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THE IDEA OF ECOSCENOGRAPHY AND ARCHITECTURAL UPCYCLING IN THEATRE. CONTEMPORARY TRENDS AND PURSUIT OF AVANT-GARDE ILLUSTRATED WITH DIDACTIC PROJECT EXPERIENCES

IDEA EKOSCENOGRAFII I ARCHITEKTONICZNY UPCYCLING W TEATRZE. WSPÓŁCZESNE TRENDY A DĄŻENIE KU AWANGARDZIE NA PRZYKŁADZIE DOŚWIADCZEŃ PROJEKTU DYDAKTYCZNEGO

Abstract

The notion of 'avant-garde' refers to contemporary intellectual activities expressing new ideas and experimenting with creative thinking. Their breeding ground, among other areas, is the theatre – the space of creation: acting/ music/sound/media. Is the idea of ecoscenography an avant-garde combining various arts, an introduction to the studies in the field of transgression of architecture? In the age of cyberculture, concepts traditionally associated with theatre have been expanded, whereas the boundaries of architecture/ecology/art have been blurred. New questions how to define them are arising. This publication presents the effect of the research on the architecture of stage scenery and the results of a didactic experiment.

Keywords: avant-garde, theatre, transgressions, ecoscenography, cyberculture

Streszczenie

Pojęcie „awangarda” odnosi się współcześnie do działań intelektualnych wyrażających nowe idee, eksperymentujących z postawami twórczymi. Gruntem ich rozwoju jest między innymi teatr – przestrzeń kreacji w dziedzinie gry/muzyki/dźwięku/mediów. Czy idea ekoscenografii jest awangardą na pograniczu sztuk, wstępem do badań w obszarze transgresji architektury? W dobie cyberkultury pojęcia związane z teatrem uległy rozszerzeniu, granice – zatarciu. Pojawiają się pytania o granice architektury/ekologii/sztuki. W publikacji zawarto też efekty badań oraz eksperymentu dydaktycznego na ten temat.

Słowa kluczowe: awangarda, theatre, transgresje, ecoscenography, cyberculture

1. INTRODUCTION

The notion of ‘avant-garde’ appeared in the first half of the 19th century to define social movements and phenomena which aimed at a broadly-understood change of the so-far social, aesthetic and cultural standards. The definition and meaning of avant-garde evolved, finally to refer, in its common usage, mainly to the intellectual and creative activities expressing new ideas and experimenting with artistic attitudes. Theatre is a breeding ground of avant-garde attitudes as it combines creative space with innovations in the scope of acting, music and sound as well as visual media. Universally-understood transgressions in the field of visual arts (including media), performing arts and architecture created space for experiments going beyond or transgressing the so-far acceptable limits and definitions.

The process of decomposition of models, the search for new inspiring (often provocative) juxtapositions, the pursuit of a new synthesis – novel coherence, the absorption of ideas and imbedding new meanings into a work of art, being a sign of the times and a specific place – belong all to the historically well-known mechanism of the maturing of architecture to the challenges of the present day. In the epoch of cyberculture, notions connected with theatre have been enormously expanded and their boundaries have been blurred. The word ‘theatre’ itself (from Greek *théatron*, ‘a place for viewing’; *theáomai*, ‘view’, ‘watch’, ‘observe’) returns to its original meaning. Until the end of the 20th century, scenography basically referred to the space of presentation and observation in the theatre. It constituted one of the most significant factors impacting theatrical experiences and the course of theatrical communication. Present-day scenography has changed. Scenography as a holistic notion and theatrical scenery are being re-defined. In this context, new questions are arising: how to determine the boundaries between architecture, ecology and broadly-understood visual arts. The question posed in this paper – whether the idea of ecoscenography is a contemporary avant-garde bordering on fine arts, visual arts and architecture – constitutes an introduction to more extensive research in the field of broadly-understood transgressions of architecture. Ecoscenography appears to be the synthesis of some trends in art and architecture with global tendencies to make all areas of life the emanation of ‘pro-ecological thinking’.

Experiments in the field of classical performing arts (such as theatre, opera, ballet) and performing arts which aimed at breaking some classical canons date back to the early 20th century. ‘The Rite of Spring’ by Igor Stravinsky (Igor Strawński), first performed in 1913 in the Théâtre des Champs-Élysées, with the choreography by Vaslav Nijinsky (Wacław Niżyński), is considered to be a turning point in the field of music and ballet. In the following decade, Walter Gropius and Oscar Schlemmer created the ‘Total Theatre’ and ‘Triadic Ballet’ (1923). The birth of cyberculture has contributed to the fact that the majority of the so-far artistic activities evades traditional canons and aesthetic standards². In the contemporary time, the boundaries between fine arts, performing arts, visual arts³ are blurred. Theatrical activities are now defined

¹ M. Long, *Es Devlin: “Humans are not the only main characters”*, www.designweek.co.uk/issues/1-7-november-2021/es-devlin-cop26 (access: 25.08.2022).

