

Features of irregularity in examples of Polish multi-family architecture constructed in 2011–2021 and nominated for the Mies van der Rohe award

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Abstract

This article is devoted to the analysis of contemporary Polish multi-family architecture in the context of aesthetic irregularity. The research was limited to constructions from 2011–2021 and nominated for the Mies van der Rohe award as the objects with the greatest potential impact on shaping further trends. In their research, the authors focused on searching for the features of irregularities, which, in their opinion, have become a distinguishing feature of contemporary architectural aesthetics. The analyses in this study refer to three planes of the aesthetic dimension of architecture, namely the form, facade composition and material.

Keywords: Mies van der Rohe, multi-family architecture, irregularity, aesthetics, contemporary architecture, Polish architecture

1. Introduction

The aim of this study is to analyse Polish multi-family housing projects which have been nominated for the European Union Prize for Contemporary Architecture (Mies van der Rohe Award) and were completed between 2011 and 2021. The research focuses on the search for features of aesthetic irregularity, primarily in the context of form, composition and facade material.

The study group is limited to housing developments from the last decade for two reasons. First of all, modern multi-family housing architecture is facing a serious challenge, which is the huge demand for housing resulting from generational changes and the growing economic level of young Poles. Such a high demand means the construction of thousands of new housing facilities that will change the face of cities for many years to come. Secondly, the facilities completed in 2011–2021 are contemporary buildings which are both the result of contemporary thinking about architecture and have the strongest impact on other, newly designed projects. Moreover, the fact that the group of reference objects was narrowed down to those nominated for the Mies van der Rohe Award means a reduction to the group of the most significant objects and the strongest determinants of trends in shaping the aesthetics of contemporary Polish multi-family housing.

The key issue for the research is irregularity in the context of the aesthetics of architecture. Irregularity is a natural consequence of rejecting regularity, which, according to the dictionary definition, refers to elements compliant with undefined rules, but also (with regard to visual aspects) having a shape similar to basic geometric figures and proportionality or symmetry (Sobol, 2007). Naturally, the problem of regularity can also be considered as a kind of scale where, on the one hand, there are ideal structures, and on the other there are completely chaotic structures (Rubinowicz, 2000). With regard to architecture, the pursuit of ideal structures was already very clear in antiquity and determined this field of art for centuries (Rubinowicz, 2000). The above state resulted from the classic relationship between art and beauty and the Great Theory of Beauty (Tatarkiewicz, 1972), based on principles such as harmony and symmetry. Nowadays, however, there is a clear tendency towards the other end of the regularity scale. According to the authors, it is irregularity that has become a distinguishing and characteristic feature of contemporary architecture.

The results of the analyses are to help structure knowledge about the aesthetics of contemporary Polish multi-family residential architecture. Moreover, it is assumed that they will enable the definition of directions for further research on the above subject. The expected long-term effect is the broadening of knowledge about the methods of designing and shaping the visual layer of multi-family housing, and at the same time, increasing the awareness of the designers themselves on this subject. Equally important is also the possibility of improving the education of architecture students.

2. Irregularity

Irregularity can be considered in many ways. First of all, it can be deliberate, which is the result of an intended action, or accidental, which is the result of, for example, mistakes. Random irregularity was present in art as early as Hellenistic times (Politt, 1986) (Hellenistic Baroque) and was also associated with ugliness. This aesthetic category was also present in medieval or baroque art but had no value in itself. Only in the nineteenth century, ugliness, breaking the traditional canons of beauty, appeared in realism and naturalism. And as an inherent aesthetic value, it became an element of twentieth-century avant-garde and trends such as neoclassicism or turpism (Stolnitz, 1950). However, deliberate

irregularity was an even rarer phenomenon in historical art and architecture, it can be seen rather as an element of nature in romantic gardens or in elements of Art Nouveau. Strictly geometric irregularity began to appear only with the development of trends such as expressionism or cubism, but in architecture, it was only the modernists who began to break the principles of symmetry and destroy the ancient, axial compositions of the facades. Nowadays, irregularity should also be considered in terms of novelty (Czyż, 2013) as a counterpoint to the traditional way of shaping aesthetics.

