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AVANT-GARDE CONCEPTS FOR THE TRANSFORMATION OF EUROPEAN CITIES IN THE 20TH CENTURY – SELECTED EXAMPLES

AWANGARDOWE KONCEPCJE PRZEKSZTAŁCENÍ MIAST EUROPEJSKICH W XX WIEKU – WYBRANE PRZYKŁADY

Abstract

The avant-garde architecture of the 20th century had a significant impact on the landscape of modern cities and the development of the building arts; modern construction and infrastructure technologies contributed to economic development, also influencing the artistic culture of Europe. The new urban settings – cities and settlements – were laid out with inspiration from avant-garde spatial design concepts. Historical cities were also transformed with reference to avant-garde urban-architectural concepts. The study compares selected examples of 20th-century avant-garde architecture in Europe and its influence on the shaping of contemporary urban complexes, as well as the modernisation and modern development of historic cities after the destruction of war.

Keywords: avant-garde architecture, transformation of old towns, architecture of historic towns, modern architecture of old town complexes

Streszczenie

Awangardowa architektura XX wieku wywarła znaczący wpływ na krajobraz współczesnych miast i rozwój sztuki budowlanej; nowoczesne technologie konstrukcyjne i infrastrukturalne przyczyniły się do rozwoju gospodarczego, wpływając także na kulturę artystyczną Europy. Nowe założenia urbanistyczne miast i osiedli rozplanowano w inspiracji z awangardowymi koncepcjami kształtowania przestrzeni. Również miasta historyczne uległy przekształceniom, które stanowiły nawiązanie do awangardowych koncepcji urbanistyczno-architektonicznych. W opracowaniu dokonano porównania wybranych przykładów awangardowej architektury XX w. w Europie i jej wpływu na ukształtowanie współczesnych zespołów zurbanizowanych, a także modernizacji i nowoczesnej zabudowie miast historycznych po zniszczeniach wojennych.

Słowa kluczowe: awangardowa architektura, przekształcenia starych miast, architektura miast historycznych, nowoczesna architektura zespołów staromiejskich

1. INTRODUCTION

Inspired by avant-garde ideas, in the search for modern structural and spatial solutions for new cities, from the beginning of the 20th century, were associated with a departure from the reproduction of old formal and plastic patterns and the presentation of the contemporary world in reference to the canon of classical styles. The representatives of the avant-garde also developed alternative concepts of shaping the new architecture of historic cities, based on transforming the existing compact and regular layouts of buildings into free layouts with a cubist spatial composition and varied gradation of solids. The avant-garde concepts reflected, among other things, the social expectations of the inhabitants for the necessary redevelopment of crowded cities, deprived (with the exception of neighbourhoods inhabited by wealthy residents) of universal access to technical and infrastructural amenities for everyday existence. "Deteriorating living conditions, especially for the poorest residents, were leading to drastic inefficiencies in the existing urban infrastructure, overcrowding and, as a result, poor functioning of the city"¹. The opinion on the necessary sanitation of industrial centres was popularised in periodicals from the turn of the 19th/20th centuries, in publications by medical hygienists², studies by environmental researchers creating new concepts of organic cities linked to the natural landscape (Tel Aviv, Patrick Geddes' plan from 1925)³, and in scientific publications on the modernisation of former cities (Camillo Sitte)⁴.

Far-reaching perspectives on the formation of modern industrial urban centres were prepared between 1899 and 1904 by Tony Garnier. The visionary concepts of the Industrial City were presented, in numerous publications, without exposing their complex and harmonious spatial structure, integrated with the real environment, maintaining the proper relations between the industrial zone, the residential zone and the administrative centre. Emphasis was placed on the modernity of the structural solutions and the appearance of the buildings, reduced in formal and artistic terms – more than an inspiration for the principles of modern architecture promulgated by Le Corbusier and the C.I.A.M. milieu. To a lesser extent, the suggestive architectural forms of the utopian city were presented, characterised – irrespective of the revolutionary nature of the planning principles and structural and spatial solutions – by a narrative of avant-garde forms and details appropriate to the varied functions of the buildings; the structural solutions and the configuration of the blocks of the administrative and communications centre, the residential houses and the factory buildings⁵, were an inspiration for the pioneering architecture of the past century.

¹ H. Grzeszczuk-Brendel, *Mieszkać w mieście. Poznań w kontekście europejskich reform mieszkaniowo-urbanistycznych*, Wydawnictwo Miejskie Poznań, Poznań 2018, p. 17.

² I. Spielvogel, K. Spałek, *Łaźnie miejskie na przełomie XIX i XX w. w procesie poprawy zdrowia publicznego w miastach na Śląsku – wybrane przykłady*, "Medycyna Środowiskowa – Environmental Medicine" 2017, vol. 20, nr 3, pp. 60–66.