² R.W. Kluszczyński, *Od web.studies do antropologii nowej wizualności. Współczesne badania nad cyberkulturą*, “Kultura Współczesna” 2005, 1 (43), pp. 32–40.

³ Performing arts are defined as actions determined in their duration, whereas visual arts refer to

in so many various ways that it is not possible to provide one explicit and uniform definition of a universal type of a theatre building⁴. Theatre and performing art, often combined with the innovations in the field of music and sound as well as the development of visual media design contribute greatly to the process of boundless expansion of the notion of ‘theatre’ and consequently its definitions and concepts. Scenography, understood in a holistic way, is a strategy of the research and practice of all aspects of designing in a spectacle / performance⁵. It is the entirety of the phenomena creating a dramatic action, from an expressed word or gesture, through spectators and actors, to space⁶. “Scenography is the seamless synthesis of space, text, research, art, actors, directors and spectators that contributes to an original creation”⁷.



- III. 1. The oldest original permanent architectural scenography of the modern era combined with the elements of trompe l’oeil. Andrea Palladio, Vincenzo Scamozzi, Teatro Olimpico in Vicenza, 1584–1585. Photo by T. Wagner 2021.
- III. 2. Architectural scenography, trompe l’oeil, by Karol Frycz in the Juliusz Słowacki Theatre in Cracow (Teatr im. Juliusza Słowackiego w Krakowie), 1924. Source: National Library (Biblioteka Narodowa), catalogue no: F.45110/IV, UID repository 107446687.
- III. 3. Architectural scenography, trompe l’oeil, in a typical box set. The Helena Modrzejewska New Theatre in Poznań (Teatr Nowy im. Heleny Modrzejewskiej w Poznaniu), 1929. Source: National Library (Biblioteka Narodowa), catalogue no: F.45140/III, UID repository 115476453.



- III. 4–7. Elements of stage scenery by Tadeusz Kantor (1915–1990), permanent exhibition, Cricoteka in Cracow. Photo by T. Wagner 2017.

physical or static works of art. Performing art converts into visual art when its digital recording becomes part of a physical exposition.

⁴ H. Foster, *Powrót Realnego: awangarda u schyłku XX wieku*, “Kultura i Społeczeństwo” 2012, Vol. 56, 1, pp. 318–319.

⁵ J.A. Walker, *Glossary of art, architecture & design since 1945*, G.K. Hall, Boston 1992, p. 127.

⁶ P. Howard, *What is Scenography?* Routledge, London 2002, p. 130.

⁷ J. McKinney, P. Butterworth, *The Cambridge Introduction to Scenography*, Cambridge University Press (excerpt), assets.cambridge.org/97805218/47650/excerpt/9780521847650_excerpt.htm (access: 12.08.2022).



Ill. 8. Stage scenery from the play 'Diabli nadali' in the Syrena Theatre in Warsaw (Teatr Syrena w Warszawie). Scenography: Marian Eile (1910–1984). Photo by Edward Hartwig. Source: National Library (Biblioteka Narodowa), catalogue no: F.21003, UID repository 1023218 (CC).

2. RELATIONS BETWEEN ARCHITECTURE AND SCENOGRAPHY

Until the second half of the 19th century, scenography had followed paths marked by the epochs of Renaissance and Baroque. Nicolaus Pevsner dates the foundation of the first permanent theatre building in the year 1531⁸ stating also the place, namely the Italian city of Ferrara. It is most probable that stage scenery of Renaissance theatres drew from the models created in antiquity. The first use of a perspective illusion by Vincenzo Scamozzi took place around 1585 in Teatro Olimpico in Vicenza – beginning thus the development of the technique of architectural painting, the so-called 'trompe l'oeil' (in French: 'to deceive the eye'), in scenography. During the Baroque, the creation⁹ and development of the opera art significantly contributed to the enrichment of methods of creation of stage scenery illusion. *Dramma per musica*, meaning the contemporary theatre of music and the mature opera, enriched scenography with mobile elements and changeable scenery backdrops. Apart from permanent architectural elements of the stage (typical of antique theatre and the Renaissance one drawing from Antiquity), a box set became widely used beginning from the 17th century. This concept determined the site of creating theatrical scenery for the centuries to come, up to the 20th century. Teatro di San Cassiano, which opened in Venice

⁸ N. Pevsner, *A History of Building Types*, Princeton University Press. Princeton 1976, p. 66.

