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OBJECTIVITY IN ARCHITECTURE – CRITERIA OF CREATIVITY AND FACTORS THAT TRIGGER IT AMONG ARCHITECTS

OBIEKTYWIZM W ARCHITEKTURZE – KRYTERIA TWÓRCZOŚCI I CZYNNIKI JĄ WYZWALAJĄCE U ARCHITEKTÓW

Abstract

The article has an interdisciplinary character, combining the discipline of architecture with psychology. It presents the ambiguity of the concept of creativity and indicates various factors causing this exceptional human activity. The aim of the work is to present the dominant motive of achievements and the style of creative behavior among architects.

Keywords: creativity, motivation in creativity, psychology of architecture

Streszczenie

Artykuł ma charakter interdyscyplinarny łączący dyscyplinę architektury z psychologią. Prezentuje wieloznaczność pojęcia twórczości oraz wskazuje różne czynniki wyzwalające tę wyjątkową aktywność człowieka. Celem pracy jest sprawdzenie dominującego motywu osiągnięć oraz stylu twórczego zachowania u architektów.

Słowa kluczowe: twórczość, motywacja w twórczości, psychologia architektury

1. INTRODUCTION

The concept of creativity is ambiguous. As a creativity we can understand both – the achievement (artistic / design) or part of it, but also their intangible equivalent – like an idea or a concept. Also, certain individual features could be understood as creative, as well as intellectual resources and (when the features are hidden) someone's capabilities or potential. Finally, creative can also be the process of solving any problem and searching for many new possibilities.

2. CREATIVITY AS A PRODUCT FEATURE

In the literature the most common criterion of creativity is the concept of novelty and value. A creative work is the one that combines both these features.

In the empirically perceived reality, there are nothing absolutely new or absolutely known.¹ The work of an architect, in most cases, is not about discovering the unknown, but about creating new solutions from a combination of elements that others have already invented. Therefore, a specific idea or project is new only to some certain extent. Guided by the criterion of novelty, as creative you can certainly define all avant-gardes rejecting existing styles and looking for a separate language of expression. However, art history proves that development has repeatedly followed through the continuation or complementation of earlier discoveries.

A similar dilemma concerns the criterion of value. Recognition of something as valuable depends on the social, cultural, historical, or political context. It means that classifying something as creative isn't obvious. Criterion of novelty and valuable are very relative.

3. CREATION AS A PERSON FEATURE

Understanding creativity as an individual trait of human being is associated with a dilemma – is it reserved only for prominent individuals (unique) or is it a universal feature?

There are two approaches to this issue.

In the elite approach, the concept of creativity refers only to works that make a significant contribution to the development of science, art or culture – the creators are eminent persons and geniuses. In the case of architecture, the skill measure can be, for example, the most important architectural prize – the Pritzker Prize.

An egalitarian approach defines creativity as an attribute of every human being. It is understood as a trait that may occur in a greater or lesser severity (from minimal to very high – attributed to geniuses). Therefore, creativity can be universal, but not equally developed in everyone. Significant individual differences in terms of creative abilities between individuals can be explained by personality traits, motivation and environmental impact – favorable (or not) environment.

4. CREATION AS A PROCESS

We can also consider creativity in the category of a process that creates something that does not exist, which previously didn't have the shape or characteristics. It's creating ideas that no one has ever brought to life. When creating something, man uses cognitive processes such as attention, memory, perception, but also imagination and emotions. There is also the view that not only production can be creative, but also transformation – interpreting or imitating.²

The architect should have the ability to combine ideas that appear separately. History provides examples that since ancient times architects were at the same time carpenters and stonemasons, often physically erecting buildings.³ The combination of many professions

¹ E. Nęcka, *Psychologia twórczości*, Gdańskie Wydawnictwo Psychologiczne, Sopot 2016, p. 14.

² W. Stróżewski, *Dialektyka twórczości*, Znak, Kraków 1983, p. 16.

