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ARCHITECTURE AND THE CITY – HOUSES BY TADA0 ANDO

ARCHITEKTURA I MIASTO – DOMY TADA0 ANDO

Abstract

The city is shaped by architecture, and the urban layout influences the perception of buildings. However, the contemporary approach to urban planning raises some doubts. Architecture constructs space and creates connections with the environment, even in the crowded spaces of Japanese cities. Japanese cities differ from traditionally perceived European architectural quarters. Context should always be significant, as demonstrated by Tadao Ando, who asserts that even a single wall or column alters the arrangement in which they reveal themselves, and these transformations lead to architecture. Contemporary architecture has the opportunity to experiment freely thanks to new technologies and construction materials. The article discusses the relationship between architecture and the city, with a particular focus on houses designed by Tadao Ando.

Keywords: contemporary architecture, theory, perception, Tadao Ando

Streszczenie

Miasto jest kształtowane przez architekturę, a układ urbanistyczny ma wpływ na percepcję budynków. Jednak współczesne podejście do urbanistyki budzi pewne wątpliwości. Architektura buduje przestrzeń i tworzy połączenia z otoczeniem, nawet w zatłoczonych przestrzeniach japońskich miast. Japońskie miasta różnią się od tradycyjnie postrzeganych kwartałów europejskiej architektury. Kontekst zawsze powinien być istotny, jak dowodzi Tadao Ando, twierdząc, że nawet jedna ściana czy jeden słup zmieniają układ, w którym się ujawniają, a te przekształcenia prowadzą do architektury. Współczesna architektura ma możliwość swobodnego eksperymentowania dzięki nowym technologiom i materiałom budowlanym. W artykule omówiono związek między architekturą a miastem, ze szczególnym uwzględnieniem domów zaprojektowanych przez Tadao Ando.

Słowa kluczowe: architektura współczesna, teoria, postrzeganie, Tadao Ando

1. INTRODUCTION

The space of the city, both small and global, is defined by the volumes of individual buildings. Christian Norberg-Schulz even emphasizes that in the city, buildings appear as mere surfaces, defining the spaces of streets and squares. As Ken-ichi Sasaki describes the cities built by humans, “They enclosed their lives within a secure walled area and excluded nature from the city. This method of exclusion and concentration was driven by human interests.

The space and life in the city are organized according to his needs”¹. He adds that the city is a structure created by humans and for humans. When studying the phenomenon of the city, he points out the differences between Western and Japanese cultures, noting that “according to urban history scholars, Japanese culture did not have an authentic concept of the city”².

It should be noted that the experience of architecture is conditioned by culture, both in the creative process and in its perception. As E.T. Hall observes,

It is becoming increasingly evident that clashes between cultural systems are not limited to international relations. Contrary to the prevalent view, these numerous, diverse groups that make up our society have unexpectedly proven resilient in maintaining their distinctiveness. These groups may appear to be the same on the surface, but beneath the outermost layer, there are unexpressed, unformulated differences in shaping time, space, materials, and relationships³.

By breaking down these groups into components, one can conclude that the fundamental characteristic of each individual within any group is diversity, understood as a multiplicity of attitudes, needs, requirements, and ways in which they perceive the surrounding world.

In light of the above preliminary remarks, it should be noted that the urban space is shaped not only by monumental buildings⁴ that create the global image of a given metropolis or a small town but also by small-scale objects. Focusing on Japanese culture, the study encompasses selected (Tadao Ando’s projects) single-family homes with small floor areas (below 100m² of building footprint). This defined scope of the study serves as the basis for deliberations, with the motivation being the search for new models of habitation⁵ suitable for future generations, as overpopulation becomes even more acute. The cultural diversity observed between the West and Japan should be considered as the foundation for these studies⁶.

In the below table, a total of 15 houses completed between 1973 and 2003 were listed. The analysis exclusively focused on those with a building area of less than 100 m²⁷. All the houses mentioned above were built in Japan. It is worth noting that from the 1970s to the 2020s, Tadao Ando designed over 50 houses with diverse programs and floor areas, both in Japan and in Italy, the United States, and Mexico. Some of them, such as Matsumoto House, no longer exist. There are also examples where the original design was expanded after several years; *Tomishima House*, completed in 1971–1973, is a notable case that was

¹ K. Sasaki, *Natura i miasto* [in:] (ed.) K. Wilkoszewska, *Estetyka japońska*, Towarzystwo Autorów i Wydawców Prac Naukowych Universitas, Kraków 2008, p. 217.