⁹ Claudio Monteverdi is considered to be its creator (1567–1643), however, the first works of the kind of *dramma per musica* came into being in the late 16th century before the first preserved opera *Orfeo* by Monteverdi of 1609.

in 1637 (destroyed by Napoleon in 1812), was revolutionary in the scope of the layout of the stage and auditorium. The auditorium was based on modified letter U (U-shaped theatre) and had a horseshoe shape¹⁰, with piled boxes (loges) for spectators. That model was copied all over the world up to the beginning of the 20th century. Stage scenery machines, such as *Deus ex machina*, made it possible to quickly change scenography and apply 'special effects'. A step-like, mobile, theatrical scenery using an elaborate box set provided a wide spectrum of illusions and depths of perspective. Breaking the spatial pattern of the 'Greek theatre' became, for many decades to come, a factor enabling more and more daring avant-garde experiments in the scope of theatrical scenery.

Those experiments reached their apogee in the artistic work of an American producer, director and scenographer David Belasco (1853–1931). He was one of the trailblazers of modern stage lighting and the creator of hyper-realism in theatrical scenery¹¹. In pursuit of a perfect impact of a theatrical play on all senses, he introduced scents adequate to a given scenography set by placing their distributors in the ventilation systems of theatres. On the one hand, his hyper-realism was later continued in the new field of cinematography, on the other hand, it provided a strong impetus which caused the rejection of the 'aesthetics of excess' and became the drive for the development of abstraction and ambiguity in modernist experiments in the field of theatre and film. The scenography of the 19th-century Realism, which valued authenticity, assumed that the creation of the stage reality should be a literal copy of the real life space.

The industrial and technological revolution of the 19th century triggered various types of Realism in the academic art trends, but at the same time it released their contestation in different circles of intellectual and artistic avant-garde. Artistic avant-garde is distinguished by radical innovation, the tendency to break conventions and joint action (collectivism, collectivity). The architectural avant-garde of the 20th century created the framework for modernity as it sparked the decomposition of models and standards, experimented with provocative juxtapositions, searched for new coherence, strove for a complex reconstruction of the world, the synthesis of a human being and a machine, the work of an artist and an engineer-technician. The symbol of those tendencies was embodied in the Bauhaus – the school having reformatory aspirations, being nowadays a reference point in the discussion on the methods of education of architects, deliberations on time, space and motion in architecture. The creators of the Bauhaus were particularly interested in theatre as the medium of a performance and the space of movement. The avant-garde from that circle sought new methods (using novel means of expression and innovative technology) in order to perform, in the contemporary theatre, the synthesis of the stage architecture and the phenomenon of mobility inspired by the work of a 'machine' – the symbol of modernity (the Total Theatre of Walter Gropius and Oskar Schlemmer's works: the Triadic Ballet¹² with the scenography integrated with the actor and moving during the play). In this way, the foundations of the contemporary theatrical scenery technology, modern dance and art were laid. The spatial concepts conceived in the circle of that art-and-craft school focused on the expansion of

¹⁰ P. Atkin, S. Patuzzi, *The reconstruction/reimagining of the original Teatro San Cassiano of 1637*, Municipality of Venice, Venezia 2019, pp. 4–6.

¹¹ <https://www.britannica.com/biography/David-Belasco> (access: 11.09.2022).

¹² J. Fiedler, P. Feierabend, *Bauhaus*, Koenemann, Cologne 1999, pp. 532–551.

the boundaries of architecture, an interdisciplinary character, inclusivism, experiments with repeatability of patterns and solutions (prefabrication and modularity).

After the Second World War, a significant contribution into the development of the theatrical scenography was made by Josef Svoboda (1920–2002), a Czech architect, whose world-wide career began at EXPO'58 in Brussels after the presentation of a theatrical performance combined with film projections, presenting i.a. industrial topics. Throughout several decades of his artistic activity, Svoboda designed over 700 theatrical sceneries (stage sets), which combined, in a revolutionary way, light, film projections and geometrical structures referring to architecture (architectons)¹³. His creative work often features a motif of multi-planar stage scenery going beyond the traditional box set or 'stage box'.

In Poland, the theatrical avant-garde which had impact on the theatre abroad was the activity of Jerzy Gurawski, Jerzy Grotowski and the theatrical group: Teatr 13 Rzędów (the Theatre of 13 Rows), experimenting, among other things, with the theatrical space and a spectator-actor-scenography relation. A significant change in the workings of theatrical space was also introduced by Tadeusz Kantor. He combined, in an artistic way, stage performance or stage activities with sculpture, most often created by means of assemblage obtained from old, obsolete objects, materials and textiles¹⁴. Such activities are nowadays perceived as a kind of upcycling, however, in those days they were not motivated by ecological reasons but by artistic sensitivity combined with the economic realities of the epoch of Communism. 'The Second Machine Age'¹⁵ puts the artistic work of modernist avant-garde to the test – in the face of a digital revolution there appears again the necessity of the re-definition of a man-nature-production relation.