³ P. Fiuk, *The modern architecture of Tel Aviv since the mid-1920s of 20th century – the contemporary context of modernist art of shaping space integrated with the cultural environment and natural sciences*, [in:] Z. Bać (ed.), *Theory of Habitat: the contemporary context*, Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2019, p. 142; A. Jasiński, *Architektura i urbanistyka Izraela*, Oficyna Wydawnicza AFM Akademia im. Frycza Modrzewskiego, Kraków 2016, *passim*.

⁴ D. Kłosek-Kozłowska, *Ochrona wartości kulturowych miast a urbanistyka*, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2007, pp. 11–39.

⁵ D. Wiebenson, *Tony Garnier: The Cité Industrielle (Planning and Cities)*, Studio Vista, London 1969, Fig. 62, pp. 12, 112.

2. MODERNISM AND THE RADICAL AVANT-GARDE IN 20TH-CENTURY ARCHITECTURE

The most radical representatives of the avant-garde in the mid-twentieth century sought intellectual justification for a break with the building tradition and historical continuity of European cities. Orthodox proponents of architectural modernity did not refer to the modernising concepts of urban redevelopment undertaken at the end of the nineteenth and the beginning of the last century in many centres of the old continent, in which the principle of continuity and reference to historical urban structures was maintained. In international publications related to the Modern Movement in 20th-century architecture, information on projects in which modern concepts were successfully combined with the existing urban environment (glazed constructions of residential and office buildings⁶, brick modernism from areas such as England, Czechoslovakia, the Netherlands, Germany, Poland, Slovenia⁷) has been marginalised. Individual solutions of multi-family housing, apartment houses, public buildings and bold urban concepts – with original and primordial features (on an international scale) – were created in Poland between 1918 and 1939⁸.

2.1. TONY GARNIER – AN AVANT-GARDE PERSPECTIVE ON MODERN URBANISATION AT THE TURN OF THE 19TH/20TH CENTURIES

At the height of the Industrial Revolution, an alternative to the development of historic cities (requiring cumbersome adaptation of old layouts to changing multilateral conditions) was developed by a young architect from an important factory town in central-eastern France.

Unpublished until 1917, Tony Garnier's project⁹, optimistically dubbed the "Ideal City", had a remarkable impact on 20th century urban planning. The innovative idea of planning the ideal city of the future was conceived as part of Tony Garnier's Rome scholarship at the Académie de France (1899–1904). At the end of his successful stay at the Villa Medici, he presents his original concept of the "Industrial City" at a public exhibition – in parallel with the historical drawing sheets obligatory to be developed, by the scholarship holders (the attention of the academic masters was drawn to the architect's imagination, made visible in the development of a reconstruction of Tusculum, a city of Ancient Rome). The visionary concept of the city of the future, the development of which had been a priority for the young designer during his stay in Rome, was left without comment; the design of a modern industrial centre, as a final work, was not approved.

⁶ A. Szczerski, *Modernizacje. sztuka i architektura w nowych państwach Europy Środkowo-Wschodniej 1918–1939*, Wydawnictwo Muzeum Sztuki w Łodzi, Łódź 2010.

⁷ Jože Plečnik – *architekt i wizjoner / architect and visionary*, Ł. Galusek, M. Rydiger (eds.), Międzynarodowe Centrum Kultury, Kraków 2006.

⁸ O. Czermer, H. Listowski, *Avant-Garde Polonaise. Urbanisme, Architecture: Awangarda Polska. Urbanistyka, Architektura 1918–1939: The Polish Avant-Garde. Architecture, Town-planning*, Éditions du Moniteur Paris, Wydawnictwo Moniteur-Interpress, Paryż–Warszawa 1981, pp. 93–227; B. Lisowski, *Rozwój nowatorskiej myśli architektonicznej w Polsce w latach 1918–1978* [in:] *Architektura i urbanistyka w Polsce w latach 1918–1978*, O. Czermer (ed.), Polska Akademia Nauk, Komitet Architektury i Urbanistyki, Studia i Materiały do Teorii i Historii Architektury i Urbanistyki, t. XVII, PWN, Warszawa 1989, pp. 83–92; I. Wisłocka, *Awangardowa architektura polska 1918–1939*, Arkady, Warszawa 1968, pp. 77–220.

⁹ C.K. Pawłowski, *Tony Garnier – Pionnier de l'urbanisme du XXème siècle*, Les Créations du Pélican, Lyon 1993, <https://www.pencil.com/gallery.php?p=490504414159> (access: 22.07.2022).



