

ARCHITECTURE OF EXTRA-SCHOOL EDUCATION AREAS, OPTIMISATION OF DESIGN SOLUTIONS, A RATIONAL AND INTUITIVE PATH TO ARCHITECTURE

ARCHITEKTURA MIEJSC EDUKACJI POZASZKOLNEJ, OPTYMALIZACJA ROZWIĄZAŃ PROJEKTOWYCH, RACJONALISTYCZNA I INTUICYJNA DROGA DO ARCHITEKTURY

Abstract

The search for a new model of educational space addressing today's requirements of the educational process is concerned with the areas of formal and extra-school education. The latter is gradually taking on significance. The logic, consistency and the specific programme of educational target-oriented activities along with their spatial solutions are combined with freely formed public space as well as space of recreation, fun and accidental events, where new intuition-based educational technologies are introduced (EdTech). Logic and intuition constitute a design tool used by designers searching for a new model for a building. Emotions and intellect are also involved in the processes of space perception. The combination of rational and intuitive approaches to architecture during its formation and reception can be observed. The study involved research on innovative space solutions of the architecture of extra-school education areas in the 'Second Machine Age'¹.

Keywords: architectural design, community centre, education, rationalist approach, intuitive approach

Streszczenie

Poszukiwanie nowego modelu przestrzeni edukacji, odpowiadającego aktualnym wymaganiom procesu kształcenia, dotyczy miejsc edukacji formalnej i pozaszkolnej. Znaczenie tych drugich sukcesywnie wzrasta. Logika, konsekwencja, konkretny program celowych działań edukacyjnych i służące im przestrzenne rozwiązania łączą się z kształtowaną swobodnie strefą publiczną, rekreacji, zabawy, przypadkowych zdarzeń, gdzie wprowadzane są nowe, bazujące na intuicji technologie edukacyjne [EdTech]. Logika i intuicja są narzędziem projektowym wykorzystywanym przez projektantów w poszukiwaniu nowego modelu budynku. Emocje i intelekt zaangażowane są również w procesy percepcji przestrzeni. Obserwujemy łączenie racjonalistycznej i intuicyjnej drogi do architektury w fazie jej kształtowania oraz odbioru. W rozważaniach wykorzystano badania innowacyjnych rozwiązań przestrzennych architektury miejsc edukacji pozaformalnej w 'drugim wieku maszyny'.

Słowa kluczowe: projektowanie architektoniczne, dom kultury, edukacja, podejście racjonalistyczne, podejście intuicyjne

¹ E. Brynjolfsson, A. McAfee, *Drugi wiek maszyny. Praca, postęp i dobrobyt w czasach genialnych technologii*, MT Biznes, Warszawa 2015, pp. 268–270.

* Ph.D. Arch. Małgorzata Balcer-Zgraja; Department of Housing and Public Architecture Design; Faculty of Architecture, Silesian University of Technology, e-mail: malgorzata.balcer-zgraja@polsl.

1. Introduction

1.1. Development of areas of participation in culture and extra-school education – a rational approach to the architecture of education

Extra-school education extends beyond the framework of obligatory school curricula. Extra-school education is free, voluntary, and can involve alternative methods. It is also diversified in the manner of addressing individual needs and is available to persons of various ages and material statuses. Extra-school education can take place at any place and time. It is directed towards young people who receive home-schooling, the number of whom are gradually on the rise. Extra-school education may become the education of the future, where knowledge is acquired through contact with culture as well as individual creativity and practical experience; where self-learning skills including the selection of content as well as the manner and place of education are continuously improved. The SOLE, or self-organising learning environment, is acquiring particular significance in the world of new IT technologies and easily accessible knowledge databases. The possibility of developing competence in the aforesaid range in extra-school areas is filling a niche formed at the interface of 'life' and 'school'. The space having the above-named potential appears in the public space. It adjoins housing areas, public functions and workplaces, thus constituting a network of spatially and functionally diversified areas on the map of a city. The above-named space is experimentally combined with other functions. 'Hybrid solutions' can inspire creative work and be the source of knowledge and experience resulting from mixing with an authentic space. Place Based Education constitutes the basis for universal architectural education. A flexible approach to the formation of education space poses a challenge to designers as well as requires the involvement of analytical-scientific methods and intuition to select the best types of architectural solutions in the urban space.