3. THE SPACE OF THEATRE IN THE AGE OF CYBERCULTURE

In the age of cyberculture, the concepts connected with theatre have been immensely extended, whereas the boundaries between different art disciplines have been blurred. Up to the end of the 20th century, scenography basically referred to the space of presentation and observation in the theatre. Theatrical scenery constituted one of the most essential factors impacting theatrical experience and the course of theatrical communication. It is not the case any longer in contemporary theatre. The performance of the avant-garde of modern theatre encompasses not only spectators, who exist in a given physical place, but also digital streaming (interactive performance). The latter was, without doubt, accelerated by the Covid-19 pandemic, which temporarily precluded the physical use of public buildings. Former space of the stage and auditorium is being transformed using immersion technology (combining the real world with the digital world) into the total space. It makes it possible, by means of scenography/theatrical scenery, to create not only the whole building or seats in the theatre, but also non-theatrical spaces. 'Site-specific' performances

¹³ J. Svoboda, *The Secret of Theatrical Space*, Applause Theatre Books, New York 1993.

¹⁴ *Opakować! Wystawa ambalazy*, cricoteka.pl, www.cricoteka.pl/pl/opakowac-wystawa-ambalazy (access: 8.08.2022).

¹⁵ E. Brynjolfsson, A. McAfee, *Drugi wiek maszyny. Praca, postęp i dobrobyt w czasach genialnych technologii*, MT Biznes, Warszawa 2015.

transfer the space of the theatre to any place where the spectacle can be presented. Theatre in 'non-theatrical spaces may exist, or take place, in a transformed space (e.g. a former factory, ruins, closed-down railway station, etc.), in a 'ready-made' closed space (theatre in non-theatrical places) or in a 'ready-made' open space (open-air or street theatre)¹⁶. Remarkable theatre director and expert in performance studies Richard Schechner states that theatre exists in the place where it is being performed. 'It starts when most of given disciplines come to an end. The performatist does not study text, architecture, fine arts or any other product of art or culture as such, but solely as a component of a continuous play of relations and combinations'¹⁷

Contemporary scenography may include elements of the virtual reality (VR)¹⁸, computer-generated surroundings (3x'I': immersion, interaction, imagination), or it may be part of the augmented reality (AR), which combines the real world with the computer-generated (virtual) world. More and more often, different types of performances are accompanied by the mixed reality (MR) – the fusion of the real and virtual world, where physical and digital objects co-exist and interact in real time in the newly-created environments and visualisations¹⁹. The mixed reality is a hybrid of realities, the virtual and augmented reality; the combination of computer processing, human input and environment input. Immersion technology is one of the most popular technologies used in the contemporary avant-garde theatrical scenery. Another frequently-used technology is motion capture suits, which can be applied during artistic activity using holograms (this technology is also often applied in film art as a tool of cutting-edge animation). A broad application of holograms, which is a resultant of the digitally-improved methods of projection, enabled the creation of a series of popular performances with the participation of (most often deceased) artists²⁰. Holograms make use of a holographic foil using the *Pepper Ghost* effect or project images onto a holographic tulle mesh which is spread on the stage. Another method of obtaining realistic 3D images is a water curtain, made of scattered water particles (a sort of fog), serving the purpose of a semi-transparent screen on which the projected objects create a 3D illusion of being suspended in the air²¹.

An important aspect of cyberculture is the impact of multi-layered stimuli, multi-sensuality, transitory nature and astonishment at the originality of interpretation²². Osmodrama can serve as an example. The *Festival of Kinetic Scent Performance* in Berlin (2016) and later the Martin-Gropius-Bau (2018) featured performances using the Osmodrama machine, designed by Wolfgang Georgsdorf in 1990 and further improved Osmodrama via Smeller

¹⁶ encyklopediateatru.pl/hasla/136/przestrzen-teatralna (access: 28.04.2022).

¹⁷ R. Schechner, *Performatyka: Wstęp*, Wydawnictwo Instytutu im. Jerzego Grotowskiego, Wrocław 2006, p. 16.

¹⁸ A computer-generated three-dimensional image which emits a real world or constitutes a vision of a fictional world.

¹⁹ M. Usidus, *Wirtualny świat*, mlodytechnik.pl/technika/29872-wirtualny-swiat (access: 18.05.2022).

²⁰ *Patsy Cline first Country star to return via hologram*, www.bbc.com/news/entertainment-arts-33237289 (access: 13.05.2022).

²¹ An example of this technology: <https://www.alphavision.pl/event/ekran-mglowy-fog-screen/> (access: 27.06.2022).

