as a science of human experience and behavior in the built environment.

When psychology and architecture collide, psychology is not considered as the main factor. It does not create architecture, that is, it does not directly build buildings. We must find another, complementary or compatible position for architecture. Architecture as a science is much older than (scientific) psychology. Knowledge of human nature has always varied in depth and thematic orientation, and experience was considered decisive in its design.

When we walk along the wide street of the residential area among the monotonous rows of standard houses, which are far from each other, it seems to us that time passes painfully slowly, and we are bored. This boredom is not qualitatively different from that experienced by volunteers who participated in the first sensory deprivation experiments in the 1960s. But when we come across a street fair with its colorful colors, appetizing aromas and cheerful bustle of life, we are instantly delighted. The contrast of reactions to different spaces is easily read through body

language - sensations, eye and head movements, which is even reflected in brain activity. Wherever we go and whatever we do, the impressions we receive affect our brain and nervous system. Although the examples we have presented may seem obvious on a simplistic level, the impact of the built environment on people's experience has never been more subtle and complex than it is today. Not only do designers and architects have a greater arsenal of materials and methods than at any time in history, but leading principles from the humanities, such as sociology, psychology, cognitive science, and neuroscience, are increasingly entering the world of applied design. At the same time, thanks to rapidly developing technologies, we can study the mental and emotional life of a person remotely, in ways that are carried out without direct communication. There are more and more devices that can read our minds through our heartbeats, breathing, facial expressions, eye movements, perspiration and even the keystrokes of our mobile phones. Such technologies can greatly help researchers understand how the environment—at all levels, from the interior of the home to the urban landscape—affects our emotions and moods.

Our instinctive reactions to the geometry of a sports car are hardwired into our nervous system. Studies have not only shown that we prefer curved lines to sharp corners (even in infancy, learning from experience about the dangers of sharp objects like knives or scissors), but they have shown that this preference is linked to the properties of neurons. They also found that our visual cortex is responsible for object recognition. Among our cortical cells, there are many more adapted to analyze the subtleties of a curved surface than those that analyze a sharp-angled surface. These cells are part of a high-speed neural processing system responsible for forming first impressions and assessing risks. Even our first impressions of strangers are based in part on analyzing simple facial parameters related to shape. Without realizing it, we form a like or dislike for certain types of faces in less than 39 milliseconds after seeing them. That's roughly a fraction of the time it takes for the average human heart to beat once.

In 1944, perceptual psychologist Fritz Heider and his student Marianne Zimmel of Smith College (Massachusetts, USA) published their research, which showed that people tend to identify features of the human mind, including intention - understanding goals, defining simple geometric shapes. I invite you to participate in an experiment conducted in 1944 by cognitive psychologist Fritz Heider and his student Marianne Zimmel of Smith College (Massachusetts, USA). They published a study showing that the human mind has properties, including its tendency to associate intention (a sense of purpose) with simple geometric shapes. Participants in these experiments were shown a short-animated film in which a pair of triangles and circles moved around the screen. The subjects were then asked to describe what was happening on the screen. 34 people participated in the first experiment. Only one of them gave a full geometric description: "A large triangle is shown inside a rectangle. It enters and exits this rectangle every time it creates a hole in the half corner of one of the sides of the rectangle. Then another smaller triangle and a circle appears..."(Figure 1). All other subjects interpreted the movements of the figures as the movements of living beings. Many described them as humans, and as birds.

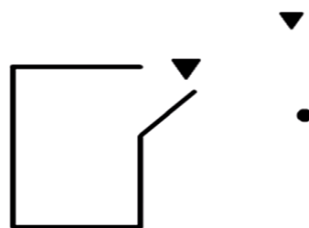


Figure 1. An experiment by Fritz Haider and Marianne Zimmel.

Participants in these experiments were shown a short-animated film in which a pair of triangles and circles moved across the screen. When the subjects were asked to describe what was happening on the screen, they gave the objects intelligence and emotions. Thus, some have described one of the triangles as an "aggressive bully"; allowed for a love triangle between many of the figures. On the basis of these famous experiments, the development of such a concept as the "mental state model" began. This means that we tend to explain the behavior of any object only in terms of human motives. Recent research suggests that the ability to use a mental state model to explain ordinary phenomena begins to develop from a very early age. The effect described by Haider and Zimmel is observed even in infants. [3] Therefore, in many cases, the assumptions our brains make are programmed by nature and are so automatic that we cannot ignore them even if we wanted to.

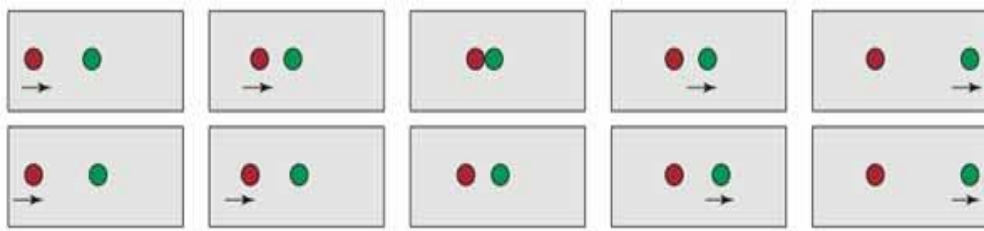


Figure 2. Albert Michotte's 1947 "trigger effect" experiment.

Therefore, we see the moving Haider triangle as two rivals fighting for a woman's heart, and the colored Michotte circles (Figure 2) as a pair of billiard balls pushing each other, although we understand that they are actually all simple geometric shapes on the screen. In short, the impact of architectural constructions on personal relationships, which make up most of human activity, and the relationship reaction of geometric shapes on human consciousness, as a vivid example of the experience of Fritz Haider and his student Marianne Zimmel, it is appropriate to take into account psychological aspects when building structures.

REFERENCES

1. Evans/McCoy 1998: 85\ Etymologisches Wörterbuch der deutschen Sprache, 24th revised and extended edition, Berlin: DeGruyter. Richter, Peter G., ed. (2013): Architektur psychologie.
2. References Brockhaus (1987): Brockhaus-Enzyklopädie, in 24 volumes. 19th, completely revised edition.
3. Heider F. & Simmel M. (1944). An Experimental Study of Apparent Behavior, The American Journal of Psychology, 57 (2) 243. DOI: 10.2307/1416950.
4. M.S. Egamberdiev, N.F. Ubaydullayeva. Me'morchilikda psixologiyaning ahamiyati. Эффе́ктивность применения инновационных технологий и техники в сельском и водном хозяйстве материалы международной научно-практической конференции 3-4 декабря 2021 года
5. M.S. Egamberdiev, N.F. Ubaydullayeva. The role of psychology in architecture. International Journal of Education, Social Science & Humanities. Finland Academic Research Science Publishers Volume-11| Issue-5| 2023 Published:|22-05-2023
6. M.S. Egamberdiev, N.F. Ubaydullayeva. Psixologiyaning arxitekturadagi roli. "Zamonaviy psixologiyada ilmiy tadqiqotlar: muammolar, yutuqlar, innovatsiyalar" mavzusidagi Xalqaro ilmiy-nazariy anjuman to'plami // Buxoro, 2023- yil 19-20-may. – 486 b.