Beata Komar

FINE ARTS IN ARCHITECTURE

Selected Problems

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Contents

1. Preface

1.1. Introduction

What is meant by *fine arts* in the field of architecture? What is their function? In the book entitled *Miasta dla ludzi* [Cities For People], professor Jan Gehl claims that, for the sake of different activities, people need spaces of diversified quality. Gehl speaks of **necessary activities**, such as going to work, school or shops, which we perform on a daily basis, irrespective of the quality of the surrounding space (since we have to do them anyway). However, they would definitely become more pleasurable if performed in a high-quality environment. Another category is that of **optional activities**, including recreation, rest, meeting other people, etc. For this group, high quality of space is a prerequisite, making the time invested in the activity more pleasurable.

Another group comprises **social activities**, which also do not require the surrounding space to be of superior quality, representing the activities which engage people, as they *cling* to one another. They include concerts, rallies, or large-scale urban events. This being the case, it is the event which connects people that is considered a priority. The above deliberations imply that the highest quality of space is typically associated with the optional activities, which is where one should seek the rationale behind employing fine arts.

Fig. 1. Diagram representing the relationship between activity in the city space and the quality of space.

Source: author's own compilation based on J. Gehl, *Miasta dla ludzi*, RAM A&B, Krakow, 2014.

Aktywności w przestrzeni miasta a jakość przestrzeni

Nonetheless, high quality of space should in fact be prerequisite for any kind of activity, since people spend most of their time engaged in the necessary ones, and it would be much more enjoyable to participate in a social event taking place in an appealing space than in one considered uncongenial. It is noteworthy that high quality of space does not necessarily mean that fine arts must have been involved, while the numerous qualities of space may include harmonious composition, adequate choice of colours, good organisation, and accessibility for all those using the space. However, elements of fine arts have the capacity to increase its prestige. Considering how they were employed in different architectural styles and periods, one can conclude that they have actually played a significant role since the

time people dwelled in caves. It is for the cave drawings and glyphs that we can study ancient times at this day and age; the stained glass windows in Gothic churches were the Paupers' Bible, while the Baroque lavishness of gold was intended to save the contemporaries from the fear of emptiness – *horror vacui*. In Communist Poland, laying mosaic tiles on walls was one of the very few manifestations of an aspiration to make the gloomy and mundane reality slightly less unwelcome.

Today, with state-of-the-art technologies coming to the fore, when an architectural object is perceived not only from a holistic, but frequently also a minimalistic point of view, the contribution of fine arts is not what it used to be. Nevertheless, they are by no means considered obsolete in the role they play, gaining further dimensions as new technologies and materials are conceived.[1] Actually, fine arts continue to draw abundantly from their vast heritage – expanding and adapting it to the modernity, or alternatively, using it for practical purposes, which proves particularly important in historic sites.

However, there were cases when a unique wall decoration technology was actually invented by the architect specifically for purposes of a given project. One of them was a relatively small structure, known as Brother Klaus Field Chapel, located in Eifel, next to a German village of Wachendorf, designed by Peter Zumthor (2007). This is how the architect himself describes the process of the chapel construction: "(...) First, the site manager felled 112 trees and prepared their trunks in his own forest according to our instructions; next he arranged them into a tent-like structure, assisted by some friends and supervised by a carpenter; and then, day by day, they were all compacting a fifty centimetre-thick

layer of concrete around that tent (...)." After twenty four days, the concrete body reached twelve metres in height, hiding the wooden tent within. There are distinctive and irregular boundaries between three concrete layers visible on its walls, reminiscent of water marks or growth rings in some organic formation. Underneath the wooden tent, providing an inner formwork for the concrete shell, the site manager kindled a fire that smouldered for the following three weeks. "Slowly burning, the fire caused the mass of the tree trunks to gradually fade and the surface of the walls to blacken with soot. Once the fire went out completely, the wood leftovers, predominantly burnt out, were removed. What remained was the imprints of the tree trunks and the smell of fire (...)." The architectural concept of the chapel showcases a structure emerging as a shell around an interior where fire was smouldering. And it was precisely the fire that ultimately moulded the interior. It is completely disparate from the exterior – dark, circular, communicating with external world only via small crevices: the oculus at the top and round openings the size of a human fist in the walls, closed with glass spheres resembling rocks.[2]

Another example definitely worth showcasing is the **TEA Tenerife Arts Centre** (Tenerife Espacio de las Artes) designed by a duet composed of Herzog & de Meuron and David Koch (2008). In that case, the layout of the library wall made of reinforced concrete provides a graphic representation of the play of chiaroscuro on an undulating surface of water. Both these examples clearly show that one can seek inspiration for visual solutions virtually everywhere. What the artist needs basically boils down to a fantastic concept and technological capacity to make it real.

[1] Consider the example of the activity undertaken by the Franz Mayer Studio of Munich, addressed in more detail in the section on stained glass and mosaic.

[2] B. Stec, *Piękno jako oblicze świętości w kaplicy brata Klausa Petera Zumthora* [Beauty as a representation of sanctity in the Brother Klaus Chapel by Peter Zumthor], Architecturae et Artibus, 1/2017, p. 56, P. Zumthor, Peter Zumthor 1998–2001. Réalisations et projets, vol. 3, Zurich, 2014, p. 122.
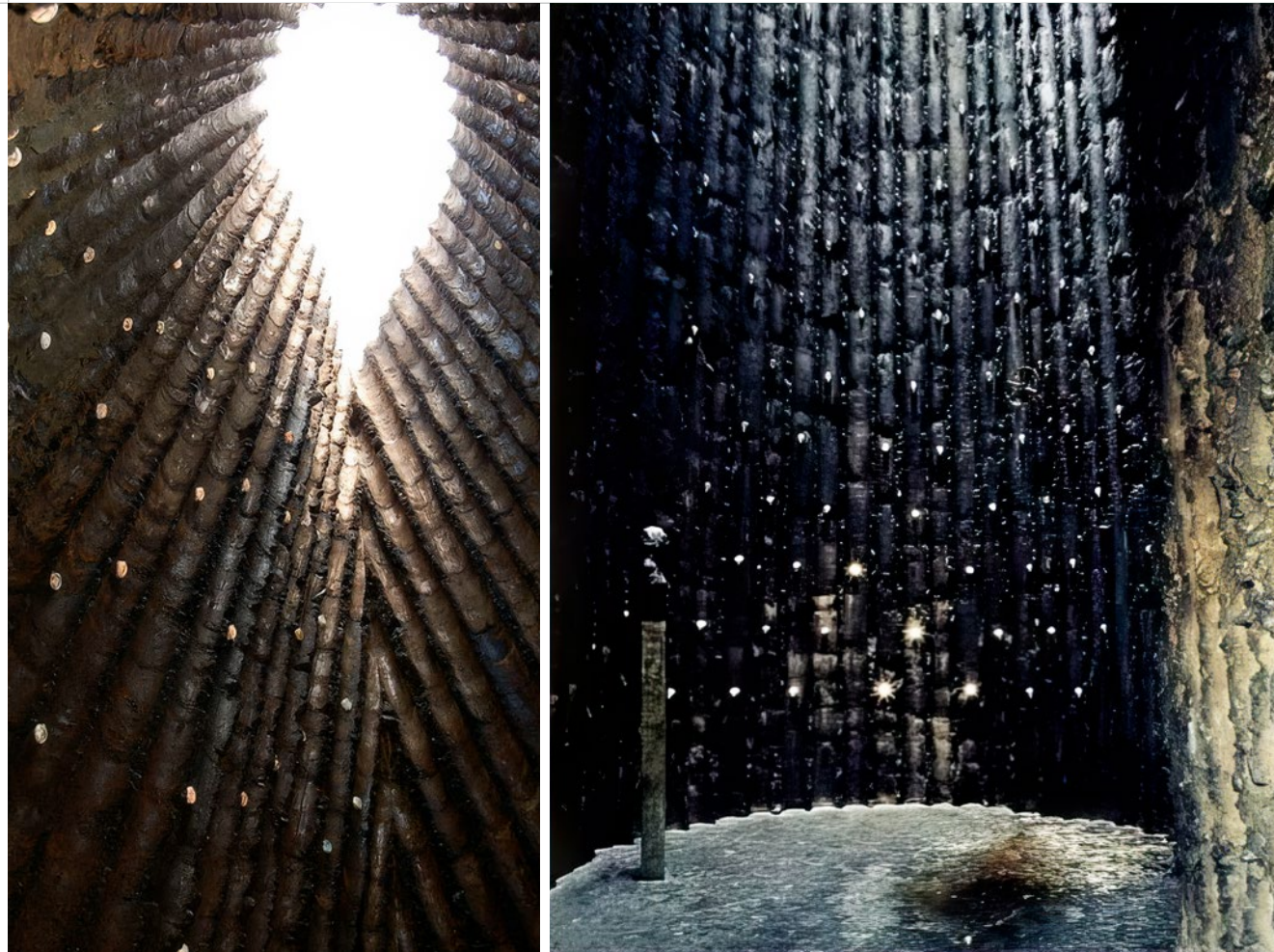
Fig. 2. Brother Klaus Chapel, interior; author: Peter Zumthor (design), 2007

Source: photo by Pietro Savorelli, https://architektura.info/architektura/polska_i_swiat/kaplica_polna_braci_klaus
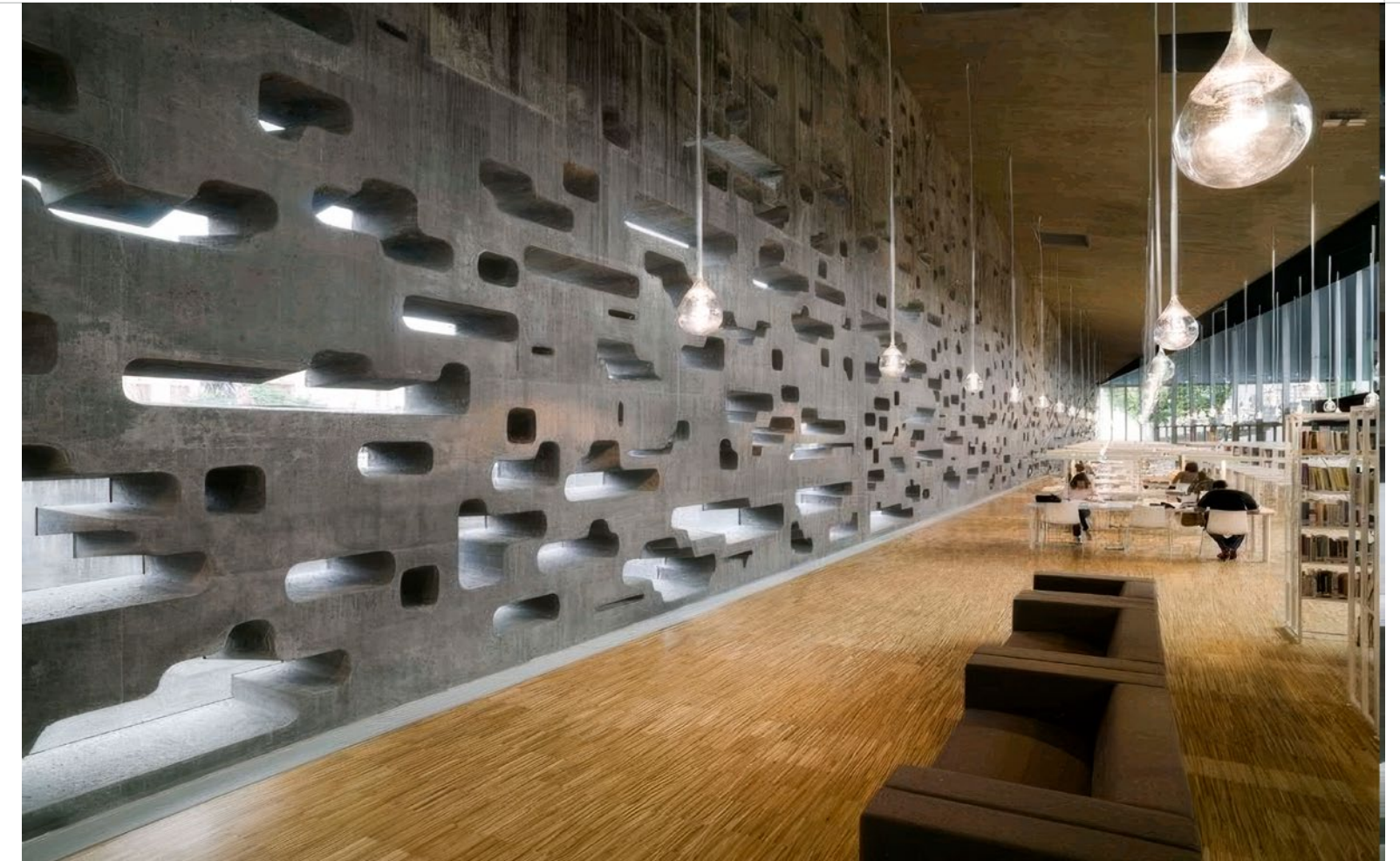

Fig. 3. TEA Art Centre; authors: Herzog & de Meuron, D. Koch (designers), 2008

Source: https://archirama.muratorplus.pl/artykul/galeria/centrum-sztuki-tea,31/46/335/#zdjecie

1.2. State of research

The fine arts used in architecture, being the subject of this publication, have developed over hundreds of years, while some of them date back as far as to antiquity. Despite the foregoing, the literature addressing this problem in a comprehensive manner is rather scarce. Consequently, one can refer to papers which focus solely on selected art techniques, introducing their principles or merely describing their examples.

Before reviewing such literature, one should first discuss several papers concerning **colour**, which is inextricably linked with art techniques. In this respect, the following publications are definitely worth mentioning: *Colour and Meaning. Art, Science, and Symbolism* as well as *Colour and Culture* by Gage J. – both being major studies on the specifics of colour, its symbolism, and place in culture across ages; *O kolorze w architekturze* [Colour in Architecture] by Ludwin K.; a publication co-created by the author of this study along with Tymkiewicz J.: *Elewacje budynków biurowych. Funkcja, forma i percepcja* [Office Building Facades. Function, Form, and Perception], cited numerous times in *O kolorze w architekturze;* one of non-Polish language papers by Thurmann-Moe D.: *Kolorowa rewolucja* [Revolution in Colour], which has attracted much attention among students, elaborating upon the Scandinavian approach to colour in architectural interiors, city space, and fashion, which is very contemporary and far from stereotypes. Another major piece of literature is *Historia koloru* [History of Colour] by Rzepińska M.

With regard to the **art of stained glass**, one should definitely mention the following works: Pawłowska K., *Witraże w kamienicach krakowskich z przełomu wieków XIX i XX* [Stained glass windows in the tenement houses of Krakow in the late 19th and early 20th century], Wnuk J.,

Jodliński L., *Gliwickie witraże* [Stained glass windows of Gliwice], Szopa R., *Witraże z pracowni Franza Borgiasa Mayera w obiektach sakralnych Rudy Śląskiej* [Stained glass windows crated in the studio of Franz Borgias Mayer, found in the churches of Ruda Śląska], Gajewska-Prorok E., Oleszczuk S., *Witraże na Śląsku XIX i pierwszej połowy XX wieku* [Stained glass windows in the Silesia of the 19th century and the first half of the 20th century], Ertman M., *Witraże łódzkie* [Stained glass windows of Łódź], as well as examples of non-Polish literature: Mayer G. (ed.), *Franz Mayer of Munich. Architecture, Glass, Art*– a book not only about stained glass windows (although the company in question was originally established in 1847 as a stained glass studio), but also about mosaics, and another publication edited by Gabriel Mayer: *Franz Mayer of Munich. Mayer'sche Hofkunstanstalt*. The author holds the aforementioned company particularly dear because that is precisely where the stainedglass oculi for the church of Christ the King in Gliwice were made in 1937, while the author devoted her book published in 2010 to these creations. An important place in the literature broadly addressing the subject of glass is occupied by the monograph by Ewa Wala entitled *Szkło we współczesnej architekturze* [Glass in Contemporary Architecture].

As a for mentioned, Franz Mayer's studio based in Munich produced not only stained glass, but also mosaics, the examples of which have been presented in the above publications. But the **literature on mosaic** is far more extensive, containing other noteworthy works. Theseinclude: *Piękno użyteczne. Okładziny ceramiczne sklepów rzeźniczych z początku XX wieku* [Useful Beauty. Ceramic cladding of the butcher's shops of the early 20th century] by Pokorska E. – an exceptional catalogue of vintage ceramic Art Nouveau tiles, still adding lustre to the Upper Silesian shops; *Tychy. Sztuka w przestrzeni miasta* [Tychy. Art in the City Space] by Oczko P., dedicated not only to mosaics, but also to outdoor sculptures. The latter is particularly important since it describes how art emerges in a city

raised from scratch. What proves to be a significant example of cataloguing efforts is the book by Paweł Giergoń entitled *Mozaika warszawska. Przewodnik po plastyce w architekturze stolicy 1945–1989* [Mosaic of Warsaw. A guide to the plastic arts in the architecture of the capital of Poland in the years 1945–1989], comprising 416 pages of a very reliable and diligently prepared catalogue of all the creative endeavours made in Warsaw in the spheres of mosaic, sgraffito, and wall painting in the chosen period. Furthermore, one should definitely mention the extended interview conducted by Max Cegielski with Hanna (predominantly) and Gabriel Rechowicz, authors of a decided majority of the mosaic art created in the period of Communist Poland, entitled *Mozaika. Śladami Rechowiczów* [Mosaic. In the Footsteps of Mr and Mrs Rechowicz]. The achievements in **sgraffito and wall painting** are mentioned in some of the papers concerning the art of mosaic. **Murals**, on the other hand, are referred to in the book by Bartosz Stępień entitled *Łódzkie murale. Nieoceniona grafika użytkowa PRL-u* [The Murals of Łódź. Invaluable Functional Graphics of Communist Poland].

One of the most important publications on the art techniques used in architecture, analysed as comprehensively as possible, is the book by Roman Husarski, published in 1974, entitled *Techniki plastyczne w architekturze: zarys możliwości ich użycia na zewnętrznych ścianach budowli: skrypt dla studentów wyższych szkół technicznych do przedmiotu Artystyczne techniki elewacyjne* [Art Techniques in Architecture. An outline of the methods enabling their use on exterior walls of buildings. A course book for the students of higher technical schools intended for the course on Art Techniques for Facade Applications]. However, the above publication, already 40 years old at the time when this study is being prepared, focuses exclusively on the techniques intended for facade applications, while the contemporary art techniques used in architecture require a much broader perspective. For purposes of the lectures

delivered at the Faculty of Architecture of the Silesian University of Technology, the author also conducted two interviews which have proved relevant to this publication: one with Ireneusz Franusik of the stained glass studio in Nakło Śląskie, concerning stained glass techniques, and the other with Patryk Oczko of the Municipal Museum in Tychy, concerning the mosaic art of the town of Wisła. The author has surveyed and documented the mosaics found in the abandoned holiday residence of Smrek in Wisła in an attempt to save these unique pieces of art from oblivion and deterioration.

1.3. Purpose of the study

The purpose of this study is to propose a new approach to the problem of fine arts used in architecture, to analyse their evolution, and to discuss their relevance to architectural objects and the city space.

1.4. Definitions

Art –fundamental component of culture which manifests itself in works, including works of art. Art was born at the very dawn of the human civilisation. It is presumed that the function it initially performed, and which it has retained among primitive societies, was related to magical ceremonies.

Fine arts – term used since the 19th century to describe the fields of artistic activity which are perceived by visual means, comprising architecture, sculpture, painting, graphic art, and handicraft.[3] In the context

3   *Encyclopedia PWN*, 1997–2021.

of universal design, one should reject the stigmatising notion of visual perception.[4]

Antique and medieval definition of art – in ancient times and the Middle Ages, the word *art* (Latin *ars*, Greek *techne*) meant as much as an ability to act or perform according to rules, which implies that art was actually considered tantamount to craftsmanship (painting and sculpture, but also pottery and tailoring, except for poetry, as the latter was inspired by the Muses). Arts were then divided into those which engaged the mind, i.e. the liberal arts (*artes liberales*), and those which required physical effort, known as practical arts (*artes vulgares*).

Renaissance definition of art – in the Renaissance, the prestige of artists (no longer considered mere craftsmen) grew, as they strived for being treated as scholars, while attempts were made to raise sculpture, painting, and architecture to the ranks of science. Fortunately, this concept faced opposition, and so art departed from the domain of science. However, there was still no idea as to what linked *fine arts*, as they are called at present. Initially, drawing was perceived as the connecting component, hence the notion of drawing arts (*arti del disegno*), explicitly defined for the first time in the 16th century (Giorgio Vasari). It was then that they ultimately advanced from the craft category to that of liberal arts, where they settled for good next to poetry and music.

Baroque definition of art – the 17th and 18th century were marked by disputes on the nomenclature to be used in the field of arts. **In the 18th century, Charles Batteux introduced the notion of *beaux-arts*** (in the treatise of 1746, *Les Beaux-Arts réduits à un même principe*, by C. Batteux), which has been functioning ever since, parallel to the terms *fine arts*.

Contemporary definition of art – the contemporary art, starting from dadaism and surrealism, fails to match Batteux's definition, as beauty transgressed the threshold of art in the process of aesthetisation, and it has not only ceased to be art's distinguishing factor, but it is actually no longer even required. Furthermore, it is currently claimed that art has become impossible to define, since one must always consider a possibility that a piece of creative work should emerge and transgress the definition and framework generally envisaged as applicable; hence the concept known as **open aesthetics**.[5]

Art techniques – methods of using materials and tools specific to a given art, aimed at attaining optimal effects of artistic activities.

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[4] (Author's note) Numerous contemporary institutions of culture introduce diverse facilities which allow persons with vision impairment to commune with art. Many such improvements can also be observed in public spaces; see: B. Komar, *On orientation of visually impaired people in public space*, ACEE, 2018, vol. 11, no. 3, pp. 27–32.

[5] M. Gołaszewska, *Estetyka współczesności* [Aesthetics of the present], Jagiellonian University Press, Krakow, 2001.

2. Colour theory

2.1. General information

Any discussion on the role of fine arts in architecture should definitely begin by referring to the notion of colour.

Colour theory is an interdisciplinary field of knowledge which addresses the process in which a human being experiences colour.

What is a colour? In everyday speech, terms such as *colour* or *hue* (Latin *color*) are used as synonyms.

The notion of **colour** refers to a mental sensation triggered in the human (and animal) brain when the eye absorbs electromagnetic radiation within the spectrum of light, or to be more precise – the visible spectrum of light waves. What affects this sensation in the first place is the spectral composition of visible radiation, while the second most important factor is the amount of luminous energy; however, the presence of other colours in the beholder's field of view as well as the latter's individual traits, including health condition, general physical and mental state, mood, and even experience and know-how related to using the sense of sight, also prove to be crucial to the perception of a given colour.

Colour is a property of an object that determines which part of the visible light band the given object reflects.

2.2. Physiology of colour vision

It is a common belief that colour is a part of light, while colour perception in fact takes place in the mental sphere. When light waves are received by the eye, the brain interprets them as colours.

Colour can be perceived thanks to the light-sensing cells in the retina, known as rods and cones; or more precisely: rods are sensitive to the degree of brightness while cones also to colour. The cones come in three variants, each being most sensitive to one of three (overlapping) ranges of the colours blue, green, or red, which altogether enable all colours to be seen. The eye is characterised by a limited colour resolution, which means that it may sometimes be unable to discern between two colours of different spectrum, consequently treating them as identical. Colour sensitivity depends on a person's individual traits, but it is also conditioned by how frequently one comes into contact with a certain colour (e.g. painters, printers, etc.). The human eye displays varying degrees of sensitivity to a given colour which, in turn, depends on the number of cone cells sensitive to light waves of a certain wavelength. Approximately 4% of cones are responsible for the perception of the colour blue, 32% for green, and 64% for red.[6]

Each colour is assigned specific light wavelengths. The wavelength in a ray of light is measured in nanometres.

The **colour wheel** is a graphic model used to visually explain the principles of colour mixing and forming. It is a circle in which, around its centre,

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[6]   B. Komar, *Teoria koloru* [Colour theory], lecture, Power Point presentation, Faculty of Architecture of the Silesian University of Technology, 2020.
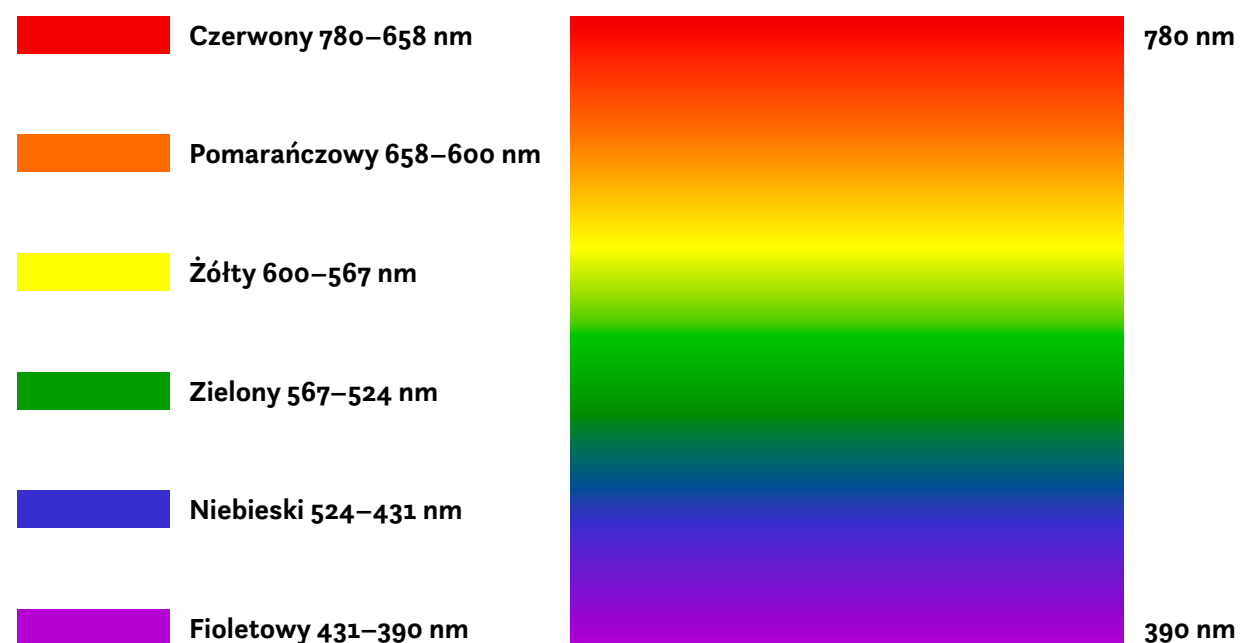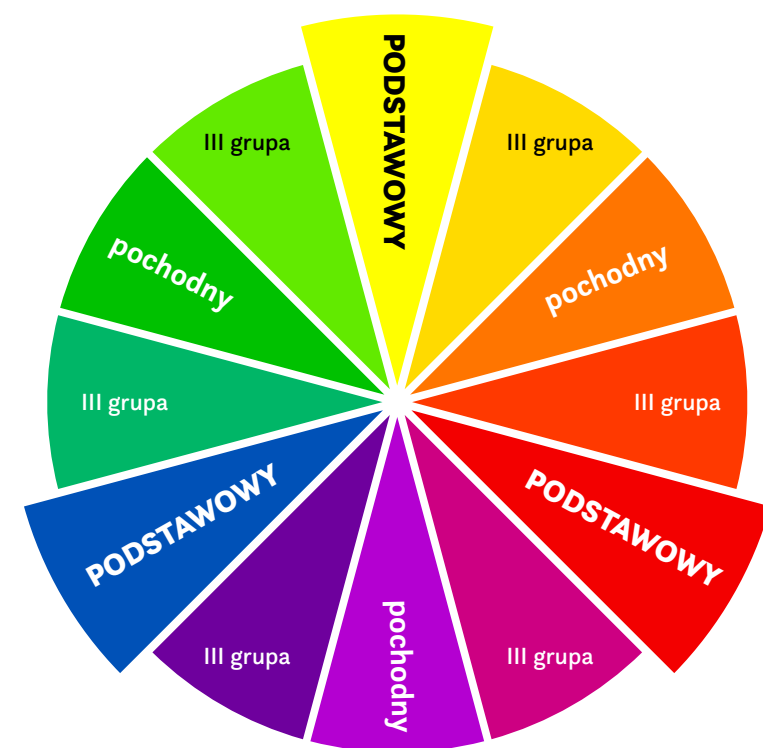
Fig. 4. The wavelengths of light assigned to each colour

Source: Komar B., *Teoria koloru* [Colour Theory], lecture, Power Point presentation, Faculty of Architecture of the Silesian University of Technology, 2020.

Czerwony 780–658 nm

Pomarańczowy 658–600 nm

Żółty 600–567 nm

Zielony 567–524 nm

Niebieski 524–431 nm

Fioletowy 431–390 nm

780 nm

390 nm

Fig. 5. Colour wheel

Source: Inside. *Magia wnętrz*, [Magic of interiors] http://magiawnetrz.blogspot.com/2013/07/koo-barw-czyli-jak-dobrac-kolory-do.html

PODSTAWOWY

III grupa

pochodny

III grupa

III grupa

pochodny

III grupa

PODSTAWOWY

PODSTAWOWY

III grupa

pochodny

III grupa

the continuous spectrum of the white light has been depicted clockwise in a such a manner that the colour red (with the longest wavelength in the visible radiation) seamlessly transforms into violet (with the shortest visible light wavelength), thus closing the spectrum in a loop of colour changes.

The standard colour wheel encompasses 12 colours, divided into three main groups. **Primary colours** are red, blue, and yellow, and these cannot be obtained by mixing any other colours. **Secondary colours** are combinations of two primary colours: orange is made up of red and yellow, green is yellow and blue combined, while purple represents a mix of blue with red. **Tertiary colours** constitute combinations of primary and secondary colours. The names of the shades thus formed draw from the names of the colours comprising a given combination, e.g. green-blue, red-purple, yellow-orange, etc.