²² D. Siemieniecka, M. Szablowska-Zaremba (eds.), *Internet jako przestrzeń relacji społecznych – szanse, ograniczenia, perspektywy*, Wydawnictwo KUL, Lublin 2021, pp. 38–48.

2.0. It is both a work of art and a machine which makes it possible to tell stories through a composition of scents²³.

Interactive theatres are striving to blur boundaries between the performance and cyber-space. This phenomenon may be illustrated with an example of the group Punchdrunk established in 2000 by Felix Barret, who developed a form of theatre in which each spectator has an individual experience. Spectators have full freedom of choice what to see and where to go. The way in which sound, light, motion, surroundings are used merges a mass spectacle with individual emotions and experiences of the audience. Immersion and interactive theatres of the LARP type (Live Action Role Playing) or RGP (Real Game Play) make use of the e-mail, social networks and other means of communication. The LARP is an activity on the borderline of play and art, a kind of improvisational theatre, where all participants co-create and co-experience a tale. It is a genre of participatory art, related to improvisational theatre, whose characteristic feature is the fact that participants adopt the functions of a director, actor and spectator. The scenography of such a form of expression can be made in every physical or virtual reality.

Also, British designer Es Devlin experiments with broadly-understood scenography. She became famous for her avant-garde spatial solutions for different cultural and political events, theatrical, opera or TV scenery as well as architectural and multi-media implementations. The UK Pavilion created by her²⁴ for the World Exhibition EXPO Dubai 2020 – known as Poem Pavilion – was designed as a large theatrical stage where the main part was played by artificial intelligence. Three words initiated by spectators became the basis for poems which, a moment later, were displayed both on the inner stage and on the outside of the building, and next sent into outer space. The idea directly referred to one of the last projects by Stephen Hawking ‘Breakthrough Message’ of 2015²⁵.



Ill. 9. ‘Osmodrama’ 2016. Photo by Julian van Dieken 2016 (CC).



Ill. 10. ‘Conference of the Trees’ COP26 Glasgow. Photo by Es Devlin 2021 (CC).

²³ *Osmodrama alla mostra Welt ohne Außen. Immersive Spaces since the 1960s*, www.floornature.com/blog/osmodrama-exhibition-welt-ohne-aussen-immersive-spaces-1960s-13957/ (access: 28.06.2022) and Interview of A. Desponds with K. Felberg, *Teatr hybrydowy*, teatr-pismo.pl/7730-teatr-hybrydowy/ (access: 28.06.2022).

²⁴ The team consisted of architectural studio Veretec, multimedia agency Avantgarde, engineering office Atelier One and sustainable development unit Atelier Ten., source: www.architectsjournal-co-uk/news/set-designer-es-devlin-picked-for-uk-pavilion-at-expo-2020-dubai?_x_tr_sl=en&_x_tr_tl=pl&_x_tr_hl=pl&_x_tr_pto=sc9 (access: 10.09.2022).

²⁵ www.archdaily.com/902853/es-devlin-to-design-the-uks-poem-pavilion-for-dubai-expo-2020 [10.09.2022] (access: 25.08.2022).



Ill. 11. 'Poem Pavilion' EXPO Dubai 2020. Photo by Tomasz Wagner 2022.

4. ECOSCENOGRAPHY AS THE AVANT-GARDE OF THE FIRST HALF OF THE 21ST CENTURY (?)

Activities in the scope of application of recycling and upcycling to the preparation of theatrical space and scenery are nowadays considered to be an innovative direction of thinking in theatre, in spite of numerous examples of such an application in the history of scenography in the 20th century. This fact results from a change of perspective in which re-using and upcycling are perceived. Originally, they resulted from pragmatism or financial shortages, nowadays, they are the affirmation of 'ecological thinking'. The year 2021 witnessed the emergence of the term 'Ecoscenography' (ecological design for performance), which holistically defines its issues as the broader philosophy of creating performances in the spirit of sustainable development²⁶. Tanja Beer²⁷ – a scenographer and the author of this term – calls

²⁶ T. Beer, *Ecoscenography: an introduction to ecological design for performance*, Palgrave Macmillan, Singapore 2021.

²⁷ A researcher at the Queensland College of Art, Griffith University, Southport, Australia.

for the designing of performances with the heightened awareness of ecological and global problems as well as the development of methods for incorporating ecological ethics into theatrical activities²⁸. The creator must respond to the challenge and search for ecological possibilities in a given place, applying the strategy of a ‘scenographer-gatherer’ to maximally use waste in a given performance as well as make the performance serve the purposes of the natural environment. The above-described philosophy can be illustrated with an example of the scenography of the New York Times Climate Hub at the COP26 conference in Glasgow 2021 designed by Es Devlin. To propagate the idea that ‘Humans are not the only main characters’, 197 real trees were placed in the conference room, which represented 197 countries participating in the COP26. A small forest provided the background for a series of lectures and speeches, among others, by Greta Thunberg, Malala Yousafzai and Ban Ki-moon²⁹. Following the end of the conference, the trees were planted in the city of Glasgow. Ecological issues have made their entrance into a conscious form of artistic expression in theatre, art, digital media and performance, which was inevitable in view of the popularity and economic force of the topic of sustainable development.