1.2. The community centre as a traditional space of non-formal education

The 'community centre' is a traditional and popular form of institution offering lifelong learning and organizing cultural life², a place of social, cultural and educational activity of adults, children and young people, where non-formal initiatives take institutionalised shape³. The popularisation of culture takes place through a permanent relationship between the community centre and groups of participants, creators and audience⁴. Community centres are also referred to as centres of culture, houses of culture, youth clubs, day-care rooms, institutes or workshops. The utility programme of the community centre is determined by the forms of participation in culture present, such as the use of information resources, the possibility of communication and cooperation in the public space, participation in artistic exhibitions, performances and other forms of cultural expression, experiencing or creating art for leisure purposes or purchasing the products

² T. Aleksander, *Andragogika. Podręcznik akademicki*, Wydawnictwo Naukowe Instytutu Technologii Eksploatacji Państwowego Instytutu Badawczego, Radom 2009.

³ E. Bobrowska, *Przemiany modelowe instytucji domu kultury*, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków 1997.

⁴ *Ibidem*.

of culture⁵. Characteristic elements include multifunctionality, openness in undertaking activities, and the wide range of activities available. The foregoing requires the designing of versatile spatial solutions. A traditional community centre is located in a large building composed of several or between ten and twenty rooms, an auditorium/cinema, studies and specialist workrooms, library, a reading room, exhibition rooms, a café, a club, specialist rooms adapted for specific classes, e.g. related to photography, film, technology, arts, music, radio, television and IT⁶. Community centres are designed to activate various social groups regardless of age or material status. Typical users of community centres are children, young people and people above sixty years old. An important factor identifying the function of a community centre is its educational nature. This aspect of designing the space of a community centre as a widely available area of extra-school education can determine the future directions in which this institution will develop.

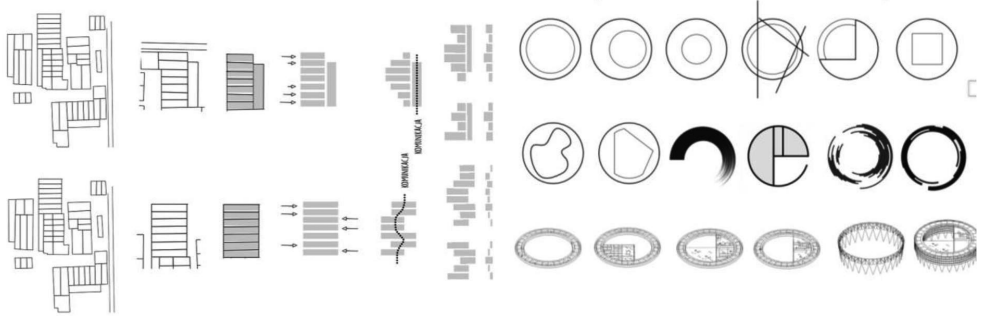
2. Architecture of extra-school places of education – origin of today’s community centres or cultural hubs – from the ‘age of reason’ tradition to the times of ‘intuitive interfaces’

The foundations underlying the idea of community centres – faith in reason and science as sources of progress – date back to the Enlightenment. The democratisation of access to culture and knowledge as well as the birth of proletariat culture influenced its development in the 19th and 20th century (along with education and housing). In Poland, the formation of the institution was affected by ideas related to the unification of the nation. The aforesaid ideas gathered enthusiasts around organised forms of the popularisation of Polish culture and education following the period of the Partitions and the restoration of independence. The model of the institution was reflected by the approach to the formation of the institution-related architecture. The idea of creating another, better home, a palace for the people, a university for unenlightened social strata determined the design solution. The form of public buildings, palaces and people’s universities referred to the typology of residential architecture, a house which initially was home to cultural and social life. Depending on available resources, in the country people’s houses took the shape of a simple and modest hut (Dom Ludowy in Ciechanów, 1907) or a country manor house (Dom Ludowy in Bukowina Tatrzańska, 1932). The programme of a public community centre offered educational and cultural functions and provided possibility of meetings and charity work. The ‘house’-based inspiration was intuitive. The transfer of patterns from residential architecture was natural. Community centres were adapted to the needs of a new type of institution, for instance by incorporating large meeting rooms in workers’ houses into the programme – in Stockholm: for 2000 people⁷, in Brussels (arch. Victor Horta) etc.

