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AVANT-GARDE IN ARCHITECTURE OR THE GATES OF RENZO PIANO

AWANGARDA W ARCHITEKTURZE LUB BRAMY RENZA PIANO

Abstract

Contemporaneity is characterized by the changeability of thoughts, and ideas, as well as the shaping of the world of imagination. Architecture, which is a reflection of human pursuits, shows this changeability in the diversity of creating an architectural image. This is visible in the properties of buildings, which generally, express this changeability: in diverse materiality, shaping of form, lightness, or the massiveness of the façade image.

A characteristic feature of the selected building solutions is the fact that they were created in the mind of one man: the architect Renzo Piano. He began his work along with Richard Rogers, with an exceptional building – the Centre Pompidou in Paris. However, the basis for the present text is other buildings by Renzo Piano, namely, the City Gate in Malta and the Whitney Museum in New York, as well as the currently being designed building of the CERN Science Gateway Building¹ in Geneva. The selected buildings express architecture that was created out of a *diversity* of thoughts, but also from a careful observation of reality, which expresses itself in harmony and the context of place. Therefore, it is this diversity of thought, but at the same time harmony with surroundings, which I would like to emphasize and distinguish as features important for architecture.

Keywords: architectural design, contemporary architecture, Renzo Piano

Streszczenie

Współczesność cechuje zmienność myśli, idei, a w tym także kształtowania świata wyobrażeń. Architektura, będąca odbiciem ludzkich dążeń, ową zmienność przejawia w różnorodności kreowania architektonicznego wizerunku. Widoczne jest to we właściwościach budynków, które zazwyczaj ową zmienność wyrażają: w różnorodnej materialności, w kształtowaniu formy, w lekkości, lub masywności wizerunku fasady.

Cechą szczególną wybranych do rozważań budynków jest to, że powstały z myśli jednego człowieka; architekta Renzo Piano. Rozpoczął on swoją działalność, wraz z Richardem Rogersem, budynkiem wyjątkowym – Centrum Pompidou w Paryżu. Podstawą dla rozważań stały się budynki Renzo Piano: City Gate na Malcie i Whitney Muzeum w Nowym Jorku oraz aktualnie w projekcie budynek laboratorium badawczego CERN² w Genewie. Wybrane, wyrażają architekturę powstałą z różnorodności myśli, ale także z bacznej obserwacji rzeczywistości, która wyraża się harmonią z kontekstem miejsca. Więc ową różnorodność myśli, ale równocześnie harmonię z otoczeniem, chciałabym podkreślić oraz wyróżnić jako cechy ważne dla architektury.

Słowa kluczowe: projektowanie architektoniczne, architektura współczesna, Renzo Piano

¹ CERN – *The European Organization for Nuclear Research*.

² CERN – *Europejska Organizacja Badań Jądrowych*.

1. INTRODUCTION

The topic of this year's International Conference – Defining the Architectural Space is Avant-Garde in Architecture. The search for a definition, which would express the meaning of contemporary Avant-Garde has proven difficult, or ambiguous. Nevertheless, help was provided by stories about buildings that show the novelty of form, or characteristics of materiality, and thus are considered important to contemporaneity.

At the same time, these buildings compared with the spatial surroundings of their location distinguish themselves from the common trend, showing that they may become the beginning of a new architectural thought. If we would stay for a moment with the train of thought of Olga Tokarczuk³, many of these buildings in the characterization of their description could be known as eccentric architecture. Here we are using the term *eccentricity* as a feature that positively describes the quality of architecture as well as the quality of this image. Thus, we are once again recalling the words of the literary Nobel Prize winner, who reminds us of the Greek god Caerus, explaining that the word *eccentricity* is a derivative of his image.

Generally, eccentricity is considered as something strange, in defining features its significance is marginal. Olga Tokarczuk, in underlining the significance of the quality of eccentricity in everything that is creative, and different from the existing *mainstream*, notices that this quality accompanies a majority of thoughts and/or events, which thanks to their occurrence advanced the development of the world and human thought (Ibid).