Irregularity, however, does not only refer to aesthetic issues, and it does not arise only from the theory of art and the relationship between art and beauty. This concept is closely related to the broadly understood philosophy. If we consider regularity as submission, irregularity is the absence of this submission. Regularity was thus the main feature of the creativity of traditional and industrial societies, that is, clearly structured societies characterised by a collectivist approach. Irregularity, on the other hand, appeared as a sign of the negation of earlier structures, which took place at the beginning of the twentieth century, i.e. at the time when the post-industrial society arose. Today, irregularity can therefore be treated as the essence of postmodern philosophy, which emphasizes the importance of individualism and rejects conservatism in favour of liberalism.

Irregularity should also be considered in the context of the Japanese philosophy of wabi-sabi, which originates from Asian countries, which are also outside the strong influence of European cultural circles. Although the word wabi originally meant “poverty” and sabi can be translated as a state of deterioration over time, cultural changes and the influence of Buddhism have made these words positive. The philosophy of wabi-sabi means, first of all, the acceptance of transience and imperfections (Koren, 1994), but it also refers to modesty, accepting one's own weaknesses and limitations as well as the love of nature. It is a philosophy of life and it affects all its aspects, including aesthetics. The aesthetics associated with the wabi-sabi philosophy is characterised by an organic, natural imperfection of form, shape and material. It is also minimalist but not ascetic and purist at the same time. It is a response to human needs, while opposing consumerism manifested in splendour. In a sense, aesthetic similarities can be found in the architecture of critical regionalism (Carlson-Reddig, 2019), which, however, is not in itself a new theoretical model but a reinterpretation of local traditions. Therefore, this trend is strongly related to craftsmanship and is characterized by the use of local, natural materials. Irregularity is therefore an element of critical regionalism as an additive, not an essence. Ideologically, the wabi-sabi philosophy is more closely related to the views presented by Steven Harris in the book “Architecture of Everyday” (Harris, 1998).

In the light of the above considerations, irregularity should be treated as a complex and strongly culturally conditioned issue. Moreover, it is understood differently depending on the region. Nevertheless, the irregularity appears to have increasing value. On the one hand, it introduces diversity and novelty, which are in line with the postmodern spirit of consumerism, and on the other hand, it can be an expression of an aesthetic rebellion against the above. Undoubtedly, due to its strong connotations with art, aesthetics, the concept of beauty and philosophy, irregularity also affects the theory of architecture and the creativity of designers.

3. Method

In the opinion of the authors, it can be presumed that irregularity is a kind of sign of the times. It is a feature that determines contemporary aesthetics. In order to verify the thesis, an analysis of architectural examples was performed in order to look for irregularities. The analysis concerns three planes of architectural

aesthetics – form, facade composition and material. The research was limited to seven multi-family housing projects built in Poland in 2011–2021 and nominated for the Mies van der Rohe Award.

4. Research

4.1. Nowe Żerniki

The Nowe Żerniki estate, also known as WUWA2, is a collective project, the aim of which was to create a new, model housing estate, constituting an alternative to typical Polish housing investments with low functional and aesthetic value (Idea, 2016). It is a project involving the authorities of the city of Wrocław, the District Chamber of Architects of the Republic of Poland and the Association of Polish Architects, as well as over forty architectural studios (Idea, 2016). The estate was nominated for the Mies van der Rohe Award – 2019 and 2022 editions. Although the entire project is the result of cooperation of a large group of designers, it has a coherent, neo-modernist character.

Particular attention should be paid to the Atmosfera estate (Fig. 1), which is part of the Nowe Żerniki complex. The buildings have a minimalist form of cuboids in which loggias and window openings have been cut out (also



Fig. 1. Atmosfera Estate (source: https://serwer1456053.home.pl/autoinstalator/wordpress/portfolio_page/osiedle-atmosfera-na-nowych-zernikach)

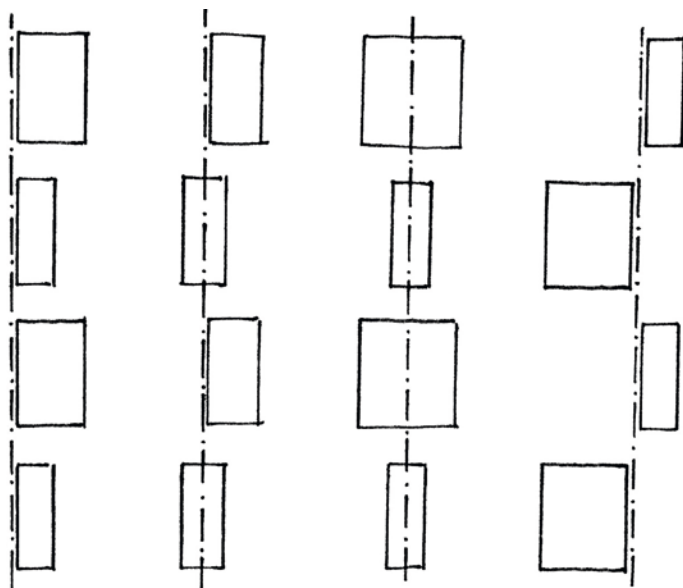


Fig. 2. Composition schemes of the Atmosfera estate facades (own elaboration)