III. 1. The avant-garde structure of the city of the future: Tony Garnier, *Industrial city* – metallurgical plant, 1901–1904. Source: https://pl.frwiki.wiki/wiki/Une_Cit%C3%A9_industrielle (access: 25.07.2022).

Tony Garnier prepared a kind of urban utopia, developed for a viable location – the south-western area of Lyon, convenient for industrial development due to the possibility of obtaining raw materials from nearby deposits and its location next to transport routes ensuring efficient transport. The urbanised area also provided a natural base for potential employees. The ideal industrial town with a rational spatial structure, isolation of functional zones, was planned on the basis of a forward-looking motor transport system. The lay of the land, with natural corridors for the movement of air masses, was used to locate the industrial zone isolated from the residential part.

The idealistic concept of the *cité industrielle* was a synthesis of solutions aimed at ensuring proper hygienic, sanitary and housing conditions¹⁰, greenery and the ability to provide for families, whose guarantee was based on the development of modern industry, integrally connected with the urban system of the new centre. The sheets of the industrial city concept show perspective views of modern, multi-level metallurgical and steel works¹¹.

¹⁰ Between 1929 and 1934, a housing estate was realised in Lyon (*HBM, Habitations à Bon Marché*, a municipal company), designed by Tony Garnier. The three-storey height presented in the first version of the project was increased to six to seven storeys; the idea of an unrealized *cité industrielle* was perpetuated on the gable walls of the multifamily buildings, on which (contemporaneously, during renovation work) drawings and sketches of the visionary concept were placed, see: A. Tölle, *Rozrastanie się miasta w krajobrazie. Dawne i współczesne utopijne koncepcje*, “Rozwój Regionalny i Polityka Regionalna” 2011, nr 15, pp. 9–21.

¹¹ At the turn of the 20th/21st centuries, Western countries – due to the excessive scale of production restrictions arising from the need to protect the environment – significantly reduced the activities of the metals industry, leading to stunted economic development and increasing budget deficits. Problems

An original feature of the theoretical concept of the modern city, was also the manifestation of the technological potential – ferro-concrete construction¹², as a new substance of architectural art; heralding the dominance of “reinforced concrete”, on a global scale, in the building activity of the 20th century. The possibilities of plastic shaping of forms and the use of hanging and cantilevered reinforced concrete structures, of considerable size, influenced the boldness of the architectural concept prepared by the young French architect.

2.2. LE HAVRE – REINFORCED CONCRETE STRUCTURES OF THE CITY’S PORT CENTRE BETWEEN 1945 AND 1964

In the post-war redevelopment of the port city of Le Havre¹³, destroyed in German and Allied air raids, August Perret and his collaborator Jacques Tournant used an innovative reinforced concrete construction technology¹⁴. The enormous scale of the destruction of the industrial centre, necessitated the mass production of prefabricated building modules, making it possible to realise rationally planned housing on an area of around 150 hectares. Between 1945 and 1964, the French town of Le Havre was a testing ground for large-scale construction.

The homogeneous layout of the city centre, using modern ideas of urban planning and building technology, reflects the dispositions of its pre-war spatial layout. The homogeneous segmented architecture, based on a modular grid and the use of repetitive modules – with the interesting formal and plastic characteristics of *structural classicism* – has been integrated compositionally with the surviving historic buildings. The compositional structure of post-war Le Havre, was considered a symbol of the country’s rebirth and a promising idea for the shaping of new architecture and urbanism.

In recognition of the coherent and integral reconstruction of the northern French centre, the modern urban and architectural layout was inscribed on the UNESCO World Heritage List in 2005.

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The idea of integrating modern buildings, with the destroyed layout of Le Havre and the use of innovative construction, brings to mind the idea of using the ruins of destroyed Warsaw for its original reconstruction in the structure of Muranów Południowy¹⁵. The old compositional axes were preserved in the construction of rationally planned rubble

with the supply of aluminium and steel products, which form the basis of industrial manufacturing, construction and other sectors of the economy, occurred in European countries after 24 February 2022 – due to the Russian military invasion of the territory of Ukraine (a steel industry giant).

¹² Pioneering structures, using a combination of concrete and steel, were built in France (August Perret’s design of a Parisian townhouse in 1903 is considered pioneering, in terms of the comprehensive use of the new technology).

¹³ R. de Martino, *Le ricostruzioni in Francia nel secondo dopoguerra*, [in:] *I ruderi e la guerra. Memoria, ricostruzioni, restauri*, a cura di S. Casiello, Nardini Editore, Firenze 2011, pp. 77–99.