Another aspect to be considered here is that of **harmonic tones**, as they are commonly referred to. Borrowed from the field of music, the term describes a *propensity* of a primary hue for inclining to certain secondary hues. For instance, crimson is basically red inclining to purple, while the colour scarlet is red inclining to orange. The knowledge of harmonic tones proves particularly useful when it comes to colour mixing.
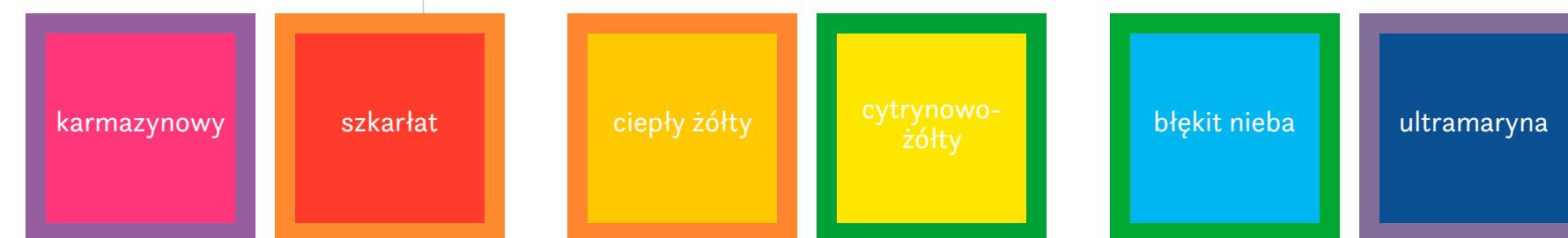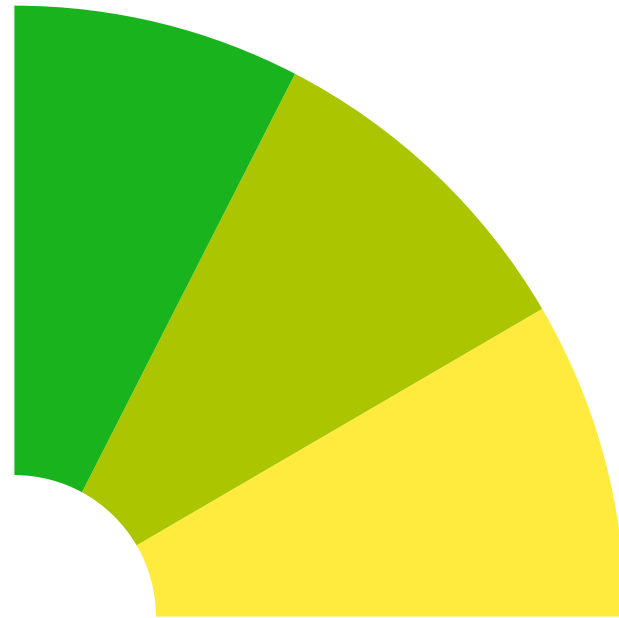
Fig. 6. Harmonic tones

Source: Komar B., *Teoria koloru* [Colour theory], lecture, Power Point presentation, Faculty of Architecture of the Silesian University of Technology, 2020.

karmazynowy

szkarłat

ciepły żółty

cytrynowo-żółty

błękit nieba

ultramaryna

The colours considered the safest, i.e. ones that will always look visually pleasing next to each other, are referred to as analogous, being the adjacent ones in the colour wheel.

Colour wheels had not been used until the 15th century for the simple reason that they had not been known yet. However, it was already then that an inspiration to create them emerged, yet not among painters, but in the medical milieu. The physicians of that day and age would diagnose illnesses by analysing the colour of urine, and in order to better visualise the results of their examinations, they compared urine samples with a round template designed specifically for that purpose. That represented the very first attempt to arrange colours sequentially in a circular diagram, while for obvious reason it encompassed a rather limited range of colours, approximating to brown, sienna, and sepia hues.

Meanwhile, in the field of painting, the **triadic colour scheme of red, yellow, and blue** was in use as early as in the Middle Ages, since it could be represented using the most precious dyes: vermillion, gold, and
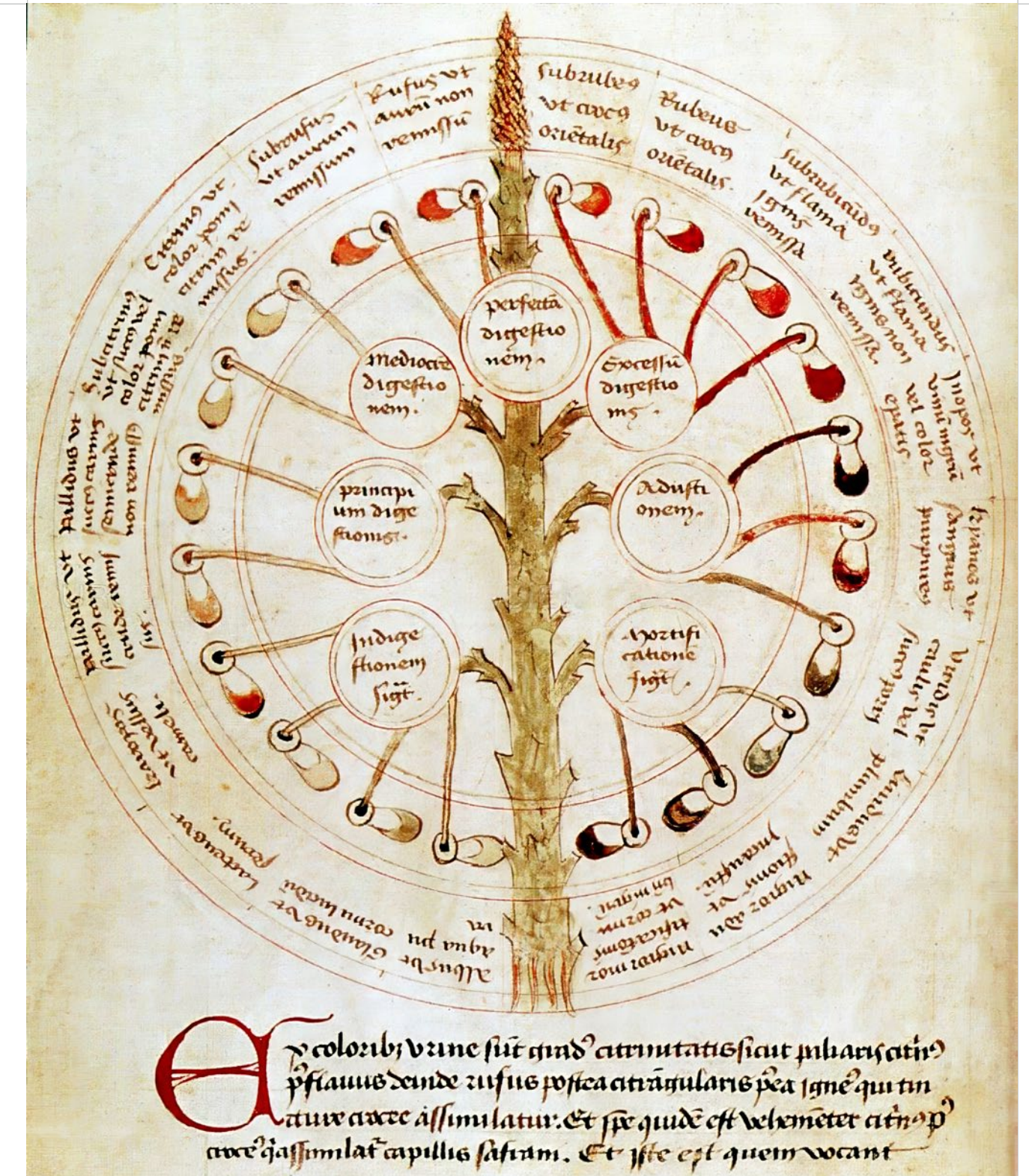
ultramarine. Therefore, willing to emphasise the eminence of the persons depicted in paintings, artists resorted to these colours in the first place. In the absence of petrochemical expertise, dyes were obtained from natural raw materials extracted in all corners of the world. Consequently, they were obviously very expensive, as their prices typically included the costs of transport from the place of origin of a given dye to the painter's studio. The main sea transport hub was then the port of Venice, which was where dyes would be dispatched further on.

As a reminiscence of those times, the most important dates in contemporary calendars are marked in red and blue.

In the 17th century, the colour triad advanced to a new level since, along with the colours white and black, it started being perceived as somewhat *primary*. In the late 17th century, a concept emerged that blue and yellow were the basic colours of light. This relationship can be traced to the works by Johannes Vermeer, who also upheld the traditionally medieval attitude towards materials and used the most precious ones.

The year 1704, on the other hand, saw the release of the book entitled *Opticks* by **Sir Issac Newton**, where he analysed the nature of light.

Somewhat a by-product, and an almost incidental consequence of this publication, was the attempt to create a **taxonomy of colours in the form of a colour wheel**. **Newton** concluded that one can obtain virtually any colour by mixing, at different proportions, merely a few **original colours**, and so the colour wheel of his design represented a geometrical relationship between the original colours and their derivatives.[7]

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7   http://historiasztuki.com.pl/NOWA/30-00-01-KOLOR.php

Fig. 9. Sample natural dyes used for decor on a Vasa ship, Stockholm, 1628

Source: Vasa Museum, Stockholm; photo by B. Komar (2014)

a)

b)

Fig. 10. a) Diptych attributed to Benedetto di Bindo, *Our Lady of Humility and St. Jerome translating the Gospel according to St. John,* 1400.

Source: Gage J., *Kolor i znaczenie. Sztuka, nauka i symbolika* [Colour and Meaning. Art, Science, and Symbolism], Universitas, Krakow, 2010
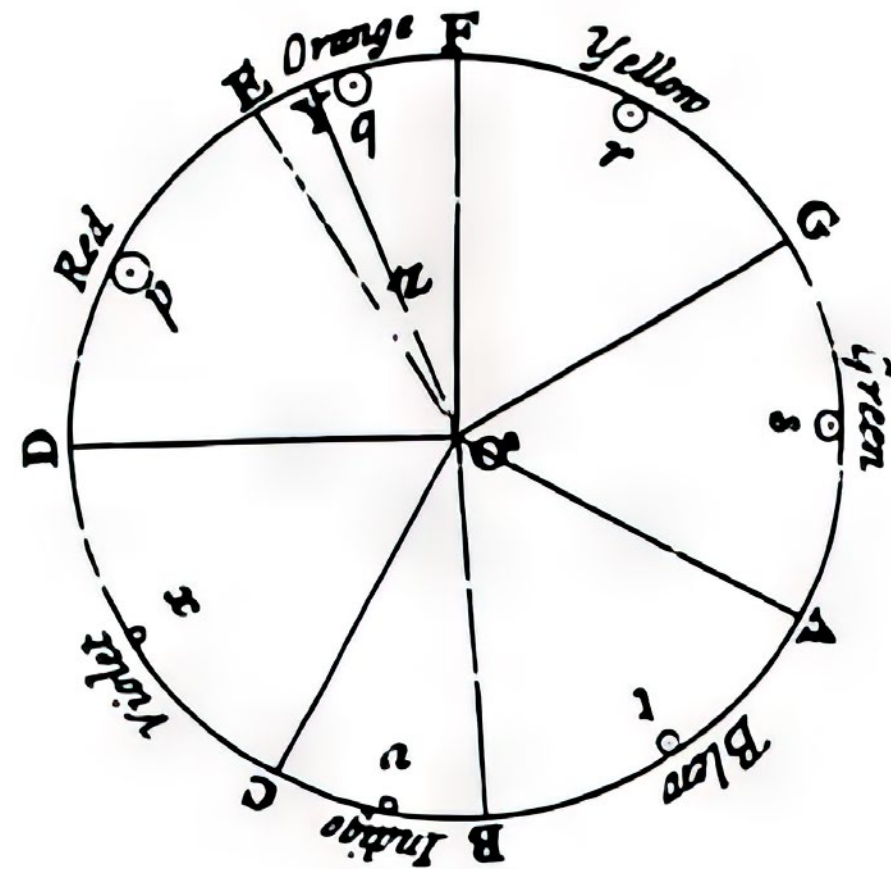
Fig. 10. b) calendar with important dates marked in red and blue.

Source: Internet

Fig. 11. Colour wheel according to Isaac Newton, 1704.

Source: Gage J., *Kolor i znaczenie. Sztuka, nauka i symbolika* [Colour and Meaning. Art, Science, and Symbolism], Universitas, Krakow, 2010.

Newton's scale originally consisted of 11 segments corresponding to the following colours: scarlet, i.e. purple, minium, lemon yellow, gold or sun yellow, dark yellow, green, grass green, sea green, blue, indigo, and violet. Newton later limited his scale to seven hues and demonstrated the relationship between adjacent colours. What he denied, however, was the existence of any primary colours.

It is definitely noteworthy that, in 1800, **William Herschel** discovered infrared radiation, and in 1802, **Johann Wilhelm Ritter** discovered ultraviolet (UV) light, both corresponding to colours invisible to the human eye, and yet so vital for the life on Earth.

An equally significant contribution to the understanding of the nature of colour was made by the German poet **Johann Wolfgang von Goethe** in his treatise of 1810 entitled *Zur Farbenlehre* [Theory of Colours],[8] whose scientific merit is even surpassed by the author's poetic intuition. Goethe took up studies on colour under the influence of his own observations of shadows on the white of snow, which (to his belief) showed a distinctive colour. The experiments of several dozen years had led him to polemicize with the Newtonian optics and to formulate concepts completely disparate from those the latter had devised. **Newton believed that light is heterogeneous**, comprising colour elements (seven pure colours) which can be *dismantled* into prime components (e.g. using a prism) and *assembled* of individual constituents. **Goethe claimed that light is homogeneous**, white being the primary colour, and that there are only two pure colours which can be found in nature: blue and yellow, all the other perceived as derivative. The contradictions in their views are predominantly superficial, since both scientists did not realise that they were actually referring to two separate methods of colour formation: additive and subtractive.

"If one was to consistently swap the position of light and darkness in Newton's experiment, i.e. instead of using a diaphragm (as Newton did),

8 *Farbenlehre* is a book composed of three parts. In the **didactic** part, Goethe described the immeasurable abundance of colour-related phenomena and experimenting possibilities. In the **polemic** part, he inserted translations of Newton's major theses (intentionally in the tiniest print available), only to provide his criticism of the above quoted excerpts right underneath — in large font. The **historical** part is devoted to the history of the science of colours, from antiquity to the early 19th century. He praised the numerous precursors of his own theories, and described the vicious ways of Newton's followers, all of that to win the reader over with his colour theory, at all cost. Although enraged physicists lambasted Goethe's treatise, poetry lovers ignored it, while psychoanalysts would love to see the author seated in their offices, he himself considered *Farbenlehre* to be superior to many of his dramas. And he was right. O. Müller, *Goethe i zasady światła barw. Autoportret* [Goethe and the principles of coloured light. A self-portrait]. 25–26/2008–2009, p. 5.

let the sunlight flow to a darkroom through the converse of a diaphragm (call it a shade), a multi-colour spectrum would emerge, as colourful and intense as that the physicist had obtained, yet in different colours! To be more precise: Goethe received the exact opposite of Newton's spectrum, or its negative. Instead of a spectrum comprising the colours dark blue, blue, green, yellow, and red, what Goethe produced (having swapped the position of light and darkness) was a complementary spectrum of yellow, red, purple, dark blue, blue (...)."[9]

Fig. 12. Top: Newton's spectrum; below: Goethe's complementary spectrum; fragment of Goethe's watercolour (see: Fig. 13)

Source: Müller *O., Goethe i zasady światła barw. Autoportret* [Goethe and the principles of coloured light. A self-portrait], 25–26/2008–2009, p. 6.

Fig. 13. Symbolic approximation of a magnet. Goethe's watercolour, Jena, 15 November, 1798[10]

Source: Müller O., *Goethe i zasady światła barw. Autoportret* [Goethe and the principles of coloured light. A self-portrait], 25–26/2008–2009, p. 9.

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9   O. Müller, *Goethe i zasady światła barw. Autoportret* [Goethe and the principles of coloured light. A self-porvtrait], 25–26/2008–2009, p. 5.

10   Description of Goethe's complete line of thought [at:] O. Müller, *Goethe i zasady* światła *barw*...pp. 8–9

Fig. 14. Colour wheel according to Goethe, 1810.

Source: photo by Luestling (Wikimedia Common).
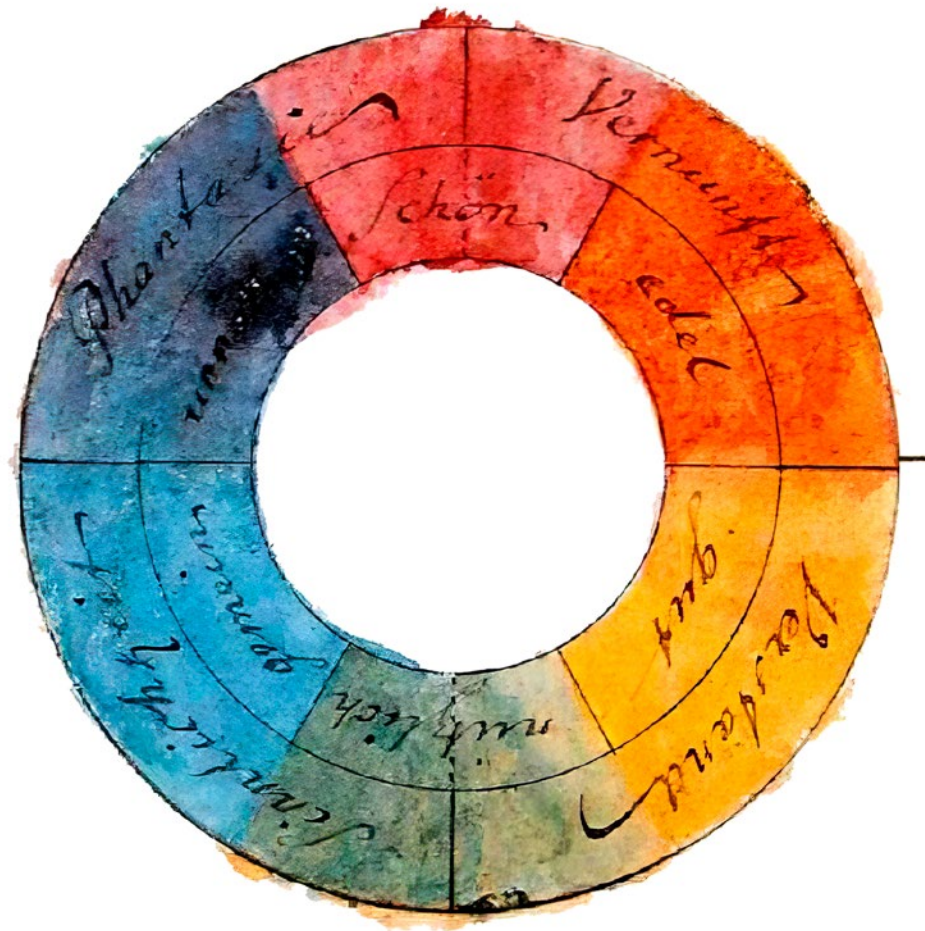
According to Goethe's extended theory, colour is not only character-ised by objectively measurable parameters, but in the human psyche it also obtains an ethic dimension, constituting poetic representation of abstract notions. However, Goethe's main contribution to the study of colour consisted in him being the first to highlight the psychophysical nature of this phenomenon, meaning that he sensed that colour is not an objective property of light or objects, but rather, as he himself argued, **"an ephemeral action and counteraction of the eye itself."**[11]

11   https://historiasztuki.com.pl/NOWA/30-00-01-KOLOR.php

2.3. Colour vs emotions and symbols

Research[12] implies that, in the perception of the built environment, colour is the aspect which one notices first, i.e. at the first cognitive level.

"(...) 80% of all the sensations received by means of senses are visual in nature. We perceive colours first; we notice the colour of a building before its shape meets the eye; the colour of clothing is assessed more quickly than the cut."[13] And the colour yellow is the very last thing that a human eye is able to capture when gradually losing sight.[14] Therefore, the way a colour works in both open and closed space must be very well conceived. **For every colour carries a load of emotions and meanings** which determines to a large extent how a place is perceived. Nearly every colour (nearly, since not all colours have been studied yet) also holds cer-tain symbolism, which can be interpreted in various ways, depending on the sphere in which it has been used: the sacred or the profane.

12   A Niezabitowski, *Poznawcze aspekty funkcjonalno-przestrzennej struktury miasta* [Cog-nitive aspects of the functional and spatial structure of a city], Publishing House of the Silesian University of Technology, vol. 33, Gliwice, 1996, p. 11.

13   D. Thurmann-Moe, *Kolorowa rewolucja. Architektura, wnętrza, moda* [Revolution of Colour. Architecture, Interior Design, Fashion], Wydawnictwo Agora, Warsaw, 2017, p. 4.

14   B. Komar, *Osoby niewidome i słabowidzące w przestrzeni instytucji miejskich. Studia przypadków wybranych urzędów miejskich* [Blind and partially sighted people in the space of public institutions. Case studies of chosen municipal offices] [at:] Komar B. (ed.), *Miasto*[City], vol. 2 [at:] Komar B. (ed.), *Badania interdyscyplinarne w architekturze 2* [Interdisciplinary Studies on Architecture 2], Faculty of Architecture of the Silesian Uni-versity of Technology, Gliwice, 2017, CD-ROM, p. 114.

	yellow	eye straining	raising activeness, stimulating the nervous system, drawing attention, causing a sense of joy and satisfaction	triggering a sense of warmth and an impression of increased volume
	green	regenerating to strained eyes	calming, soothing, mental relaxation, implied safety	triggering a sense of freshness, briskness, lightness, chill, distancing
	blue	pulse decelerating, pressure reducing	soothing, sense of relief, respite, felicity	invigorating, triggering a sense of distancing
	purple	no data available	causing melancholy, causing drowsiness	triggering a sense of reduced volume
	white	no data available	causing drowsiness, triggering a sense of purity and tidiness	triggering an impression of increased volume

	black	no data available	depressive, discouraging, causing a sense of grief and sadness, suggestive of elegance	triggering a sense of reduced volume
	grey	"(…) A 150m long concrete wall affects a human being identically as being incarcerated in a seclusion cell with a cardboard box on one's head."		

EirikGlambekBoe, psychologist of architecture
(Thurmann-Moe D., 2017, pp. 54–55.)

Source: in-house study based on a literature review.

2.4. Colour samples

What comes as a great help in creating colour sets is colour samples.

The world's first system of colour identification was designed in 1963 by Herbert Lawrence, founder of the company Pantone. It was named the **Pantone Scale**.

Pantone stands for a system comprising a palette of *off-the-shelf* colours ready to use. The most popular classification is the Pantone Color Formula Guide, where each colour is assigned a unique number; for example, green in the Pantone scale is number 341, and red – 1797. Pantone colour guides are available at: www.wzorniki.eu.

An interesting fact worth mentioning is that, each year, the company announces a colour of the year, highlighting both the colour itself as well as matching colour compositions. The following is a list of consecutive colours of the year (according to the Pantone nomenclature): 2014 – Radiant Orchid 1188-3224, 2015 – Marsala 18-1438, 2016 – Rose Quartz 13-1520 and Serenity 15-3919, 2017 – Greenery 15-0343, 2018 – Ultra Violet 18-3838, 2019 – Living Coral 16-1546, 2020 – Classic Blue 19-4052.

For instance, according to the description found on Pantone's website, Ultra Violet is complex and contemplative, suggesting the mysteries of the cosmos, the intrigue of what lies ahead, and being symbolic of the universe and the limitless possibilities if offers. The enigmatic purple has also been symbolic of counterculture and unconventionality, and has found its expression in the brilliance of artists such as Prince, David Bowie or Jimi Hendrix. Leatrice Eiseman, Executive Director of the

Pantone Color Institute, claims that this particular hue symbolises originality, ingenuity, and forward thinking.

Here is Ultra Violet in selected colour palettes featuring Pantone's original colour naming:

PURPLE HAZE

Fig. 15. Purple Haze palette: embodying calmness, a palette of hazy and smoky hues effortlessly commingle to create subtle blends and harmonies that are both timeless and time-honoured.

Source: Pantone, https://www.pantone.com/color-intelligence/color-of-the-year/color-of-the-year-2018-tools-for-designers, accessed on: 12 Sep 2018

DRAMA QUEEN

PANTONE® 15-2718 Fuchsia Pink	PANTONE® 18-3838 Ultra Violet	PANTONE® 18-2045 Pink Peacock	PANTONE® 14-0626 Dried Moss
PANTONE® 19-1557 Chili Pepper	PANTONE® 17-0843 Bronze Mist	PANTONE® 18-3331 Hyacinth Violet	PANTONE® 19-0510 Kalamata

Fig. 16. Drama Queen palette: an unusual combination of show-stopping saturated colour with rich and elegant earth tones creates an adventurous mood full of excitement and drama.

Source: Pantone, https://www.pantone.com/color-intelligence/color-of-the-year/color-of-the-year-2018-tools-for-designers, accessed on: 12 Sep 2018

FLORAL FANTASIES

PANTONE® 11-0604 Gardenia	PANTONE® 13-3207 Cherry Blossom	PANTONE® 11-0622 Yellow Iris	PANTONE® 18-3838 Ultra Violet
PANTONE® 13-3805 Orchid Hush	PANTONE® 14-1324 Peach Bud	PANTONE® 13-0324 Lettuce Green	PANTONE® 19-3830 Astral Aura

Fig. 17. Flower Fantasies: inspired by the colours we see in our surroundings, a combination of soft and sweet pastels with an enchanting Ultra Violet and a deep, dark navy Astral Aura conjures up a summer garden in full bloom.

Source: Pantone, https://www.pantone.com/color-intelligence/color-of-the-year/color-of-the-year-2018-tools-for-designers, accessed on: 12 Sep 2018

Fig. 18. Pantone system's colours of the year in individual years

Source: www.pantone.com; accessed on: 3 May 2024

The Pantone colour guides based on numerical coding contribute to building clear and transparent communication between a designer and an investor.

2.5. Functions of colour in the built space

In the city, or in the built space in general, colour is the first to raise interest and attract the eye. Its role in perceiving and sensing the city space is not to be underestimated. Colour is very often the factor which revives built spaces, obviously, if only it has been appropriately used. People perceive its influence as humanising, aesthetic, and decorative, but also introducing order. The latter is mainly associated with the use of white, typically responsible for visually organising a given space, investing it with rhythms, building a hierarchy between the background and the figure.

Fig. 19. The organising role of white on tenement house facades in Wrocław

Source: photo by B. Komar (2019)

Colour is also of paramount importance for the perception of space by persons with sight dysfunctions, since the application of highly contrasting colours helps in catching sight of it. In line with the principles of universal design, the contemporary built space of the city should be equally accessible to all. And since yellow is the last colour to meet a human eye being gradually deprived of vision, its function will prove decisive in terms of the sense of safety.

Fig. 20. Interior of the National Technical Library in Prague
Source: photo by B. Komar (2013)

3. Wall painting

Wall painting can be considered the first art technique applied by people. After all, it was already at the time of the primitive man that walls were decorated with depictions of animal figures and hunting scenes.

Similarly, ancient artists used wall painting extensively. For instance, we can still admire the paintings of ancient Egypt, providing a treasury of knowledge about the rulers and everyday life of the time.

Throughout centuries, the technique of wall painting has either been gaining or losing importance, only to evolve into its contemporary form, being mainly that of mural – an example of monumental painting used mainly on building facades or a variant of street art in a smaller format.

3.1. Polychromy

The associations that emerge most naturally when thinking of **wall painting** include fresco or polychromy, and so these terms are often used interchangeably. However, there are certain differences between them, and so the big question in this respect is: what do they actually stand for?

The meaning of **polychromy** is the broadest, and it is a technique of creating multi-coloured painting ornaments of walls, ceilings, vaults, and sculptures, used for interior and exterior decoration. Polychromes were not only made on stone and plaster substrates, as was the case of fresco, but also on wood, both indoors and outdoors, in religious and secular buildings.

Polychromy is a technique used in architecture:
⟶ in ancient times, e.g. on the entablatures of Greek temples,
⟶ in the interiors of early Christian and medieval temples,
⟶ since the Renaissance, it has been the method most frequently employed while decorating the most majestic interiors of secular and religious buildings.

In the context of the problems addressed in this publication, polychromes can be broken down into:
⟶ architectural – imitating architectural forms, such as columns, windows, pillars, cornices, etc.,
⟶ figural – depicting saints and sacred scenes,
⟶ ornamental – performing an aesthetic function, repeating the same ornament many times.

An interesting variety of the polychrome is **patron polychrome**, created using special stencils called patrons. In Poland, the best-preserved examples of patron polychromes can be found in the wooden churches in Dębno Podhalańskie, Łopuszna, and LipnicaMurowana, as well as in the church in Strzelce Wielkie, in the region of Lesser Poland (Małopolska).

What the polychrome in Dębno Podhalańskie boasts is as many as 72 different motifs, while the paintings cover not only the ceiling, but also the walls, which makes that interior Central Europe's number one in terms of the sheer amount of patron polychromes.