² Cf. also J. Petri, *Estetyczne aspekty japońskiej przestrzeni miejskiej*, Towarzystwo Autorów i Wydawców Prac Naukowych Universitas, Kraków 2011, p. 23.

³ E.T. Hall, *Ukryty wymiar*, Państwowy Instytut Wydawniczy, Warszawa 1976, p. 6.

⁴ With regard to Japanese architecture, especially the capital – Tokyo, cf. M. Skaza, *Tokyo. One city. Ten cases of architecture / Tokio. Jedno miasto. Dziesięć przypadków architektury*, “Technical Transactions. Architecture = Czasopismo Techniczne. Architektura”, 2015, no. 2-A, pp. 173–190.

⁵ Cf. M. Skaza, *Czy istnieje dom jutra? / Is there a house of tomorrow?*, “Środowisko Mieszkaniowe = Housing Environment”, 2013, no. 12, pp. 138–141.

⁶ Cf. a.o. A. Isozaki, *Japan-ness in Architecture*, MIT, Cambridge, MA 2011, also A. Wosińska (ed.), *Spojrzenia. Japonia według zachodu. Zachód według Japonii*, Wydawnictwo Kirin, Bydgoszcz 2013.

⁷ Beyond the scope of this study remain such well-known projects by Tadao Ando as: *Glass Block House* (1979), *Koshino House* (1981), *Kidosaki House* (1986) or – *Invisible House* (2004) in Italy and built in Mexico *House in Monterrey* (2014).

extensively expanded and remodeled multiple times, eventually transforming in the 1990s into the *Atelier in Oyodo* – Tadao Ando’s office⁸. The following sections present more detailed results of the analysis of selected four houses, one from each of the 1970s, 1980s, 1990s, and the 2000s.

Table 1. List of Tadao Ando’s houses within the scope of the study.

No.	Name	Place	Date of construction	Area (m ²)		
				Site	Building	Total floor ⁹
1.	Tomishima House	Osaka	1973	55,2	36,2	72,4
2.	Hiraoka House	Takarazuka	1974	238,0	58,0	87,9
3.	Tatsumi House	Osaka	1974	61,7	56,1	135,5
4.	Shibata House	Ashiya	1974	186,9	73,8	144,6
5.	Azuma House	Osaka	1976	57,3	33,7	64,7
6.	Bansho House	Aichi	1976	168,3	63,5	85,7
7.	Matsutani House	Kyoto	1979	143,1	56,6	91,9
8.	Onishi House	Osaka	1979	165,2	60,50	144,3
9.	Ueda House	Soja	1979	180,4	70,1	94,4
10.	Izutsu House	Osaka	1982	71,2	46,0	114,5
11.	Kaneko House	Tokyo	1983	172,9	93,6	169,0
12.	Nakayama House	Nara	1985	263,3	69,1	103,7
13.	Noguchi House	Osaka	1986	68,5	40,0	106,3
14.	Matsutani House	Kyoto	1990	143,10	73,0	108,3
15.	4x4 House	Kobe	2003	65,0	22,56	84,0

2. AZUMA HOUSE

Realized in 1975–1976, Azuma House (also known as Row House) is one of Tadao Ando’s flagship projects from the 1970s, in which the characteristics that would later be evident in the Japanese architect’s subsequent works are revealed¹⁰. The building is located in the “shitumachi” (downtown) area of Osaka, in a tight urban context that showcases traditional architecture, often made of wood. Against such a backdrop, the purist concrete wall with a single opening (the entrance) stands out, both in terms of its geometry and material.

The house is situated on a small plot with an area of 57.3 square meters. Its space is defined by concrete walls rising between neighboring buildings to a height of two stories. The

⁸ Cf. T. Ando, *Tadao Ando 1. Houses & Housing*, TOTO出版, Tokyo 2019, pp. 110–143.

⁹ Some of the houses presented in the table have been expanded. The given usable area refers to the original design, before the expansion.