Taking into account the main idea of this year's Conference I thought of the works of Renzo Piano. I have always admired the creativity and beauty of the architecture designed by the Renzo Piano Workshop. Conducting lectures in architecture first industrial and then public utility, the words and thoughts of this architect – the creator of many magnificent buildings, always seemed fresh and full of faith in what he is creating⁴. And he constantly created different, new buildings, which today constitute the beauty of our world. Of his profession, he says: “You cannot be an architect without the constant, full of humbleness study of reality, without speaking to the people who will live in a given place. A building is not an ornament – it conducts a constant dialogue with its surroundings”, and later he states: “my true love was building”⁵. The buildings mentioned in the abstract by Renzo Piano became a context of the statement on contemporary avant-garde in architecture. In talking about his buildings, the author says that they lack features distinctive to his persona/work⁶. This is also visible in the overview of works conducted by the author of the text, as well as *in situ* studies – each newly-created structure is a separate, independent problem, all inserted in perfect harmony into the context of the surroundings, bring joy with the freshness of the thoughts of their author, but also the beauty and uncommonness of the presented architecture.

³ O. Tokarczuk, *Czuły narrator*, Wydawnictwo Literackie, Kraków 2020, all quotations in text from pp. 23–29.

⁴ In order to write about architecture, one must touch it. This is not always possible, the buildings described here were studied *in situ* in Paris and New York, the remaining thanks to the website of the author, www.rpbw.com, as well as the book: *Renzo Piano Workshop*, 2018, DETAIL.

⁵ Interview conducted by John Tusa with Renzo Piano: *The John Tusa Interviews – Renzo Piano*, BBC Radio, 28.06.2004 [in:] R.A. Peltason, G. Ong-Yan, K. Sejima, *The Pritzker Prize Laureates in their own Words*, Thames&Hudson, London 2010, p. 157.

⁶ S. Hofmeister (ed.), *Renzo Piano Building Workshop*, Detail, Munich 2018.

2. SELECTED BUILDINGS AND THEIR PROPERTIES

Keeping, the previously agreed upon motto – diversity of concepts and harmony with surroundings, the buildings highlighted in the text include:

- BEAUBOURG CENTER in Paris, or CENTRE POMPIDOU – Museum of Contemporary Art 1977;
- CITY GATE in la VALETTA, Parliament Building in Malta, 2015;
- WHITNEY MUSEUM in NEW YORK – Museum of American Art, 2015, and
- SCIENCE GATEWAY in GENEVA – CERN Research Center, design 2020–2022.

The words of the architect Renzo Piano, author of the Museum of Contemporary Art in Paris, serve as the beginning of our story.



Ill. 1. Centre Georges Pompidou, photo by Eric Parker, CC BY-NC 2.0, <https://www.flickr.com/photos/ericparker/4464178384/> (access 20.09.2022).

1. **Museum of Contemporary Art** in Paris – Musée National d'Art Moderne, known as Centre Pompidou or Centre Beaubourg.

Architecture: Renzo Piano and Richard Rogers, 1977

Floor space: 100.000 m²

Cost: over 993 million French francs

Completion: 1972–1977

Reconstruction: 1996–2000

“This is going to make some noise ...”⁷, that is what President Georges Pompidou, who commissioned the Museum in 1972 said about the design. Taking into account the then

⁷ J. Tusa, *op. cit.*

architecture the building was far removed from the traditions and habitual norms, important for representative architecture with a public function. It was covered with kilometers of multi-color pipes, which provided utilities, and their colors informed about the function: provision of water, electricity, and security systems. Staircases were outside the floor space, running up and down the elevation, they allowed for maximal use of the exhibition space. The building also houses a museum and the Paris Public Library.

In 2004, Renzo Piano, one of the greatest contemporary architects said that the Centre Pompidou in Paris which in the past aroused numerous controversies was to become a triumph of technology. It was actually a parody of technology – while the surprising form of the structure was to bring to mind an image of a machine – making it more people-friendly.

The Centre Pompidou building seen with the eyes of an architect “was to become a merry city machine, a creature straight out of the books of Jules Verne, or an unexpected spaceship that landed in a dry dock”. And the machine seen in its architecture “was to replace the former intimidation by marble, stone, and vaults ... that was experienced by museum guests”⁸.

The use of such a different material to build a traditional form of a museum building was done purposefully by the architect, who wanted to create a form that would be surprisingly different from the ideas and materiality of a building which was to serve as a place to gather and store works of art. The body of the structure and the shaping of the space in the interior were to create an image that would be closer to the everyday thoughts and behaviors of potential guests.

The immense building *behaved like* a machine, like a perfectly flexible tool... (ibid), this is what Renzo Piano said recalling the reconstruction of the building in 1996–2000, also underlining the importance of the flexibility of the new structure. Then after 25 years of being open to the public, and after receiving thousands of guests, when it was necessary to make some changes, it turned out that this would be possible and relatively simple.