³ S. Kostof, *The Practice of Architecture in the Ancient World: Egypt and Greece* [in:] S. Kostof (ed.), *The Architect. Chapters in the History of the Profession*, University of California Press, Berkeley 2000, pp. 14–24.

was also visible in the Middle Ages (architects were both bricklayers and carpenters) and in the Renaissance (architects were also sculptors or painters). It was only the professionalization of education and a more defined of an architect in the nineteenth century that led to the separation of workmanship from the design zone. However, it didn't mean a strict specialization and selective knowledge. In modernism, architects understood their field as shaping society and solving its existing problems (radical change in people's way of life).

The need to combine various ideas in the creative process is confirmed by, among others, arch. Robert Konieczny: "things that I hear about for the first time can unexpectedly cause my thoughts and associations."⁴ The designer recalls the definition of a good architect as a man who can associate everything with everything. This is how he describes his creative process: "sometimes I look at the simplest, most obvious things that everyone looks at and suddenly a thought comes from it. It's a non-architectural process. Architecture only starts from this place."⁵ Le Corbusier wrote:

My eyes are looking. They are looking at something that expresses a certain thought (...) through blocks arranged side by side. [...] They are the mathematical creation of our mind. They are the language of architecture [...] from dead materials you have created emotional-touching proportions. This is architecture.⁶

The creative process rarely follows specific stages. It is typical for creativity to constantly return to earlier moments or to think ahead.⁷ Robert Konieczny, mentioned above, in his work on projects also observes such a regularity. He notices the impact of previous experiences on the way of thinking about current projects. The guiding idea of the division into accessible and inaccessible zones is visible both in the projects *Atrialny House* (2002–2003), *Safe House* (2004–2005), *Centrum Dialogu Przełomy* in Szczecin (2009) and in the designer's private house – the so-called *Ark* (2011).

5. CREATION AS CROSSING BOUNDARIES

Creativity, also understood as crossing physical, social or symbolic borders, is associated with Koźielecki's transgressive concept (1987).⁸ An important condition for transgression is that it must be a conscious and deliberate overcoming of some barrier. This means that in this model you cannot talk about accidental discoveries or involuntary creativity.

⁴ Architektura szczera do bólu: rozmowa z Robertem Koniecznym, R. Konieczny in conversation with D. Hajok, <https://label-magazine.com/architektura/artykuly/architektura-szczera-do-bolu-rozmowa-z-robertem-koniecznym> (access: 9.06.2020).

⁵ *Ibidem*.

⁶ Citation from: M. Leśniakowska, *Oczy Le Corbusiera* [in:] Le Corbusier, *W stronę architektury*, Centrum Architektury, Warszawa 2012, p. 7.

⁷ S. Popek, *Człowiek jako jednostka twórcza*, Wydawnictwo UMCS, Lublin 2001, p. 81.

⁸ It says that the purpose of transgressive activities, also called "outside" activities, is consciously exceeding the existing borders and thus gaining or creating new values (the opposite of random or involuntary actions). Transgressions exist in two forms: as expansive activities, involving the breaking of existing borders and creative activities, the purpose of which is to broaden the borders of cognition, develop culture and develop worldview; after: I. Szymańska, *Transgresyjna koncepcja człowieka*, <https://www.szkolnictwo.pl/index.php?id=PU9722> (access: 10.06.2020).

Transgression is very close to creativity. As a process focused on change, it is an opposition to adaptive activities maintaining the *status quo*. Creativity and transgressive activities are expressed by man's desire to confirm and increase his own value.⁹ Their implementation can take place in two ways: by competing with others (thus confirming self-value) and by striving for perfection by achieving a certain level of excellence.¹⁰

6. INDIVIDUAL FACTORS VERSUS THE CREATIVE PROCESS AMONG ARCHITECTS

Searching for answers to the question of what personality traits characterize creative people has led to the following conclusions. First, these people can be identified by three characteristics such as: openness, independence and perseverance.¹¹ Secondly, each of these features plays a dominant role at a specific stage of the creative process.

In the initial phase, openness is very important as it enables assimilation of various information and tolerance for ambiguous content. Openness also means a strong need for novelty. Independence becomes important at the stage of generating ideas. Thanks to this, ideas can be free of secondary character, current conventions, fashion, pressure from investors or a different approach of authorities. When an idea already exists – during the project implementation phase – perseverance begins to work. Thanks to it the creative process leads to improvement and isn't interrupted despite adversity. Presentation of the resulting idea to recipients and decision-makers requires from the architect internal motivation, ambition and high self-esteem. It is often necessary to take the same topic many times.