¹⁰ a.o. *Town House in Saikudani*, Ando T., *Tadao Ando 0. Process and Idea*, TOTO出版, Tokyo 2019, pp. 120–121.

narrow rectangular plan (3.45 x 14.25m) is divided lengthwise into three equal parts – two are built, and the middle one is a courtyard. The house is arranged on two levels. In the front part, on the ground floor, there is the entrance and the living room, while in the rear part, there is the kitchen and the bathroom. The upper floor contains two bedrooms, connected by a bridge within the courtyard.

It's worth noting that the courtyard is not covered. According to the architect's concept, it should be connected to the exterior, thus allowing users to connect with nature. This means that regardless of the season, to access the bathroom, kitchen, or bedrooms, users have to go outside – in winter when it's cold and raining or snowing, or in hot summer. However, this allows them to feel the wind or rain on their faces or gives them the opportunity to look up at the sky. This open courtyard simultaneously becomes an oasis cut off from the city's hustle and bustle, a place of contact with nature¹¹, providing access to light, air, rain, cold, or warmth; it is a window opening to nature carved out in the midst of the urban hustle and bustle.

The absence of windows connecting the interior to the exterior makes the space of the house seem not so much isolated but rather alienated from its surroundings. According to the concept, this approach is meant to create the impression that the house is not in Japan. At the same time, there is a clear inward articulation that can be considered one of the fundamental characteristics of Eastern culture in a broad sense. Looking at it from the perspective of Western architecture, this house resembles more of a fortress or a castle than a palace.

Describing one of his projects (Matsumoto House), Tadao Ando points to the role of the wall – he defines it as the territory of human habitation. He describes the wall as an element that is “inexpressive in itself” and at the same time reflects changes in the natural world and helps introduce this world into the daily life of its inhabitants¹². The walls of the Azuma House are inexpressive – devoid of ornamentation, detail, they are “ordinary”! But in that simplicity, a power is revealed that unequivocally leads to architecture.

3. IZUTSU HOUSE

Tadao Ando designed the Izutsu House (also known as Town House in Kujo) in 1981, and the project was realized a year later. Similar to the Azuma House, this property is also located in Osaka (specifically in the Kujo district).

The house was designed for a two-generation family. The ground level is partially (halfway) submerged in the ground and is intended for the younger couple. It also houses a shared bathroom for all residents, a toilet, and a study. On the floor above, there is a room connected to a kitchenette, a dining room, a study, and a room with *tatami*¹³, a feature commonly found in Japanese homes. The top floor is designated for the remaining bedrooms and a bathroom.

¹¹ Ken-ichi Sasaki notes that public gardens are a Western invention, and for Japanese culture, private gardens remain essential. *Ibidem.* p. 219.

¹² A. Mielnik, *Współczesne tendencje minimalistyczne w architekturze domów jednorodzinnych. Część druga, “Przestrzeń i Forma”*, 2011, no. 16, p. 290.

¹³ Cf. H. Engel, *Measure and Construction of the Japanese House*, Tuttle Publishing, Tokyo 2020, pp. 44–57.

Similar to other “urban” houses designed by Tadao Ando, here too, you can find the central articulation discussed in the case of the Azuma House. The rectangular-shaped house is arranged on three levels. Two walls remain blind, without any openings. Within this defined boundary between public and private space, Ando highlights his play with space, with what’s inside and outside. Half of the house’s space is divided between the floors. The other part contains the staircase and the void of an inner atrium separated from the street noise by an impenetrable wall. The size of individual rooms on each floor corresponds to their utility. They are connected by stairs, serving as a transitional zone between the closed rooms and the enclosed patio. It acts as a buffer, a transitional zone, a semi-private space. Inaccessible to passersby or strangers but accessible to the external world, to nature.

This play with enclosed and open space, external and internal, partitioned and open, is also a pretext for introducing light into the interior in a thoughtful and conscious manner. Light in Japanese culture plays a special role – it is not unequivocal, it does not intrude brutally into the interior. It seeps slowly through successive layers of partitions, celebrating shadow¹⁴.

The concise geometry based on a rectangular floor plan gains additional dimensions in this project through the relationship between interior and exterior, thanks to the staircase spanning between half-levels and the subsequent levels where the rooms are arranged.