Fig. 21. Architectural polychrome in the church of St Nicholas in Tabaszowa, 1895

Source: http://poszept.flog.pl/wpis/12225155/polichromia-z-1895-r

Fig. 22. Figural polychrome in the church of St Stanislaus in Boguszyce, 16th century

Source: http://www.kultura.lodz.pl/pl/poi/3273848

Fig. 23. Ornamental polychrome on the vault of the church of St Stanislaus in Boguszyce, 1569
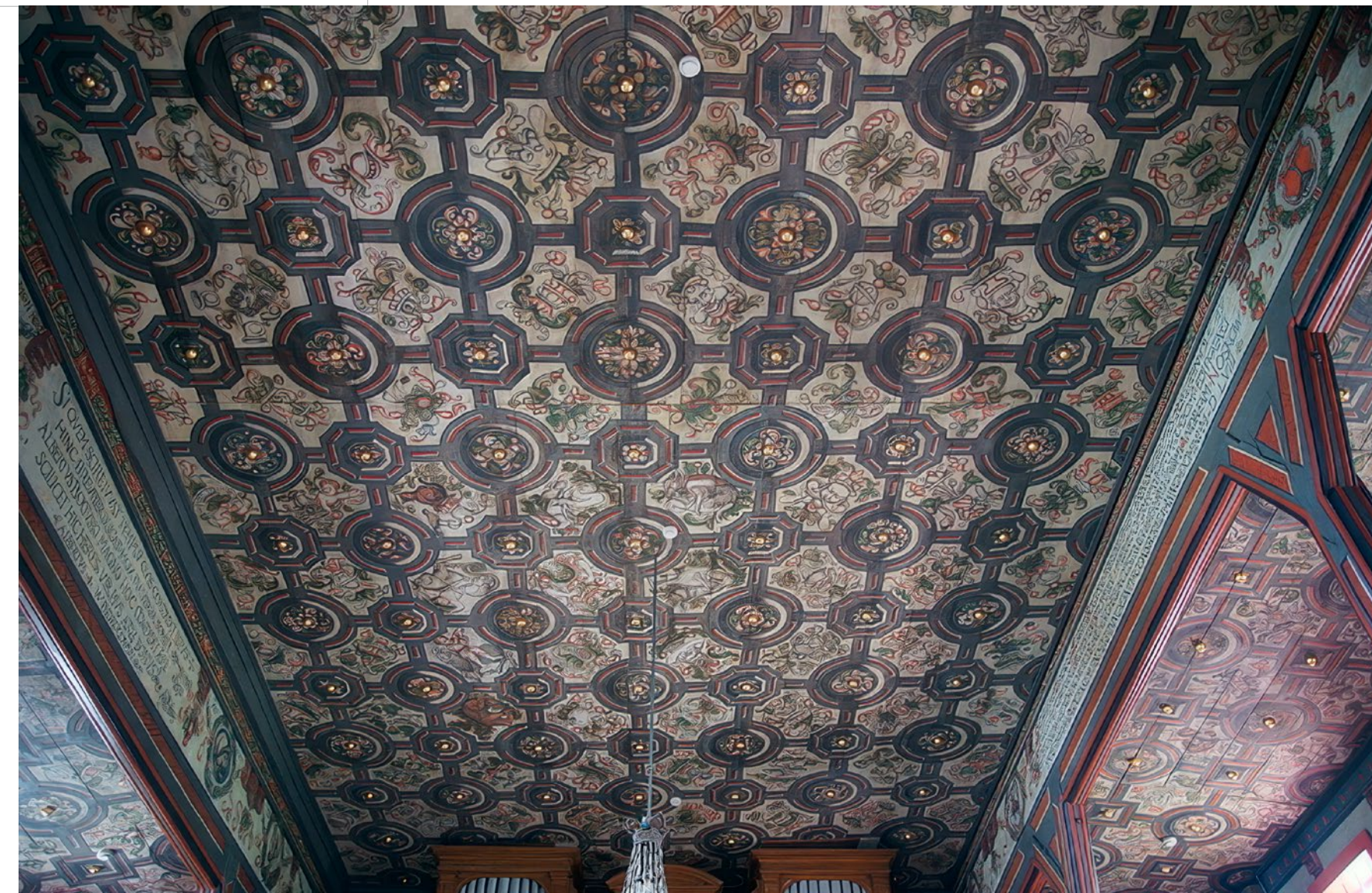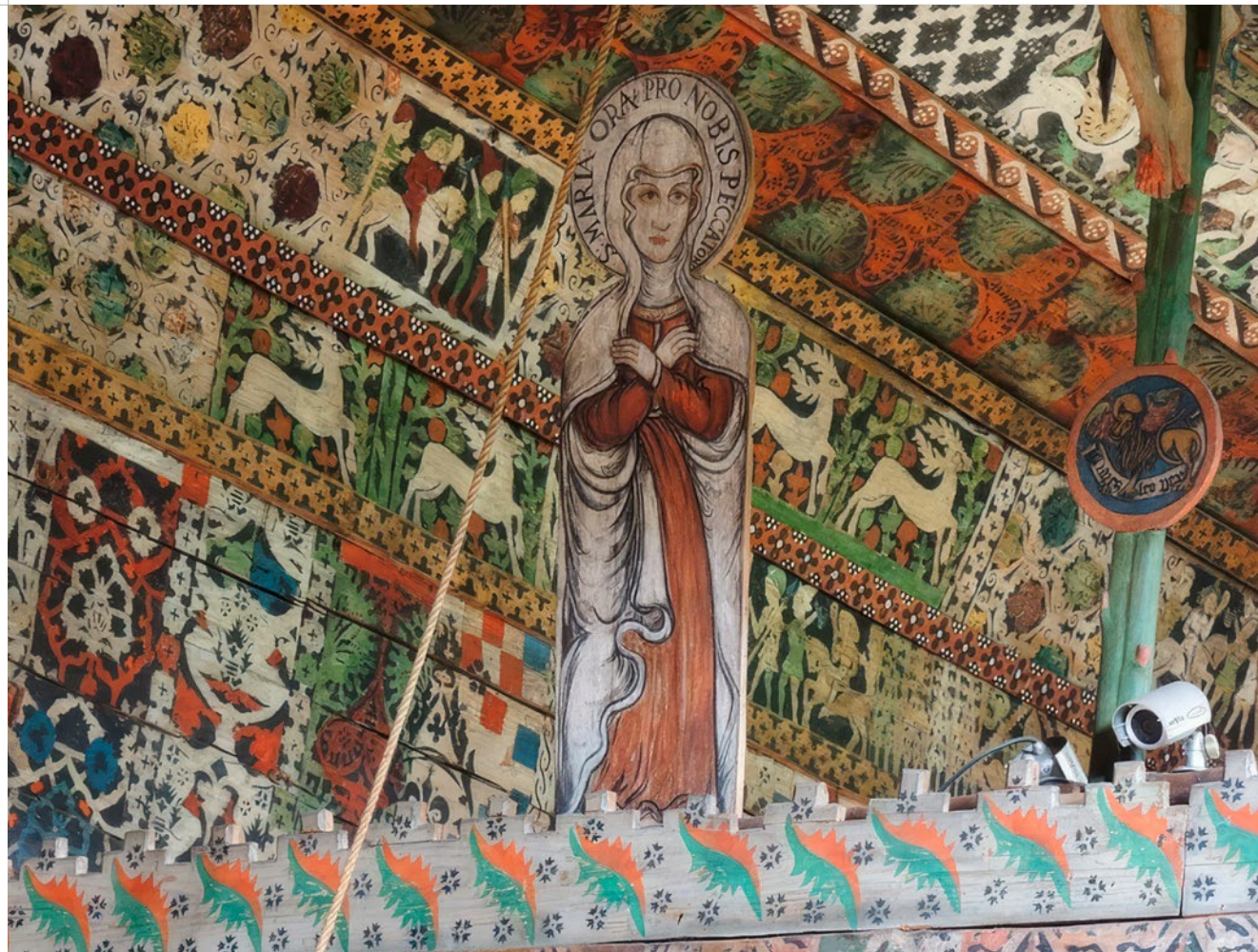
Source: www.polskiekrajobrazy.pl

Fig. 24. Patron polychrome in the church of St. Michael the Archangel in Dębno Podhalańskie, 1500

Source: http://swiatowe dziedzictwo.nid.pl/media/ uploads/zdjecia/drewniane-koscioly/nid-unesco-debno_ podhalanskie_01414842 1428128.jpg

Fig. 25. Nasturtiums, a drawing for the polychrome in the church of the Franciscan Friars in Krakow; author: Stanisław Wyspiański, 1895–1896

Fig. 26. Nasturtiums, polychrome in the church of the Franciscan Friars in Krakow; author: Stanisław Wyspiański, 1895–1896

Source: http://www. pinakoteka.zascianek.pl/ Wyspianski/Images/ Nasturcje.jpg

Stanisław Wyspiański was known as master polychromist. His master-pieces can still be admired in numerous interiors, including in the church of the Franciscan Friars in Krakow.

Stanisław Wyspiański can actually be considered the most versatile Polish artist. He started his creative activity with pastels, having painted mainly children and plants. His first major work was a polychrome designed by Jan Matejko, which they both painted in St Mary's Church in Krakow. For that interior, he also designed twelve stained glass window lights.

However, it is the interior of the church of the Franciscan Friars in Krakow, where he created polychromes and designed stained glass win-dows, that epitomises his artistry at its best, even though that project turned out to be extremely difficult in terms of the sheer content.

"(...) The competition for the design of the polychrome (1894) was won by Józef Mikulski, but his design ultimately proved impossible to develop on the wall. At that point, Wyspiański was brought in as a matter of urgency, via telegraph. Mikulski was very helpful in this arduous project, that took six months, from May to November 1895. Unfortunately, many of Stanisław Wyspiański's signature out-of-the-box concepts were met by resistance or refusal from either architects or the monks (although the monastery's guardian, Fr. Samuel Reiss, was delighted with them). He failed to dec-orate the frieze of birds, so beloved by the temple's patron, Saint Fran-cis (replaced by a frieze of lilies). The frieze of angels, represented by poor

boy-ministers in ragged shoes or barefoot, was also rejected, "because the congregation might think that there is poverty in heaven." The series of wall paintings entitled *Virtues and Misdeeds* turned out to be too secular. Consequently, the artist was constantly forced to change his plans to satisfy the decision makers. In the end, he was not allowed to continue working on the polychrome in the central nave. After a few years, it was completed by Tadeusz Popiel in his attempt to imitate Wyspiański's floral patterns. The discrepancy, however, is more than evident (…)."[16]

The pieces Jerzy Nowosielski created for the Orthodox church in Hajnówka (not completed) and for the Church of the Holy Spirit in Tychy (designed by Stanisław Niemczyk) serve as examples of modern polychromes. Nowosielski designed polychromes for Orthodox, Greek Catholic, and Roman Catholic churches. He was employed to paint the polychromes by Adam Stalony-Dobrzański, a colleague from Krakow. Most of their joint works were created in the 1950's.

However, Nowosielski was evidently unlucky with principals, who considered his projects too innovative, and so it was rather frequent that his plans ultimately failed to be put in motion, as was the case, for instance, of the Orthodox church in Hajnówka as well as in the nearby villages of Klejniki and Orzeszków. He did, however, complete the polychromes designed for the Church of the Holy Spirit in Tychy.

"(…) The artist got down to work right away. He carefully listened to the parish priest's expectations and quickly prepared designs for polychromes. Not all of them pleased the priest and the architect. 'Some of them were just too diffuse,' recalls Stanisław Niemczyk, author of the complete church design. 'For others, we had to talk about colours.'

Fig. 27. Draft of the polychrome designed for the church in Hajnówka; author: Jerzy Nowosielski, 1975

Source: https://culture.pl/pl/artykul/nowosielski-tarasewicz-i-cerkiew-w-hajnowce

'The professor, as befits a brilliant man, allowed himself to be persuaded. For only great people are able to give up their opinion,' adds prelate Franciszek Resiak.

The artist spent five years in Tychy (until 1987). 'The base for the polychromes in Tychy is somewhat singular – magnificent wooden wall panelling. One might say that paintings nearly paint themselves on such wood because, in sunny weather, it creates a background similar to that of the church in Palermo or St Mark's Basilica in Venice. It will change a little, the wood will darken a bit, and that is why I am using relatively brutal painting tricks, so that it continues to paint itself over time, gradually becoming whole. 'That is what Nowosielski wrote a year after completing his assignment in Tychy. The passage was used in Krystyna Czerni's album entitled *Nowosielski*."[17]

16   http://franciszkanska.pl/bazylika-i-klasztor/znane-postacie/

17   http://tychy.naszemiasto.pl/artykul/na-calym-slasku-tylko-tychy-maja-nowosielskiego,790724,art,t,id,tm.html

Fig. 28. Draft of the polychrome designed for the church in Hajnówka; author: Jerzy Nowosielski, 1975

Source: https://culture.pl/pl/artykul/nowosielski-tarasewicz-i-cerkiew-w-hajnowce
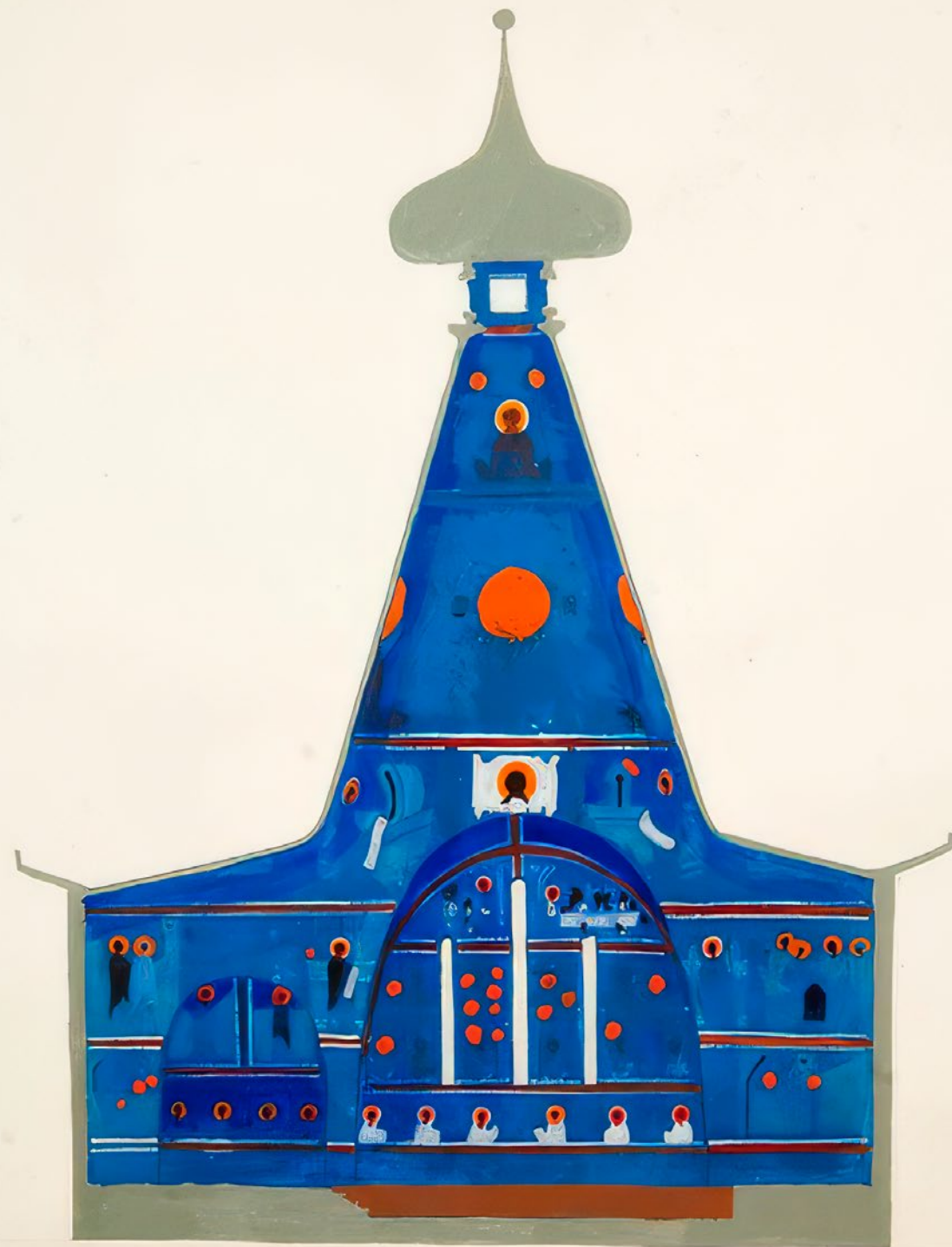
Another topic worth mentioning in this chapter is the efforts aimed at restoration of polychromes. An example of this kind of work can be found in the Jewish pre-burial house in Gliwice.

Designed by a Viennese architect of Jewish origin, Max Fleischer, the facility was commissioned in 1903. The building's renovation commenced in 2008 with the roof relocation, followed by comprehensive interior work aimed at its adaptation for a new function as a branch of the Municipal Museum (named the House of Remembrance of Upper Silesian Jews). At the time the work was undertaken, the building was in a very poor technical condition.

However, the frescoes and heritage polychromes in the ceremonial hall were successfully restored and secured against further deterioration. Defects in the paint layer were repaired using watercolour paints made from lightfast and alkali-resistant pigments. Tratteggio was applied on a point basis and the wash technique was used.

The polychromes have been restored in such a manner that their original condition can be seen in several places, which demonstrates the sheer amount of effort invested in this well-planned restoration project and preserves the memory of the generations who used the facility in the past. These reminders are referred to as witnesses. The polychromes depict a starry sky and floral motifs, while the frescoes feature a striped composition.[18]

18   B. Komar: *Od Bet Tahara Do Domu Pamięci Żydów Górnośląskich w Gliwicach. Adaptacja Domu Przedpogrzebowego w Gliwicach na nową filię Muzeum Miejskiego* [From Bet Tahara to the House of Remembrance of Upper Silesian Jews in Gliwice. Adaptation of the pre-burial house in Gliwice for a new branch of the Municipal Museum], Architecturae et Atribus, 3/2016.

Fig. 29. Ceremonial hall before renovation, House of Remembrance of Upper Silesian Jews, Gliwice, 2015

Source: Municipal Museum in Gliwice

Fig. 30. Ceremonial hall after renovation, House of Remembrance of Upper Silesian Jews, Gliwice, 2016
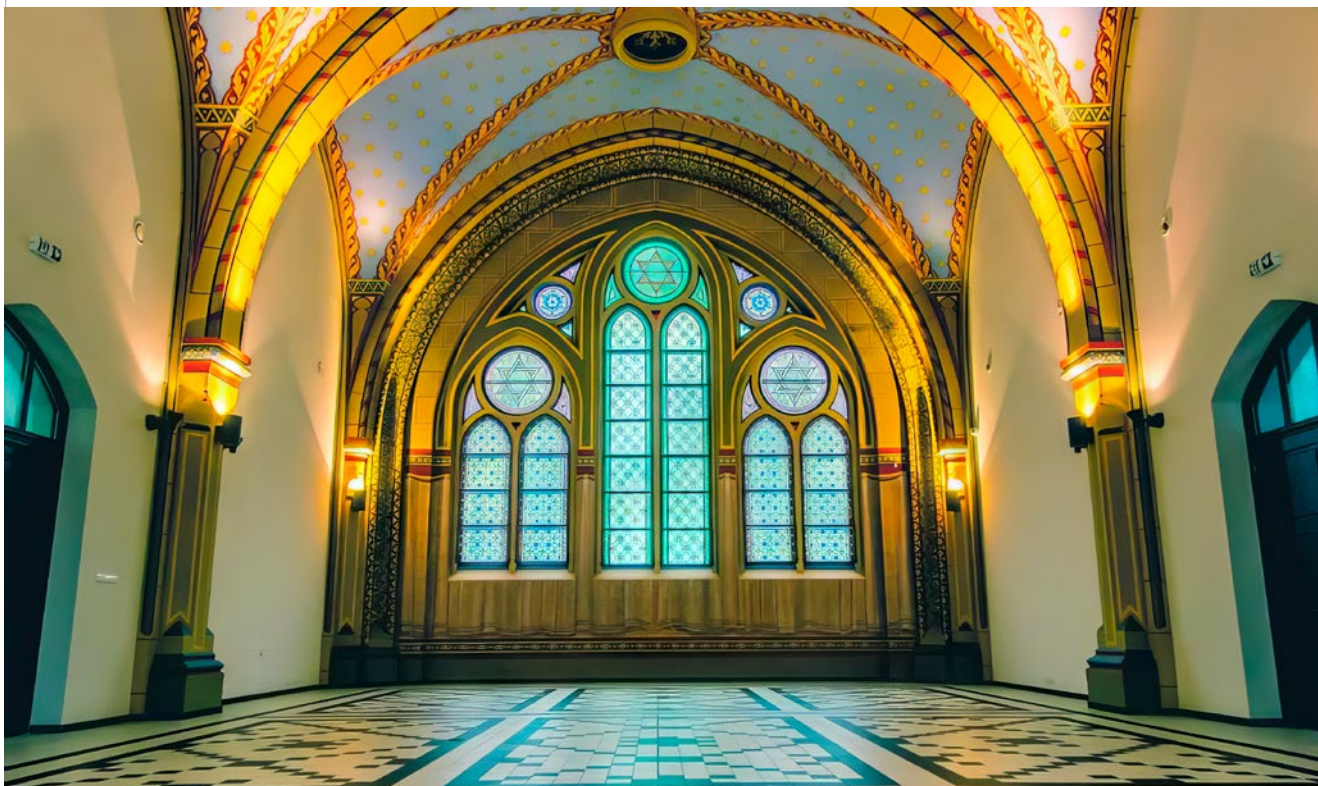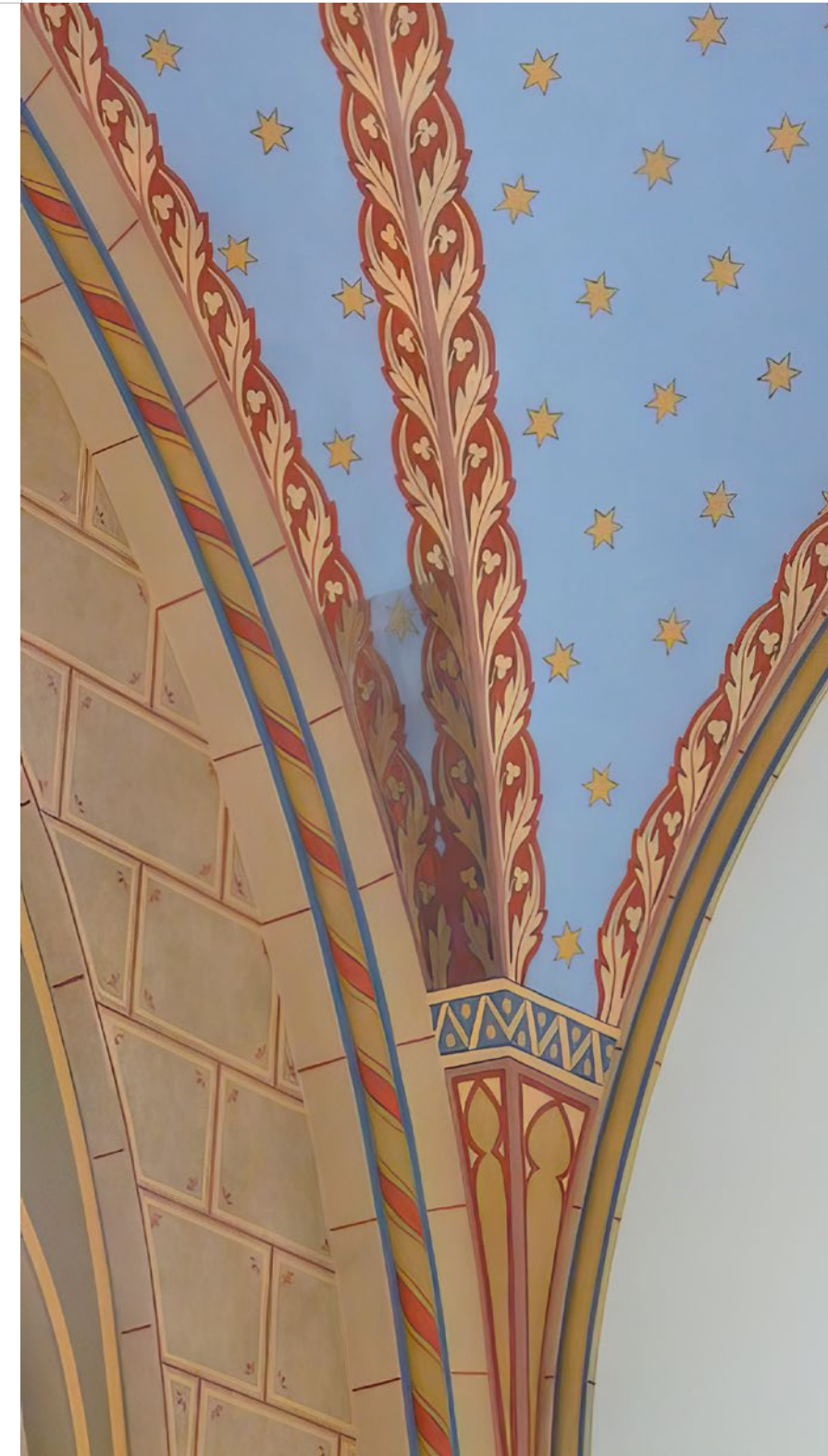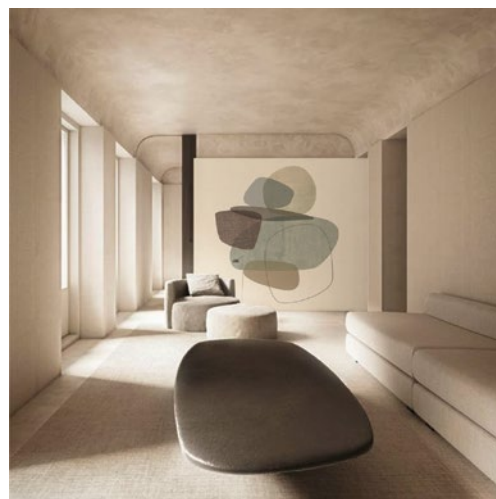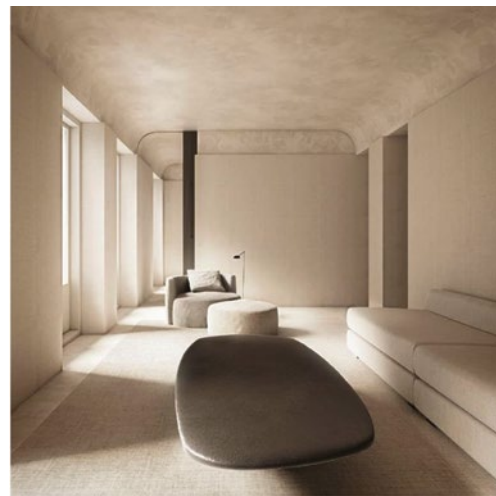
Source: photo by B. Komar (2016)

Fig. 31. Renovation of polychrome with the so-called witness, House of Remembrance of Upper Silesian Jews, Gliwice, 2016

Source: photo by B. Komar (2016)

Examples of students' projects

PROJEKT MALARSTWA ŚCIENNEGO

Fig. 32, 33. Wall painting concepts – students' works; authors: Anna Halek, Marta Drzymała, acad. year 2019/2020

Source: Archive of the Department of Fine Arts and Design, Faculty of Architecture, Silesian University of Technology
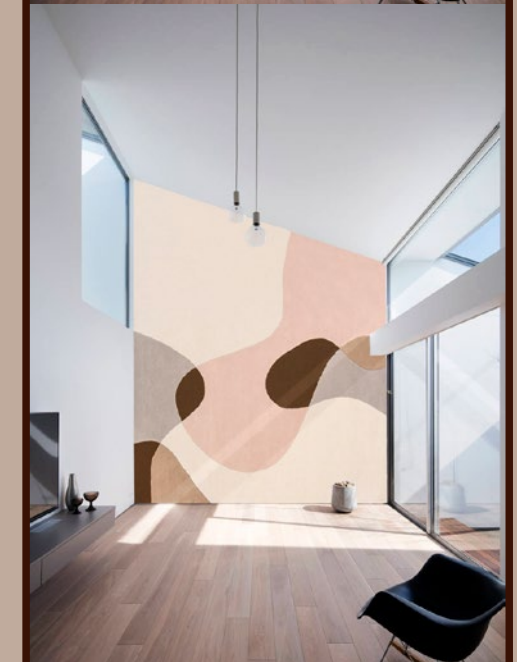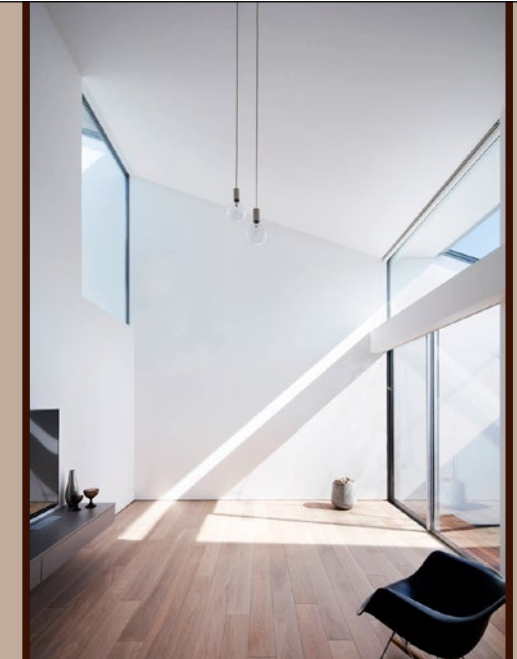

Malarstwo ścienne

Fig. 34, 35. Wall painting concepts – students' works; authors: Katarzyna Zaremba, Sabina Prędka, acad. year 2019/2020

Source: Archive of the Department of Fine Arts and Design, Faculty of Architecture, Silesian University of Technology

3.2. Al secco and al fresco – fresco on dry and wet plaster

The term *al secco* comes from the Italian language and it means *on dry*. The **al secco** fresco technique consists in covering dry plaster with paints mixed with water. The agents used as a binder include lime milk, casein (casein painting), glue, oil, tempera, wax and resin, while the paints most frequently used are casein based or modern silicate paints.

The **al fresco** technique, on the other hand, is a wall painting method which involves painting on wet plaster with paints resistant to the alkaline effect of the lime contained in mortar.

Fresco is by far one of the most difficult painting techniques, as it is practically impossible to make any corrections or changes to the paint while it is applied. However, it is also among the most durable forms of wall painting, as it bonds to the substrate.

The wet fresco technique requires the substrate to be adequately prepared, which is why the following layers are applied to the wall:
⟶ **arriciato**, containing slaked lime, coarse sand, and brick or stone chips, forming the coarse grain layer;
⟶ **intonaco**, containing slaked lime, fine filtered sand or marble dust, forming the smooth layer on which fresco painting begins; this layer functions as the binder for the al fresco technique.

Once the substrate has been prepared in the right fashion, a drawing called **sinopia**– the fresco under drawing prepared in advance – is transferred onto the surface. The name sinopia comes from the

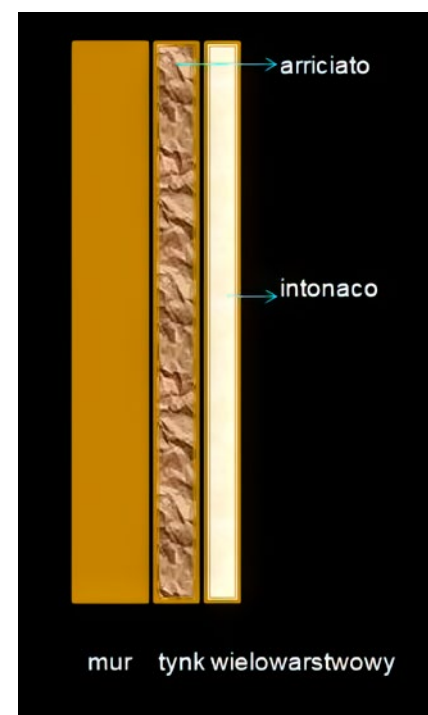Fig. 36. Surface preparation for wet fresco painting

Source: author's materials

arriciato

intonaco

mur   tynk wielowarstwowy

Fig. 37. Wet fresco painting; palace in Rudna, 2012
Source: http://bycwiecej.pl/material,xi-2012-r--robert-l--maluje-w-palacu-rudno-fresk-bouguereau-,237.html

Fig. 38. Wet fresco painting; palace in Rudna, 2012

Source: http://bycwiecej.pl/material,xi-2012-r--robert-l--maluje-w-palacu-rudno-fresk-bouguereau-,237.html

Fig. 39. Sistine Chapel part known as the New Sistine Chapel, Michelangelo, 1508–1512

Source: https://podroze.onet.pl/ciekawe/kaplica-sykstynska-w-watykanie-ciekawostki-jak-powstala-ile-zarobil-michal-aniol/8w4xmm9

reddish-brown colour of the natural pigment used to draw the images to be transferred onto the plaster. The city of Pisa hosts the museum of sinopia where one can see fresco under drawings dating from different eras.