¹⁴ I.P. Cruz, G. Nieuwmeijer, G.J. Arends, *Reconstruction Post-War 1945 – Structures and Materials in Le Havre*, [w:] *Structural Analysis of Historical Constructions*, VOLUME 3, *Intervention techniques, restoration and strengthening*, P.B. Lourenço, P. Roca, C. Modena, S. Agrawal (Eds.), University of Minho, New Delhi 2006, pp. 1419–1428, <http://www.hms.civil.uminho.pt/sahc/2006/1429.pdf> (access: 18.08.2022).

¹⁵ Project of Bohdan Lachert from 1948–1955, see: K. Uchnowicz, *Czytanie Muranowa. Pamięć miejsca / pamięć architekta. Komentarz do powojennej twórczości Bohdana Lacherta*, “RIHA Journal” 0107, 31 December 2014, Special Issue “Contemporary art and memory”.

concrete block houses – the scale of the ruin, during World War II, of the Polish economy and the post-war socio-political conditions, required the use of unconventional engineering solutions to compensate for the scarcity of building materials; including reinforced concrete structures.



III. 2. Le Havre. Reconstruction of the port city between 1945 and 1964 – a reinforced concrete structure, based on repetitive structural modules, creating the modern character of the post-war centre, designed by August Perret and his team. Source: <https://archimaps.tumblr.com/post/3944842368/reconstruction-of-le-havre-1945-64-france> (access: 20.06.2022).

2.3. FRANKFURT AM MAIN – AVANT-GARDE BUILDING CONCEPT FOR THE OLD TOWN FROM THE 1960'S OF THE 20TH CENTURY

In Frankfurt am Main, with the post-war redevelopment of the ruined old town centre, a break was made with continuity and architectural tradition, which was based on modernist urban planning principles¹⁶. In 1950, an “ideas competition” was organised, according to which the medieval city centre was to be built up with terraced houses with different functions; the reconstruction of demolished tenement houses and the restoration of the former property structure were excluded. The efforts of Frankfurt’s history enthusiasts to restore at least the

¹⁶ P. Maaß, *Die moderne Rekonstruktion. Eine Emanzipation der Bürgerschaft in Architektur und Städtebau*, Verlag Schnell & Steiner, Regensburg 2015, pp. 430–435.

most important architectural monuments and the course of the old streets were not taken into account in the plans of the local administration and the avant-garde part of the architectural community. Traditional views for the preservation of the old town houses, which had not been destroyed, and demands for the restoration of the architectural-historical building lines, composition and proportions of the historic houses – thus recovering the charm and beauty of the old town – were treated by orthodox supporters of modernity as romantic “quirks”¹⁷. Conservatives prepared plans in 1949 to restore the features of the old town centre; these were not taken into account in the public debate – the city authorities decided to demolish the undestroyed houses of the former patricians, preparing the space for the erection of a modern administrative complex.

In the 1950s, multi-family housing was largely realised as detached, multi-storey blocks with flat or pitched roofs, irregularly spaced with respect to the historical cadastral divisions and former building lines; the growing housing stock resulted in a change in functional dispositions for the Frankfurt Old Town area in the late 1950s and early 1960s.

New urban planning and architectural concepts were developed for the construction of representative public facilities and service and commercial spatial structures planned to change the post-war character of the old town centre: a residential area with complementary functions. The decision was made to shape the modern centre of an important European centre¹⁸. The competition from 1960 to 1961 envisaged a dominance of public functions with a significant proportion of art and cultural facilities; the creation of a focal point for artistic life with an original character defining Frankfurt’s specificity. The plan was to complement the exhibition function with a central public library, a youth music school, a cinema hall, artists’ studios, a series of shops, cafés and restaurants – enabling all citizens of a democratic society to participate in cultural events. The proposal for a modern and open space, proposed by a team of local architects, was awarded: Bartsch, Thürwächter and Weber. An avant-garde architectural structure with multi-level geometrised and glazed volumes was chosen for the development of the most valuable area of the old town, located between the cathedral and the main square¹⁹.