cuboidal). The subtraction of smaller cuboids from the main one is emphasised by the material – graphite woodwork, graphite window recesses and wooden loggia recesses strongly contrast with the white face of the main body of the building. However, attention should first be paid to the used compositional treatments, which give irregularities and break down the aesthetic simplicity of these buildings. On the elevations of the Arch_it design, several compositional operations can be observed (Fig. 2). There are compositions based on vertical lines that are tangent to one of the edges of successive compositional elements or the axis of symmetry of these elements. Some of the openings are arranged in accordance with their axis of symmetry, however, subsequent openings have different widths. The alternating occurrence of some openings on subsequent storeys can also be observed. The whole has a minimalist, even purist character, but the play with window openings is a counterpoint and introduces dynamism, which is a characteristic feature of the analysed estate.

4.2. Riverview

A residential development project (Fig. 3), located on the banks of the Motława River in Gdańsk, is an example of multi-family housing with modern aesthetics, which at the same time tries to refer to the historical context of buildings. The design of the APA Wojciechowski team consists of seven buildings, which formally consist of very simple, repeatable cuboids, topped with symmetrical, gable roofs. It should be noted, however, that although the individual elements are synthetic, regular, unitary forms, they have been arranged in an irregular way. Blocks were slightly displaced and differentiated in terms of height. In this way, the juxtaposition of the smaller blocks does not reveal the actual scale of



Fig. 3. Riverview Estate (source: https://architektura.muratorplus.pl/realizacje/osiedle-riverview-w-gdansk_10602.html)

the individual buildings in the estate and at the same time constitutes a spatial reference to the traditional architecture of this part of Gdańsk. The irregular juxtaposition of regular solids makes the complex appear to be formally diverse, although its components are not. The elements that break the regularity of individual solids are the compositions of the facades and the material. The top facades, which are the most exposed, are irregular compositions of window openings with asymmetric divisions (Fig. 4). The window openings themselves rest against two main modules, used alternately. Elements on each of the elevations form two compositional axes marked by the outer edges of the windows. In addition, the irregularity and asymmetry are emphasized by a single, repeatable window on each facade, which has a different (in relation to the main elements) height and an elevated sill. The location of the element itself is asymmetrical but not in line with the main compositional axes of the facades. You should also pay attention to the material from which the facades

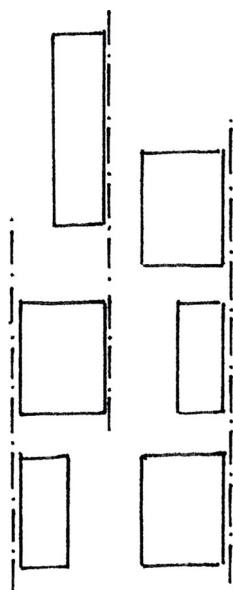


Fig. 4. Composition scheme of the gable facades of the Riverview Estate (own elaboration)

are made. Clinker bricks with uneven colours dynamise very simple, minimalist shapes, adding life to them.

4.3. Nowy Werdon

The “Nowy Werdon” building (Fig. 5) is a response to the need for the revitalisation of mining areas in Silesia. The residential building is a minimalist, rectangular shape covered with a steep, two-slope roof with a symmetrical layout. The regular form is a continuation of the historical urban fabric, while the architecture itself is a contrast in the form of the irregular composition of the facades, emphasised by the material – clinker bricks. The initial compositional system is very simple and is based on a regular axis system. The regularity of the pattern is disturbed by locally introduced holes, with a width clearly bigger than width of the windows, and by moving the elements horizontally (Fig. 6). The facade material completes the composition. The brick laid on the basis of an orthogonal mesh emphasizes the regular character of the block and the varied colour of the clinker breaks this regularity.