2. The City Gate in la Valetta, the capital of Malta, has served as the main entrance to the city since 1569, and through the centuries it had been reconstructed several times – for the fifth time between 2011–2014, according to the design of Renzo Piano.

The reconstruction process consisted of four main parts: the reconstruction of the old city gate, adaptation of the ruins of the opera for an open-air theatre, construction of a parliament building, and land development. Previous, numerous reconstructions of the City Gate and its direct neighborhood caused the place to lose its character of a narrow entrance to the city, while the bridge leading to the gate was more reminiscent of a square.

The Parliament Building consists of two massive stone blocks on slender columns. The form is a reference to the nearby ancient Egyptian temples. The unusual, very distinctive elevations of the Parliament are made out of sandstone, which with the aid of machines created a delicately sculpted surface creating the sculptural beauty of the building. The small brise-soleils which protect the interior from excessive sunlight, are equally spaced out, and mark the stone with a horizontal line, which seemingly cuts the great form in half. Sandstone is a traditional material used in the city, while the newly sculpted fragments of the elevation bestow a contemporary character onto the architecture.

The whole amazes with its strength and brutality of expression but also shows off the designer's mastery delighting with its contemporaneity, despite bringing to mind an ancient

⁸ J. Tusa, *op. cit.*, p. 157.

Egyptian temple. The Royal Opera House, located in the neighborhood of the Parliament, built in the years 1862–1866 by E.M. Barry, was destroyed during the bombings of 1942, while its ruins were treated as archeological remains or fragments of local folk memory of place. Currently, the ruins have been restored, secured, and included in the new design – they are an open-air theatre, and when no performances are taking place, the theatre functions as an open square, public city space. La Valletta, which has been a UNESCO World Heritage site since 1980, is a well-preserved city of the late Renaissance, surrounded by walls that were planned in 1566, that is why every interference into its historical tissue arouses emotions. Today, while looking at the contemporary version of the City Gate, we see that the design is an interference filled with respect towards history and is also a place that is attractive both for city residents as well as tourists.

3. **Whitney Museum** in New York, devoted to American art, had for many years been located in a building designed by Marcel Breuer in 1966. In 2015, the museum moved to a new building designed by Renzo Piano, significantly increasing its exhibition and program space. The new design allowed for the display of the whole, a growing collection of the Museum, which presently includes over 19,000 works of modern and contemporary American art.

The Whitney Museum building was erected in Lower Manhattan, in the Meatpacking District. The plot of land is located between the Hudson River and High Line, the recently completed city park, which was created from an abandoned railway line of the New York Central Railroad from the thirties of the 20th century.

The museum building is accessed through a small public space, *dramatically* situated under the truss. The public space serves as a type of an entryway between the street and a museum. It leads to the common space, with a great view of the Hudson River and the entrance to High Line, which are only a few steps away. The entrance serves as a public gallery, or more appropriately exhibition space, which is accessed free of charge. On the third floor there is a theatre with 170 moving seats, and once again a view of the Hudson River. There are also some technical rooms and offices. On the fifth, sixth, seventh, and eighth floors there are around 50,000 square feet of exhibition space. This includes space without columns on the fifth floor, with a surface area of 18,000 square feet. The size of this space makes it the largest museum space in all of New York. The art gallery is reserved for temporary exhibitions and due to its enormity allows for the display of sizeable works of contemporary art. The museum's permanent collections are presented on two floors, the sixth, and seventh, both of which move towards the western direction of the building creating 13,000 square feet of external sculpting terraces. The museum offices, the education center, the conservation laboratory, and the library reading room are found north of the core of the building, starting on the third floor and ending on the seventh, along with a multi-function theatre for films, videos, and performances on the fifth floor. The top floor houses a *studio*-type gallery and a café with a view of the city.

The eight-story building of the Museum is covered with pale blue and grey steel panels and is clearly asymmetrical. Its largest part, boasting the full height of the museum, is found on the west, from the side of the Hudson River, while the levels of the terraces and glazed passageways lead down to the High Line, incorporating the park into the design.

This makes the Museum fit in with the way of thinking of New Yorkers, for whom anything that is found outside of Manhattan seems irrelevant.



III. 2. Science Gateway in Geneva, design 2020–2022, Renzo Piano Workshop, source: RPBW, <http://www.rpbw.com/project/cern-science-gateway-building> (access: 20.09.2022).