Ill. 12. Scenography for the school performance ‘Garbage King’ based on a short story by Elizabeth Laird. The Internationality School of Addis Abeba 2013. Photo by Bob Rob Medina³⁰ 2013.

This process has been going on for several decades, therefore the project ‘Architectural Upcycling in Theatre’, conducted by the Faculty of Architecture, at the Silesian University of Technology, drew its inspiration from artistic work of numerous world-famous artists. One example that can be given is work by Vincent Skoglund, who in abstract cuboid

²⁸ *Ecoscenography Q&A* posted by tanjabeer. source: ecoscenography.com/2022/03/10/ecoscenography-q-a (access: 23.08.2022).

²⁹ Interview of Molly Long with Es Devlin, title: *Humans are not the only main characters*, posted by: Molly Long, November 4, 2021, www.designweek.co.uk/issues/1-7-november-2021/es-devlin-cop26/ (access: 20.08.2022).

³⁰ <http://www.mrbobart.com/2013/11/the-garbage-king.html> (access: 22.08.2022).

sculptures makes use of transformed old computers, car floor mats, broken furniture and other garbage. Japanese artist Tetsumi Kudo, deceased in 1990, in his sculpture 'Your Portrait', applies openable cubic boxes to reveal elements of anatomy and recycled everyday objects to the spectator. The inspiration for the suggestions concerning the creation of characters came from the art installations by Daniel Firman, Erwin Wurm (i.a. Hypnosis II, 2008). The examples of application of elements such as modular plastic containers often appear in scenography. It refers not only to the elements of theatrical scenery, but also to the stage structure. For instance, the scenography by Agata Skwarczyńska made for the play 'Diabeł i tabliczka czekolady' ('The Devil and a Bar of Chocolate'), directed by Kuba Kowalski, features such scenery. In the performance staged in the Juliusz Osterwa Theatre in Lublin (2016) grocery boxes in different shades of blue constitute elements of the stage, auditorium and vertical planes in theatrical space³¹.

5. CASE STUDY

*Architectural Upcycling in Theatre*³²

project PBL (POWR-03.05.00–00-Z098/17–00)

Education based on projects and specific practical training is nowadays a highly-valued method at all levels of didactics. It refers, in particular, to the methods of implementation of educational projects. In this way the project, co-financed by the European Union: Silesian University of Technology (Politechnika Śląska) as the Centre of Modern Education based on research and innovation was implemented at the Silesian University of Technology in the years 2018–2022. One of the priorities of the project was to prepare the graduates of the university for the confrontation and response to the challenges of modern economy and society. The subject of the discussed project, which was carried out in an interdisciplinary team, was as follows: *Architectural Upcycling in Theatre – Designing experimental scenography from recycled materials as a form of co-participation in artistic creation*. The project implementation involved academic teachers from the Faculty of Architecture, who looked after students, and the Institute of Research on Education and Communication of the Silesian University of Technology. The factual and content-related support was provided by the experts from the Faculty of Architecture, the Silesian Theatre (Teatr Śląski) and foreign

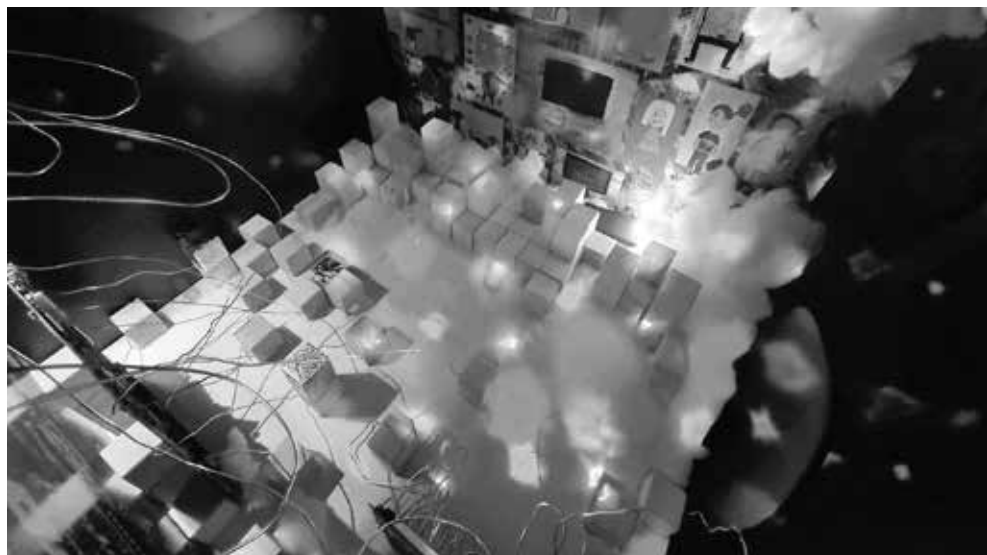
³¹ M. Obarska, *Bez dekoracji. Topowa współczesna scenografia*, Culture.pl #Teatr, culture.pl/pl/artykul/bez-dekoracji-topowa-wspolczesna-scenografia (access: 22.08.2022).