7. INFLUENCE OF THE ENVIRONMENT

Architectural creativity is a subject to many influences – including cultural, technical and social. The context of the environment can be both an activating and inhibitory factor. It can affect the direction, range, course, intensity, and results of creative activity.¹² The extend of the influence of the environment depends on the type of discipline practiced – it plays a smaller role in artistic activity than in technical fields. It is therefore difficult to clearly estimate the range of this impact on architecture, which in my opinion combines the fine arts with the sciences. However, in most parts of the world, architectural education isn't formally perceived as artistic, but technical field.¹³ Nevertheless, architectural creativity demands overcoming many barriers that block it.

There are three main groups of factors negatively affecting creativity. These are barriers: preventing the emergence of creative processes, untimely interrupting it and disturbing it.¹⁴

⁹ J. Kozielecki, *Transgresja i kultura*, Wydawnictwo Akademickie "Żak", Warszawa 1997, p. 119.

¹⁰ E. Nęcka, *op. cit.*, p. 188.

¹¹ *Ibidem*, pp. 141–147.

¹² R.E. Bernacka, *Konformizm i nonkonformizm a twórczość*, UMCS, Lublin 2004, p. 51.

¹³ A. Klimek, *Ewolucja problemu "gwiazdorstwa" w architekturze współczesnej – próba zdefiniowania zjawiska*, Politechnika Łódzka 2015, p. 84 (typescript).

¹⁴ E. Nęcka, *Proces twórczy i jego ograniczenia*, Oficyna Wydawnicza "Impuls", Kraków 1995.

These include the need for public assessment of the project, the risk of exposure to ridicule, social pressure, conformity, competition or demanding compliance with conventional norms. Also, just “wondering” effect and the element of surprise – which often accompanies the production of creative works – are perceived by the environment as manifestations of ignorance and therefore are sometimes blocked or latent.

Creative activity is influenced by culture. The uniformity model doesn’t promote differences and novelty. In opposition – a supportive atmosphere conducive to a sense of security and acceptance, creates conditions to stimulate creativity and free self-expression.

8. ACTIVATION OF CREATIVITY

Creative activity isn’t an easy activity. It is usually associated with hardship, doubt or disappointment. True creativity requires resistance, perseverance and a special motivational structure.¹⁵

The issue of motivation in the context of creativity concerns the identification of the most common and effective causes releasing this unique activity. Scientists have different approaches to this topic – some say that a specific motive to encourage creativity is needed, while others believe that clearly intensified motivation must exist – no matter what kind.

8.1 FLOW

Architectural design isn’t always a source of pleasure. Most often it is a long and intensive work which lasts despite many obstacles. To succeed, a strong internal motivation is required. There is the concept of *flow* in the psychology of creativity. It defines the condition of smooth and reliable performance of complex activities existing without symptoms of tiredness or boredom. The requirement for the *flow* to occur is the balance between the competences of the performer and the level of difficulty of the task. This avoids getting bored – when the competences are too high compared to the requirements, or feeling discouraged or anxious – when the requirements exceed the skills.

8.2 COGNITIVE CURIOSITY

Creative work is often accompanied by doubt in the purpose of the action. Certainly, every designer has heard the words *it can’t be done* more than once. Overcoming difficult moments in designing is motivated by the so-called cognitive curiosity. Architects with this feature are more likely to ask questions and look for a creative answer. They aren’t content with apparent and superficial solutions. Studies show that creative people are characterized by a permanent state of curiosity.¹⁶

¹⁵ M. Karwowski, R. Gralewski, *Zmotywowana kreatywność: synergia motywacyjna postawy twórczej młodzieży*, Chowanna, 2011, no. 1, p. 46, <http://bazhum.muzhp.pl/media//files/Chowanna/Chowanna-r2011-t1/Chowanna-r2011-t1-s45-58/Chowanna-r2011-t1-s45-58.pdf> (access: 10.06.2020).

¹⁶ It means that creative people are looking for inconsistent stimuli, i.e. those that require further improvement.