Fig. 5. Nowy Werdon building (source: <http://www.maleccy.com/pl/projekty/nowy-werdon>)

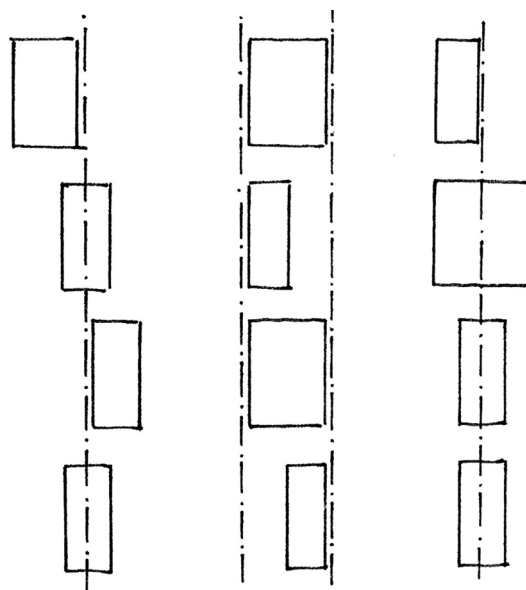


Fig. 6. Nowy Werdon building (own elaboration)

4.4. Nowy Nikiszowiec

Another analysed project is one nominated for the 2022 Mies van der Rohe Award 2022 – this is the Nowy Nikiszowiec estate (Fig. 7) in Katowice. The group of quarter buildings consists of rectangular buildings of regular forms but dynamised by the arrangement of the gable walls located in the corners of the quarter at an angle to the longer facades of the buildings. Such an operation, although partly due to urban planning conditions, formally introduces an element that breaks the geometrical correctness of cuboidal solids. The composition of the facades of the discussed quarter of the buildings is characterised by consistent repetition and regularity. Axially arranged window openings, adapted to the functional arrangement, build aesthetic harmony and peace. An additional breaking element, however, is the facade material. The facades were divided into regular, rectangular fields with the help of vertical and horizontal cutters. The quarters are filled with plaster glistening in the sun with an admixture of quartz and mica, which gives the material both nobility and diversity. The whole is in shades of soft, brick orange, referring to the development of the Nikiszowiec estate, built at the beginning of the twentieth century. However, attention should be paid to subtle colour differences between individual fields, which introduces an element of irregularity. This procedure transforms an extremely decent, almost boring, architecture into a very interesting example of contemporary Polish multi-family housing.



Fig. 7. Nowy Nikiszowiec Estate (source: <https://www.designalive.pl/mies-van-der-rohe-award-2022-rekordowa-liczba-nominacji-z-polski>)

4.5. Unikato

The “UNIKATO” multi-family residential building (Fig. 8) was designed by the KWK Promes office and nominated for the Mies van der Rohe Award in 2019. A single-block, rectangular form with an extremely regular, even monotonous facade division is broken by a group of balconies. This group also consists of cuboidal elements arranged in a rectangular, spatial pattern; however, a gentle rotation of the balcony layout in relation to the directions of the main body and the uncompromising consequence of this action clearly dynamise the whole. A formal procedure that is essentially simple creates an irregular form out of two regular patterns. The whole is enriched by graphite plaster that covers all facades and balconies. The uneven structure and colour add variety to the building and give the impression that it was built of carbon, which was the inspiration for the designers.



Fig. 8. Unikato building (source: <https://www.miesarch.com/work/3955>)

4.6. Sprzeczn4

The Warsaw implementation of the BBGK Architekci project is a contemporary manifesto of prefabrication. This building (Fig. 9) has extremely simple facades made of repeatable, smooth, uniformly coloured



Fig. 9. "Sprzeczn4" building (source <https://www.bryla.pl/bryla/7,85301,22621090,sprzeczn4-manifest-nowoczesnej-prefabrykacji.html>)

reinforced concrete elements. This is due to the conditions of the building technology itself, which was supposed to be emphasised by the aesthetics of the architecture itself. However, attention should be paid to the main facade of the building, turned at an angle of 45 degrees. On the one hand, it results from the shape of the plot itself, but on the other hand, it is a deliberate architectural procedure. This shape of the form allowed for the creation of triangular balconies, which, in combination with the perspective and chiaroscuro, constitute an irregular element, dynamising and breaking the monotonous, repetitive character of the building.