³² Project title: Architectural Upcycling in Theatre – Designing experimental scenography from recycled materials as a form of co-participation in artistic creation. The Silesian University of Technology (Politechnika Śląska) as the Centre of Modern Education based on research and innovation; contract no: POWR-03.05.00–00-Z098/17–00; project no: 47/050/FSD18/0001 – 12; Project co-financed by the European Union from the resources of the European Social Fund – Individual Study Program implemented in the form of Project Based Learning, Edition no 8. PBL students: Paweł Białas, Julia Giżewska, Marta Łazarczyk, Karolina Morawska, Katarzyna Zbrzeźniak (Faculty of Architecture), Paulina Młyńczak (Institute of Research on Education and Communication). Supervisors: Małgorzata Balcer-Zgraja, BEng, PhD, Arch.; Tomasz Wagner, BEng, PhD Habilitated, Arch., Prof. of the Silesian University of Technology; Anna Waligóra, PhD in Social Science; academic year: 2021–2022.

research institutions. The detailed goal of the project was to investigate the possibility of the application of architectural design methods to the creation of the scenography of the performance 'Prezent' ('A Present') directed by Piotr Janiszewski. The performance was co-created by children / the youth within the framework of a cyclic event organised by the Silesian Theatre (Teatr Śląski) in Katowice.

Scenery Design (being the creative fusion of visual arts, physical forms, digital and multi-media techniques) is the area of development of innovation in the art of industrial city 4.0. It was assumed that the design of architectural theatrical scenery merging a physical model and digital visualisation, developed by applying the idea of 'zero waste' (using materials coming from recycling, usable or re-usable materials, renewable raw materials or from the use of waste having a new utility value – upcycling) should become the source of theatrical creation of a great artistic and educational potential.

During the work on the task, the creators strove for the arrangement of the stage scenery using materials from recycling as well as the integration of children's conceptions of life, art and modernity with the designed variants of architectural forms. Workshops and surveys were conducted in one of the Silesian primary schools (the investigations were carried out on the basis of the methodology of social studies). The target group of users / audience of the performance and the design of theatrical scenery consisted of children / the youth – the participants of popularisation activities organised in the theatre. On the grounds of knowledge and experience of researchers and experts, the design of architectural scenery for a performance in the Silesian Theatre was planned ('Stage on the Gallery' / 'Scena na Galerii' – in the Galeria Katowicka shopping mall). The theoretical part of the project included lectures on the architecture of theatre and scenography as well as literature studies (R. Nakonieczny, BEng, PhD, Arch.; J. Rybarkiewicz, BEng, PhD, DSc, Arch.³³).



III. 13. Photographic study of the light conducted on a model of multi-planar scenography using stage modules and waste. PBL Archives, 2022.

³³ J. Rybarkiewicz, *Architektura pola kreacji teatralnej*, Wydawnictwo Politechniki Śląskiej, Gliwice 2009.



Ill. 14. Studies of theatrical scenery, stage organisation, costumes and light conducted on stage models. PBL Archives, 2022.



Ill. 15. Studium of the scene of the main hero transformation: transfer from the real world into cyber-space. Photographs of the model. PBL Archives, 2022.

The tale of an adventure which was experienced by an adolescent boy refers to the current problems of the contemporary youth: conflicts of the age of adolescence, the crisis of family, the impact of new technologies on human relations and the position of a human being in the epoch of cyberculture. Questions were raised with reference to the reality and permanent values taking into consideration the need for the immersion in the illusion of the virtual world. The scenario included the following images: the vision of a home and child's room, the scenery of a computer game, motifs of the transition and struggle between the reality and the virtual world. In individual scenes, physical space integrated, to a different degree, with a computer-generated illusion and actors with the characters in the computer game. Having performed the survey, the organizers held art workshops for the youth and children. The workshops provided images which were later digitally processed and incorporated into the scenery design as a proposition of the virtual world contrasting with the modular spatial form serving the purpose of multiple and flexible conversion of the stage scenery. In addition, the workshops investigated the possibilities of co-participation

in artistic creation and the adaptation of theatrical scenery to children's perception of stimuli and information.