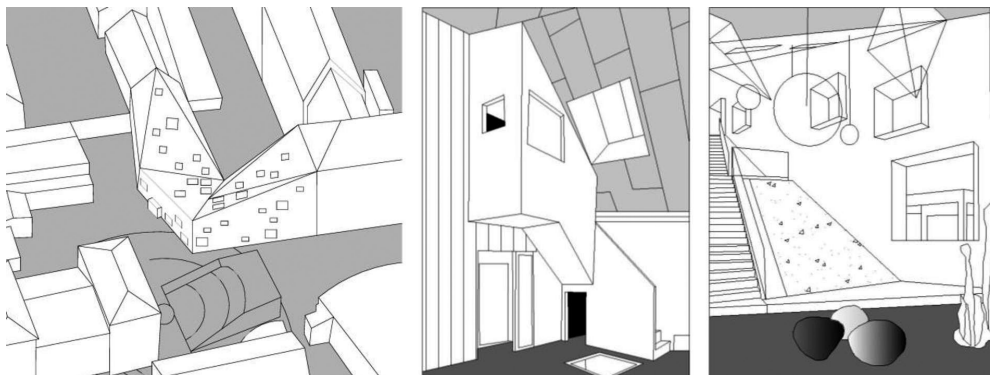
⁵ Participation in accordance with the ICET model: Information, Communication and community, Enjoyment and expression, Transaction [Eurostat].

⁶ T. Aleksander, *Andragogika Podręcznik akademicki*, Wydawnictwo Naukowe Instytutu Technologii Eksploatacji Państwowego Instytutu Badawczego, Radom 2009.

⁷ Z. Daszyńska-Golińska, *Domy ludowe 1909/1913*, [in:] *Praca oświatowa. Jej zadania, metody, organizacja* T. Bobrowski, Z. Daszyńska-Golińska, J. Dziubińska, Z. Gargas, M. Heilpern, Z. Kruszewska, L. Krzywicki, M. Orsetti, H. Orsza, St. Posner, M. Stępowski, T. Szydłowski, Wł. Weychert-Szymanowska, Nakładem Michała Arcta w Warszawie, Kraków 1913, na: <http://lewicowo.pl/domy-ludowe/>, access: 02.05.2018.



III. 1. Architecture of multifunctional public utility complexes / mixed-use public complexes, typological design, author: Martyna Frychel (on the left); conceptual design, author: Katarzyna Dembińska (on the right); tutor: Ph.D. Arch. Małgorzata Balcer-Zgraja



III. 2. Ama'r Children's Culture House in Copenhagen, Dorte Mandrup Arkitekter; developed on the basis of: <https://www.dortemandrup.dk/work/amager-childrens-culture-house>; <https://inhabitat.com/>