8.3 FEEDBACK

In the project, feedback plays a very important role. It reassures the architect that his actions are right. In addition, it is a proof of social recognition that causes further activity. Importantly, the sign of feedback – no matter if positive or negative, as well as all kinds of awards, don't affect mature creators. However, that can be important in the case of inexperienced designers or creativity with a small "c."

The phenomenon of creativity is often accompanied by competition for social recognition or fame. Competitive motivation to achieve mastery in a specific field can be creative. However, on the scientific or artistic level, competition doesn't contribute to better work results.

There is also a supposition that creativity – like other types of activity – is conditioned by various motive acting in a jointly way (so-called creative synergy). Their individual proportions may be variable depending on the stage of development of the creator or the stage of the creative process.

9. MOTIVATION OF ACHIEVEMENTS AMONG ARCHITECTS

There are various factors that trigger human creative activity. These include human needs and values, as well as the interpretation of the causes of successes or failures, and an optimistic or pessimistic explanation of human behavior. On this basis, scientists have identified two types of motivation that prompt a person to a specific activity – internal and external motivation. In the first of them, the reward is the process of solving the task, in the second one, people work for a specific reward as a consequence of their work or under the influence of external stimulators (e.g. competition).

9.1 CONSEQUENCES OF THE DECISION

People learn that events that are related to positive or negative consequences depend on their behavior. The type of award can be both substantial (e.g. professional promotion or award) as well as symbolic – expressed, for example, in acceptance or praise.

A similar process appears in the case of punishment, which can occur both in physical form – e.g. loss of salary, as well as in intangible form – loss of status.¹⁷ Pursuit of approval and avoiding disapproval are the basic motive for all types of human actions.¹⁸ The former causes us to expect satisfaction (we strive for it), the latter arouses fear (we block the behavior that causes it). The need to succeed is hampered by the need to avoid failure.¹⁹ If the first of the needs is the dominant one – the person adopts the pursuit orientation (positive motivation), if the second – avoidance attitude (negative motivation).

¹⁷ Intangible / symbolic rewards and punishments are more important to people.

¹⁸ R.E. Franken, *Psychologia motywacji*, Gdańskie Wydawnictwo Psychologiczne, Gdańsk 2005.

¹⁹ W. Klinkosz, *Motywacja osiągnieć osób aktywnych zawodowo*, Wydawnictwo KUL, Lublin 2016.

All human activities depend on the information obtained from the environment. According to the concept of social learning,²⁰ people obtain data from observations of others. They learn specific behaviors and their consequences from them. The information obtained in this way will determine the direction, strength and perseverance of observers. The source of information for architects can be the analysis of the effective activities of other artists, their working methods, etc., but also the inspiration from biographies of famous artists.

9.2 FEELING YOUR OWN EFFECTIVENESS

Architects (and not only) make decisions regarding future events using information obtained on the basis of past practices. While setting a new goal, it is important to analyze two issues: will specific actions bring specific effects and is the creator convinced that he is able to implement the given project assumptions. It means that behavior, in addition to forecast effects, also depends on the architect's sense of self-efficacy. The latter is related to the assessment of one's own skills. Self-image plays an important role not only in setting goals, but also in getting involved in action.

In addition to a sense of self-efficacy, designers will also be motivated to achieve the goal by disparity between the expected result and the current situation. This incompatibility will act as a stimulus to take appropriate action.²¹ It means that the greater the metamorphosis of space generated by the project, the greater the enthusiasm to work on it. This phenomenon also has a different impact. Architects, who are mainly perfectionists, strive to perfection and try to bridge the gap between their current situation and the desired state (the professional position they would like to achieve). It means that on the one hand they will strive for a situation that gives a positive effect and on the other hand they will avoid negative situations (e.g. disappointment, lack of satisfaction with realisation, criticism from the environment, etc.). An important aspect of achievement motivation is that it reveals itself during activities which are evaluated. This approach indicates an increase of this type of motivation in people who work in a competitive and challenging environment.

9.3 CATEGORIZATION

When analyzing the motivation of creative activities, it is worth mentioning the categorization of the features possessed by architects. In terms of the impact of classification, it's important how we classify our own activities. The label they define themselves often determines their behavior. Assignment to a specific role is important because of suggestions of specific behaviors we unconsciously succumb to. Therefore, people who define themselves as ambitious and hard-working will be proving these features by their behaviors. They will strive to do everything as best and most efficiently.