4. MATSUTANI HOUSE

The Matsutani House project, completed in 1990, is based on an orthogonal grid plan with dimensions of 2.4 x 2.4m. Using this module, both the interior space of the house and the external courtyard were defined. The rectangular outline of the house was divided into six parts, with rooms occupying two square modules¹⁵, while the remaining space was designated for the courtyard. The character of this architecture is defined by concrete walls and columns, with glass filling the spaces between partitions in some places. The glazing was positioned to open up views towards the interior, between different parts of the building. The living room is located in one part, while the kitchen with a dining area and a bedroom on the floor above are in another part. Similar to the Azuma House, one must step outside the building to move between the living room and the kitchen. Since all the rooms open onto the courtyard, it becomes the focal point of family life.

According to the floor plan, the floors, walls, and ceilings were made of architectural concrete, and – as Tadao Ando emphasizes¹⁶ – other materials used were to be as simple as possible. The stairs are also concrete volumes, as are the terrace elements. Graphite joinery and glazing complete this minimalist list of materials used.

It should be added that ten years after the completion of the house, a studio was added to it. The two-story space, covered with a vaulted ceiling, was defined by a steel structure and filled with glass. As Tadao Ando points out: “My buildings are always formally

¹⁴ Cf. J. Tanizaki, *Pochwała cienia*, Wydawnictwo Karakter, Kraków 2016.

¹⁵ Later expansion filled the third module.

¹⁶ T. Ando, *Matsutani House*, “Japan Architects”, 1991, no 1, p. 186.

complete. Consequently, designing an addition means transforming one complete form into another complete form. Here, a new whole was achieved by contrasting the addition with the original house¹⁷. The courtyard, which was once partially enclosed, became fully enclosed after the addition, and the layout became more centralized. Ando emphasizes that the expansion must be an independent composition, just like the existing part. However, both must harmonize to create an independent composition. This defined task represents a spatial puzzle – the new part contrasts with the old one, but both coexist and create a new quality in the landscape.

5. 4x4 HOUSE

The 4x4 House was built on the coast of Japan's Inland Sea. Regulations regarding coastal protection limited the construction to a small area of 65 m², which posed significant challenges for designing living space on such a small plot. Recognizing that Tadao Ando is a master of articulating horizontal forms, and that most of the houses he designed have a linear layout, often even sinking into the ground, the 4x4 House is an exception to this rule, especially in relation to the coastal landscape of Kobe. This is not about the size of the building (only 22.56 m² of building footprint, with a height of over 13 meters), but about the proportions – a clear vertical articulation against the horizontal coastline.

Ando designed the house as a square with dimensions of 4x4 meters and constructed it as a tower¹⁸. The entrance and utility room with a bathroom are on the ground floor, the bedroom on the first floor, the study on the next, and the living room connected to the kitchen and dining area on the top floor. The extremely small plot did not allow for anything complex, resulting in a simple and transparent composition. The staircase occupies a significant percentage of the area, especially since each floor has less than 20 square meters (on the top floor, the stairs are partially covered by an overhang).

The top floor is a four-meter-sided cube¹⁹ that has been extended towards the sea (diagonally from the southern view). The wall facing the coast is entirely glazed. The placement of the living room on the top floor allows for a full appreciation of the expansive views of the sea and the sky, while simultaneously, in a paradoxical way, distances this space from the hustle and bustle of the city pulsating somewhere below. The architect makes this space unique not only formally (the extension accentuates this area) but also imbues it with significance through its double height and the glazing of two walls.

It should be added that in the immediate vicinity, a twin house with the same shape was constructed, placed symmetrically to the first one. Upon closer inspection, they differ slightly. Symmetry is particularly evident in the displacement of the upper cube – both are shifted towards each other, creating a symmetrical composition, rather than an exact replication. The second of the houses was constructed with a wooden frame, and the finishing layer consists of horizontally laid boards in a gray (but darker than concrete) color.

¹⁷ T. Ando, *Tadao Ando Details 2*, A.D.A. Ed, Tokyo 2003, p. 70.

¹⁸ Among the archetypes of European architecture, the tower-shaped building has become firmly entrenched in our culture. We can find turrets not only in Poland but also in Italy and among the remains of the Nuragic civilization.

¹⁹ Perhaps this is where the name of the entire project comes from.

6. SUMMARY

Buildings create the city. Smaller and larger houses delineate private space, separating it from the public one. Beyond them, beyond the city limits, exists an external, unclaimed space. It is one's own and others', known and unknown.