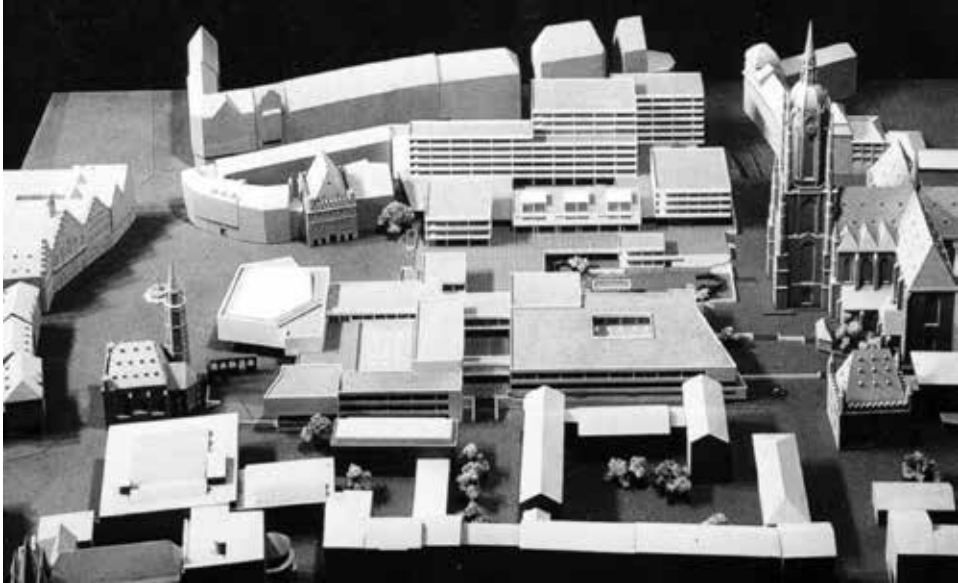
In a competition in 1963, a design was selected for the construction of a new administration building. The winners were again Bartsch, Thürwächter and Weber. The modern, expansive volume of the so-called Technical Town Hall (for the city’s infrastructure offices), with its varying heights and brutalist architectural form (with multi-storey car parks and connection to the underground line), dominated the landscape of the historic centre²⁰.

¹⁷ *Die Neue Altstadt Band:1 Die Entstehung*, M. Alexander (ed.), Societäts-Verlag, Frankfurt am Main 2018, pp. 47–62.

¹⁸ L. Köhren, *Ein Neues Gesicht für Frankfurt. Die Bedeutung der Postmoderne für die Wiederentdeckung des Stadtraums und einer identitätsstiftenden städtischen Architektur im ausgehenden 20. Jahrhundert*, Heidelberg University Publishing, Verlag: arthistoricum.net, Dresden 2019, pp. 26–73.

¹⁹ The recession that followed prevented the overall realisation of the avant-garde project.

²⁰ Completed in 1971, the building was awarded the Hessian State Prize for “exemplary architectural achievement”. Other original architectural concepts were presented in the competition – Hans Scharoun from Berlin and the team: Woods, Josic and Candilis from Paris (a proposal for a complex spatial structure), see: S. Erişen, *The Architecture of Knowledge from the Knowledge of Architecture*, “Athens Journal of Architecture” 2020, Vol. 6, Issue 3, pp. 299–318.



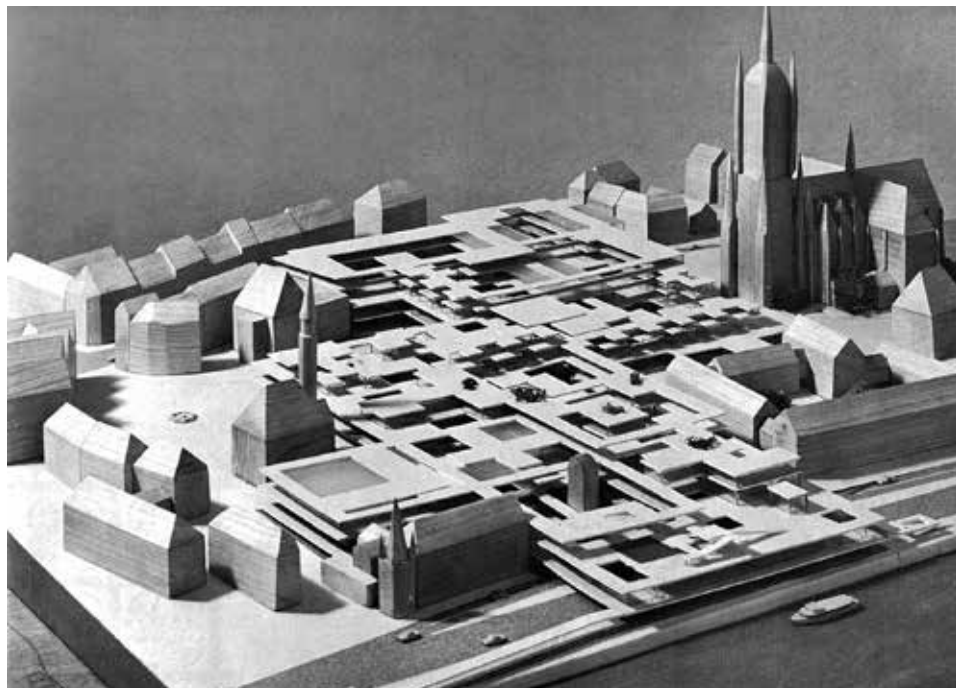
III. 3a. Frankfurt and Main. Avant-garde architectural concept, awarded in the 1963 competition for the development of the Dom-Römerberg area in Frankfurt am Main. A team of local architects comprising: W. Bartsch, A. Thürwächter, H.H. Weber and W. Lange. Source: E. Weiß, *Wettbewerb Dom-Römerberg-Bereich in Frankfurt am Main*, w: "WERK-Chronik", Band (Jahr): 50, 1963, Heft 9, *Altstadtprobleme*, p. 202.