²⁰ The theory of social learning concerns the mechanisms through which new ways of behavior appear, support them, change and disappear. The theory assumes that new behaviors are acquired under two main mechanisms: learning through consequences and modeling (observing someone else's actions and their effects). The author of the theory is Albert Bandura.

²¹ A. Tokarz, *Rola motywacji poznawczej w aktywności twórczej*, Zakład Narodowy im. Ossolińskich, Wrocław 1985.

10. EMPIRICAL PART

In the literature, we can find studies in which creativity and motivation coexist. However, none of them refer to the group of architects. As a person with both psychological and architectural educational background, I decided to fill this gap.²²

The aim of the work was to check the dominant motive of achievements and the style of creative behavior of architects. For this purpose, the Career Motivation Scale (by A. Bańka), Creative Behavior Style (by A. Strzelecki) and own questionnaire were used in the study of this professional group.²³

As part of the article I will focus on simplified conclusions from the research. In order to make them easier to understand, I gave up the use of specialized naming of individual factors from the used research tools.

10.1 MOTIVATION OF ACHIEVEMENTS

The obtained research results indicate a definite domination of positive (aspirational) motives over negative ones (avoidance and comparison with others). This means that architects are focused on achieving success. They have high expectations, as opposed to people oriented to failure and discredit in the eyes of others.

The motive of perfectionism is definitely dominant among the respondents (almost half of them). This defines architects as people who want to perform better than before. They also want to avoid confronting their work and skills with others or comparing them “now” and in the past.²⁴ Architects are more involved in the implementation of tasks than in self-image building. They are aware that developing new skills, increasing competences and effort put into work increases their ability to achieve goals. The above factors are more important for architects than assessment their own achievements only through the prism of comparison with others.

10.2 STYLES OF CREATIVE BEHAVIOR

Research has shown that architects have an energetic and positive attitude to new challenges and commitment to new tasks. They are open to experience, have cognitive tolerance for newness and otherness of the world. They are also ready to cooperate with others.

The results indicate that most architects do not have expansiveness or self-confidence as dominant features. Perhaps this is due to the low level of self-efficacy but this problem requires verification in the form of further research.

The results also revealed a weak ability to resist environmental pressures and to carry out their own tasks against the pressures of others – especially among the female respondents.

²² 51 people working as architects (18 men and 33 women) took part in my research. In the group the dominant direction of work is architecture (about 57%) and interior architecture (24%). A minority deals with scientific work, urban planning and other fields on a daily basis. Most of the respondents have professional experience of 5–10 years (about 67%) and the majority have an academic title of M.Sc. Arch. (M.Sc. – 76%, Ph.D. – about 16%, Eng. – about 8%). Participation in the study was voluntary and anonymous.

²³ For detailed research results, please contact me by email.

²⁴ Conclusions based on correlation analysis for all components of the Career Motivation Scale.

It can be interpreted as treating the views of investors and recipients as main factor. This is confirmed by information collected in the form of a questionnaire – about 40% of the architects declared that the opinion of the building's users is the most important to them.

10.3 CREATIVE BEHAVIOR STYLES AND MOTIVATION OF ACHIEVEMENTS AMONG ARCHITECTS

The results provide information on the relationship between creative behavior styles and career motivation. Analysis shows that, for architects, the higher the belief in one's own abilities and the readiness to act, the greater the motivation to maintain self-esteem and the desire to keep up with the competition. But the increase in self-confidence in architects also increases the fear of failure and fear of evaluation.

The results also show that taking up difficult topics is accompanied by motivation to maintain self-esteem and keep up with the competition. The relation between maintaining self-esteem and the ability to present own opinions is also important. Analysis of the results showed that the greater the ability to resist the influence of the environment, the stronger the architects' motivation to protect themselves.

11. CONCLUSION

Architects are professionals that should be undoubtedly characterized by a high intensity of creativity. Contrivance in generating new ideas and solutions is extremely important in the work of designing – both buildings and interiors or their systems making relations in space.