When attempting to create a wet fresco, the artist must carefully plan out all the steps in time so that the substrate does not dry out during the work. Otherwise, the work has to be restarted from scratch.

Some of the most famous frescoes were painted by Michelangelo in the Vatican Sistine Chapel (known as the New Sistine Chapel, 1508–1512).

3.3. Marouflage

Marouflage is a slightly forgotten technique which consists in painting with oil on canvas first, only to affix the canvas to a wall. Some examples of this technique can be found in the Panthéon in Paris, where the paintings were created by Pierre Puvis de Chavannes in the 19th century. It also provides an excellent example of a synthesis of arts.

Fig. 40. The use of the marouflage technique in the Parisian Panthéon; Pierre Puvis de Chavannes, 19th century

Source: https://journals.openedition.org/insitu/16152

3.4. Murals

A contemporary variant of wall painting is **mural**. This kind of painting is typically monumental in nature, decorating empty, windowless walls of buildings. Murals are used to advertise commodities, promote charity events, or disseminate information about events or interesting people. In Poland, murals were used already in the communist period to advertise monopolists like PKO (bank), PZU (insurance company) or Totalizator Sportowy (lottery office), which actually needed no such publicity. The cradle of the Polish mural is the city of Łódź.

However, when discussing this technique, one should move back to the beginning of the 20th century, since it was then, after a period of oblivion, that mural painting returned to favour and developed in three main phases.

Phase one was abstract and expressionist in form and originated in the experimental easel painting practised by the Cubists and Fauvists in Paris. Some of the most prominent examples of this phase are the large-scale works by Pablo Picasso (UNESCO, Paris), Henri Matisse (chapel in Vence, France), Fernand Léger, Joan Miró, and Marc Chagall (ornaments at the Paris Opera House and Lincoln Center in New York).

The **second phase** evolved with the revolutionary movement in Mexico, with the remarkable series of frescoes by José Clemente Orozco, Diego Rivera, David Alfaro Siqueiros, and Rufino Tamayo. It was the movement which, to a large degree, gave birth to the mural in its contemporary form; it also brought us the world's largest mural, entitled *The March of Humanity* (8,000 m², 1971), designed and painted by David Alfaro Siqueiros for Polyforum Cultural Siqueiros in Mexico.

Fig. 41. The world's largest mural with the tower designed next to it, Polyforum Cultural Siqueiros

Source: https://www.outdoordesign.com.au/news-info/public-art-rehab/5633.htm

The mural is currently in a rather poor condition, hence the concept to build a tall glass tower of a commercial function directly next to it, and to rent out the space thus obtained, which would make it possible to raise funds for the wall painting restoration.

Phase three was a short-lived American mural movement of the 1930's, which emerged as part of what was officially known as the Federal Art Project (1935–1945), founded to support the development of the visual arts in the United States and financed by the Works Progress Administration (WPA). The programme did not only entail cultural activity, but it also provided assistance in hiring artists and craftsmen to produce

murals, easel paintings, sculptures, prints, posters, photographs, theatrical scenery, as well as other works of art and craft. The themes the artists were to explore focused on the interpretation of social and political issues. Some examples of this movement include paintings by Ben Shahn, Boardman Robinson, Thomas Hart Benton, Reginald Marsh, and John Steuart Curry. Throughout the eight-year life of the project, 500 works received financial support in New York alone. Numerous of these projects were completed in hospitals, to name just the Harlem Hospital Center, and many have survived to this day, while a vast majority of them have been restored and preserved.[19]

Nowadays, murals are created mainly during festivals organised specifically for that purpose, featuring artists from all over the world. In Poland, such events were held in Gdańsk's district of Zaspa as well as in Katowice. At just one of such festivals, in Zaspa, 45 paintings were created by 45 artists from 13 countries.

Katowice, as well as other Silesian cities, are the places where native artists usually create. Murals emerge here not only on empty building facades, but also, for example, in underground passageways and tunnels. That is how they enliven unattractive, empty, or even dangerous places. A new trend in mural art is 3D painting.

19   http://iraas.columbia.edu/wpa/conservation.html, accessed on: 12 Feb 2019

Fig. 42. Mural: *Dad, don't cry. Zosia*; author: Łukasz Surowiec, Katowice-Załęże, 2015
Source: https://kolemsietoczy.pl/street-art-murale-na-slasku-miejsca/

Fig. 43. Mural depicting libraries in Dublin and Edinburgh, Library in Ustroń, 2011
Source: https://kolemsietoczy.pl/street-art-murale-na-slasku-miejsca/

Fig. 44. Mural: *Tower of Babel*; author: Tomasz Sętowski, Częstochowa, 2014
Source: pozornie-zalezna.blog.pl.

It is noteworthy that there are even companies operating in the market which offer mural printing, directly on walls, but this technology has not yet developed enough (on account of hardware limitations) to allow works to be created in such large formats as those presented in this chapter. Consequently, this technology is mainly used for interior decoration.[20]

Having analysed the mural art at large, one can conclude that it is currently among the most popular techniques used in public space. Artists associated with this trend complete their works in all corners of the world. For example, the large-format works by Etam Cru — a duo of graduates of the Academy of Fine Arts in Łódź, adorn buildings in dozens of cities around the globe. In 2016, their piece entitled *Girl with the Orange* emerged on a building in Dubai.
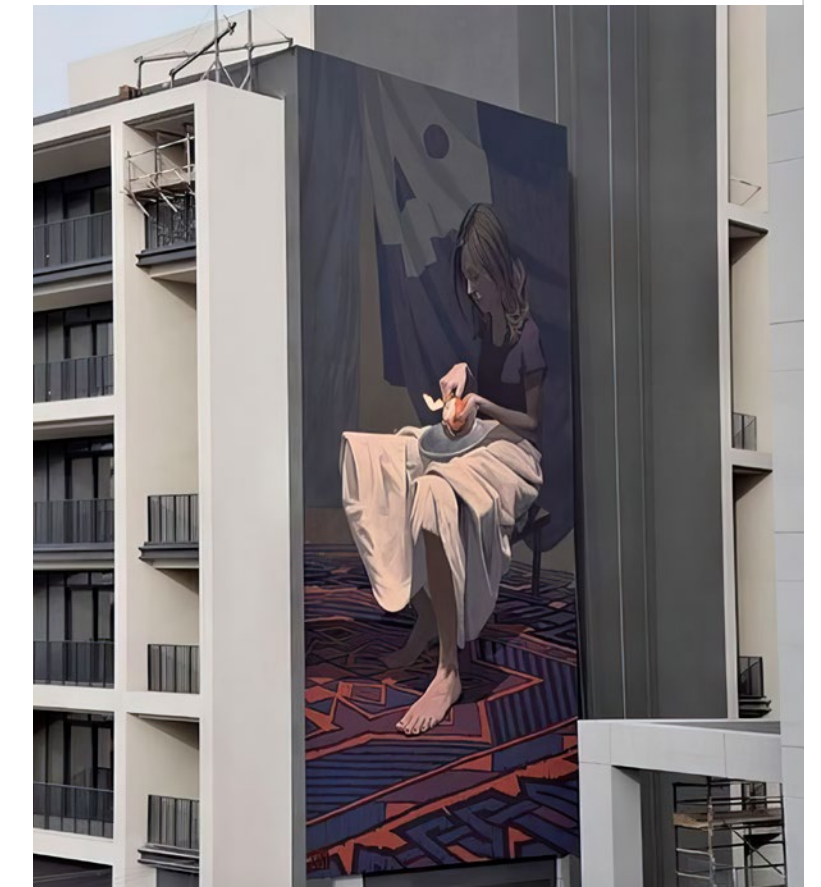
Fig. 45. *Girl with the Orange*; author: Etam Cru, Dubai, 2016

Source: http://lodz.wyborcza.pl/lodz/5,35136,19917425.html

20   www. neon.com.pl

However, when exploring the world of murals in the domain of form and content, it can be observed that they are usually dominated by a technique specific to an individual artist, making the latter easily recognisable. This often pushes the location, the local colour pattern, or the cultural dimension of the surroundings to the background, although some artists are obviously aware of these aspects as well.

3.4.1. Mural as a tool for social activity. Project Universal vs Pasila Street Art District

Depending on the message it conveys, a mural can make diverse references – from serious, alarming about the most dramatic problems of the contemporary world, such as war or famine, to those with a humanising potential or ones that can even cheer up the space.

Grzegorz Drozd and Alicja Łukasiak, artists from a group known as Zmiana Organizacji Ruchu (Polish for traffic diversion), followed precisely such ideas when they created the project called *Universal* for Dudziarska street in Warsaw (2010).

Dudziarska is actually a housing estate comprising three blocks of flats situated on the outskirts of the capital city, next to a railway track, a municipal waste incineration plant, and a temporary custody centre. The blocks are built of prefabricated elements, they tend to lack hot water and heating, and it is there that the city's most troublesome tenants are evicted. Since the beginning of the 21st century, this place has attracted activists and artists willing to stimulate the local residents and to give them a shadow of hope for a better future.

Fig. 46, 47. Project *Universal*; author: Zmiana Organizacji Ruchu, Warsaw, Dudziarska street, 2010

Source: http://warszawa. wyborcza.pl/warszawa/ 1,95190,8470155, Dudziarska_nie_ nudziarska__czyli_jak_ ozywic_osiedle.html

To this end, the group Zmiana Organizacji Ruchu proposed that six murals would be painted on the buildings' front walls. On one side of them, large murals inspired by Kazimir Malevich's *Black Square* against a white background were created, while on the other side, more colourful Mondrian-style compositions emerged. However, the project did not enjoy wide appreciation among the residents, or even faced uncompromising rejection. The *Black Square* was not understood in particular. That was because the residents considered it to be reminiscent of their poverty and social rejection. Neither did project *Universal* succeed in gaining media approval. Presently, the residents have left the estate and moved to other housing units.

Fig. 48. Pasila Street Art District; author: ChemiS (Czech Republic), Helsinki, Finland, 2017

Fig. 49. Pasila Street Art District; author: Edward von Lõngus (Estonia), Helsinki, Finland, 2017

Source: Helsinki Street Art: Guide to Pasila Street Art District

A similar example of humanisation of space, and again — a residential area, can be found in the Helsinki district of Pasila, where street art forms such as mural and some smaller painting formats were employed. Located three kilometres away from the centre of the Finnish capital, the district is a compound of grey blocks of flats and office buildings, somewhat similar to those to be found in Dudziarska street, but held in disrepute to a much lesser extent. There, again, murals were proposed to make the prevailing greyness slightly more pleasant and cheerful. Those entrusted with a task to prepare drafts for the project were the artists affiliated with Helsinki Urban Art. The outcome was a wide variety of works, ranging from large-scale to small-scale pieces created using stencils. The art works appeared in the buildings' entrance areas, on external lifts, ramps, and pillars. A total of 80 works were created. They gave the district a new colour, which attracted tourists and new residents as well as property developers. In this case, the project was a success.[21]

21   Helsinki Street Art: Guide to Pasila Street Art District, https://www.helsinkiurbanart.com/en/etusivu-layout-2/

Creating art for the sake of the general public, especially when painting murals, as in the cases described, one must be aware of the public sentiments they may evoke, particularly among artistically unrefined recipients, since not only are they highly specific in their large format, but may also remain in the chosen location for years to come. It seems that – especially in similar cases – artistic work should be preceded by surveys that would help artists to establish the expectations of the local community and really humanise the place where people live. Equally worthwhile should be comparative studies of similar cases and drawing conclusions specific to a given location.

3.5. Street art: Banksy

A trend known as *street art* has already been mentioned in the previous chapter. It is a rather broad notion that includes positive examples of art in the streets as well as acts of vandalism. According to the definition, street art is considered a field of art created in a public domain, most typically on streets, in forms of illegal interference in the space. The term encompasses traditional graffiti, but is often used to distinguish artistic activity in urban space from vandalism.[22]

The term *street art* was probably first used by Allan Schwartzman in 1985.[23] In the publication entitled *Historia i cele street artu ze szczególnym uwzględnieniem jego społecznej roli – na przykładzie prac Banksy'ego* (History and goals of street art analysed with special reference to

Fig. 50. *Girl With a Balloon*, mural; author: Banksy, London, 2002

Source: https://kulturalnemedia.pl/sztuka/dziewczynka-z-balonikiem-banksy/

its social role using the example of Banksy's works), K. Jurkiewicz claims that street art does not follow strictly defined rules, work structures, or any other determinants. Everyone creates as they please and where they please, but recipients may not necessarily consider such activity as a form of artistic expression. Consequently, street art very often yields negative associations among the general public. However, it is a very diverse art, and true masters of this field can nonetheless be found. One of them is the mysterious artist nicknamed **Banksy**. Mysterious, indeed, because no one has managed to discover his true and carefully protected identity yet. This does not change the fact that Banksy has attracted the attention of numerous researchers.

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22   http://encyklopedia.naukowy.pl/Street_art
23   T. Sikorski: *Czy Street Art jest sztuką?* [Is street art an art?] [at:] E. Dymna, M. Rutkiewicz: *Polskie Street Art* [Polish street art], part 2. *Między anarchią, a galerią* [Between anarchy and gallery] p. 373. Carta Blanca, 2012.

According to *The Guardian*, his real name is **Robert Banks**; according to *The Mail on Sunday,* he is **Robin Gunningham**, while other sources claim: **Robin Banksy** (born 1974 in Yate). What we do know for sure is that his works simply appear on the streets of London and in many other places around the world. Banksy uses a variety of techniques to convey meaningful messages, combining graffiti and a distinctive stencil technique. He predominantly creates humorous content, but his output is sometimes also more socially or politically aware. He is often bold in choosing risky locations for his work. What does not change is that his art invariably leaves no viewer indifferent.

Fig. 51. Mural on a garage building in Port Talbot; author: Banksy, 2019

Source: www.banksy.co.uk

Fig. 52. *Maidservant*; author: Banksy, 2006

Source: https://designalley. pl/banksy-10-najlepszych-prac-artysty/

4. Sgraffito

The wall sgraffito technique originated in Italy (Italian: *graffiare* – to carve or scratch, *graffito* – a drawing engraved on a wall or a vessel) and was most popular during the Renaissance and early Baroque periods, when it spread its influence virtually over the whole of Europe. One of the best-known artists to use it was Michelangelo Merisi da Caravaggio (1571–1610). In the simplest terms, this technique consists in applying successive layers of coloured plaster or clay and scraping off fragments of surface layers while they have not dried yet. What matters greatly to this technique is the right timing of work, since the intended results can only be obtained when the successive layers are wet. Once they have cured, one must start all over again.

Depending on the number of layers applied, sgraffito is divided into two- or multi-layered as well as two- or multi-coloured.

4.1. Two-colour sgraffito

This technique was mentioned already by Giorgio Vasari in *Lives of the Most Eminent Painters, Sculptors, and Architects* (1550), where he gave a recipe for preparing both the substrate and the whitewash layer.

In order to obtain a dark-tinted lime mortar applied on a wall, burnt and powdered straw was added. Once levelled and smoothened, the substrate was covered with milk of lime. A draft drawing was transferred to

Fig. 53. Example of two-colour sgraffito, Długi Targ, Gdańsk
Source: photo by B. Komar (2017)

a surface thus prepared and cured by scratching off the white superficial layer using a metal spike. Only then did the proper work commence, which involved exposing the deeper layers of mortar. By that means, specific effects were produced:
⟶ **linear**, by scratching off one or more lines next to each other,
⟶ **planar**, by scratching off the whitewash over the entire surface, followed by what was referred to as hatching with a sharp tool,
⟶ **planar-linear**,by employing both the above methods and adding halftones obtained by rubbing or pricking.[24]

Husarski[25] also recalls Fabris's recipe from the 19th century, distinguishing between two layers of substrate: the first, made of sand and slaked lime (which should remain on the wall for about 6 months), and the second, obtained by adding soot, burnt umber, or other lime-resistant dyes to the lime mortar.

4.2. Multi-colour sgraffito

When creating a multi-colour sgraffito, one should follow the sequence of the layers to be applied, from the darkest to the lightest one, starting from the wall surface, primed in advance. This is due to the fact that the deeper layers, when exposed, focus more shad on them, which darkens them noticeably. Setting the lighter layer below the dark one, especially where the wall is illuminated by the sun, brings both layers closer in terms of their qualities, which may actually deprive the sgraffito composition of its distinctiveness.

Fig. 54. Example of multi-colour sgraffito

Source: photo by B. Komar (2017)

With regard to the whitewash, not only the traditional formulation of lime milk, but also an alternative made of blanc fixe is used nowadays.[26]

In 1976, Roman Husarski of the Krakow University of Technology developed yet another sgraffito variation, namely **hydrography** (patented under no. 93185), which consists in exposing deeper layers using a high-pressure jet of water. This type of sgraffito makes it possible to cover larger surfaces in a shorter period of time, and the artistic effects thus obtained are softer in terms of expression than those produced with metal tools.[27]

24 R. Husarski, *Techniki plastyczne w architekturze* [Art techniques in architecture], Publishing House of the Krakow University of Technology, Krakow, 1988, pp. 36–37.

25 Op. cit. p. 37.

26 Op. cit. p. 37.

27 Op. cit. p. 38.

Examples of students' projects
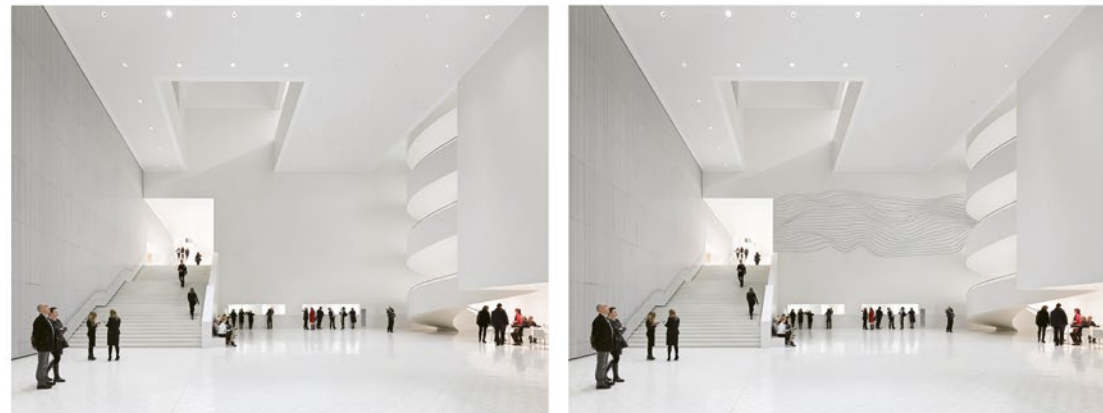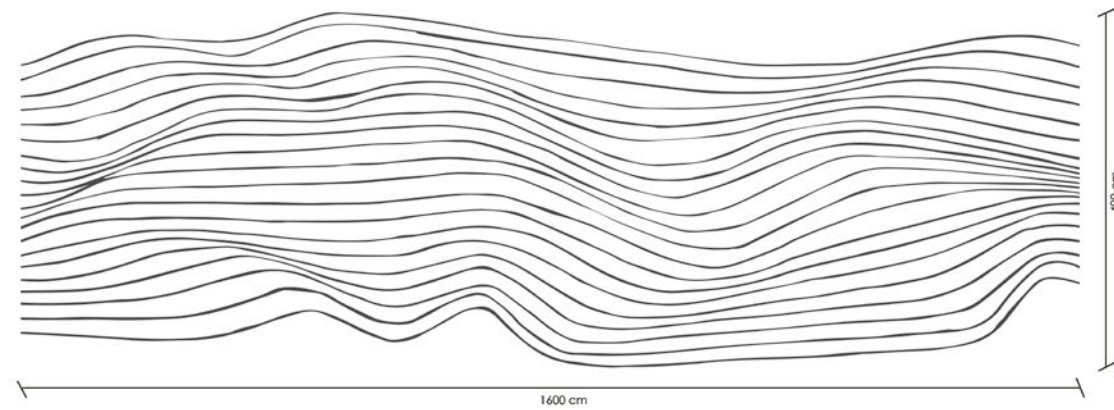
Fig. 55. Sgraffito concept, students' works; author: Maria Fochtman, acad. year 2019/2020

Source: Archive of the Department of Fine Arts and Design, Faculty of Architecture, Silesian University of Technology

Fig. 56 Sgraffito concepts, students' works; authors: Paulina Duda, Mariola Skiba, acad. year 2019/2020

Source: Archive of the Department of Fine Arts and Design, Faculty of Architecture, Silesian University of Technology

Fig. 57. Sgraffito concepts, students' works; authors: Paulina Duda, Mariola Skiba, acad. year 2019/2020

Source: Archive of the Department of Fine Arts and Design, Faculty of Architecture, Silesian University of Technology

SGRAFFITO

Techniki plastyczne w Architekturze
Wydział Architektury. Architektura wnętrz.
Rok. akad. 2019/2020, sem. V.
Wykonała: Mariola Skiba.
Prowdzący: mgr sztuki Adam Styrylski
dr hab inż. arch. Beata Komar

5. Glass art techniques

5.1. Glass and beginnings of stained glass making

Glass has been known and used in buildings since the beginning of our era (i.e. since ca. year 50 AD).

The literature on the subject is unequivocal with regard to where and when glass began to be produced:

⟶ according to O. Knapp (1958) and W. Prochaska (1967), the oldest glass artefact found dates back to approx. 9,000 years ago,

⟶ according to M. Wigginton (1996), glass was invented in the eastern Mediterranean around 4,000 years ago,

⟶ according to W. Prochaska and R. Polujan (1967), glass was used in the Roman Empire; this hypothesis is based on the discovery of 30×50 cm glass sheets in the ruins of Pompeii, which were probably produced by pouring not completely liquid molten glass onto polished stone and then stretching it by means of tongs (which was known as Roman glass); however, given the considerable dimensions of these sheets, it can be argued that glass had been known and used already earlier.[28]

28   E. Wala, *Szkło w architekturze współczesnej* [Glass in contemporary architecture], Publishing House of the Silesian University of Technology, Gliwice, 2017, p. 15.

According to other literary sources concerning this subject, glass was invented by the Egyptians and the Phoenicians, and the latter certainly perfected the glass production technology, making it more transparent.

The glass sheet making process was refined in the centuries that followed, and it has survived until the present in a nearly unchanged form. It consists in blowing a large bubble of glass, followed by cutting and stretching it to the appropriate size. Hand-made glass, especially from the early medieval period, is characterised by streaks, traces of inhomogeneity, and varying sheet thickness (cathedral glass).

As the Roman Empire collapsed, European glassmaking regressed in the 5th century AD. The multicultural city of Alexandria in Egypt became the main centre of glassmaking, and that is where transparent glass was first produced.

The renaissance of popularity of glass in Europe, observed around the 11th century, was linked with the growing demand for stained glass windows.

Between the 10th and 16th century, being the first period, glass tinted by melting it together with metal oxides was used. Glass elements were cut to shapes using a heated metal rod.

In the second period, i.e. from the 16th century to the present, glass has been tinted using low-melting colouring agents, fixed by firing. Application of colour on cold glass yields more precise effects.

In the early Christian churches of the 4th and 5th centuries, when the stained glass technique was not yet known, windows were filled with decorative patterns composed of thin slices of alabaster set in wooden frames, thus producing a stained glass-like effect.

Fig. 58. Crown glass
Source: http://glassatelier.com.pl/page/3/

The Middle Ages, on the other hand, saw a common use of what was known as crown glass, i.e. small, typically circular glass panes bonded with lead. They were distinctively disc-shaped with concentric irregularities and a thicker area in the middle, called a bullseye.

The oldest documented stained glass fragment was discovered in St Peter and St Paul's monastery in Wissembourg; it is known as the **Head of Christ of Wissembourg** (Alsace) and dates to the 11th century (ca. 1060–1065). The preserved stained glass panel shows Christ's head *en face*, and belongs to a larger whole. Currently, the original is kept at Musée de l'Œuvre Notre-Dame in Strasbourg, while the church in Wissembourg hosts its exact copy.

In terms of content, stained glass windows performed a narrative and iconographic function, as they mainly depicted biblical scenes, serving as the Paupers' Bible, made understandable particularly to the illiterate part of the congregation.

Fig. 60. Poor Man's Bible, stained glass window in Canterbury Cathedral, 13th century
Source: Wikipedia

Stained glass art evolved most significantly in the Gothic period as cathedrals started to be erected, then in the 19th century during the Art Nouveau period, as well as after World War II.

The renaissance of the stained glass art in 19th-century Europe was related to the fascination with historical styles, typical of the time. Therefore, stained glass windows were mainly created in this spirit.

In Poland, the centres of stained glass art are Wrocław, Toruń, and Krakow. However, it is also noteworthy that, due to the complicated history of our country, not all stained glass works were created in Poland. This was the case, for example, in Silesia, where the vast majority of stained glass windows were ordered at German workshops.

Fig. 59. Head of Christ of Wissembourg
Source: https://barwyszkla.pl

A similar phenomenon could be traced to the city of Toruń, where – unlike in medieval times – stained glass was not produced at local workshops but was imported, such as the monumental set of neo-Gothic stained glass windows dating from 1898–1916, to be found in St Mary's Church, prepared entirely by the company Binsfeld& Jansen of Trier in the Rhineland. The 19th century stained glass windows in St Mary's Church in Toruń count as some of the most tremendous and high-quality pieces of neo-Gothic art in contemporary Poland. They manifest the efforts made in the field of restoration work by Johannes Heise (1850–1899), a heritage conservation officer for the province of West Prussia during the period of the Prussian rule. The revival and flourishing of the stained glass production in Toruń were observed in post-WWII years, which was associated with the activities of the new Faculty of Fine Arts at the Nicolaus Copernicus University as well as of the Polish heritage conservation workshops (PP Pracownie Konserwacji Zabytków).

One of the most important Polish studios was the stained glass and mosaic workshop (Krakowski Zakład Witrażów i Mozaik) run by Stanisław Gabriel Żeleński in Krakow, established in 1906 on the basis of the Krakow Stained Glass, Artistic Glazing and Glass Mosaic Factory (Krakowski Zakład Witrażów, Oszkleń Artystycznych i Fabryka Mozaiki Szklannej),[29] founded in 1902 by Władysław Ekielski (architect) and Antoni Tuch (decorative painter). Żeleński quickly developed the company he had taken over, having imported glass from abroad, including England and America, thus building a stock of several thousand glass colours and types at the studio's immediate disposal. Artists such as Stanisław Wyspiański and Józef Mehoffer collaborated with the company, successfully

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29 K. Pawłowska, *Witraże w kamienicach krakowskich z przełomu wieków XIX i XX* [Stained-glass windows in the tenement houses of Krakow in the late 19th and early 20th century], Księgarnia Akademicka, Krakow, 1994, p. 122.

building their unique and distinctive style. The company's consecutive art directors were: Jan Bukowski, Stefan Matejko, and Henryk Uziembło – all of whom represented the Polish Applied Arts (Polska Sztuka Stosowana) group. After Żeleński's death in 1914, the enterprise was taken over by his wife Iza, née Madejska, and then by their descendants who continued to run the business until World War II. Nowadays, the establishment is operated by Spółdzielnia Renowacja, a renovation cooperative, without much detriment to the artistic quality of their services, winning numerous awards for their productions.

Besides the aforementioned figures, the most acclaimed Polish stained glass artists are considered to be Jerzy Nowosielski, Adam Stalony Dobrzański, Edward Kwiatkowski, Teresa Maria Reklewska, and Wiktor Ostrzołek.

5.2. Traditional stained glass technique

The stained glass technique is believed to have originated from Byzantine mosaics. A **stainedglass window** is like a painting – a decorative window filling made of fragments of coloured glass set inside lead profiles fixed in metal frames.

The first stage in the production of a stained glass window according to the traditional technique, i.e. using lead profiles, is either to make or obtain from the building architect or owner an exact template of the window opening into which the decorative glass is to fit.

Fig. 61. Józef Mehoffer, Study of the figure of mourning Mary Magdalene for a stained glass window entitled *The Saints*, posed by the artist's wife Jadwiga, a) study in pencil, b) study with the colour arrangement, 1908

Source: Zeńczak A., Wapiennik-Kossowicz J., *Józef Mehoffer*, Wydawnictwo Bosz, Olszanica, 2006, pp. 87 and 89.

a)

b)

Fig. 62. Stained glass window mock-up drawing at a scale of 1:1; preparation for glass cutting

Source: Ireneusz Franusik's stained glass studio; photo by: B. Komar (2014)

Fig. 63, 64. Glass cutting

Source: Ireneusz Franusik's stained glass studio; photo by: B. Komar (2014)

The theme explored in the stained glass art work typically depends on the location, the specific subject, or the investor's intent. A small draft called *vidimus* (Latin for *we have seen*) is developed first, and it can be presented to the investor. A scaled mock-up sometimes proves very useful as well. What the designer must take into account is not only the draft itself, but also the window structure and type, the size of the available glass panels, and the technique of their own preference. Next, a drawing is prepared on cardboard at a 1:1 scale. In the Middle Ages, the drawingwas made directly on the surface of a whitened table, which was then used as a model for cutting, painting, and window assembling.

The next step is glass tinting using glass colouring agents or painting on glass, when the design so requires. Each colour applied to the glass is fixed separately. This means that the number of times the glass is fired is the same as the number of colours applied. However, it is noteworthy that the contemporary selection of glass is so extensive that the process of glass colouring is often omitted in favour of using ready-made glass.

Once the colour has been applied to the glass, the glass panel is laid on a gypsum-coated plate, which prevents it from sticking to the base, and placed in a special kiln where it is baked. Upon

Fig. 65. Painting on glass

Source: Ireneusz Franusik's stained glass studio; photo by: B. Komar (2014)

Fig. 66. Glass baking plates

Source: Ireneusz Franusik's stained glass studio; photo by: B. Komar (2014)

Fig. 67. Glass kiln

Source: Ireneusz Franusik's stained glass studio; photo by: B. Komar (2014)

completion of this process, in order to prevent the glass from cracking, glass panels are left to cool (for up to 24 hours) by keeping them in a closed kiln.