Public outrage was caused by the planned juxtaposition – in the vicinity of the Gothic cathedral tower, distinguished by its sophisticated form of masquerade decoration, made of red sandstone – of three monumental towers of the new town hall, with a width exceeding the scale of the historic dominantes, planned for construction from prefabricated reinforced concrete elements (in the underground storeys, relics of buildings from the ancient Roman era and Carolingian remains were exposed). Regardless of the extensive public debate, a petition signed by tens of thousands of residents that followed the choice of the avant-garde architectural structure – the controversial Technical Town Hall solution was realised²¹.

The modernist concept was not realised in the central part of the old town, adjacent to the new town hall, which remained undeveloped (used as a makeshift car park) for four decades. "This sad and bad state of affairs lasted for a very long time, until finally the citizens of the

²¹ A functional structure with a complex functional disposition of differentiated levels, integration with the metro line and underground parking levels, the use of repetitive structural and façade modules, were among the distinguishing elements of the modern design; the bold concept, in the location of the new office and service complexes, would be a distinctive architectural element. Controversy arose from the unique conditions of the location: the planned construction on symbolic foundations dating back to Ancient Rome and the Merovingian dynasty, also the necessity to demolish several old town houses preserved in good technical condition (including the 16th-century and valuable rococo façade). The crux of the problem was the ideological stance, pushed by representatives of the local administration, with the support of some of the residents: after 1945, a significant part of German society, the break with historical continuity – including architectural tradition – was epitomised by the idea of a complete separation from the "ghosts" of the past.

city became indignant and the city management was forced to launch a new urban planning and development competition for the expansion of the area between the cathedral and the city hall"²². In the mid-1980s, a master plan was drawn up for the oldest part of the city – the cradle of Frankfurt am Main. The construction of the “Kultur Schrein” exhibition centre and a string of townhouses with a postmodern costume were a reference to the city’s history and traditions.



III. 3b. Frankfurt and Main. Avant-garde structure as a development proposal for the old town centre. Competition design by the team: Woods, Josic and Candilis, 1963. Source: S. Erişen, *The Architecture of Knowledge from the Knowledge of Architecture*, “Athens Journal of Architecture” 2020, Vol. 6, Issue 3, pp. 299–318.

The Technical Town Hall, which was alien to the historical layout and had been criticised for decades on account of its disharmony in Frankfurt’s old town, was demolished after 2010, with the intention of faithfully reconstructing a fragment of the old town layout in the new socio-political era (a reunified Germany)²³.

²² Architects: Bangert, Jansen, Scholtz, Schultes (awarded competition design from 1979–1980), see: S. Scholz, *Budowanie w historycznym otoczeniu. Zabudowa obszaru między katedrą a ratuszem we Frankfurcie nad Menem i realizacja rozbudowy Albert Einstein Oberschule w modernistycznym osiedlu Podkowy z lat 1926–1927 (Hufensredtung) w Berlinie-Neukölln z 1991* [in:] *Architektura współczesna w mieście zabytkowym*, A. Zwierchowski, R. Eysymontt, T. Rudkowski (eds.), Stowarzyszenie Historyków Sztuki, Towarzystwo Opieki nad Zabytkami, Stowarzyszenie Architektów Polskich, Wrocław 2003, p. 55.

²³ P. Fiuk, *Modernizacja, postmodernizacja i rekonstrukcja centrum Frankfurtu nad Menem*, Wydawnictwo Uczelniane Uniwersytetu Technologiczno-Przyrodniczego, *Integracja sztuki i techniki w architekturze i urbanistyce*, J. Flizikowski (ed.), Vol. 4/1, Bydgoszcz 2016, pp. 67–76.

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An analogy with the avant-garde competition designs developed in 1961 and 1963 for the development of the centre of Frankfurt am Main can be seen in the winning work (SARP Competition No. 488 of 1970) by Marian Fikus and Jerzy Górawski for the development of the medieval centre of Głogów²⁴. The modern urban-architectural projects of the 1960s and 1970s, prepared for historic cities, were distinguished by their freedom in the shaping of spatial structures, the varied height of the openwork form of the pavilions, not referring to the old urban divisions.