4.7. 19 Dzielnica

The 19 Dzielnica estate, located in Warsaw and designed by JEMS Architekci, was nominated for the 2013 Mies van der Rohe Award. The urban complex, ultimately consisting of ten buildings (seven completed), is located on the post-industrial outskirts of the city centre of the capital (Osiedle 19 Dzielnica). Formally, all buildings are minimalist, cuboidal shapes; however, they have very characteristic, irregular facades, which are a special feature of the six buildings built in stages I, II and III. Two buildings constructed in the first stage (Fig. 10) have a regular arrangement of window openings, adjusted to the function and multiplied for the next storeys, the irregularity is an element added only in the next layer of the composition. With the help of dark borders, wood and white plaster, visually separate compositional elements were created, the widths of which are different on different floors. Therefore, despite the real repeatability of the storeys and window openings, the whole thing seems to be dynamic and irregular. The next objects, realised in stage II (Fig. 11), have facades with irregular composition already in the basic layer. It is true that after a more detailed analysis, vertical composition lines are clearly visible; however, the use of window openings of different widths and their arrangement in a vertical array only in relation to one of the side edges builds a strong dynamism. The compositional principles applied here are analogous to those on the facades of the Atmosfera estate in Nowe Żerniki (Fig. 2). In addition, the impression is intensified by the clear separation of individual storeys with white stripes, so that the groups of windows are not read as vertical elements (which breaks the natural principle that Arnheim wrote about (Arnheim, 1978)), but belong to separate, horizontal stripes. However, it is impossible not to notice the clear similarity to the façade of the town hall building in Murcia, designed by Raphael Moneo. The buildings constructed in stage III (Fig. 12) have facades based on a slightly different principle. The elevations are divided into repetitive, square



Fig. 10. 19 District – I stage (source: <https://jems.pl/projekty/wybrane-prace/19-dzielnica.html>)

fields, which are irregularly filled on subsequent floors with windows with the full width of the module or its half. In some places, the dividing lines between adjacent fields have been filled with a material that contrasts with the main colour of the facade, which visually connects two modules into one. Although the etiology of this composition is slightly different, in fact, its resonance in relation to the composition of the facades of the buildings erected in stage II is very similar. The principle of creating the above-described composition is shown in the diagram (Fig. 13).



Fig. 11. 19 District – II stage (source: <https://jems.pl/projekty/wybrane-prace/19-dzielnica.html>)



Fig. 12. 19 District – III stage (source: <https://jems.pl/projekty/wybrane-prace/19-dzielnica.html>)

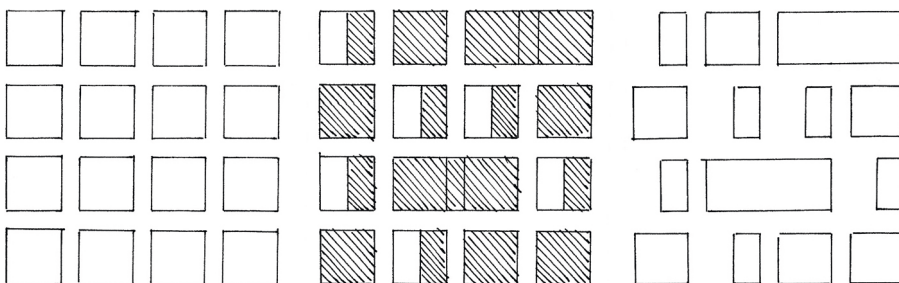


Fig. 13. Composition scheme of the facades of the buildings of the 3rd stage of the 19th District, on the left – the initial composition, in the middle – the optional filling of the quarters, on the right – the final composition (own elaboration)

5. Summary of research

In connection with the above analyses, formal irregularities were found in four cases, which accounts for 57.2% of the researched implementations. Facades with an irregular composition also characterise four out of seven housing estates – 57.2% of the total. The irregular material on the façade has the same number of realisations. It should also be noted that one project (14.4%) has

the features of formal irregularity, composition and material, three housing estates (42.8%) have an accumulation of two features of irregularity, and the other three (42.8%) have at least one. The results of the analysis are summarised in Table 1.