Another step is fitting the glass into lead profiles. For this purpose, a lead profile is stretched on a wooden table over the entire length of the stained glass window in preparation. The working table is made either of wood or fibreboard, since only these make it possible to hammer in some nails which are also required for the stained glass production. It is also

Fig. 68. Lead profile stretching with a clamp on the table

Source: Wrigley L., Gerstein M., *Witraże* (Stained glass), Wydawnictwo Arkady, Warsaw, 1998, p. 44.

Fig. 69. Glass fitting in lead profiles

Source: Ireneusz Franusik's stained glass studio, photo by: B. Komar (2014)

Fig. 70, 71. Soldering of lead profiles

Source: Ireneusz Franusik's stained glass studio; photo by: B. Komar (2014)

important to make sure that the lead profile is not stretched too hard, as this could cause the stained glass to deform and fall out. The profile is only stretched once, since its elongation relative to the original length must not be greater than 25 mm.
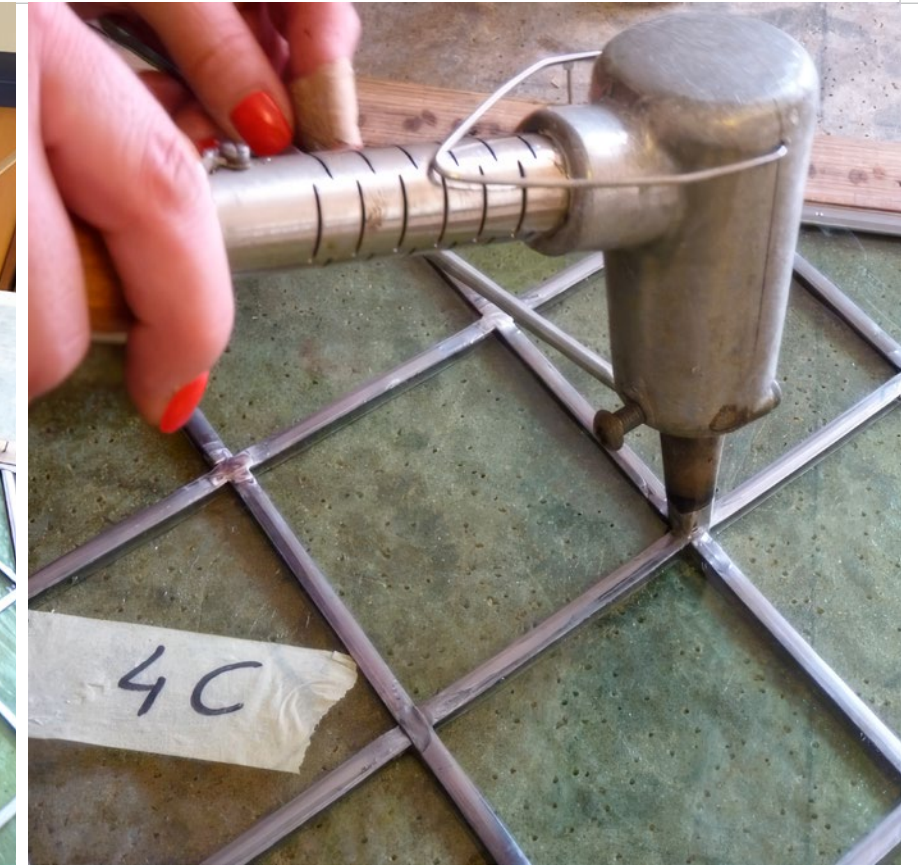
The aforementioned nails (also called *horse nails*, as they are typically used by blacksmiths) are used to hold the glass in the lead profiles. Thus prepared, the profiles are soldered at the joints.

After placing the glass panels inside the lead profiles, the stained glass is puttied and then wiped with powdered chalk in order to remove any residue of oil flowing out of the putty. Finally, the stained glass is polished with a special polishing paste and inserted into the window frame.

Fig. 72. Equipment for lead working

Source: Wrigley L., Gerstein M., *Witraże* [Stained glass], Wydawnictwo Arkady, Warsaw, 1998, p. 43.

5.3. Tiffany technique

Another technique for stained glass making was pioneered in the 19th century in the USA by Louis Comfort Tiffany. In a nutshell, the Tiffany method consists in wrapping each glass piece with a thin copper strip and joining them together using tin. Also, special preparations are used to obtain a suitable tint of the joint (which is called patination). This makes it possible to produce more refined decorative objects, including lamps, which were named Tiffany lamps after their creator.

Fig. 73. Equipment needed for the Tiffany technique

Source: Wrigley L., Gerstein M., *Witraże* [Stained glass], Wydawnictwo Arkady, Warsaw, 1998, p. 46.

5.4. Fusing

In the simplest terms, *fusing* (term derived from the English verb *fuse*), also known as the *warm glass* or *Americanstained glass* technique,can be described as bonding of different types of glass and firing them at high temperatures (approx. 680–830°C). The size of the panels thus fired is limited by the kiln dimensions. Large kilns enable fusing of glass compositions with a surface area of 250×150 cm, with a forming depth of up to 50 cm.

In order to attain a variety of outcomes in artistic terms, adequate materials are used for fusing, including:
—→ different grades of coloured glass,
—→ powders, granules, and glass rods,
—→ glass paints and decals,
—→ minerals, enamels, metals (gold, platinum), metal oxides,
—→ moulds, plates, as well as gypsum, ceramic, and stainless steel dies,
—→ special kaolin papers and felts, Shelf Primer separating agent.[30]

The fusing technology provides artists with unlimited possibilities of artistic expression thanks to the vast selection of colouring dyes in use, as well as the types and forms of glass fused in layers, which makes it possible not only to create glass reliefs, but also to embed other materials in the glass to add variety to the composition.[31]

Fusing is often used in interior design and can successfully replace traditional stained glass.

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30   E. Mickiewicz, *Fusing – inny wymiar szkła dekoracyjnego* [Fusing – another dimension of decorative glass], Świat *Szkła*, special issue, June 2009, pp. 2–4.
31   Op. cit.

Fig. 74. Fusing
Source: Internet

Fig. 75. Fusing method used in an object of architecture

Source: https://www.witraze.info/1818-fusing-z-motywem-jesiennych-drzew
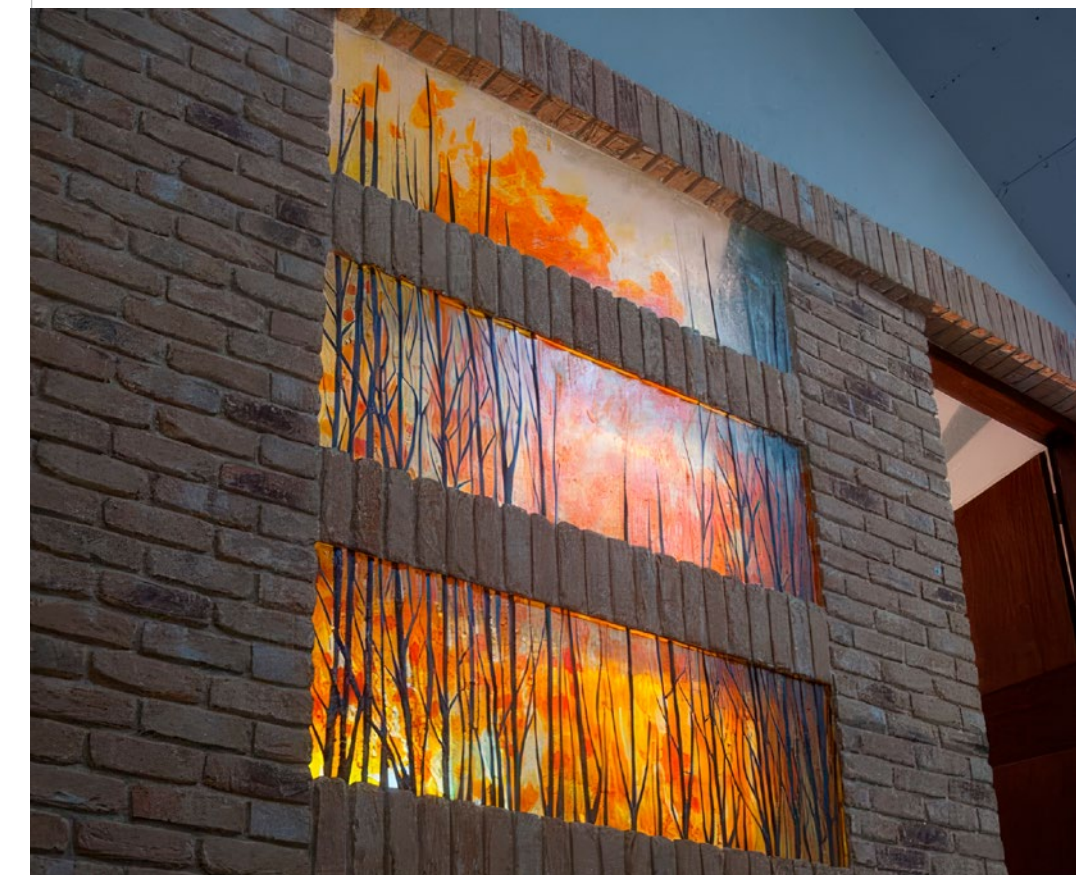
5.5. Screen printing

Another technique used for glass working (specifically on the surface) is screen printing, which has actually been known for a very long time, but its application as an art technique on facades is a fairly recent trend.

A. Budzyńska[32] describes this technique as follows: "A screen covered with a layer of photosensitive emulsion is exposed through a pre-developed stencil representing the graphic motif. Once exposed, the emulsion is removed from the screen with a water jet, after which the screen is dried. A panel of glass is placed on a screen-printing table while the screen is placed in a frame above it. On one side, over its length or width, enamel previously combined with a suitable medium is applied. The enamel is spread with a squeegee over the screen surface and, while penetrating the holes in the screen, it leaves an imprint on the glass. The glass is then moved to a kiln and cured."

The following is a description of how the Franz Mayer Studio completed an art decor designed by Alexander Beleschenko on the moving blue portal of the Sacred Heart Church in Munich (church design by Allmann, Sattler, Wappner).

"(…) The world's largest moving facade opens for occasional masses and organ concerts. The glazing consists of two layers of enamelled glass. It was prepared using the screen printing technique.

Fig. 76, 77. Screen printed moving facade of the Sacred Heart Church in Munich, designed by: Alexander Beleschenko, Munich, 2000

Source:
muenchenarchitektur.com

The first layer is a quotation from St John Passion (18–20), written in cuneiform writing. The sign of the cross has been formed from glass lights of different background intensity. The second layer is made of transparent float glass covered uniformly with a repeating pattern of a nail. The aesthetic qualities of the glazing have been conceptualised by referring to the building's simple shape. The symbolic and aesthetic details used make the project more refined. One of **Beleschenka's** tricks was to create a code that used the nail motif as the basic element forming the cuneiform writing. It is symbolic and metaphysical in nature, but also – since this is a glass art work – has an aesthetic dimension, alluding to the latest art trends related to conceptualism. On the other three sides, i.e. eastern, northern, and western, the building has been glazed using a system of glazing units. The system's outer layer is a uniformly frosted milky white relief glass covered with a delicate raster motif. The glazing softens the light uniformly penetrating the interior of the church through vertically arranged wooden louvres forming a panel screen. This

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32 A. Budzyńska, *Sitodruk na szkle – dyskretny urok monochromatyzmu* [Screen printing on glass – the discreet charm of monochromatism], Świat *Szkła*, 9/2014.

Fig. 78. Screen printed facade of the Museum of the History of Polish Jews in Warsaw; letter design by Klementyna Jankiewicz, 2014

Source: Budzyńska A., *Sitodruk na szkle – dyskretny urok monochromatyzmu* [Screen printing on glass – the discreet charm of monochromatism], *Świat Szkła*, 2014.

is important for shaping the illumination and creating a specific vibe. The building makes use of glass coatings developed using a variety of techniques, which affects the character and finish of the its façade (…)."[33]

Another project completed by Mayer using the same technique is the glass facade of the Department of Waste Management in Munich, designed by Heiner Blum, while some of the most noteworthy examples of the works created worldwide include the following: library building at the Utrecht University of Technology in the Netherlands (2004, WielArets Architects), town hall in Alphen aan den Rijn, the Netherlands (2002, Erick van Egeraat Associated Architects), library building at the Brandenburg University of Technology in Cottbus, Germany (2004, Jacques Herzog & Pierre de Meuron), library building at Eberswald University of Technology in Eberswald, Germany (1999, Jacques Herzog & Pierre de Meuron), Museum of the History of Polish Jews in Warsaw (2014, Lahdelma&Mahlamäki Architects; letter design by Klementyna Jankiewicz), *Botanika* apartment building in Wrocław (2014, Dziewoński&Łukaszewicz Architects).

5.6. Use of stained glass in objects of architecture

Stained glass is used in both religious buildings (from which it originated) and secular structures. In religious buildings, it is used to decorate presbyteries, walls in aisles and central naves, as well as places for the organ.

An interesting fact is that Europe's largest stained glass window is located in the church of St Adalbert in Jaworzno. The triangular

33   Ibid.

composition with a surface area of 177 square metres and a height of 18.5 metres is set on the church's front glass wall. Its main figure is St Adalbert wearing a bishop's tiara, holding an oar in one hand and a cross in the other. The author of the stained glass window is Jerzy Skąpski, whose remaining artistic output also includes stained glass works to be found in the churches of St Maximilian in Oświęcim, St Pius in Ruda Śląska, Holy Cross in Zakopane, as well as in the prison chapel in Montelupich street in Krakow (more than 300 works in total). The stained glass window in question was created in 1997 in the workshop of Anna and Ireneusz Zarzycki in Krakow to commemorate the 1,000[th] anniversary of the death of the church's patron saint.

In some old religious buildings, especially those destroyed during World War II, historic window openings have been filled with contemporary style stained glass. An example of this trend is Cologne Cathedral, where art works of a contemporary artist, Gerhard Richter, can be found right next to stained glass windows from the 13th, 14th and 16th centuries. Richter's concept constitutes a reference to the artist's 1972 painting entitled *4,096 colours* (Albertinum, GalerieNeue Meister, Dresden).

Richter's piece found its place in the window of the south arm of the cathedral's transept. The artist filled 113 m² of surface with more than 11,000 square pieces of glass, each 9.7×9.7 cm in dimensions. The colour range of the dotted composition, reminiscent of pixels, comprises 72 hues. The colour pattern of the glass panes was generated at random using a computer programme. However, the composition building process was supervised by the artist, who selected some of the glass colours based on the general principles of image composition and architectural context.[34]

34   K. Siatka, *Fragile* no. 2, (12) 2011.

Fig. 79. Cologne Cathedral, *4,096 colours*, contemporary stained glass window; designed by: Gerhard Richter, 2007

Source: http://theunderglass.blogspot.com/

A similar example of contemporary stained glass art in a religious land-mark building can be found in Reims Cathedral, where one can come across pieces by artists such as Marc Chagall (including stained glass panels depicting the story of Abraham and the last moments of Christ's earthly life in the central window), and Brigitte Simone: 1961 stained glass entitled *Water of Life* as well as her other stained glass works fol-lowing a similar convention. On account of the modern nature of the foregoing stained glass windows, significantly departing from traditional, these works of art were long considered controversial by the city dwell-ers, even though Brigitte Simon was herself a native of Reims, where she also lived and worked.

However, the cathedral in Reims clearly showcases the evolution of the tastes of the local community over the years, since not only did the people finally approve Simon's stained glass windows, but they ultimately welcomed even more bold and colourful works by the German artist Imi Knoebel to be installed in the cathedral in 2011.

Fig. 80. Reims Cathedral, *Water of Life*, stained glass window by Brigitte Simon, detail, 1961

Source: photo by B. Komar (1999)
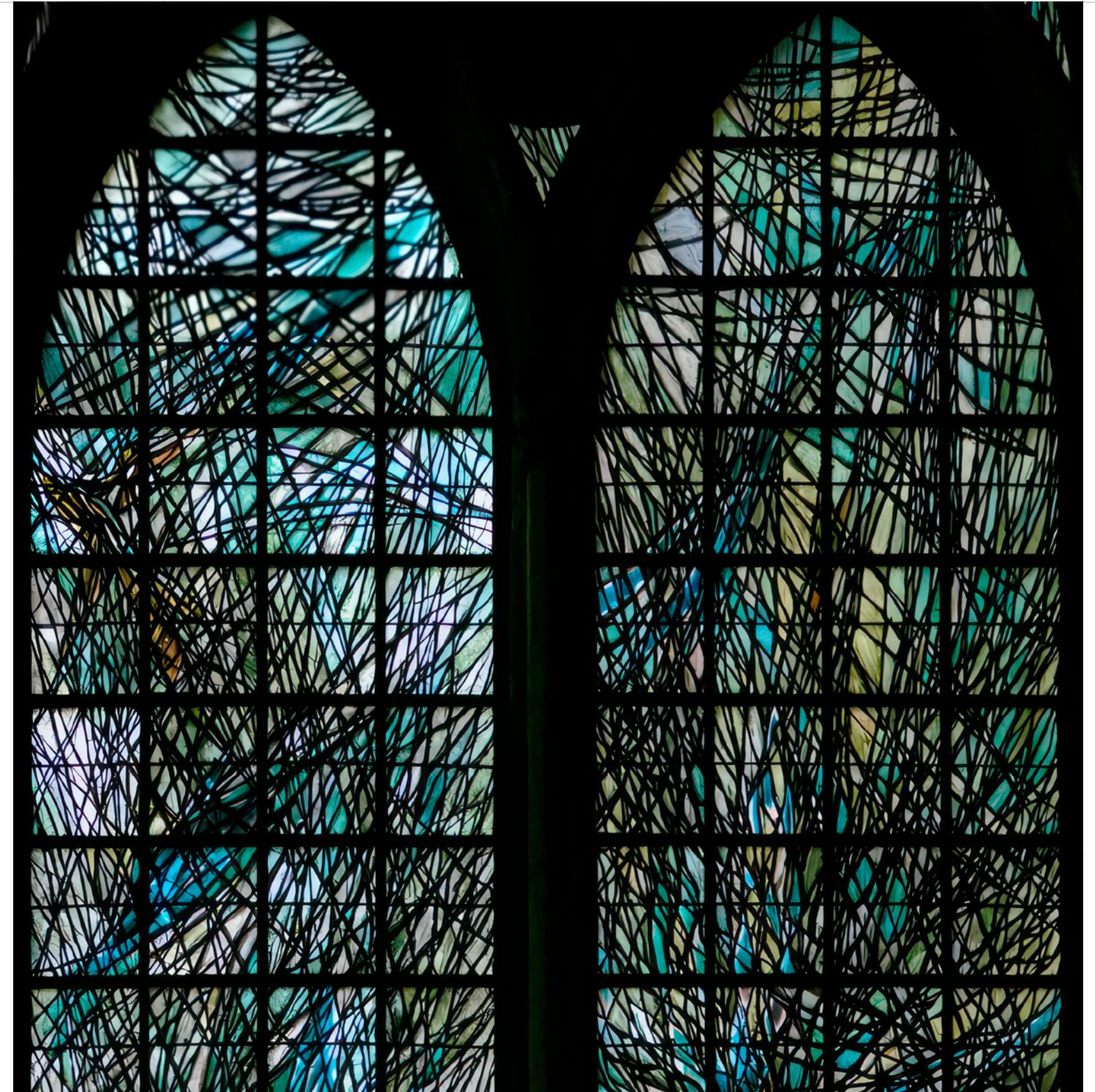
Fig. 81. Reims Cathedral, stained glass window by Imi Knoebel's design, 2011

Source: Internet.

In secular buildings, stained glass is mainly used for ornamental glazing of staircases, ceilings, doors, etc. The peak of this trend in secular buildings was witnessed in the Art Nouveau period, when stained glass was considered a very popular means of interior decoration, like in the House for an Art Lover, where the ornaments were designed by Charles Rennie Mackintosh, but also in a café where his concepts were developed. A particularly spectacular example of this art form is also the vault of the Parisian Galeries Lafayette.

However, irrespective of the kind of stained glass windows used in interiors, they invariably produce beautiful light and shade effects as well as colour patterns on floors and walls, inducing profound experiences in those who glance at them.

5.7. Stained glass in contemporary public spaces – examples of the works by the Franz Mayer Studio

The modern perception of stained glass extends far beyond the mere framework conventionally established by lead profiles. In contemporary public spaces, stained glass can be used to create standalone glass solids, suspended panes, glazed partitions, and even vaults.

Some examples of such projects can be found in the track record of the aforementioned Franz Mayer Studio of Munich, specifically studied by the author of this publication in 2010.[35]

Just as a reminder, the studio was established in 1847, and it has continued to operate ever since, developing and adding both new techniques to their portfolio as well as new branches to the enterprise. The studio currently produces not only stained glass, but also mosaics and liquid glass art. They have even opened a branch as far as in New York.

The examples provided below showcase very diverse possibilities for using stained glass in the public space: traditional technique, yet used to produce a backlit cube (Roland Fischer, Münchner Tor Office Building, Munich, Germany), painting in liquid glass (**Corinne Grondahl, New York, USA)**, enamelled glass (**Alyson Shotz,** MSKCC, **New York, USA**), coloured glass embedded in a natural stone facade (Barbara Neijna, Miami International Airport, Miami, USA), standalone glass wall covered with monochromatic painting (**Corinne Grondahl,** Caisse de Dépôt, **Montreal, Canada), suspended glass structure filled with stained glass (Reiner John,** Miller Global, **Denver, CO, USA), blend of glass mosaic and marble (**Doug and Mark Starn, Subway Station, New York, USA), tubular structure fused with coloured liquid glass (Hella Santarosa, St Florian Church, Munich, Germany), multi-colour glass facade (me di um Architekten, Central Law Library, University of Hamburg, Hamburg, Germany), suspended stained glass ceiling (Reiner John, Bayerische Landesban, Munich, Germany), and suspended glass art panels (Bernard Huber, FHTE, Göppingen, Germany). There are obviously many more remarkable examples of stained glass art, but having examined merely those provided here, one can clearly notice the contemporary potential for the use of stained glass in architecture and the built environment in general.

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35   B. Komar, *Witraże kościoła Chrystusa Króla* [Stained glass windows in the church of Christ the King], Publishing House of the Parish of Christ the King in Gliwice, 2010.

Selected stained glass art projects completed by Franz Mayer Studio

Source: Franz Mayer of Munich, Inc, http://www.mayer-of-munich.com/projekte/glas
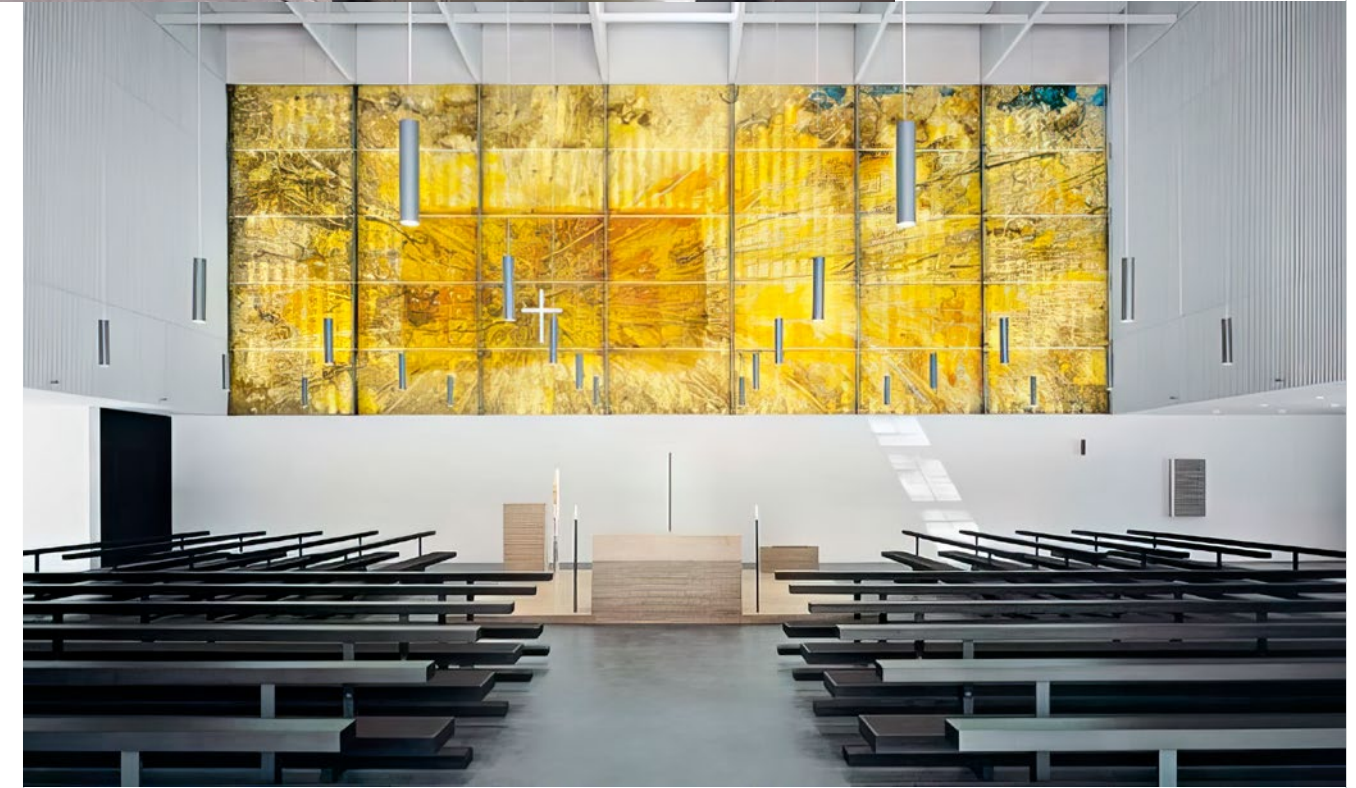
Examples of students' projects
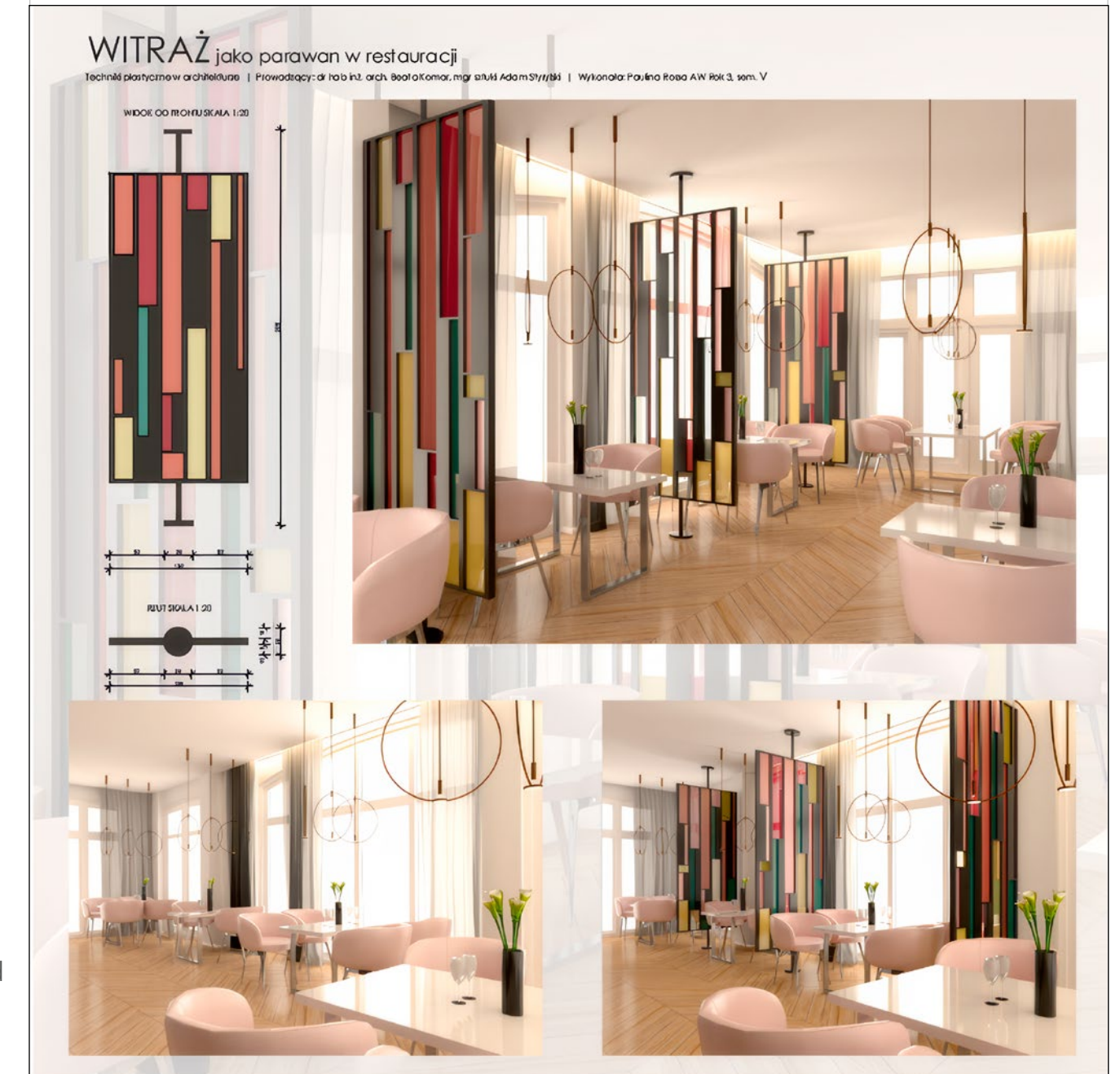
Fig. 82. Stained glass projects and concepts, students' works; authors: Paulina Rossa, Agnieszka Kąkiel, Justyna Kozioł, Natalia Laszczak, acad. year 2019/2020

Source: Archive of the Department of Fine Arts and Design, Faculty of Architecture, Silesian University of Technology

WITRAŻ

Politechnika Śląska; Architektura Wnętrz; Rok akademicki 2019/2020; semestr V; Przedmiot: Techniki Plastyczne w Architekturze 2; Prowadzący: dr hab inż. arch. Beata Komar, prof. PŚ; Autor: Agnieszka Kąkiel

WITRAŻ

Politechnika Śląska; Wydział Architektury; Architektura Wnętrz; Techniki Plastyczne w Architekturze II; rok 3; sem 5; rok akad. 2019/2020; Autor: Natalia Leszczak; Prowadzący: dr hab inż. arch. Beata Komar; Prof. Pol. Śl.