2.4. ADOLF LOOS – AVANT-GARDE HOUSES IN VIENNA AND PARIS

At the beginning of the 20th century, the architectural avant-garde – influencing revolutionary transformations of planning and building concepts – was co-created by the Viennese projects of Adolf Loos: the avant-garde proposal for the construction of the Goldmann and Salatsch department store of 1909 (realised in a modernised version with plastic elements alluding to the appearance of historic buildings) and the suburban Steiner house from 1910.

Tristan Tzara's house (1928) was given an avant-garde form, with abstract cubist massing – appropriate to the patron's affiliation with the avant-garde artists of the early 20th century. It was not located in the area of the historic centre of Paris, but is an interesting example of the adaptation of modern architecture to the local environment and architectural landscape of Montmartre, a former suburb of the French capital.

2.5. BERLIN – AWANGARD CONCEPTS: LUDWIG HILBESEIMER AND HANSA SCHAROUN (1920'S AND 1950'S)

Revolutionary concepts for shaping the new centre of former cities were presented in Germany in the 1920s. Ludwig Hilberseimer presented an avant-garde structure for a multilevel city in 1927; a conceptual version was presented as a proposal for the modern shaping of Berlin's representative baroque quarter, demolished in 1945.

A version of the avant-garde layout of Berlin's city centre was developed in 1957–1958 by Hans Scharoun²⁵, proposing a radical change to the historical layout of the German capital – preserving the few historic buildings, introducing open spaces, greenery, traffic routes elevated above ground level. The free layout of the new centre was based on the principles of organic architecture. The unique “open” plan of the Kultur-Forum (still in development) and the original architecture of the Berlin Philharmonic Hall and Library are among the outstanding results of the unconventional shaping of space by the famous designer, who after 1945 served as director of the Department of Building and Communal Housing in Berlin; a position that enabled the realisation of unique buildings.

2.6. ROTTERDAM – AVANT-GARDE CONCEPTS FOR THE POST-WAR RECONSTRUCTION OF A BOMBED-OUT CITY

The 1927 concepts of Rotterdam's chief architect Willem Witteveen – which consisted of a controlled sanitation of the compact layout of the old centre (in terms of preserving the

²⁴ Editor's note on the winning design in the 1970 SARP competition No. 488 for the Centre of Głogów, see: “Architektura”, 1982, R. 1, p. 23.

²⁵ *Radically modern. Urban planning and architecture in 1960s Berlin*, T. Köhler, U. Müller (eds.), Ernst Wasmuth Verlag Tübingen, Berlin 2016, pp. 6, 63–69, 78–79, 180–181.

characteristic cityscape) – were adapted for its reconstruction, after the industrial capital of the Netherlands was bombed by the German air force in 1940. The revised concept for the reconstruction of Rotterdam was presented by the city's architect to the public, in the presence of representatives of the occupation authorities, immediately after the tragic Luftwaffe air raids; the accepted plans were implemented during the Second World War (the administration of the Third Reich sought to develop the industrial centre as a strategic port in its long-range plans for international expansion)²⁶.

The modern reconstruction of Rotterdam was decisively influenced by the industrialist community planning to develop the city after the end of the war as a centre with a modernised port infrastructure with a business centre of international economic importance. Emblematic of the transformation of the former Rotterdam after 1945 was the original planning concept for the multifunctional Lijnbaan²⁷ commercial and service centre, with pedestrian passages for residents designated in the axes of the former old city streets (isolated transport and delivery routes served the new centre). The avant-garde passage solution became – for several decades – the model for the centre planning of many Western cities.

2.7. VENICE – THE AVANT-GARDE CONCEPTS OF LOUIS KAHN AND LE CORBUSIER

Unique structural and spatial solutions for the most famous city, located on water bodies, were prepared in the 20th century by outstanding artists from the international architectural community: Otto Wagner, Adolf Loos, Frank Lloyd Wright, Gerrit Rietveld, Carlo Scarpa, Oskar Niemeyer, Tadao Ando, among others.

Unprecedented architectural solutions were created in the studios of: Louis Kahn²⁸ (Congress Palace, two versions in separate locations from 1961 and 1969) and Le Corbusier (New Hospital, award-winning competition design from 1965). The avant-garde concepts were closely linked to the unique qualities of the waterside locations and the centuries-long experience of local builders; the requirements of the Venetian natural environment, influencing the formation of a unique settlement grid over the centuries, and the need to adapt the construction of the buildings to the geological conditions, were creatively interpreted and used by Kahn and Le Corbusier to shape innovative functional-spatial layouts – not realised, inspiring successive generations of designers through publications of international scope.