This space is understood, felt, and seen differently, not only according to the point of view but mainly due to the cultural conditioning of the mind, which perceives the surrounding reality through the prism of individual experiences. Understanding space is not only about its physical dimension but also about the sensations of the observer, unique to each of the eight billion people.

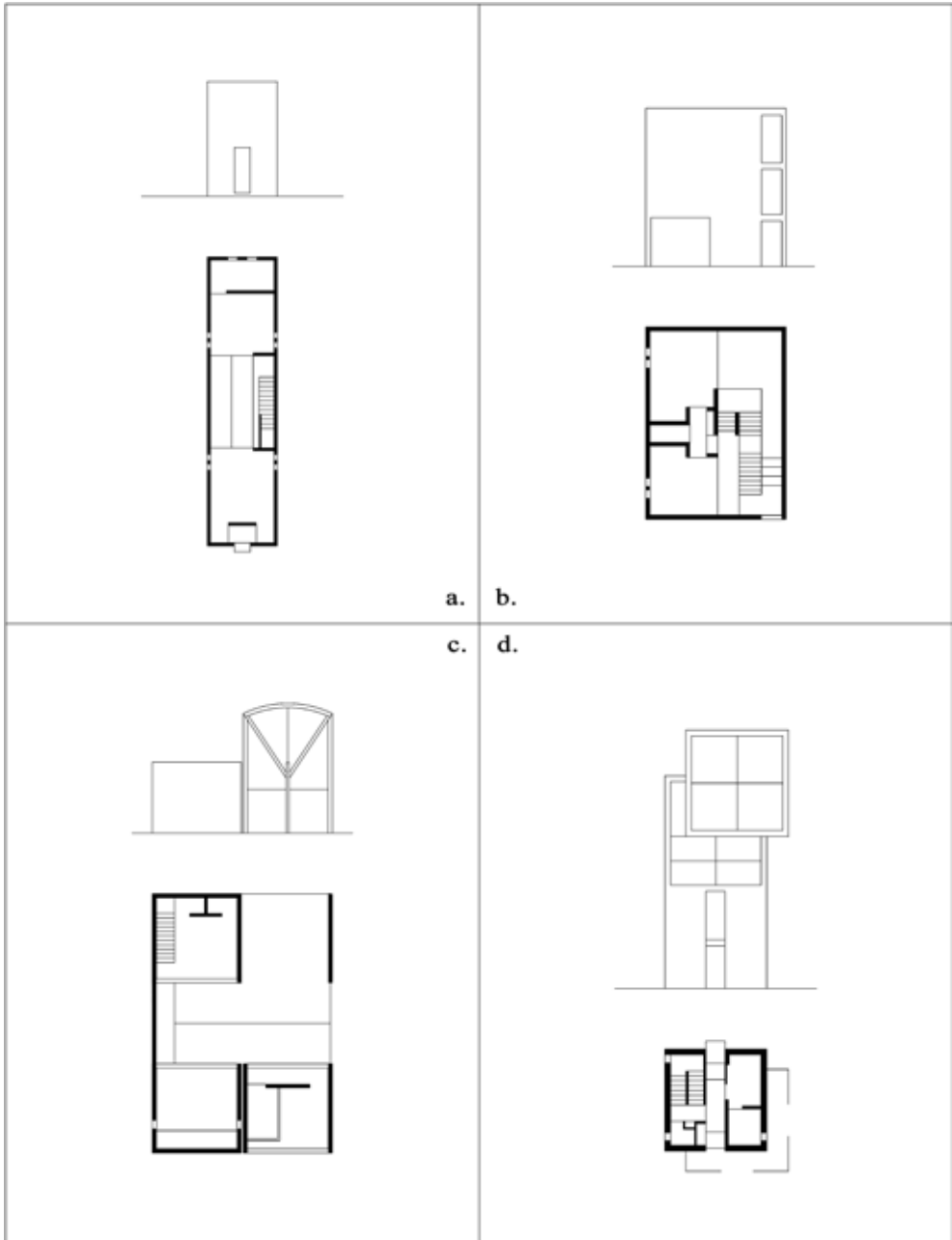
The boundary between the exterior and interior in the architecture proposed by Tadao Ando is defined by the massive volume of a reinforced concrete wall. In most cases, it is exposed concrete, revealing its true nature, texture, color, and structure, with every smoothness and roughness resulting from technological constraints.