WITRAŻ

Przedmiot: Techniki plastyczne w architekturze 2   Prowadzący: dr hab inz. arch. Beata Komar prof. PŚ   Rok akad. 2019/2020   kierunek: Architektura Wnętrz, I stopień, sem. 5   Autor: Justyna Kozioł

6. Mosaic

A mosaic is considered to be an image and an ornament made of ceramic or stone elements, embedded in a non-solidified substrate which can be built of lime or cement mortar, or resins of plant origin.

In ancient Greece, mosaics were composed of pebbles – stones found on river banks (*opus barbaricum*). Another technique is known as *opus segmentatum*; it involves making use of stone discards from sculpting and stonemasonry. The noblest technique is *opus vermiculatum* (from the Latin *vermis* – worm), which makes use of regularly shaped blocks of stone or marble, semi-precious and precious stones, as well as gold, with edges cut even to the size of 1 mm.

Fig. 83. Example of Byzantine mosaic

Source: Internet

Fig. 84. Pietra dura mosaic in the Medici Chapel

Source: Wikipedia

Another type of mosaic is *pietra dura* (Italian for *hard stone*). It is a variant of mosaic produced of hard stone, where – unlike in traditional mosaic – individual shapes fit tightly together.

The art and craft of mosaic involves using not only stone or ceramic shards, but also pieces of wood. Consequently, **intarsia** and **inlay** also count as mosaic techniques.

Intarsia (from Italian *intarsio* – lining) is a decorative technique which consists in creating an image by inlaying the surface of wooden objects (mainly furniture) with other kinds of wood, sometimes dyed, stained, or scorched. The inlays are inserted in place of fragments removed from the surface of the item being worked.

Inlay, on the other hand, differs from intarsia in that the surfaces of wooden objects are not lined with other kinds of wood, but with suitably cut tiles of ivory, metal, mother-of-pearl, coloured stone, gold, etc.

Mosaic was most popular in antiquity, then in the Art Nouveau period, and – specifically in Poland – especially during the communist era.

Some excellent examples of structures decorated with mosaics, where even their original facade designs entailed the use of mosaic, are: Casa Batllo (by Antoni Gaudi, Barcelona) and Majolikahaus (by Otto Wagner, Vienna).

Fig. 85. Casa Batllo, facade renovation concept, 1904

Source: Casa BatlloSLU

Fig. 86. Casa Batllo, Barcelona, 1904–1906

Source: photo by B. Komar (2004)

Fig. 87. Casa Batllo, mosaic detail, 1904–1906

Source: Casa BatlloSLU
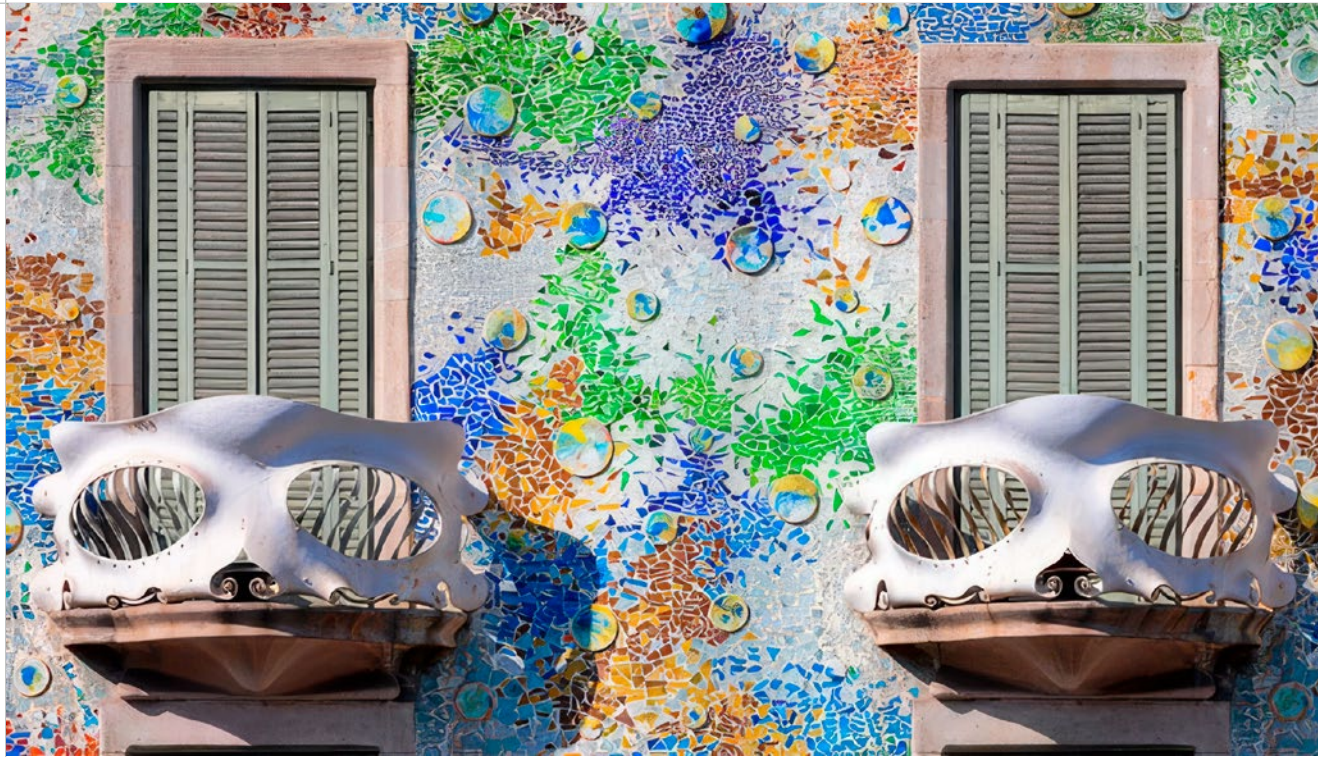
A closer glance at **Casa Batllo** reveals that Gaudi used rather unusual materials – multi-coloured pieces of ceramics and broken tiles – to decorate the building's exterior walls. The facade ornamentation also comprises numerous elements associated with animal motifs, such as bones (form of the balconies), flakes (roof), fish scales (wall cladding tiles).[36] This makes the facade texture not uniformly smooth, but rather abounding in irregularity, and by that means – all the more attractive. Here and there, it seems as if Gaudi had simply scattered coloured pieces of ceramic ware on the plaster.

The flaked ceramic roof of the Casa resembles dragon scale, perhaps alluding to the legend of St George and the dragon, which is part of the Catalan national identity.[37] It should also be added that some spaces inside the building as well as its patios have also been covered with mosaics. Casa Batllo had not been built entirely according to Gaudí's signature plans; he modernised an existing tenement house originally designed in 1877 by Emilio Sala Cortés – Gaudí's teacher-to-be during the latter's university studies in architecture. The investors behind the project were JosepBatlló and Casanovas.

The case of **Majolikahaus** is completely disparate, as it was designed from scratch by Otto Wagner. The architect proposed the facade to be clad with uniform ceramic tiles, arranged into a floral pattern. The facade is dominated by pale red flowers and green leaves. The entire composition was created by employing a technique known as **maiolica** – hence the building's name – using ceramics covered with opaque lead and tin glaze.

6.1. Mosaic of Communist Poland

Fine arts in general, and mosaic among them, were extremely popular in the times of the communist reign in Poland. This was primarily due to the desire to overcome the dullness of the architecture of the period, but also on account of the convenient access to the materials from which mosaics were created. The fine arts of that period were obviously also supported

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36   A. Włodarczyk-Kulak, *O sztuce nowej i najnowszej: główne kierunki artystyczne w sztuce XX i XXI wieku* [On modern and recent art: major trends in the 20th and 21stcentury art.], Warsaw, Wydawnictwo Szkolne PWN, 2010, p. 20

37   D. Watkin, A history of Western architecture, London, Laurence King Publishing, 2005, p. 252.

Fig. 88. Majolikahaus, Vienna, 1898

Source: https://pl.wikipedia.org/wiki/Otto_Wagner_(architekt)

by the state, and artists were relatively well paid. Paweł Giergoń[38] wrote this about that era:

"(...) This visual art would not have arisen to such a large scale without the initiative, support, and money from the state. (...) Like every other sphere of life in the People's Republic of Poland, art in public space was subject to the rigours of bureaucracy and centralisation. As early as in 1951, the State-owned Fine Arts Studios Enterprise (Przedsiębiorstwo Państwowe Pracownie Sztuk Plastycznych, PSP) was established, only to effectively monopolise the market of public procurement in this field. (...) Each draft and design had to be assessed by a community arts commission (PSP or ZPAP) and receive approval from the Main Office for the Control of Press, Publications and Public Performances (Główny Urząd Kontroli Prasy, Publikacji i Widowisk), or in other words – the censorship board. (...) Such a policy brought us colourful mosaics and painting compositions in otherwise modest supermarkets within residential districts as well as in more stylish delis, in one-storey shopping pavilions and in multi-storey department stores, in press and book stores, hotels, cinemas, theatres, culture centres, cafés and restaurants, post offices, swimming pools, schools, hospitals, underground passageways, as well as on facades but even in back rooms of large industrial plants. All other aspects aside, the fine art in architecture of that time represents one of the most precious and valuable achievements of the past regime. As it collapsed, the art lost a powerful – and frequently only – patron. (...) Its best period (...) ended with a policy of drastic austerity in the construction industry, which was also reflected in the selection of materials used in architectural art work; these in fact constituted industrial

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38   P. Giergoń, *Mozaika warszawska. Przewodnik po plastyce w architekturze stolicy 1945–1989* [Warsaw mosaics. A guide to the fine arts in the architecture of the capital city, 1945–1989], Warsaw Rising Museum, Warsaw, 2014.

post-production waste (ceramic, metal, and synthetic) used by artists to create forms of their visual expression – genuinely modern in content and surprisingly expressive, decorating both interior and exterior walls of public buildings (...)."

Having reviewed the available literature on the subject and case studies (conducted by the author and concerning the mosaics in the towns of Tychy, Kołobrzeg, Ustroń, Wisła and Gliwice), and analysed the ways in which ceramic elements were arranged in the historical period in question, one can conclude that virtually all the three aforementioned composition systems were used. Some artists also resorted to mixed

methods, or the maiolica technique applied by Otto Wagner, as they first drafted the entire decoration pattern, only to break it down into individual tiles. What can also be found typical of that period was the large-format mosaic on facades or in interiors buildings suited to this purpose. An example of the latter is the mosaic in the Gliwice railway station – a composition created by the visual artists Witold Bulik and Zygmunt Lis (1967). The tiles were fired in Łysa Góra, a village in the region known as the foothills of Nowy Wiśnicz (Pogórze Wiśnickie). This is where the arts and crafts cooperative of Spółdzielnia Kamionka has continued to function since 1947, where artists designed specific architectural compositions on commission.

Fig. 89. Large-format mosaic in the Gliwice train station; designed by; Witold Bulik, Zygmunt Lis, 1967

Source: photo by B. Komar (2019)

Fig. 90. Mosaic (non-existent) on the Okrąglak building; author: Tadeusz Pfützner (design), Gliwice

Source: 24GLIWICE.pl
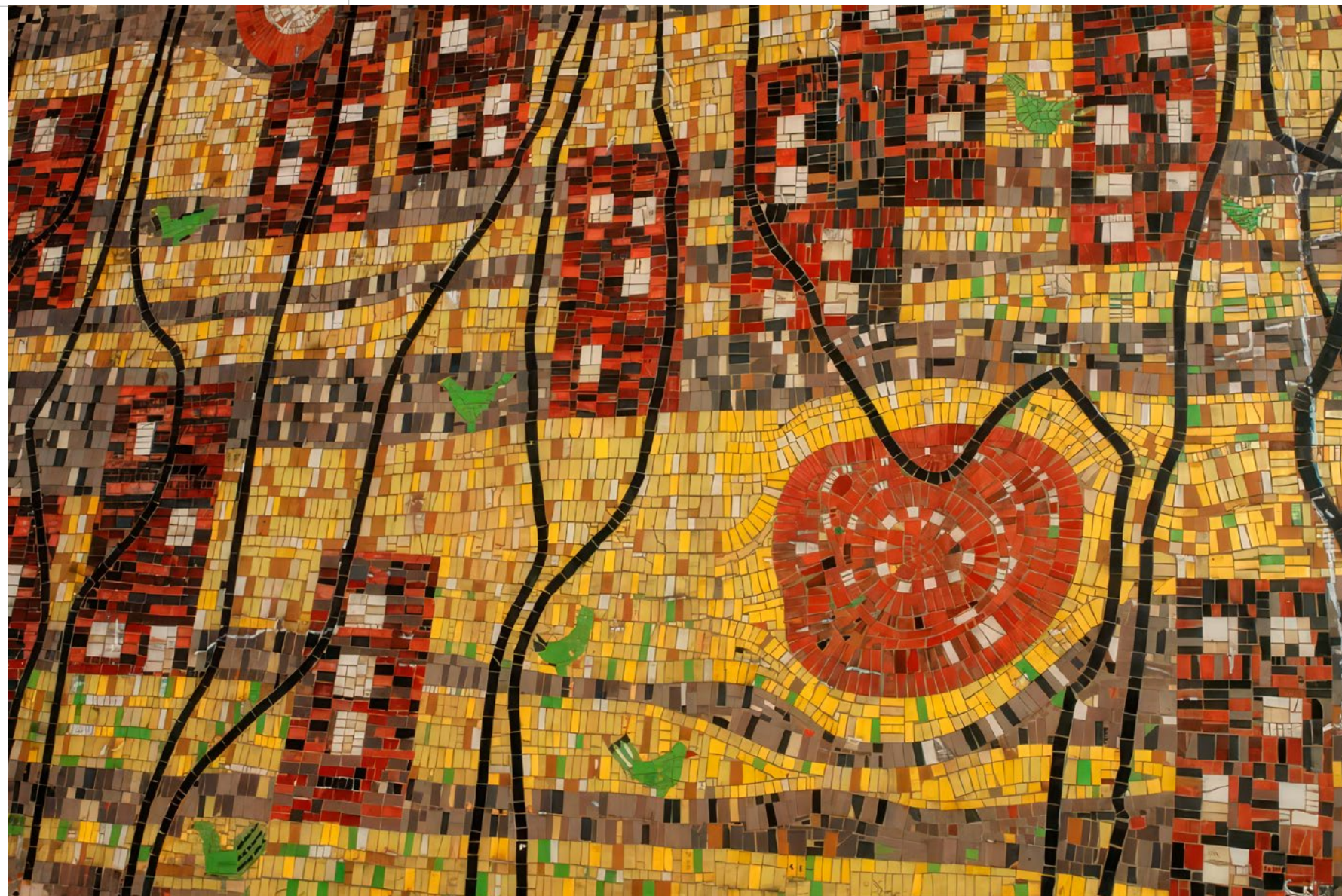
Fig. 91. Mosaic on the wall of the Teatr Mały theatre building (in housing district B); authors: J. Włodarczyk (architectural design), Franciszek Wyleżuch (execution), 1965

Source: Photo by B. Komar (2019)

Another landmark of Gliwice was the mosaic on the facade of a building known as a rotunda (Polish: *okrąglak*), designed by T. Pfützner, in Zwycięstwa street. It was a stoneware mosaic crated by the sculptor Jan Borowczak – Xawery Dunikowski's student. Broken down into somewhat independent pieces, depicting human faces, pigeons, and abstract elements, the mosaic comprised the building facade. The edifice no longer exists, having been demolished during the construction of the Silesian urban expressway (DTŚ). However, the mosaic's elements have been preserved.

Mosaics composed in a similar style could be found in many Polish cities. Still in Upper Silesia, the centre of Tychy is definitely worth mentioning, since that is where artists such as Franciszek Wyleżuch, Leon Swadźba, Prof. Stanisław Kluska, Anna Szpakowska-Kujawska, and Ewa Surowiec-Butrym used to create.

Fig. 92. Well-preserved mosaic of the Oskard housing cooperative building in Dąbrowskiego street in Tychy, by Ewa Surowiec-Butrym (design) and Franciszek Wyleżuch (execution)

Source: http://tychy.3bird.pl/mozaiki.html

Fig. 93. Mosaic of the Leaves series; author: Anna Szpakowska-Kujawska (design and execution), 1973

Source: http://tychy.3bird.pl/mozaiki.html

Fig. 94. Sketch for a mosaic of the Leaves series; author: Anna Szpakowska-Kujawska (design)

Source: http://tychy.3bird.pl/mozaiki.html

The artists of Tychy, and Franciszek Wyleżuch in particular, also authored some of the mosaics used to adorn the leisure and recreation facilities built in the Beskid mountain towns, mainly Wisła and Ustroń.

Sample mosaics in the holiday residence of Smrek in Wisła
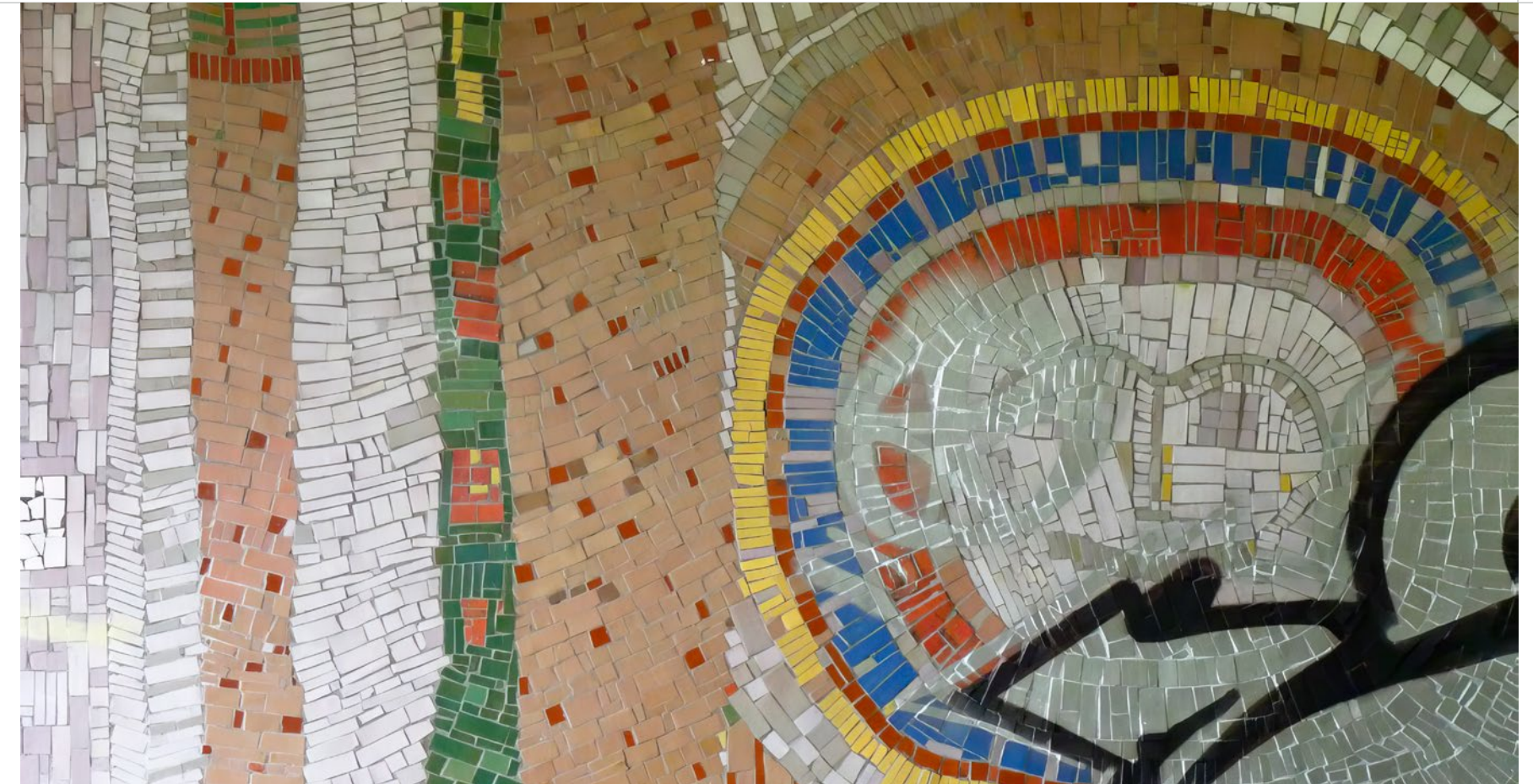
Fig. 95. Mosaic entitled *Sunshine*; author: Franciszek Wyleżuch (design), Smrek holiday residence, Wisła, condition as of 2016

Source: photo by B. Komar (2016)

As mentioned in the section describing the current state of research, the author herself surveyed the mosaics found in the abandoned holiday residence of Smrek in the town of Wisła, being the only thing she could do to save their elements, at least from oblivion.

Perceived as a form of legacy of Communist Poland, the mosaics are currently studied by numerous academics. For instance, the book by Paweł Giergoń,[39] already referred to in this chapter, provides a catalogue of 76

39 P. Giergoń, *Mozaika warszawska. Przewodnik po plastyce w architekturze stolicy 1945–1989* [Warsaw mosaics. A guide to the fine arts in the architecture of the capital city, 1945–1989], Warsaw Rising Museum, Warsaw, 2014.

mosaics from Warsaw. The book authored by Paweł Oczko,[40] on the other hand, was an attempt to archive 35 mosaics next to some other works of art found in Tychy.

6.1.1. Hanna and Gabriel Rechowicz

Some of the most prominent mosaic artists in the period of Communist Poland were Hanna and Gabriel Rechowicz, regarded as representatives the true bohemia of the time. In art circles, they were known as Gaber and Mrs Fantasia. This is what one can read about them on the wrapper of Max Cegielski's book[41]: "(...) She attracted attention with her original outfits, sometimes sewn from window curtains. He would wear classic elegance, being withdrawn and usually silent. Hanna and Gabriel Rechowicz considered art as a way to break from the dullness of the People's Republic of Poland. Creating mosaics and frescoes, they used seemingly unimpressive materials, e.g. stone, broken ceramic ware, shards of glass, to create compositions that changed the face of Communist Poland, such as the mosaic in the Peasant's House (now the Gromada hotel) (...)."

Mr and Mrs Rechowiczs, and Gabriel in particular, became famous for their numerous mosaics in Warsaw, primarily because of the state patron in their favour. His main works included the mosaics on the locker room building of WKS Legia (1967, not preserved), in the Guild of Crafts' school (1968), the Alinka bar (1969), the Irys flower shop (1969), the cardiological hospital in Nałęczów (1972), and the Rzemieślnik holiday residence

in Zakopane (1980's). Hanna Rechowicz, on the other hand, designed the interior for the Polish Mother's Memorial Hospital in Łódź (1985).

Gabriel Rechowicz developed his own technique and recognisable style. He usually inlaid his painted compositions with simple materials: stones and glass or metalwork elements. His works clearly show that he had been inspired by the style of surrealist painters as well as by *art informel*, popular since the 1950's. What emerges from the abstract organic matter is – often recognisable – fairy tale-like motifs: rickety trees and branches, less frequently figures. The colours permeate one another. Rechowicz consulted all his major projects with his wife.[42]

However, the most important art project completed by Mr and Mrs Rechowicz, partially preserved until present, is the decorations to be found in Warsaw's Peasant's House (Dom Chłopa), now the Gromada hotel, built in 1960–1961 by Bohdan Pniewski. The couple won a competition for the hotel's visual design.

From 1961 onwards, the experimental mixed technique they had proposed, combining the texture of stone, the colour of fresco, and the shimmering of ceramic and glass mosaic, would become a distinguishing feature of the Rechowicz-style walls, clearly standing out in the ever-expanding sea of ceramic and stone works decorating the public space of Polish cities.[43]

It should also be mentioned that – besides using the combined painting and mosaic technique – Gabriel was also into pure wall painting

40   P. Oczko: *Tychy. Sztuka w przestrzeni miasta* [Art in the city space], Municipal Museum in Tychy, Tychy, 2015.

41   M. Cegielski, *Mozaika. Śladami Rechowiczów* [Mosaic. In the footsteps of Mr and Mrs Rechowicz], W.A.B., Warsaw, 2011.

42   https://culture.pl/pl/tworca/hanna-i-gabriel-rechowiczowie

43   K. Czerniewska, *Gaber i Pani Fantazja* [Gaber and Mrs Fantasia], *40 000 Malarzy*, Warsaw, 2011.

(his modern-style frescoes adorned the Frykas bar in Warsaw's famous Supersam shopping centre, designed by Jerzy Hryniewiecki – demolished, despite numerous protests, in 2006) as well as easel painting. His wife Hanna, on the other hand, used to sculpt. In 2016, the Królikarnia museum held an exhibition of her works entitled *Rzeźby ogrodowe* [Garden sculptures; Hanna Rechowicz, Bolesław and Maria Cybis, Królikarnia, Warsaw, Poland]. They also had joint exhibitions in 2011 (although Gabor had unfortunately passed away in 2010):

1. 2011, Hanna and Gabriel Rechowicz, *Obrazy w Architekturze* [Images in architecture], Projekt Kordegarda, Warsaw, Poland;
2. 2011, *Aranżacje przestrzenne* [Spatial arrangements], Galeria Kolonie, Warsaw, Poland.

Fig. 96. Mosaic at the Peasant's House, Warsaw, designed by Gabriel Rechowicz, 1961

Source: https://culture.pl/pl/ tworca/hanna-i-gabriel -rechowiczowie
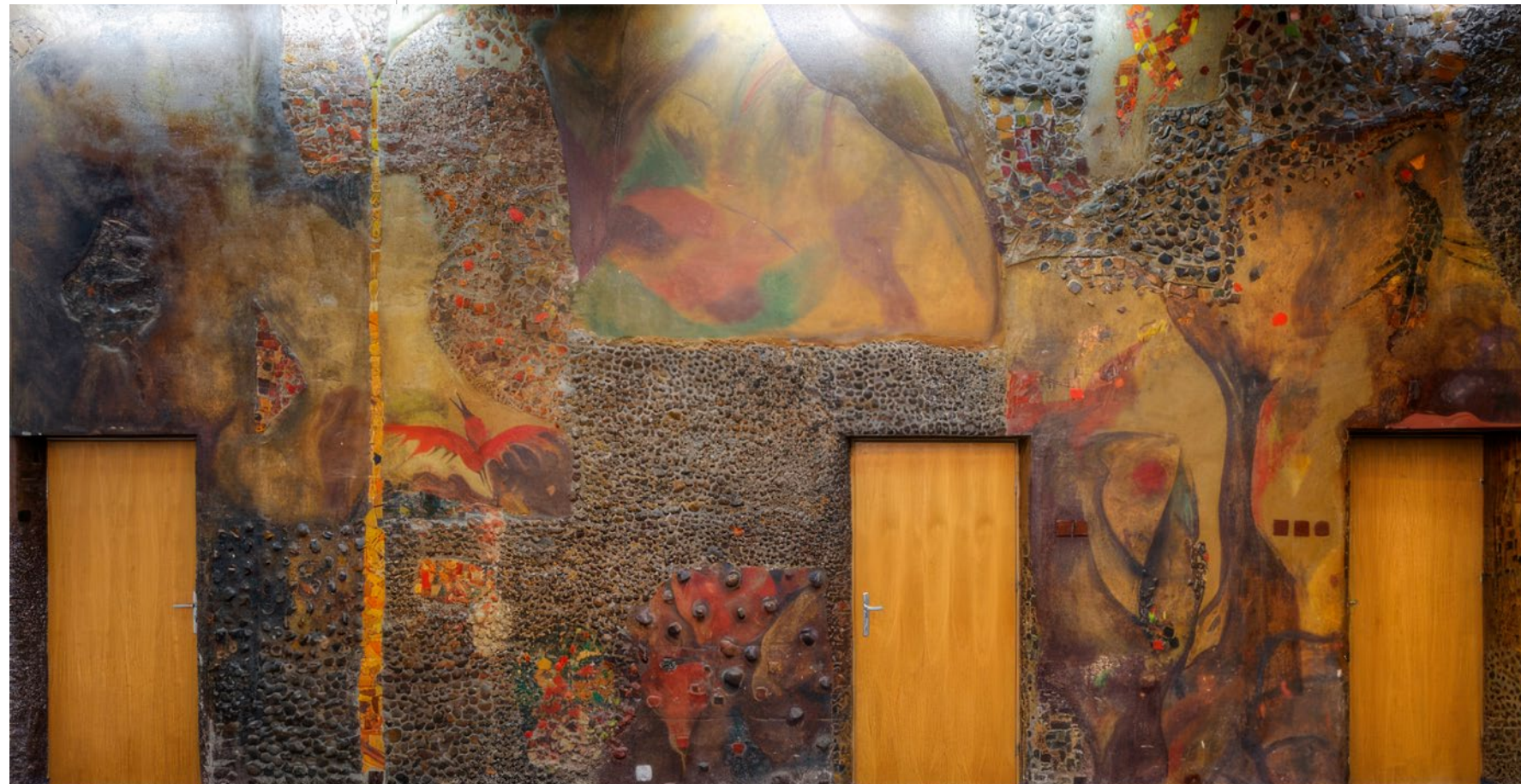
Fig. 97. Fragment of the mosaic in the Rzemieślnik Holiday residence, Zakopane; author: G. Rechowicz (design), 1980's

Source: *Mozaika*, Max Cegielski: *Rechowiczowie to kolor* (Rechowicz means colour) http://wyborcza. pl/51,75410,10843923. html?i=2

Legend is said to shroud the artists' house in Warsaw, which they packed with their paintings and stone intarsia works (used not only for decorative purposes, but also to patch the holes left in the facade by warfare). One of the pieces of furniture to be found on the first floor inside was a sleigh which, not at all coincidentally, appeared in the film *Everything for Sale* by Andrzej Wajda, who recreated the house in a film studio.[44]

44   https://culture.pl/pl/tworca/hanna-i-gabriel-rechowiczowie

6.2. Contemporary mosaic

Nowadays, with all the modern technologies at hand, mosaic has been pushed aside by other techniques, and above all by a variety of refined facade claddings, frequently surprising in form. However, in numerous buildings, one can still observe artistic interventions that have been uniquely designed for a given edifice. One of the examples to be taken into account in this respect is the artistic rendition of sea waves on a tea house in Tenerife, designed by Herzog and de Meuron.