2.8. “PIPESYSTEM” – JADWIGA GRABOWSKA-HAWRYLAK (1975)

Avant-garde proposals for former cities were prepared in the studios of prominent Polish artists of contemporary architecture. Jadwiga Grabowska-Hawrylak, in collaboration with Maciej Hawrylak, presented at the TERRA-I exhibition of futuristic architectural and artistic ideas (1975), a concept from the futuristic trend called “PIPESystem”, representing a bold,

²⁶ J. Düwel, N. Gutschow, *A Blessing in Disguise. War and Town Planning in Europe 1940–1945*, DOM Publishers, Berlin 2013, pp. 119–126.

²⁷ Authors of the Lijnbaan complex: Cornelius van Traa – urban layout of the city centre; Van den Broek, J. Bakema – service and shopping centre and others (1949–1956), see: P. Groenendijk, P. Vollaard, *Architectuurgids Nederland (1900–2000). Architectural Guide to The Netherlands*, Rotterdam 2006, pp. 426–427.

²⁸ P. Maretto, *Venezia: Architettura del XX secolo in Italia*, Vitali e Ghianda, Genova 1972, pp. 116–117.

free – unfettered by the realities of potential implementation – solution for a closed residential and communication structure, whose theoretical location envisaged both a mountainous landscape and the neighbourhood of a historical town²⁹.

2.9. GDYNIA. THE UNREALISED PROSPECT OF 2000

The construction of the unofficial maritime capital of the Republic, unique on a global scale in terms of the scale and pace of the investment, was connected with the preparation of original urban and spatial concepts, a large part of which was realised in the years 1923–1939. The realisations from Gdynia, among others, defined the modern character of Polish modernist architecture of the interwar period. The momentum behind the construction of the port centre was interrupted by the German army in 1939 (with the shelling of the nearby Westerplatte, considered to be the symbolic beginning of the outbreak of World War II). During the years of occupation, work on the complex shaping of the original concept of the waterfront city and the construction of a complex of buildings in the representative district was interrupted; the German army caused considerable damage to the urban layout and infrastructure of the port. In 1937, Marian Eile presented an avant-garde vision of the development of a Polish port centre, which (according to the artist-journalist's alleged vision) would be distinguished by a panorama of glass skyscrapers, erected along the waterfront, in the representative district of Gdynia. An analogy was used with the exposition of the striking architecture of New York, viewed from the side of the transatlantic routes³⁰.

3. SUMMARY

The preservation of artistic values and compositional harmony in the buildings of former towns and cities nowadays constitutes an important field of work undertaken by architects, conservators and art historians. Irrespective of the awareness that the history of architecture was defined in successive epochs by new technological-infrastructure, compositional, formal and artistic solutions, reflecting the changing military, political-social and economic conditions. Also, contemporary architectural achievements shape the image of historical urban complexes; striving to meet the requirements, aspirations of investors and economic prosperity.

The most outstanding achievements of contemporary architecture influenced the creation of new compositional and formal values of old districts or inspired the creation of original solutions³¹; projects based on patterns and repetition of imperfect concepts contributed to the depreciation of the existing old urban environment. Controversial ideas also provided the impetus for modifications to initial plans, which were not subjected to in-depth analyses of site conditions

²⁹ E. Kiecko, *Przyszłość do zbudowania. Futurologia i architektura w PRL*, Fundacja Bęc Zmiana, Warszawa 2018, pp. 290–291.

³⁰ *Gdynia – Dzieło Otwarte. Gdynia – An open work*. Katalog wystawy stałej, Permanent exhibition catalogue, J. Friedrich, A. Śliwa (eds.), Wydawnictwo Muzeum Miasta Gdyni, Gdynia 2016, p. 335.

³¹ Mrs Schröder's villa in Utrecht (Gerrit Rietveld), 1924; Como, Casa del Fascio (Giuseppe Terragni, 1932) – office building in Como, Italy, built between 1932 and 1936; Kunsthaus in Graz (Peter Cook and Colin Fournier), the original 1950s Archigram ideas realised after half a century; Ulm: Stadthaus (Richard Meier, 1986–1991); library (Gottfried Böhm and Severin Heiermann 1999–2000).

and determination of the effects of implementation in a unique environment. Opinions on the changes made to historic urban layouts, reflected aesthetic preferences, views on the necessary extent of modernising transformations, or conservative preservation of centuries-old layers. Establishing a consensus between plans for the modernisation of old building layouts and the preservation of historic buildings – different in separate centres – is the essence of the “balance” for aesthetic decisions and the contemporary functioning of historic cities.

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