Traditional Japanese architecture, undoubtedly reflected in spaces like the Katsura Imperial Villa, transforms into transparency in the case of Kengo Kuma's architecture, while in Tadao Ando's projects, it is reflected in geometry²⁰. Subordinate to the rigor of right angles, supported by axial articulation, it employs repetitions and accents. In the imprints left by the concrete formwork, one can find echoes of *tatami* mat textures and their modular repetitions, variations.

Lines and curves, reflected in three-dimensional space in the form of wall and ceiling planes, are not just boundaries that define the space of houses. They are also a pretext for a thoughtful, variable play with light. As Steven Holl describes it, light is a material unlike any other, with a "tendency" towards change and instability. Light cannot be designed, but it can be controlled, as evidenced by a series of implementations in the farthest corners of the world.

Regardless of the adopted geometry, material, or utility, two fundamental factors remain – the Recipient (sometimes also the user) and the Creator shaping the space, taking into account a range of factors, some of which have been briefly discussed above. Depending on the outcome, when the vision takes on tangible forms in real space, we can talk about a building or architecture. It seems that in the case of Tadao Ando's projects, it is indeed Architecture.

²⁰ Cf. T. Ando, *Materials, Geometry and Nature* [in:] F. Dal Co, *Tadao Ando. Complete Works*, Phaidon, Milano 1995, p. 456, also M. Hunter (ed.), *Tadao Ando. Conversations with Students*, Princeton Architectural Press, New York 2012, p. 41.



III. 1. Schematic drawings of selected houses, design by T. Ando: a. *Azuma House* (1976), b. *Izutsu House* (1982), c. *Matsutani House* (1990), d. *4x4 House* (2003), drawings by author.

References

- [1] Ando T., *Matsutani House*, “Japan Architects”, 1991, no. 1, pp. 186–191.
- [2] Ando T., *Tadao Ando 0. Process and Idea*, TOTO出版, Tokyo 2019.
- [3] Ando T., *Tadao Ando 1. Houses & Housing*, TOTO出版, Tokyo 2019.
- [4] Ando T., *Tadao Ando Details 2*, A.D.A. Ed, Tokyo 2003.
- [5] Dal Co F., *Tadao Ando. Complete Works*, Phaidon, Milano 1995.
- [6] Engel H., *Measure and Construction of the Japanese House*, Tuttle Publishing, Tokyo 2020.
- [7] Hall E.T., *Ukryty wymiar*, Państwowy Instytut Wydawniczy, Warszawa 1976.
- [8] Hunter M. (ed.), *Tadao Ando. Conversations with Students*, Princeton Architectural Press, New York 2012.
- [9] Isozaki A., *Japan-ness in Architecture*, MIT, Cambridge, MA 2011.
- [10] Mielnik A., *Współczesne tendencje minimalistyczne w architekturze domów jednorodzinnych. Część druga, “Przestrzeń i Forma”*, 2011, no. 16, pp. 281–324.
- [11] Petri J., *Estetyczne aspekty japońskiej przestrzeni miejskiej*, Towarzystwo Autorów i Wydawców Prac Naukowych Universitas, Kraków 2011.
- [12] Sasaki K., *Natura i miasto* [in:] K. Wilkoszewska (ed.), *Estetyka japońska*, Towarzystwo Autorów i Wydawców Prac Naukowych Universitas, Kraków 2008.
- [13] Skaza M., *Czy istnieje dom jutra? / Is there a house of tomorrow?*, “Środowisko Mieszaniowe = Housing Environment”, 2013, no. 12, pp. 138–141.
- [14] Skaza M., *Tokyo. One city. Ten cases of architecture / Tokio. Jedno miasto. Dziesięć przypadków architektury*, “Technical Transactions. Architecture = Czasopismo Techniczne. Architektura”, 2015, no. 2-A, pp. 173–190.
- [15] Tanizaki J., *Pochwała cienia*, Wydawnictwo Karakter, Kraków 2016.
- [16] Taut B., *Reflections on Katsura* [in:] A. Isozaki (ed.), *Katsura imperial villa*, Phaidon Press, London 2015.
- [17] Wosińska A. (ed.), *Spojrzenia. Japonia według Zachodu. Zachód według Japonii*, Wydawnictwo Kirin, Bydgoszcz 2013.

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