Back to mosaics, the creative output of the aforementioned Franz Mayer Studio of Munich is definitely worth mentioning once again. Following latest trends, the Studio creates mosaics for metro stations, swimming pools, and public buildings of diverse functions. What may come as a surprise to many, they also make mosaics on… everyday use objects, such as cushions (Aida Saul/Linda Kroff, First Union Common Park, Charlotte, NC). An in-depth analysis of their projects implies that it is not the Studio that follows trends, but that they actually create trends themselves, drawing abundantly from the many years of their experience and openness to new ideas.

The examples provided below represent a very diversified take on mosaic art: from mobile mosaics, based on the use of traditional technique, yet in a completely innovative way, where a steel kinetic structure has been used not only to cover the mosaic, but also to set it in motion and, thus, create a kind of animation (design by **Ellen Driscoll,** Waterfront Park, Boston, USA), to a mosaic in a corridor which – laid in an arc – creates the illusion of a tunnel (design by **Haubitz + Zoche,** Allianz Headquarter, Munich, Germany), to a mosaic which builds an underwater landscape using luminous convex elements (design by **Martha Schwartz,** Swiss

ReHeadquarters Germany AG, Munich, Germany), to a fantastic, illusionistic mosaic depicting the stairs of Frankfurt using authentic archive photos (design by **Stephan Huber,** The Frankfurt Stairs, Hessische Landesbank, Frankfurt/M, Germany), to a torn paper collage-like mosaic (design by Stephen Johnson, DeKalb Station, Brooklyn, New York, USA). As all the above examples show, mosaics are actually used very extensively at this day and age, being limited only by the location, the designer's imagination, and the technological capabilities.

Selected mosaic art projects completed by Franz Mayer Studio

Source: Franz Mayer of Munich, Inc, http://www.mayer-of-munich.com/projekte/mosaik
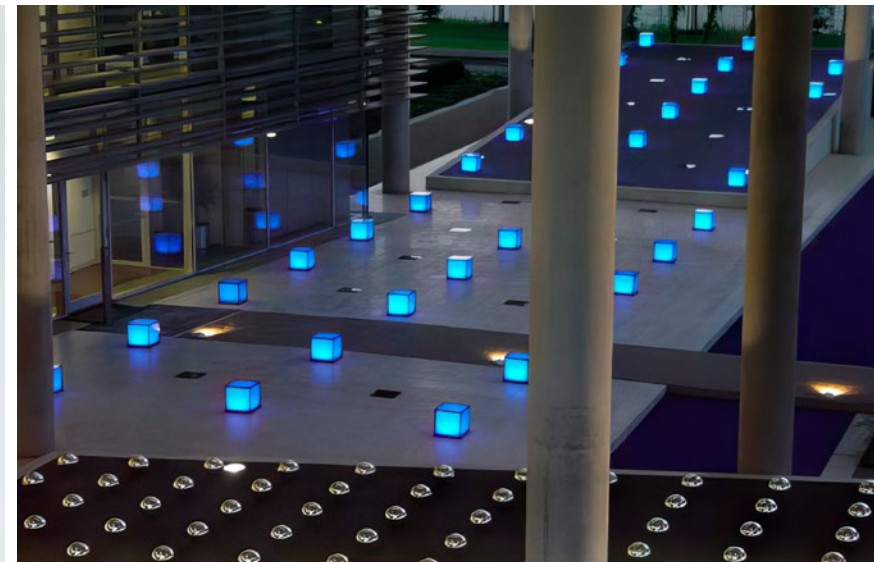
Examples of students' projects

Fig. 98. Mosaic art projects, students' works; authors: Ksenia Makała, Magdalena Gaca, Justyna Kozioł, 2019/2020

Source: Archive of the Department of Fine Arts and Design, Faculty of Architecture, Silesian University of Technology

MOZAIKA

Przedmiot: Techniki plastyczne w architekturze 2   Prowadzący: dr hab inż. arch. Beata Komar prof. PŚ   Rok akad. 2019/2020 kierunek: Architektura Wnętrz, I stopień, sem. 5   Autor: Justyna Kozioł
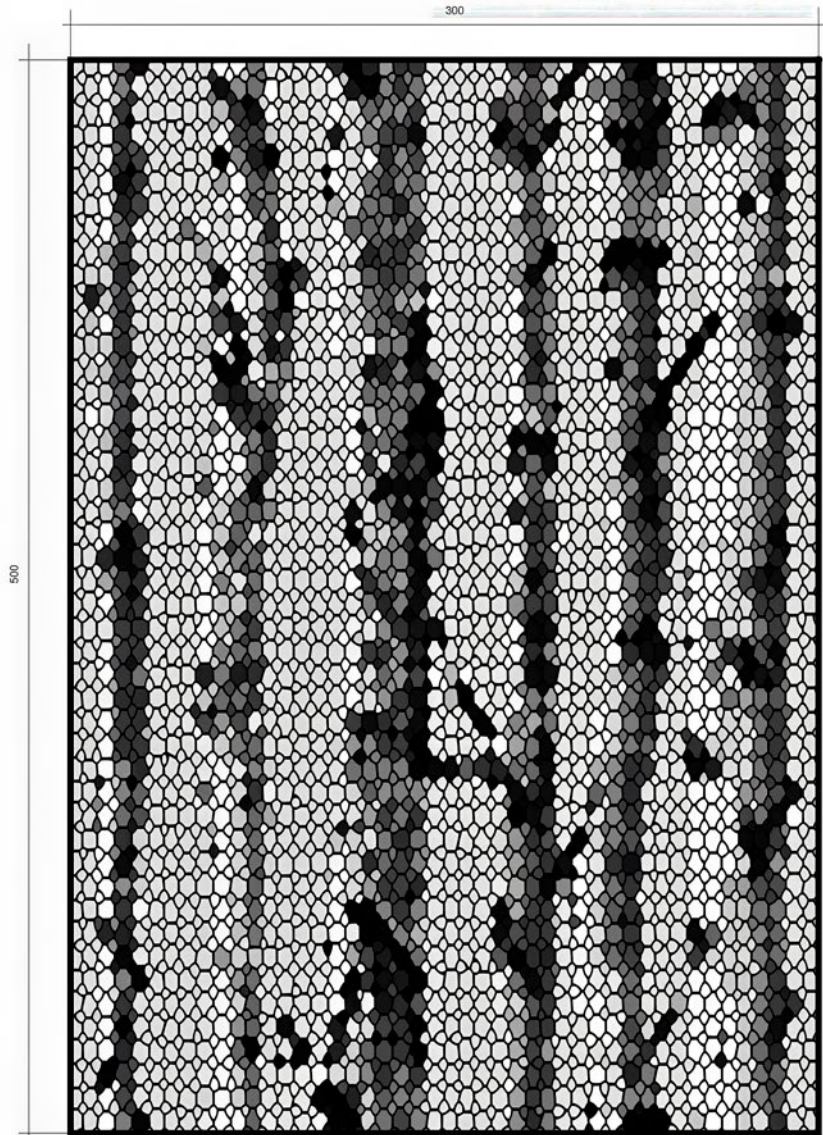
7. Art techniques in service of the general public

It is common understanding that the purpose of art techniques is to embellish facades and interiors, introduce colour, or create a specific mood. Art techniques, including sculpture, installation art, and monumental art in particular, can also perform community-oriented functions. An example of murals used as a means to revive a residential area has already been described. Other types of socially conscious activities may include those serving remembrance in the city space, ecology, and climate change action.

7.1. Art techniques for remembrance in the city space[45]

Thinking of cities over the centuries, one can reach a conclusion that memory is something that has always accompanied their inhabitants. People have always wanted to remember significant events and prominent persons, but also traumas, wars, or catastrophes in order to retain them as part of the city memory, on the one hand, but also as a word to the wise, so that they never happen again, on the other hand. However, remembrance is not only about people or events; it also pertains to buildings or places considered important to the city space because of their uniqueness, the designer's name, or a famous person who inhabited or visited them.

The problem of memory has also been growing in significance to the field of scientific research. As Magdalena Saryusz-Wolska writes in her foreword to the book entitled *Collective and Cultural Memory*[46]:

"(...) Memory is one of the key concepts of contemporary science, used – with different meanings – by representatives of various disciplines (...). There are more and more supporters of the thesis on the *memory boom* and *memory turn,* growing at this day and age." We refer to memory in both public and private communication. Some places of remembrance can be imposed upon us by the city, acting via decision makers, while others we prefer to remember, or quite the contrary – to repress them of our own volition.

7.1.1. Collective, social, and cultural memory

The discourse on memory in the Polish sociological circles dates back to the 1960's and 1970's, and although the notion of *historical consciousness* dominated it for a long time, the actual research focused on the subject

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45   This section of the study is based on the author's paper entitled *Memory artefacts in the space of a modern city*, presented at the 2018 MEDEA international conference in Greece.

46   M. Saryusz-Wolska (ed.), *Pamięć zbiorowa i kulturowa. Współczesna perspektywa niemiecka* [Collective and Cultural Memory. A Contemporary German Perspective], Universitas, Krakow, 2009, p. 7.

of *collective memory*.[47] That was when Nina Assorodobraj-Kula[48], Barbara Szacka[49] and Andrzej Szpociński[50] released their studies. The phenomena of remembering, forgetting, and recalling are in constant interaction with one another. This happens at both the individual and the community level. With regard to community memory, one can observe a certain multiplicity of the functioning terms, each evoking different aspects of the given phenomenon. Consequently, one can speak of *collective memory*, discussed primarily by Maurice Halbwachs (Halbwachs, 2008), *social memory* (Szacka, 2000; Golka, 2009), *historical memory, public memory* (Jacobs, 1995), *group memory* (Szacka, 2006), or *cultural memory* (Saryusz-Wolska (ed.), 2009; Connerton, 2008; Erll, Nünning (ed.), 2008; Assmann, 1999).[51] Of the aforementioned concepts of memory, social and cultural memory are the most relevant kinds from the perspective of this study.

Social memory comprises both collective memory and individual memory. The most important functions of social memory include transmission of historical knowledge, cultural competence, patterns of behaviour and values, true or mythical information concerning the origins and structure of a given group, the creation of group identity, and the fleshing

out of relationships between groups – the dominant and the dominated.[52] Where multiple national or ethnic groups coexist next to one another, social memory may contribute to the preservation of their distinctiveness or impose alien influences.

Cultural memory, on the other hand, proves particularly useful to the discourse on works of art or media artefacts, especially because of its metaphorical nature.

As Magdalena Saryusz-Wolska writes: "An important quality [of cultural memory; author's note] is its metaphoricity, resulting from the sheer nature of the analyses of various cultural texts, from literary classics to contemporary media content. Consequently, reaching for the notion of a metaphor also stems from the interpretative nature of research practice"[53] (Saryusz-Wolska, 2009: 18–19).

The most comprehensive development of the cultural theories of memory could be observed in the 1990's. It was then that the papers by Jan Assmann (*Erinnerungs kultur* [Cultural Memory], 1992) and Aleida Assmann (*Erinnerugsräume* [Spaces of Memory], 1999) were published.

The grounds on which the above studies arose were provided in the publication entitled *Les lieux de memoire* [Places of Remembrance], edited by Pierre Nora and released between 1985 and 1992, in which the French historian presented a new approach to the *placeof remembrance* concept, based on the symbolic meaning of cultural phenomena for the formation of collective identities and reaching far beyond the popular understanding of the word *place*.

47 Op. cit., p. 17.
48 N. Assorodobraj, *Żywa historia.Świadomość historyczna: symptomy i propozycje badawcze* [Living History. Historical Consciousness: Symptoms and Research Proposals], Studia Socjologiczne, 1963/2.
49 B. Szacka, *Świadomość historyczna. Wnioski z badań empirycznych* [Historical Consciousness. Conclusions Drawn from Empirical Studies], Studia Socjologiczne, 1977/3.
50 A. Szpociński, *Formy przeszłości a komunikowanie społeczne* [Forms of the Past and Social Communication], [at:] Andrzej Szpociński, Piotr Tadeusz Kwiatkowski, *Przeszłość jako przedmiot przekazu* [The Past as the Object of Communication], Wydawnictwo Naukowe Scholar, Warsaw, 2006
51 N. Krzyżanowska, *Dyskursy (nie)pamięci w przestrzeni miasta* [Discourses of (non) remembrance in the city space], Studia Socjologiczne, 2016, 1 (220), p. 129.

52 Op. cit., p. 129, based on:M. Golka (2009, p. 17).
53 M. Saryusz-Wolska, op. cit., pp. 18–19.

"(...) The crux of my project was that, instead of subject-specific, chronological or linear studies, I wanted to propose an in-depth analysis of *places* – in every sense of the word – where the memory of the French nation would be uniquely condensed, reflected, or crystallised."[54]

One can also argue that the contemporary forms of cultural memory originate in the public sphere increasingly often. It is also significant that cultural memory emerges when the communicative form of memory, i.e. that based on witness accounts, begins to fade away.

Fig. 99. Example of an evolving memory artefact

Source: Internet

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54   Op. cit., p. 19.

As Natalia Krzyżanowska claims, forgetting in the sphere of collective memory can emerge as a result of both passivity and activity, i.e. active and planned actions.[55] Paul Connerton[56] has even created a typology of forgetting, to which Krzyżanowska refers as (non)remembrance. It can be understood as follows: 1) repressive erasure, 2) prescriptive forgetting, 3) forgetting that is constitutive in the formation of a new identity, 4) structural amnesia, 5) forgetting as annulment, 6) forgetting as planned obsolescence, and 7) forgetting as humiliated silence.

Consequently, one can observe a relationship between memory as well as forgetting and the public sphere of contemporary cities. Memory as a theme is gaining attention, and yet, looking at Polish cities, one may come to a conclusion that it is mainly memory understood in traditional, martyrological, and *monumental* terms, additionally of an evolving nature, dependent on the context of a given historical period.

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55   N. Krzyżanowska, op. cit., p. 130.

56   P. Connerton, *Seven Types of Forgetting*, Journal of Memory Studies 1/1: 59–71, 2008, s. 58.

7.1.2. Monuments and anti-monuments in the contemporary city

The most common artefact associated with the representation of memory is a monument. The term *monument* derives not only from the original Middle English meaning as a burial place, but also from the Latin word *monere* (to remind), and contemporarily refers to a place commemorating an event or a person.[57]

Analysing the notion of the monument in the city space from a historical perspective, it can be claimed that its functions have varied throughout history:
⟶ in ancient times, it celebrated the valour of rulers and chiefs, embodying virtues important to a given community,
⟶ the Middle Ages saw the rise of the concept of a monument in the memorial role, whose very essence was to make the deceased (or merely absent) present by remembering and mentioning their name,
⟶ the late 18th and early 19th century witnessed figurative sculpture in the first place.[58]

The turn of the nineteenth century, however, gave birth to a different mode of thinking about the dominance of figurative sculptures in the city space. Auguste Rodin sculpted his (six) famous Burghers of Calais (*Les Bourgeois de Calais*), only to *knock them off the pedestal,* suggesting that this group of figures only deserved to be put on a low stone step.

The monument form proposed by Rodin departed very considerably from the aesthetic standards set for the monumental sculpture of the period. It was a truly revolutionary solution at that day and age. The concept of sculpture *democratisation* was often raised in the discourse of the time, especially with reference to monumental sculpture, and it was to be achieved by dropping the central figure as well as by literally removing the monument from the pedestal.[59]

The 20th century brought further revolutionary developments in the art world. The *Black Square* painting by Kazimir Malevich, considered the first non-representational work of art, effectively renounced figurative painting, giving rise to suprematism. Painters began to search for a new mode of artistic expression to give their ideas visual representation. The same applied to architecture which, since the industrial revolution, had evolved towards increasingly simplified and accessible forms. In the sphere of metaphor, or memory visualisation, new means of artistic expression were also expected. The form of monuments – and sculptures in general – partly reflected individual trends (cubism, futurism), but much more new content and ways of interpreting sculpture were provided by constructivism, which made it possible to implement the concepts proposed in the decades to come, particularly in the 1950's and 1960's. The post-war years brought changes to the understanding of the monument as such, which transcended the limits of a mere solid and began to absorb the surrounding space and the observers themselves

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57 https://pl.wikipedia.org/wiki/Pomnik

58 N. Krzyżanowska, op. cit., p. 133..

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59 The differences of opinion mainly concerned the place suitable for the monument, and not the type of its base (pedestal), as it had been suggested since the beginning of the 20th century in misinterpretation of Rodin's own words. As an alternative to his original idea, which was to set the monument at the sightline height, on a rather low, yet distinctive plinth, Rodin proposed a 180 cm high plinth, which enjoyed the building committee's approval. (...) In 1924, after the artist's death, the plinth was removed, thus returning to the original concept.
https://pl.wikipedia.org/wiki/Mieszczanie_z_Calais

(Oskar Hansen's concept of open form and the subsequent experimental monuments commemorating the Vietnam War and the Holocaust – like the monument by Peter Eisenman in Berlin – should be regarded as particularly relevant).[60]

A significant change that occurred in the sphere of memory pertained to the subject, which had become truly relevant. And even though works of art continued to be dedicated to remarkable and momentous events, even the less historic ones, held important mainly by local communities, were coming to the fore.

That was precisely the approach assumed by Gunter Demnig, a sculptor who launched the *Stolpersteine*[61] project in 1993, determined to commemorate persons who were of no particular merit, but who simply lived in a given town and were of Jewish origin, having died during the Nazi Holocaust. To this end, Demnig prepared special brass plaques, 10×10 cm in dimensions, stating the first and last name of the persons who used to *reside here*, along with their date of birth, deportation date and destination, and – if known – date of death. The plaques were typically installed at the building entrance, on the footpath, or at the gate threshold.

The reason why they are definitely noteworthy is not only the sheer scale of the artist's endeavour, but also the new mode of commemoration proposed, fitting between the private (name, fact of having lived there, dates of birth and death) and the public sphere (space of the street), and

entailing an interesting way of using the anti-monument strategy to overcome the collective (non-)remembrance.[62]

It seems that what may drive artists towards creating anti-monuments is primarily their dissent – a protest against silence and scarring of memory. Anti-monuments are often only temporarily displayed in the public space. They are also frequently devoted to facts that cannot be accurately represented, such as the Holocaust. The activity of the Warsaw group Centrala and their project known as The Cut matches this trend, being an artistic intervention in and an archaeological excavation of a selected site in Warsaw, conducted as part of an artist residency at the POLIN Museum of the History of Polish Jews of the Centrala group (Małgorzata Kuciewicz and Simone de Iacobis) and the Turkish artist Aslı Çavuşoğlu, whom they have invited to join in.[63]

Fig. 100. *Stolpersteine*, author: Gunter Demnig (design), since 1990's

Source: Internet

60   https://pl.wikipedia.org/wiki/Pomnik

61   In German, this means the stone one can stumble over.

62   According to the data contained on the author's website (https://www.stolpersteine.eu/en/technical-aspects/) as of April 2017, there are already over 61,000 "Stolpersteine" located in 1,200 places in Europe. In Poland, signs are allowed found in Słubice nad Odrą and Wrocław. Why not in Warsaw, that's the question for a separate article.

63   N. Krzyżanowska, op. cit., p. 139.

When analysed against the foregoing background, the composition of chairs in Krakow's Ghetto Heroes Square by Biuro Projektów Lewicki i Łatak appears to be of definitely more monumental nature, providing a metaphor for the displacement of Jewish families during the occupation. "(…) Moved from a place to another for the umpteenth time, an immeasurable mass of wardrobes, tables, cupboards, and other pieces of furniture is falling into ruin at Concord Square," wrote Tadeusz Pankiewicz, owner of the Pod Orłem pharmacy at Concord Square (1943).

Fig. 101. Monument at Ghetto Heroes Square (Plac Bohaterów Getta); authors: Biuro Projektów Lewicki i Łatak (design), Krakow, 2005

Source: www.skyscrapre.com

Another example of this trend is the Avenue of Murals (Aleja Murali) at the Warsaw Rising Museumin Warsaw with its composition of yellow pansies in which one can notice insurgents' faces (author: Wilhelm Sasnal).

Fig. 102. Mural entitled *Pansies*; author: Wilhelm Sasnal, Avenue of Murals at the Warsaw Rising Museum, Warsaw, 2007

Source: https://warszawa.wyborcza.pl/warszawa/

7.1.3. Other examples of memory visualisation in the city space

Considering the sphere of remembrance in the city space, one must not focus only on projects commemorating traumatic experiences, although they are by far the most numerous on account of the history of Poland and Europe.

However, it is noteworthy that artists also tend to devote their visual interventions to other subjects, such as famous people, discoveries, or places. The author believes that one of the best examplesto which one can refer to illustrate this trend is the art project (which continued from October to November 2011) entitled *Urodziłam się w Warszawie* [I was born in Warsaw],[64] representing an attempt to create a Warsaw trail for following in the footsteps of Marie Skłodowska-Curie. In 1911, the Polish scientist Marie Skłodowska-Curie was awarded the Nobel Prize[65] for the discovery of radium and polonium. To commemorate the anniversary of this unquestionably important distinction, 2011 was declared UNESCO's International Year of Chemistry as well as the Year of Marie Skłodows-ka-Curie. Twelve artists were invited to join the project. The trail was routed from the vantage point on the Vistula bank, known as Skarpa nad Wisłą, through Kościelna street, to 15 Wawelska street, linking a dozen or so locations where diverse forms of creative activity were rendered available, including mapping, murals, sculptures, and installations – all dedicated to the scientist's discoveries. Warsaw's Centrala art group was also invited to collaboration under this project, and installed their piece at the corner of Marszałkowska and Królewska streets.

Fig. 103. Atomic Bike; author: Centrala (design), 2011

Source: Centrala designers' task force, http://centrala. net.pl/our-work

The choice of the site was not coincidental, since it was there that, more than 100 years ago, the building of Jadwiga Sikorska's female boarding school, attended by Marie Skłodowska, was situated. The artists installed stationary bicycles with huge wheels, which not only symbolised radium and polonium, but were also reminiscent of the cycling passion of Marie and her husband Peter.[66] When set in motion, the enormous wheels ran a simulation of atoms, glowing at night, which exerted a positive effect on their surrounding right next to the Saxon Garden, while the cyclistsmoving the wheels took great joy in bringing this experience to life. The Atomic Bike is one of the most interesting and interactive installations along the entire Marie Skłodowska-Curie's Trail in Warsaw. It showcases how people can be reminded of memory itself, as a trace in the city space.

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64 Curie began each of her speeches with the words "I was born in Warsaw," hence the project title; http://www.sciezka-msc.pl/

65 This was her second Nobel Prize in the scientific career.

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66 Marie Skłodowska-Curie and her husband Peter were avid cyclists. They gave each other a bicycle as a wedding gift and went on a cycling tour of France during their honeymoon; http://centrala.net.pl/our-work.

Examples of students' projects on memory in the city space

Fig. 104. On the trail of stories about the Jews of Gliwice; students' works:
a) mapping at the Weichmann Textile House,
b) installation at the birth place of O. Troplowitz, inventor of the Nivea cream

Source: Archive of the Department of Fine Arts and Design, Faculty of Architecture, Silesian University of Technology
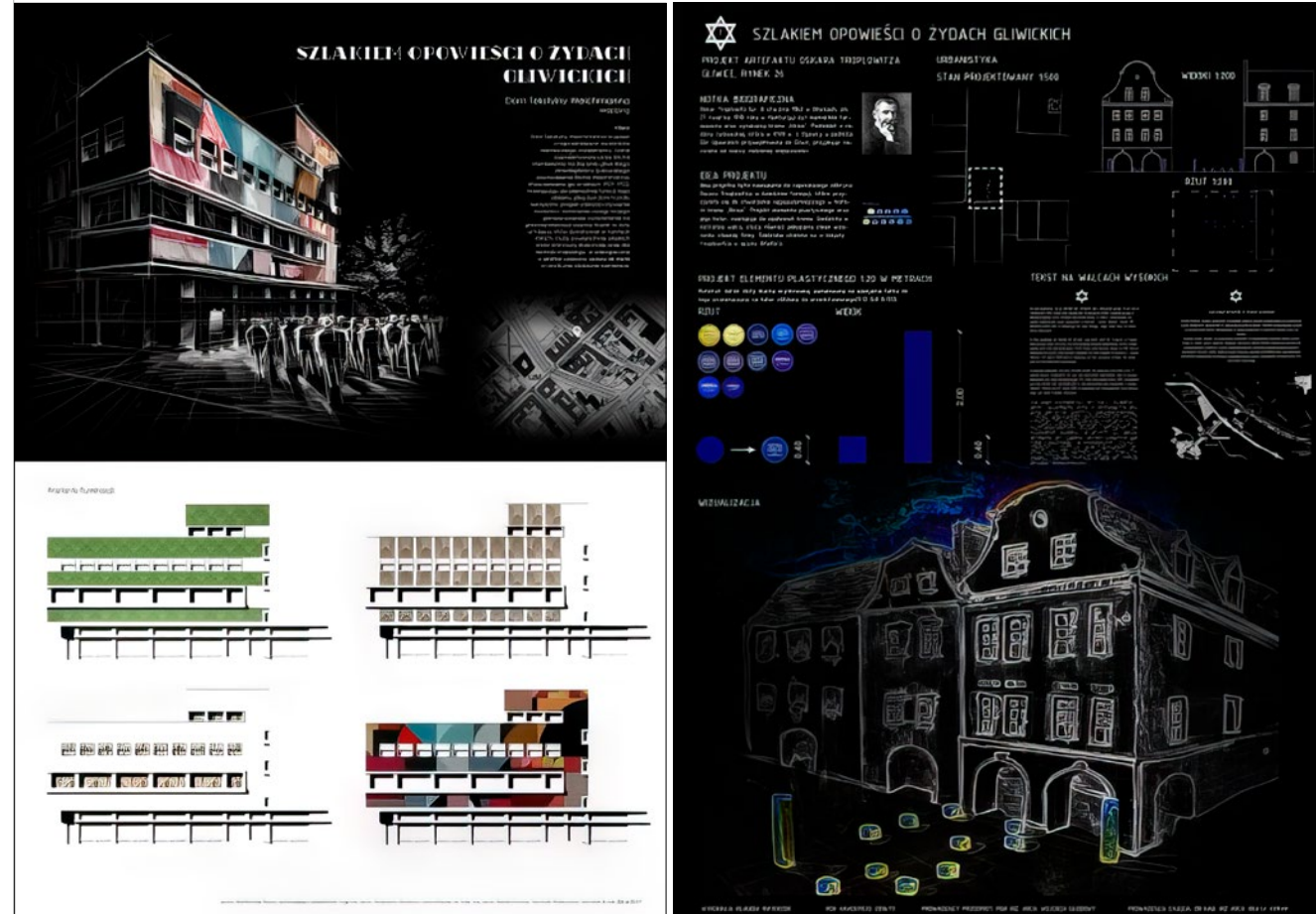
a)   b)

Fig. 105. On the trail of stories about the Jews of Gliwice; students' works:
a) Weichmann Textile House, designed by E. Mendelsohn,
b) Synagogue,
c) O. Troplowitz's building

Source: Archive of the Department of Fine Arts and Design, Faculty of Architecture, Silesian University of Technology
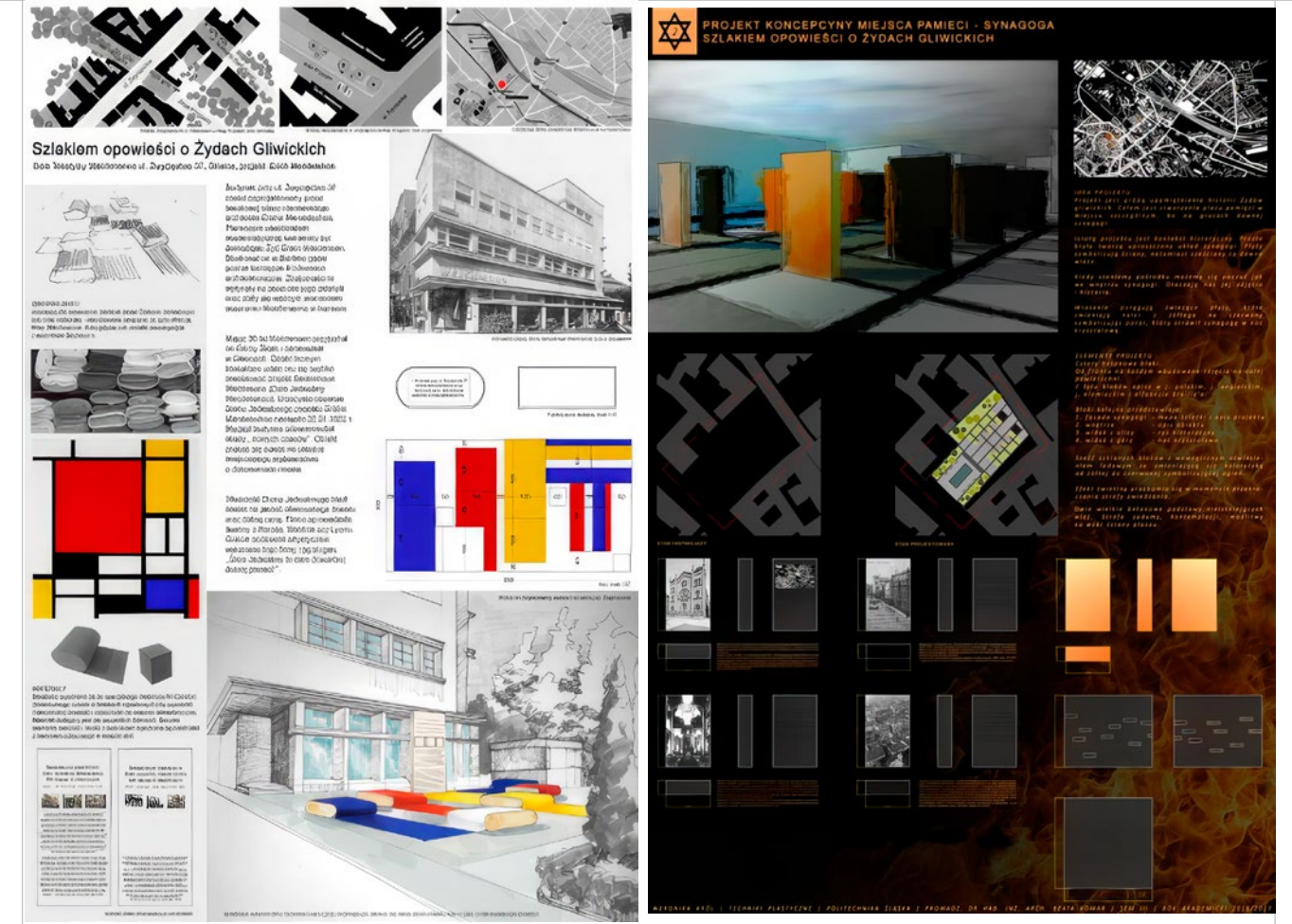
a)   b)

c)

7.2. Environmentally conscious artistic activity — selected projects

"(…) The year 2009 saw the release of the book entitled *Ecoaesthetics: A Manifesto for the Twenty-First Century* by the artist and writer Rasheed Araeen. The author issued an emotional appeal to the people of creative professions around the world to "stop creating objects," and instead to re-channel their imagination and creative potential towards the real threats facing the world. To his belief, the contemporary *world of art* is a "global spectacle of fetishism" where "art is now going round in circles — like a dog chasing its own tail," subjected to the pressure of finance, while we are threatened by an environmental disaster of unimaginable proportions. In a nutshell: the traditional egocentric practice of art should be replaced by social activism, persuasion, and building narratives that change social consciousness."[67]

Referring to the history of art, the first trend associated with a change in artists' approach to nature is *land art*, also known as *earth art*. The movement originated in the 1960's and has gained extraordinary popularity mainly because of the panache and spectacular nature of the works it has delivered. The artists associated with it included Robert Smithson as well as Christo and Jeanne-Claude, the latter being a couple who gained renown by famously wrapping rocks, landscapes, and even lakes and built features, such as Berlin's Reichstag, in endless stretches of material. However, as A. Sarzyński continues to argue: "The problem (…) was that, even though the medium of expression had changed, and the canvas stretcher or the lump of clay had been replaced by a meadow, a beach, or rocks, the paradigm remained the same: the artist created a work of art by treating nature as the object of their interest. Aesthetics prevail over ecological thought, and the only outcome of such endeavours is the spectator's delight and well-selling photographs, albums, and even postcards (…)." This early understanding of the coupling between ecology and art was not yet that which we are concerned with today.