4. The final building which is presented in the text is the design of the CERN research and exhibition space, the **Science Gateway** in Geneva 2020–2022. The planned structure, which will cost approximately 79 million Swiss francs, and is fully financed by donations, is being created as part of a mission to share knowledge and technology with society. It is situated in a new building, in the neighborhood of another cult building the Globe of Science and Innovation also owned by CERN.

The new Science Gateway building with a surface area of 7,000 square meters will offer various spaces and activities, including space for exhibitions that will explain the mysteries of nature, starting with very tiny elementary particles to enormous ones such as the structure and evolution of the universe. The exhibitions will also present accelerators and experiments, as well as CERN's calculation systems disseminating knowledge which shows how scientists use devices, and how CERN technologies serve society. A key element of the educational program of the Gate will be practical experiments thanks to which guests will be able to see hands-on what it is like to be a scientist. The sharing of this knowledge is to contribute to the development of critical thinking and the evaluation of knowledge based on the use of scientific methods.

The architecture of the Science Gate is inspired by the exceptional structure of CERN, such as the Large Hadron Collider (LHC)⁹, the largest in the world elementary particle accelerator, which is tasked with emphasizing the ingenuity and creativity, which characterize the world of engineering and research. Some architectural elements, such as the pipes, seem to

⁹ Large Hadron Collider (LHC) is the largest in the world particle (hadron) accelerator. It is located in the European Organization for Nuclear Research near Geneva. LHC is located in both France and Switzerland. The principal elements of the Large Collider are located in a torus-shaped tunnel, with a length of approximately 27 km, situated at a depth between 50 to 175 meters underground. The collision results are registered by two large elementary particle detectors: ATLAS and CMS, two smaller ones: ALICE and LHCb, as well as three small ones: TOTEM, LHCf, and MoEDAL.

be suspended in space and bring to mind the most modern technology, which is the basis of research regarding the beginnings of the universe.

Four main, spatial elements bestow form onto the architectural vision:

- The bridge, which is the spine of the whole, and along which stretch the exhibition and education spaces. The bridge is a street that is 6 meters above the ground, crossing the Route de Meyrin.
- Photovoltaic collectors. The square photovoltaic panels with a dimension of 40x40 meters float above three pavilions. The central pavilion houses classrooms. It is located above the reception and is a place where the main vertical circulation connects the bridge with the ground. The northern pavilion is thought to be a flexible space that may serve as a conference hall for 900 visitors, it may be divided into three independent spaces, or fit two smaller rooms and a full-height space devoted to science shows. On the other hand, interactive exhibitions will take place in the southern pavilion.
- “Tunnels” – two tubes, raised at the level of the bridge, were designed in such a way as to fit CERN’s temporary and permanent exhibitions. Within the tunnels, the visitor is immersed in an environment made in the image of the accelerator tunnels found 100 meters underground, where scientific experiments discover the deepest secrets of matter.
- Forest with 400 trees, which would seemingly be telling us that all research concerns nature, independent of its scale, and nature is what connects all elements of this futuristic vision of architecture.

In planning a new structure that would serve scientific education and external contacts, and which is predicted to be visited by 300 thousand guests annually¹⁰ CERN intends to create a scientific education and cultural center that will inspire the young and the youngest generations with the beauty of science, creating spaces that will allow conducting scientific experiments for children and students, as well as an amphitheater, that will serve as the stage for scientific events for experts as well as enthusiasts.

3. CONCLUSION

The shown examples display the work of an architect who is a careful observer of the changing reality in the period of over 30 years of our contemporaneity. It is easy to compare the Centre Pompidou 1977, which was to familiarize Paris and Europe residents with the changing technology, and the currently under construction building of the Science Gate 2020–2022, which seems to be calling to our future. Between these gates of time, there were others that show signs of the *passage of time*, including another important building with a research function, also designed by Renzo Piano, known as the NEMO in Amsterdam. The building is situated on the edge of water and land: that is the reality, but the architecture is also on the edge of form, on the edge of past and future time, which shapes architectural ideas anew.

Returning to the topic of the Conference, the examples show one of the responses, contemporaneity strives to shape architecture that would harmoniously be incorporated into

¹⁰ CERN prezentuje projekt Science Gateway, Główny Mechanik, 19.4.2019, <https://glowny-mechanik.pl/2019/04/19/cern-prezentuje-projekt-science-gateway/> (access: 20.06.22).

its surroundings, but also seeks variety and diversity of solutions, remembering that each designing situation is different, and each structure requires a different approach to its design.

In conclusion – architecture is a field that serves to shape the ever-increasing diversity of human needs, in order to ensure users with safety and comfort of their working and living space.

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