Table 1. List of irregularities in relation to the analysed housing developments

Name of project	Designer	Irregularity of form	Irregularity of composition	Irregularity of material
Nowe Żerniki	Projekt zbiorowy		X	
Riverview	APA Wojciechowski	X	X	X
Nowy Werdon	Biuro Projektowe Mateccy		X	X
Nowy Nikiszowiec	22ARCHITEKCI	X		X
Unikato	KWK Promes	X		X
Sprzeczna 4	BBGK	X		
19 Dzielnica	JEMS Architekci		X	

6. Discussion

All the above-mentioned examples prove that irregularity is a phenomenon that is heavily exploited in the field of contemporary Polish residential architecture. This irregularity applies to all three aspects of architectural aesthetics – form, composition and material. Nevertheless, attention should be paid to the manner and scope of the application of this irregularity. Due to the nature of its function, housing construction is still shaped on the basis of cuboidal solids, which are only dynamized by various types of treatments. Within this type of architecture, however, a very strong trend can be noticed related to the irregularity of the facades themselves in terms of their composition and material. Diverse arrangements of window openings and a variety of colours and textures of materials seem to be a way to break the boxiness of modern multi-family buildings. It is also an element that allows for a certain individualisation of, in fact, very similar new development investments. This procedure is of course related to the product approach to residential architecture. The huge number of newly built housing estates forces developers to individualise and distinguish one product from another. Nevertheless, it has a very positive impact on the quality of the architecture itself.

7. Conclusion

The above considerations apply to the analysis of selected, albeit very significant and award-winning objects, which are an inspiration for other architects and designers. In the opinion of the authors, however, quantitative research should be performed to show specific data on the frequency of irregularities in terms of form, composition and material, which will show the real tendency in the context of the entire contemporary Polish housing construction. The introduction of irregularities into architecture in the context of two issues also seems disturbing. Firstly, too much visual diversity is a problem for contemporary cities (Kozlova, 2018) and the irregularity applied to individual architectural objects only increases this level of diversity. Secondly, research conducted among people professionally associated with architecture and other people (Akalin, Yildirim, Wilson, 2009, Safarova, Pirko, Jurik, 2019) proves that the aesthetic judgments of these two groups differ significantly. Therefore, it can be presumed that the objects analysed in this study, although nominated for the prestigious architectural award, are not perceived by average users as visually attractive. This is puzzling as architecture, especially residential architecture, should be

designed with the users in mind. Therefore, research on aesthetic preferences should be carried out, primarily in the context of the problem of irregularities in the group of typical multi-family housing, which is the basic building block of urban tissue.

During the analyses, the authors also noticed clear similarities between the examined objects in terms of shaping the composition of the facades. Therefore, it can be presumed that there are specific compositional types. Thus, research should be conducted on a larger group of reference objects in order to search for characteristic features common between various compositions and, as a result, to define their typology

References

- Akalin, A., Yildirim, K., Wilson, Ch. (2009). Architecture and engineering students' evaluations of house facades: Preference, complexity and impressiveness. *Journal of Environmental Psychology*, 29(1).
- Arnheim, R. (1978). *The Dynamics of Architectural Form*. Berkeley: University of California Press.
- Carlson-Reddig, K. (2019). Re-Reading Critical Regionalism. In *Local Identities Global Challenges, ACSA Fall Conference, 2011*.
- Czyż, P. (2013). *Normatywna zawartość architektury po-ponowoczesnej*. PhD Thesis. Gdańsk: Politechnika Gdańska.
- Harris, S. (1998). *Architecture of the Everyday*. Princeton: Princeton Architectural Press.
- Idea (2016). Retrieved from <http://nowezerniki.pl/idea/> (date of access: 2021/05/15).
- Koren, L. (1994). *Wabi-Sabi for Artists, Designers, Poets and Philosophers*. Berkeley: Stone Bridge Press.
- Kozlova, N. (2018). Architectural organization of facades according to principle of variability: videoecological aspect. *Journal of Architecture and Urbanism*, 42(1).
- Osiedle 19 Dzielnic. Retrieved from <https://www.19dzielnica.pl/osiedle-19-dzielnica/> (date of access: 2021/05/15).
- Politt, J.J. (1986). *Art in the Hellenistic age*. Cambridge: Cambridge University Press.
- Rubinowicz P. (2000). *Chaos and Geometric Order in Architecture and Design*.
- Safarova, K., Pirko, M., Jurik, V. (2019). Differences between young architects' and non-architects' aesthetic evaluation of buildings. *Frontiers of Architectural Research*, Vol. 8(2).
- Sobol, E., Drabik, L. (2007). *Słownik języka Polskiego PWN*. Warszawa: Wydawnictwo Naukowe PWN.
- Stolnitz, M. (1950). On Ugliness in Art. *Philosophy and Phenomenological Research*, 11(1): 1–24.
- Tatarkiewicz, W. (1972). The Great Theory of Beauty and Its Decline. *The Journal of Aesthetics and Art Criticism*, 31(2): 165–180.