Later, when ecological problems were becoming increasingly serious and reached the consciousness of artists with more clarity, some released manifestos that were more meaningful in the message they conveyed.

Such authors include Basia Irland, a Fulbright Scholar, writer, poet, sculptor, installation artist, and activist who creates international water projects. Irland gained popularity with Ice Books and River Essays, being a series of projects showing the world from the perspective of rivers, as

Fig. 106. *Ice Book* example, Boulder Creek, Boulder, Colorado; author: Basia Irland (design), 2007

Source: http://www.basiairland.com/projects/ice%20books/boulder.html

67 Sarzyński P., *Artysta naturę ratuje* [Artist saves nature], https://www.polityka.pl/tygodnikpolityka/kultura/1786964,1,artysta-nature-ratuje.read; accessed on: 2 Oct 2019

well as the famous Scrolls, which translated the expertise concerning the most dangerous waterborne bacteria spreading diseases into the language of aesthetics.[68]

Another artist whose work can be considered as aligned with this trend, yet whose *modus operandi* is completely different, is Isaac Cordal, a Spanish artist based in Brussels, author of the figurines commonly known as *Sad Cement People*. None of them exceeds 25 cm in height, but

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[68] http://www.basiairland.com/projects/index.html; accessed on: 2 Oct 2019

Fig. 107. *Cement People* on a Belgian beach; author: Isaac Cordal, 2012

Source: https://mymodernmet.com/isaac-cordal-waiting-for-climate-change/

Fig. 108. *Cement People* among rubbish on a Belgian beach; author: Isaac Cordal, 2012

Source: https://mymodernmet.com

it is not their size that matters, but the message and the telling context of a given location. Cordal has placed his figurines on the beach, in rubbish, or in water. His *cement people* do not scream, but remain passive, instead, quietly awaiting their inevitable fate, which depends, for example, on global warming and, above all, on human thoughtlessness.

Fig. 109. *Cement Eclipses* project; author: Isaac Cordal, project launch: 2006

Source: https://mymodernmet.com

Fig. 110. *Cement People*– politicians debating on global warming, Berlin

Source: https://mymodernmet.com

Fig. 111. *Cement People* – politicians debating on global warming

Source: Rawska S., Rduch J., Zalejska L., *Klimatyczna Inicjatywa Artystów* [Climate conscious artist initiative], students' project, 2019/2020

In fact, it is we who the cement people are: ignorant of climate change and unconcerned about natural environment, on which, after all, the future of our planet depends. The artist has presented his small figurines in various locations around the world, including at the fourth edition of the Triennial of Contemporary Art by the Sea (2012), where he crowded the Belgian coast, and especially the beaches of De Panne and next to Villa Le Chalutier, with his sad people.[69]

In another project, launched in 2006 under the title *Cement Eclipses*, Cordal placed his figurines in the urban environment and photographed them concealed among footpaths, streets, and walls. "(...) In their natural environment, these small figures represent a kind of metamorphosis in

[69] https://mymodernmet.com/isaac-cordal-waiting-for-climate-change/

Fig. 112. *Dead Whale*; author: Dentsu Jayme Syfu, 2017

Source: https://www.campaignasia.com/article/2018-cannes-contenders-dead-whale-by-dentsu-jayme-syfu/444957

Fig. 113. Water playground in Jaworzno, 2019

Source: https://www.zamekcieszyn.pl/files/1564048876-74katalog_woda_small.pdf

which one abandons their role and, as a citizen, camouflages themselves within the city, gradually becoming a piece of its furnishings."[70]

However, the most remarkable of Cordal's works of art are those alarming people about global warming.

A different kind of initiative was the *Dead Whale* campaign launched in 2017 by the Dentsu Jayme Syfu agency of the Philippines – a country ranked 3rd worldwide in terms of ocean pollution. The installation took the shape of a giant whale, with massive amounts of rubbish, plastic bottles, and even blood spewing out of its belly, representing everything that currently floats in the oceans.

70   https://mymodernmet.com/sad-cement-people-20-pics/

Since the Philippines were also hosting the 2017 ASEAN (Association of South-East Asian Nations) conference on marine environmental issues, the campaign was an opportunity to increase the relevant public pressure and to put ocean pollution with plastics on the summit's agenda.[71]

Despite the shortage of funds for media publicity, the campaign eventually reached 1.5 billion views in more than 100 countries, won the Gold Lion award at the Cannes Lions International Festival, and was covered by major news agencies. This example showcases how the involvement of artists can draw attention to major environmental threats.

It is a mere coincidence that the above examples of environmental action are mainly associated with water, but following on this note, one should also mention the exhibition held at the Cieszyn castle (12 Jun–8 Sep 2019) entitled *Design in the Public Space. Water*, curated by Katarzyna Dorda.[72]

The exhibition featured 17 projects, including three from Poland: *Warszawskie Kaśki* (Warsaw water dispensers; concept by Lis Meldner Design), water playground in Jaworzno (concept by RS+), and revitalisation of Bydgoszcz's Mill Island (Wyspa Młyńska), as well as projects from China, South Korea, Denmark, Germany, the Netherlands, Belgium, Iceland, and the United States.

The works shown at the exhibition represented a very broad perspective of the water-related environmental issues. Many of them alluded to the process of development of spaces where water is used, but some also showed how to manage water to save as much of it as possible.

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71 https://www.dentsuaegisnetwork.com/who-we-are/social-impact/plastic-whale
72 https://www.zamekcieszyn.pl/pl/artykul/dizajn-wi-przestrzeni-publicznej–woda-1132

Fig. 114. *Plastic bag*; author: Monika Zawadzki (design), Ujazdowski Castle Centre for Contemporary Art, 2019

Source: Ujazdowski Castle Centre for Contemporary Art

A project which definitely deserves to be presented in the chapter's recapitulation is *Reklamówka* [Plastic shopping bag] by Monika Zawadzki, depicting an anonymous headless representative of the *homo sapiens* species carrying a huddled replica of themselves – obviously also decapitated – in a carrier bag referred to in the title. The author believes that this is the best way to convey an environmentally conscious message, calling for awakening from mindlessness and lethargy.

Examples of environmentally conscious students' projects

Fig. 115. Examples of environmentally conscious students' works; authors: Marta Kosowska, Magdalena Salamak, Michał Skrędzelewski, Zuzanna Wojciech, 2019/2020

Source: Archive of the Department of Fine Arts and Design, Faculty of Architecture, Silesian University of Technology

8. City as a contemporary art salon

According to a study published in *British Medical Journal*,[73] the life expectancy of art enthusiasts is longer. Professors Daisy Fancourt and Andrew Steptoe wrote an article discussing a research project conducted over 14 years on 6,710 people over the age of 50 concerning the relationship between engagement in arts and mortality.

They found that people who engaged less frequently in receptive arts (visiting exhibitions once or twice a year) were exposed to a 14% lower risk of dying at any time over the follow-up period (809/3,042 deaths) compared to those who had never taken part in such an experience (837/1,762 deaths). On the other hand, the same risk of death in people who frequently engaged in receptive arts (several times a year) was 31% lower (355/1,906 deaths), irrespective of their gender, social status, or socio-economic, health, and behavioural conditions.[74] What one may

73 D. Fancourt, A. Steptoe.: *The art of life and death:14 year follow-up analyses of associations between arts engagement and mortality in the English Longitudinal Study of Ageing,* British Medical Journal 2019, 367. doi: https://doi.org/10.1136/bmj.l6377; accessed on: 18 Feb 2020.

74 Op. cit.

Fig. 116. Paris, La Défense, general view

Source: photo by B. Komar (1999)

Fig. 117. *Spider*, author: Calder

Source: photo by B. Komar (1999)

conclude based on that study is that art can support longevity by improving mental health, increasing social capital, reducing loneliness, developing cognitive reserve, reducing sedentary lifestyle and risky behaviour. Consequently, there are cities which have undertaken specific initiatives to foster people's interaction with art, bringing it closer to the general public.

8.1. Paris, La Défense

The first city to be mentioned is **Paris**, with its multitude of art galleries, museums, exhibitions, and one-of-a-kind fantasy, as it is without a doubt a city of art in its own right. However, the author's intent is to focus specifically on the artistic achievements of the **La Défense** district.

The construction of La Défense, being Europe's largest business district, began in 1958 and continued until the 1980's. The planning and construction of the district was entrusted to the government agency EPAD, featuring lead architects Robert Camelot, Jean de Mailly, and Bernard Zehrfuss. The most distinctive structure in its space is the Great Arch of the Defence, originally known as the Great Arch of Fraternity (1985–1989), designed by Johann Otto von Spreckelsen. The district's architecture is dominated by high rise office buildings made of glass, steel, and concrete, arranged on both sides of the development's main axis. The space thus created proved perfect for the display of visual artefacts, which were intended not only to increase the frequency of people's interaction with art, but also to humanise the otherwise dispassionate neighbourhood. Fifty artists from 14 countries, including two from Poland, were invited to the project, which ultimately yielded more than 60 works of art. This group included: Cesar Baldaccini, Alexander Calder, Michel Deverne, Aiko Miyawaki, Atila Biro, Joan Miro, Bernar Venet, Takis, Igor Mitoraj, Piotr Kowalski, Yaacov Agam, and many others.

Such an enormous outdoor art salon actually attracts people from all over the world, fosters social interaction, benefits the identity of the place, and showcases the global dimension of artistic pursuits.

8.2. Salzburg, Salzburg Foundation

An example of activities undertaken in the city space under one-party arts patronage is that of the Salzburg Foundation, which began its operations on a private initiative in 2001. The institution collaborates with the Bonn Foundation for Art and Culture and its ambitious goal is to complement the city's long-standing cultural tradition with contributions from contemporary artists.

The patronage scheme creates opportunities for challenging encounters between the citizens of Salzburg, international artists, and visitors to the city. It long-term goal is to foster the creation of outstanding works of art and a sculpture park. Each year, the Salzburg Foundation invites an artist of international renown to visit the city, become more familiar with it, and in the end, develop works in the public space. The choice of project participants is made by an independent international panel of experts composed of: Michael Auping (Fort Worth, Texas), Danilo Eccher (Torino), and Lóránd Hegyi (Saint Etienne), under the art direction of Walter Smerling.

What makes the project so unique is that its deliverables are donated to the city, while the financing is provided exclusively by generous private donors, including the Credit Suisse AG bank (Germany) and Prof. Reinhold Würth, who has been supporting the artists since the very project onset.

Spanning a decade, the project has made a substantial contribution to the city's public domain with the following works of art:

⟶ *A.E.I.O.U.*, Anselm Kiefer, 2002,
⟶ *Numbers in the Woods*, Mario Merz, 2003,
⟶ *Spirit of Mozart*, Marina Abramović, 2004,
⟶ *Mozart – Hommage to Mozart*, Markus Lüpertz, 2005,
⟶ *Sky-Space*, James Turrell, 2006,
⟶ *Sphaera* and *Woman in the Rock*, Stephan Balkenhold, 2007,
⟶ *Caldera*, Anthony Cragg, 2008,
⟶ *Vanitas*, Christian Boltanski, 2009,
⟶ *Awilda*, JaumePlensa, 2010,
⟶ *Gurken*, Erwin Wurm, 2011,
⟶ *Connection*, Manfred Wakolbinger, 2011,
⟶ *Beyond Recall*, Brigitte Kowanz, 2011.[75]

Fig. 118. Art Works of Salzburg Foundation: *Sphaera*, Stephan Balkenhold, 2007; *Awilda*, Jaume Plensa, 2010; *Gurken*, Erwin Wurm, 2011

Source: photo by B. Komar (2019)

75 B. Komar, *Sztuki plastyczne w przestrzeni miasta – wybrane przykłady* [Fine arts in the city space – selected examples] [at:] N. Bąba-Ciosek (ed.) *INTERFERENCJE sztuka + nauka* [Interferences. Art + Science], Publishing House of the Faculty of Architecture of the Silesian University of Technology, Gliwice 2015, pp. 101–107; http://salzburgfoundation.at/en/salzburg-foundation-2/about-us/

8.3. Scandinavian examples

Equally interesting initiatives can also be found in Scandinavian cities. For example, the Danish city of Odensa – a home town to the famous fairy tale writer Hans Christian Andresen – has been enriched with sculptures reminiscent of some characters from his world-famous tales. That is where one can come across the Tin Soldier, characters from the fairy tale *The Emperor's New Clothes*, the Toad, and many more.

In the Swedish capital city of Stockholm, on the other hand, art has gone underground as the local artists took over each metro station[76] with their sculptures, murals, and mosaics. Stockholm's 110-kilometre-long underground railway has been called the longest art gallery in the world ever since.

The idea to decorate Stockholm's metro stations with works created by various artists was conceived in the late 1940's. The concept was rather simple: sculptors, painters, and other artists, working together with architects and engineers, were to create an attractive and inspiring design for the metro system, bringing art to all the people of Stockholm. On 18 April 1955, the idea was voted on and approved by the city council. A genuine art gallery began to be developed underground, the central station of T-Centralen being the starting point. Nowadays, 70 stations have been decorated by various artists.[77]

The T-Centralen station alone was decorated by 22 artists:

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[76] There are a total of 100 metro stations, 47 of which are underground (author's note).

[77] Stockholm Metro – underground art gallery. *Cztery kąty*. https://czterykaty.pl/czterykaty/1,58140,13408936,metro-w-sztokholmie-galeria-sztuki-pod-ziemia.html, accessed on: 19 Feb 2020.

Station one
⟶ *Tur och retur* [There and back again] – decorations made of Spanish tiles in the ticket hall at Vasagatan, Jörgen Fogelquist (1957–1962)
⟶ Hand-painted Finnish tiles in the passageway to the Central Station, Jörgen Fogelquist (1994, 1998)

Upper platform
⟶ Faience elements of seats, Erik Möller-Nielsen (1957)
⟶ *Karlavagen* tiles, Anders Österlin and Signe Persson-Melin (1957)
⟶ *Linje* relief, Berndt Helleberg (1957)
⟶ *Kvinnopelare*, engraving on a concrete pillar, Siri Derkert (1957)
⟶ Stone and Venetian (glass) mosaic entitled *Det Klara som trots allt inte försvinner* [Klara, who nevertheless does not die], Vera Nilsson (1957)
⟶ Wall ornaments, Erland Melanton and Bengt Falk Eden (1958)

Lower platform
⟶ Tiled pillars, Oscar Brandtberg (1957)
⟶ Reliefs on pillars, TorstenTreutiger (1957)
⟶ Iron bars in the passage towards Klara kyrka, Britt-Louise Sundell (1964)

Station two
⟶ Blue paintings (vine, flowers, workers), Per Olov Ultvedt (1975)
⟶ *Take the A-train*, series of enamelled plates inspired by the SL logo in a link with station one, Carl Fredrik Reuterswärd (1975, 1984)[78].

Equally noteworthy are the rainbow station of **Stadion** designed in 1973 by Enno Hallekwith Åke Pallarp and the futuristic, brightly coloured **Teknisk a högskolan** station of 1973 by Lennart Mörk.

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[78] T-Centralen, https://pl.wikipedia.org/wiki/T-Centralen

Another remarkable station is **Kungsträdgården**, actually forming a large museum space, filled with gas lamps that used to illuminate the city streets in the past as well as fragments of the Makalös palace, demolished in 1825. The station's interior resembles a cave – the sculptures, columns, and lamps are displayed in grottoes, the stone walls and ceilings have been covered with paintings. Some stone sections are embellished with multi-coloured paintings of abstract geometric shapes, green being the predominant hue.

Ulrik Samuelson, who designed the décor in 1977, wanted the station to visually remind city dwellers of the past of the Norrmalm district, having undergone controversial urban redevelopment in the 1950's and 1960's. Fragments of the buildings demolished at the time can be seen underground today.[79]

Fig. 119. Rådhuset metro station, Stockholm
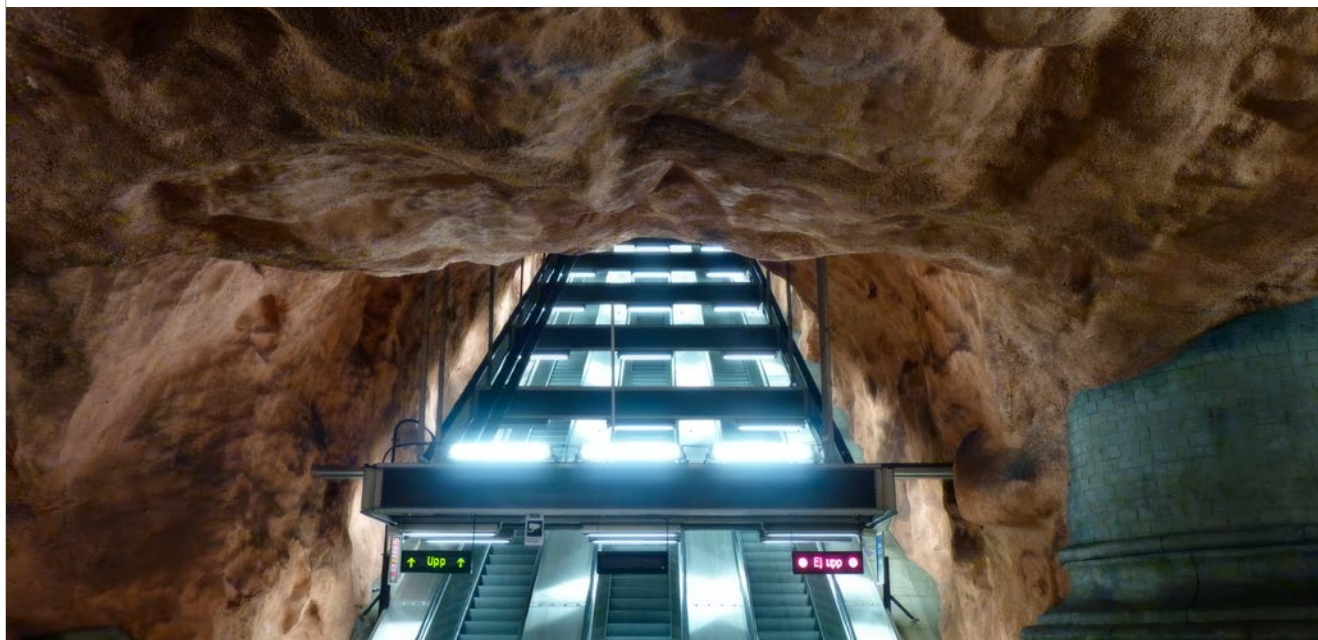
Source: photo by B. Komar (2014)

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[79] The most beautiful metro stations in the world – Solna Centrum in Stockholm, https://archirama.muratorplus.pl/design; accessed on: 19 Feb 2020.

Fig. 120. T-Centralen metro station, Stockholm

Source: photo by B. Komar (2014)
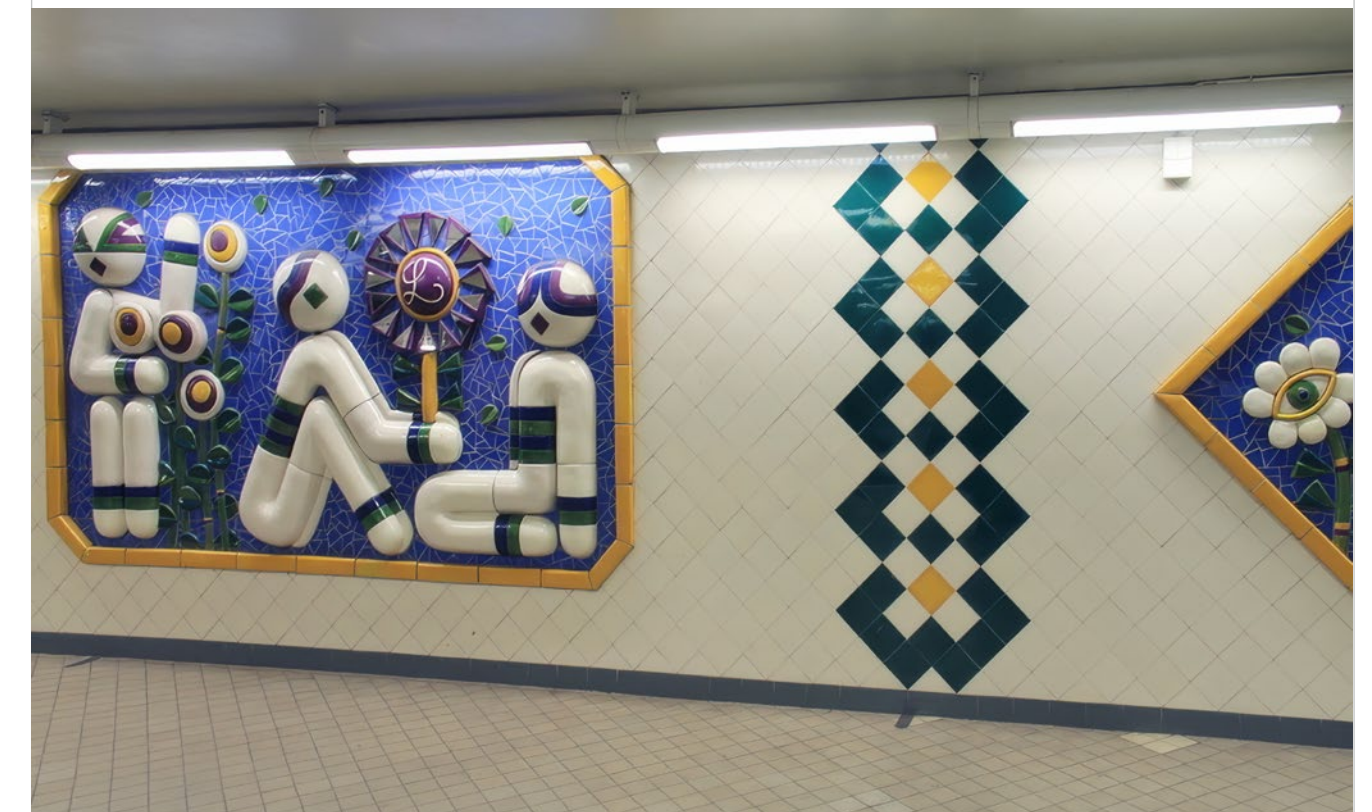
Fig. 121. Fridhemsplan metro station, Stockholm

Source: photo by B. Komar (2014)

8.4. Dwarfs of Wrocław

The Dwarfs have been described as an art event and a social phenomenon, geographically spanning the city of Wrocław and the surrounding municipalities, influencing artistic activities undertaken all over Poland.[80]

Fig. 122. *Vincent the Dwarf*; author: Beata Zwolańska-Hołod, Wrocław, 2018

Source: http://voxvratislaviensia.eu/wroclawskie-krasnale/

The Dwarfs first appeared in painted versions on the walls of Wrocław buildings back in the 1980's. The dwarf painting idea sparked in the mind of Waldemar Frydrych, commonly known as Major, who used it to initiate

a movement known as the Orange Alternative,[81] intended to ridicule the communist regime in a peaceful manner. The dwarf painter was actually arrested twice for his activity, and it was during one of his incarcerations that he is famously believed to have delivered a short statement that later evolved into a concise manifesto: "The thesis is the slogan, the antithesis is the spot, and the synthesis is the Dwarf. Quantity evolves into quality. The more numerous the Dwarfs, the better." The Orange Alternative passed into oblivion in the coming years. However, it was reborn in 2001 when a monument dedicated to the movement was raised in Świdnicka street in Wrocław: a dwarf standing on a boulder, proudly looking ahead.[82] It was founded by the company Agora, publisher of the *Gazeta Wyborcza* daily magazine. 426 stationary figurines and five moving Dwarfs have been created to date.[83] The guardians of the Dwarfs are municipal institutions, political parties, businesses, and individual persons. In fact, virtually anyone can sponsor a Dwarf. Art has found its way to reach the masses. The authors of the Dwarfs include artists such as Tomasz Moczek, Beata Zwolańska-Hołod, Marcin Łuczkowski, and Marta Mirynowska. In a short time, the Dwarfs became a symbol specifically associated with the city of Wrocław.

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80   https://pl.wikipedia.org/wiki/Wroc%C5%82awskie_krasnale. Besides Wrocław, the dwarf figurines can also be encountered in Suwałki and Legionowo.

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81   J. Warda, *Wrocławskie krasnoludki*. Wielopoziomowość szczegółów warunkiem urody miasta [Dwarfs of Wrocław. Multidimensionality of details as a prerequisite of urban beauty], http://kulturaenter.pl/article/wroclawskie-krasnoludki/

82   Following the opposition's tradition, the monument was not officially reported and covered by municipal plans; it was entered into the relevant register as a "street bulge." It now bears the title of Papa Dwarf – the founding father of the Dwarven Brotherhood; ibid.

83   https://pl.wikipedia.org/wiki/Wroc%C5%82awskie_krasnale

8.5. Visual urban planning solutions – example of Sankt Gallen

The planning concept brought to life in the Swiss town of Sankt Gallen was intended to revive a part of the hitherto unused space and transform it into an urban lounge. To this end, the entire surface of the chosen area was covered with tactile granular red rubber floor lining, designed specifically for the site. Sitting places, fountains, and even dummy cars were hidden underneath so that they would actually look like real objects, e.g. cars, covered with carpet. The project concept was to abandon common notions of the city space, and instead, offer the actual features of a lounge, including a cloakroom, a reception area, a business zone or a foyer. The conventional relationship between interior and exterior has also been reversed, and so the building facades can now be interpreted not only as the outer shell of structures, but also as the lounge walls. The semiotic association with the carpet has provided the neighbourhood with a high level of comfort, slowed down pedestrian traffic, and even prompted passers-by to touch the new red pavement.

The project was implemented in the following steps: (stage 1): 2004–2005 – construction work (stage 1): 2005 – planning period (stage 2): 2008–2009 – construction work (stage 2): 2009–2011. The authors of the project concept were architect Carlos Martinez and video artist Pipilotti Rist.[84]

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84   City Lounge, Sankt Gallen, Urban living room by Carlos Martinez and PipilottiRist, A' Design Award and Competition, https://competition.adesignaward.com/design.php?ID=54203.

Fig. 123. Red city lounge in Sankt Gallen; authors: Pipilotti Rist, Carlos Martinez, 2008–2011

Source: Photo by Thomas Mayer, https://archide.wordpress.com/2008/11/05/city-lounge-in-st-gallen-switzerland/

Having examined such examples of art's contribution to the city space, one can reach a conclusion that, nowadays, grounds for artistic activity can be found not only at conventional urban squares, but also in non-obvious places that can persuade the spectator to interact with the work or art even more effectively. At the beginning of this book, the author refers to diverse forms of human activity: necessary, optional, and social, as proposed by Prof. J. Gehl. It has been suggested that all kinds of activity deserve to be performed in a space of high quality, since not only the optional forms of activity require a suitable environment. The examples provided and discussed in this chapter clearly evidence that such space can indeed be of high artistic merit, which certainly exerts a positive

effect on the people who populate it. Works of art displayed in cities have the potential to affect a variety of aspects, such as the following:

⟶ attractiveness of the city space,
⟶ identity of a given place,
⟶ residents' interest in arts,
⟶ improved quality of the space,
⟶ colour introduced into the space,
⟶ enhanced mood and even longevity of people.

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Streszczenie

Sztuki plastyczne towarzyszą architekturze właściwie od początków jej dziejów. Niniejsza publikacja stara się zaznajomić czytelnika – z jednej strony – z tradycyjnymi technikami plastycznymi takimi jak: malarstwo ścienne, sgraffito, witraż, mozaika, a z drugiej strony – pokazać ich ewolucję na przestrzeni wieków jak również zaprezentować ich współczesne, często niekonwencjonalne zastosowania.

Opracowanie porusza także problematykę udziału sztuk plastycznych na rzecz działań prospołecznych takich jak: pamięć w przestrzeni miejskiej oraz ekologia. Odwołuje się również do rozważań szerszych na temat miasta jako salonu sztuki.

Publikacja może być pomocna dla studentów wydziałów architektury lub innych kierunków związanych ze sztukami plastycznymi oraz pasjonatów tej problematyki.

Summary

Fine arts have had their place in architecture since the very beginning of its history. This publication represents an attempt, on the one hand, to make the readers familiar with traditional art techniques such as: wall painting, sgraffito, stained glass, and mosaic, while on the other hand, to discuss the evolution of fine arts over the centuries as well as to present their contemporary, often unconventional, applications. The study also addresses the problem of the contribution of visual arts to socially conscious activities and phenomena such as memory in the city space and ecology. The paper also provides broader considerations concerning the city perceived as an art salon.

The publication may prove helpful to the students of higher education courses in architecture and other subjects related to fine arts, but also to the enthusiasts of this body of problems.