Within the framework of the project the following issues were studied: the multiple use of theatrical scenery, easy disassembling and economical storage, modularity and neutrality (enabling the individualisation of the scene composition and combination with other elements of the stage arrangement) as well as durability guaranteeing the safety of actors/amateurs. The project resulted in the creation of a variant solution of a universal set of elements – a modular 'pixel' jigsaw puzzle enabling a free re-configuration of the scene/stage arrangement. The above-mentioned set of elements is foldable, mobile, transferable and easily storable. This seems to be an ideal solution for amateur educational theatre, popularisation activities, in particular, addressed to the above-discussed group of creators/recipients. Recycled materials were harmoniously combined with the theatrical scenery and the variants of digital image projection were tested. An integral part of the project was a 'didactic aid' specially designed for that purpose, namely, a set of cuboid blocks, being a miniature of the stage set in a scale of 1:10. Such a solution may improve the process of participation in the arrangement of the stage/scene space as well as facilitate the dialogue between the professional (an educator, populariser, director or scenographer) and the amateur.

The obtained effects coincide with the concept of sustainable solutions, designed for the smart city, whose basis is created by well-functioning institutions, aware inhabitants and new technologies. Universally available, individual mobile devices (enabling the recording and processing of images) make it possible to create amateur projections, which paves the way for the use of immersion visions in amateur theatre. Consultations with a group of local experts from the Silesian University of Technology and the Silesian Theatre as well as foreign academic institutions opened the discussion panel concerning the issues of artistic creation in the city of new technologies and the possibility of a modular, architectural approach to the generation of a system of theatrical scenery solutions.

The work made use of one of the latest trends of theatrical scenery creation as well as drew from the tradition of the 20th century (mainly from Oskar Schlemmer). The mechanism of creating innovations (developed, among others, by creators in the Bauhaus circle) is widely used also in contemporary art. The New European Bauhaus, promoted by the European Commission, refers to these traditions. The ecological-economic-cultural project (2020, think tank – design laboratory) is based on three pillars: beauty (art and culture), sustainable development, community (accessibility and dialogue)³⁴. Moreover, the project is connected with the concept of implementation of the European Green Deal, which is to inspire and build bridges between the world of science and technology, art and culture. It is to solve complex issues through co-operation (co-creation) as well as face ecological and digital challenges in order to improve the quality of life on the continent.

The programme implemented by the Silesian University of Technology coincides with the policy of the search for innovations on the borderline of design thinking and genuine social needs. As can be seen in the programme pursuit of the creation of new avant-garde (paving the way for new directions of development at the time of the next industrial revolution), the artistic work of the 20th-century avant-garde is being successfully applied in this process, also to designing due to the elaboration of timeless and universal models. This fact proves

³⁴ The official site of European Commission, New European Bauhaus, beautiful – sustainable – together, new-european-bauhaus.europa.eu/index_en: (access: 12.07.2022).

that properly-constructed design tasks, prepared in interdisciplinary teams, which undertake current social challenges in the world of new technologies, may become the source of interesting cognitive experiences.

6. SUMMARY

A characteristic feature of the modern period was the pursuit of imitation. The space of theatrical scenery showed an illusion of a broadly-understood architectural space. The scenography of the 20th century paved the way for the technological culmination that took place on the threshold of the 21st century. The 20th century witnessed also an important moment of the incorporation of upcycling into theatrical scenery. On the one hand, it resulted from the modernisation of forms of storage, on the other hand, from the economic necessity. 'Scenographer-gatherer' is a key strategy applied to many avant-garde theatrical activities (Kantor's artistic work is just one example). What also seems to be important in the second half of the 20th century is the trend of locating performances and scenery in untypical, desolate and degraded spaces. Such 'no-man's land' spaces by becoming the venue of theatrical performances gained a new meaning and value (re-used spaces). In a narrow sense of the word, in this context, the term upcycling means the use of abandoned, no-longer used objects as theatrical props. The 21st century has been dominated by the digital revolution and unparalleled technological progress. In the background there is the development of broadly-understood ecologism, which as the philosophical basis of sustainable development, has become the paradigm of all intellectual activities. On such grounds new notions have come into being, such as ecoscenography or the struggle for the minimization of carbon footprint in art and architecture. Scenography in the age of cyberculture is 'everywhere where there is theatre', therefore it is present in the real and virtual reality, respectively, and in the conjunction of both realities. The characteristic features of such theatrical scenery are: multi-sensuality, transitory, ephemeral nature, immateriality or embedding in real space. Similarly to the period of Baroque theatrical art, the illusion, fiction and creation of dreams, in the form of virtual reality, began to dominate over Realism which used to determine the directions of the development of the 19th-century theatre and scenography.

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