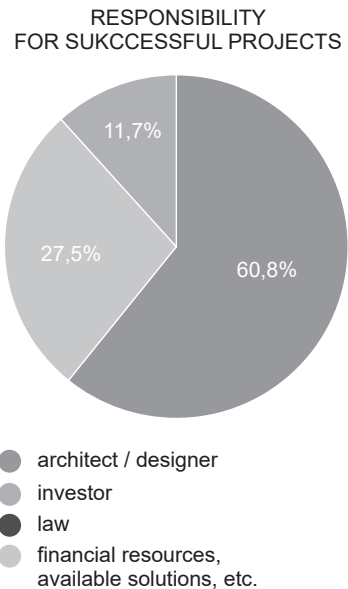
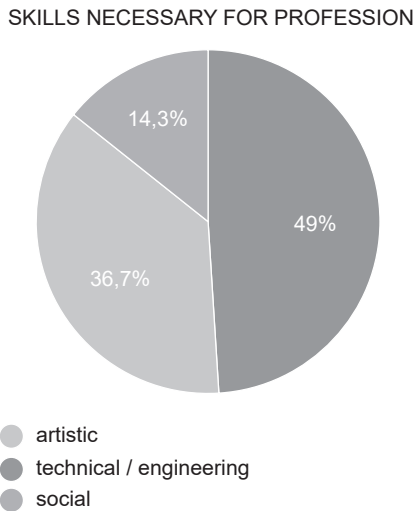
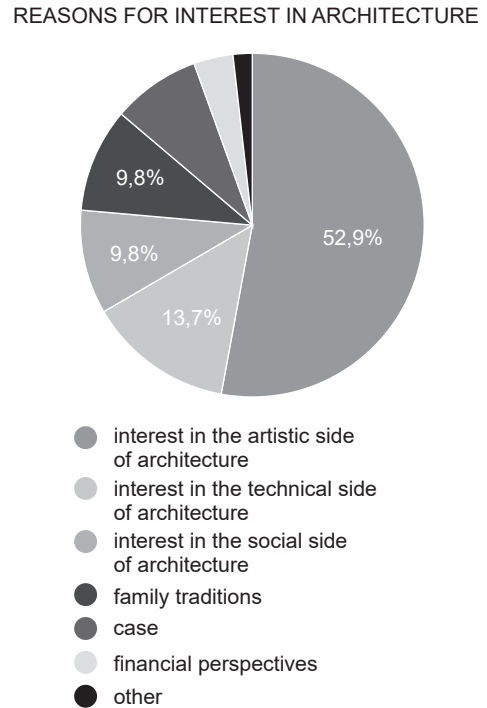
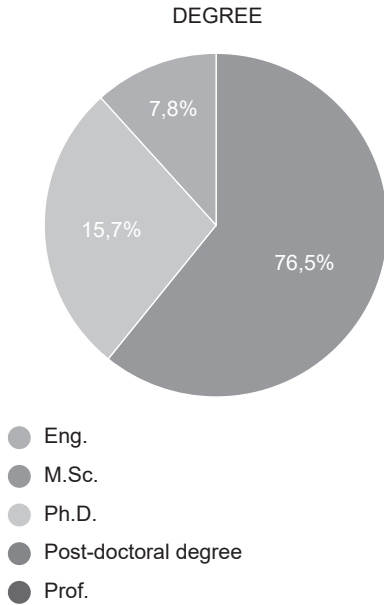
The article indicated various possibilities of interpreting creativity and indicated what factors cause this kind of human activity. The text was enriched with empirical research that was done on a group of architects using psychological tools in the form of tests.

Research methods of the psychology of creativity mainly refer to the cognitive and personality properties of creative people or products of creativity. There are the following types:

- approach based on measuring creative abilities and personality feature as well as product and environment using tests (so-called psychometric approach),
- biographical approach and case study (analysis of the creators' life),
- experimental approach (change of selected creativity factor and control of other factors influencing the course and effects of creativity),
- integrated approach (study by action).

The article presents the results received from the first of them.

In order to increase the reliability of the results, it would be necessary to consider the following modifications: increase the number of respondents and strive to balance the numbers of respondents in individual groups (age, sex, job seniority, etc.).



III. 1. Information on the research group is presented in the form of pie charts

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