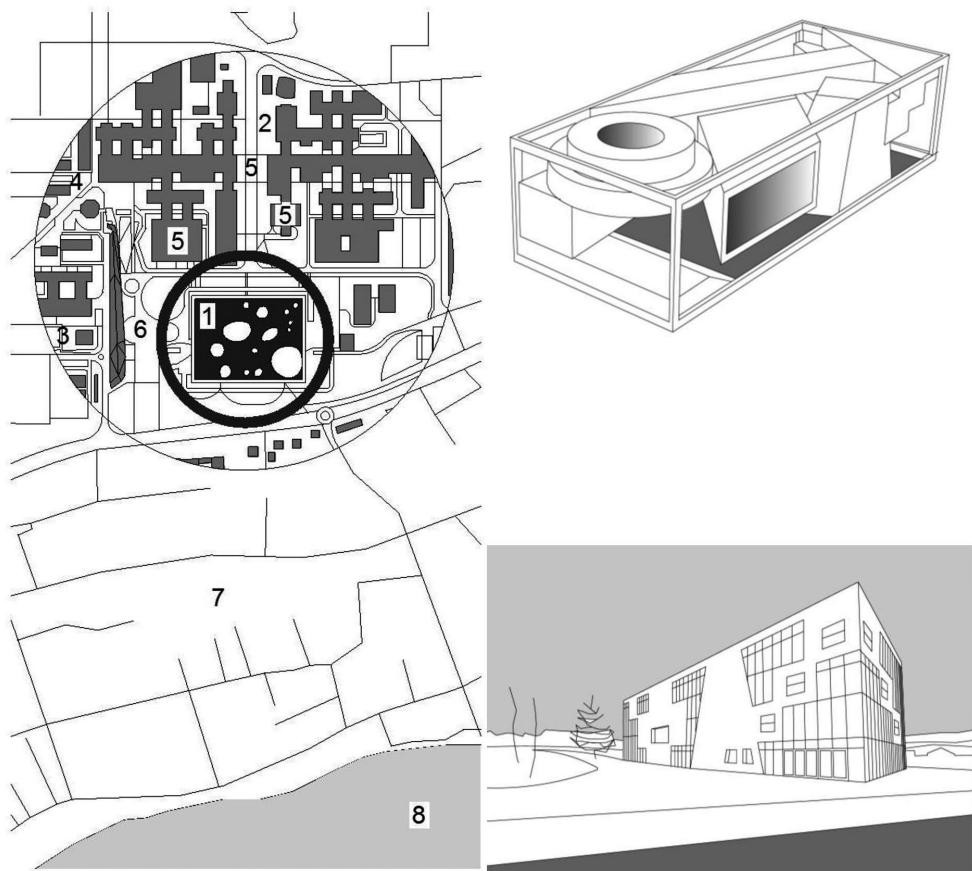
The development of industrial and popular culture brought new experimental solutions exposing relationships between architecture and technique (prototypes: Maison du Peuple, Clichy, Jean Prouvé, Eugène Beaudouin, Marcel Lods, 1935; Fun Palace, London, Cedric Price for Joan Littlewood, 1959–1961). A new type of centre could be referred to as a ‘factory of culture’. Inspirations by mass production resulted in the popularisation of a typified model of the centre, a central element of a housing estate, a working place’s ‘department’ – a community centre of the company. Poland’s reality gave birth to an institutionalised centre subordinated to the authorities and implementing a transmitting-receiving model of culture⁸.

The period following the second half of the 20th century saw the development of solutions drawing inspiration from the typology of the city. The aforesaid solutions were integrated into the housing texture and supplemented the existing infrastructure. They resulted from the concentration and restoration of public space continuity. Contemporary designs increasingly often refer to digital culture phenomena (as regards the form and programme). The rapid development of new technologies combined with related changes in the access to knowledge and cultural heritage as well as new forms of communication and Internet-based social contacts affect expectations related to the architecture of educational and cultural centres. It is necessary to work out new spatial solutions serving a new generation of users, whose needs as well as the perception and use of space are formed through contacts with virtual reality and devices the operation of which is ‘intuitive’ and ‘instinctive’, not requiring the knowledge of operational principles. The dematerialisation of the spatial form of a community centre building (decomposition of shape, increased ‘translucency’ of partitions, the enlivening of the fifth façade) is accompanied by the ‘materialisation’ of areas in the public space, where fragments of the urban space (squares, streets or greenery) become an integral part of a building (Heydar Aliyev Centre, Baku, Zaha Hadid Architects, 2007–12; MDK Dąb, Katowice, Pracownia Architektury i Urbanistyki Rafał Mazur, 2009–2014). The above-named manner of building space corresponds to the idea of an accessible solution addressed to wide audiences. It provides an opportunity of location-related differentiation of the form and programme as well as the shaping of thematic solutions using the PBL (place based learning) potential. This open-ended manner makes it possible to shape space, the use of which is ‘intuitive’ and ‘instinctive’ (Rolex Learning Center, EPFL Lausanne, SANAA [Ill.2], 2010; interiors of KulturØen, Middelfart, Rosan Sosch Studio, 2016).

3. The rational and intuitive approaches to architecture, dialogue between author and user

In the information society, culture and education as well as the creation and reception of a piece of work, including architecturally, can be treated as a form of communication. The relationship between the author and the receiver assumes a dialogue and the possibility of agreement. The path to architecture comes from two directions, i.e. from the author and the receiver.

⁸ A. Tyszka, [in:] E. Bobrowska, *Przemiany modelowe instytucji domu kultury*, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków 1997.



III. 3. Rolex Learning Center, Swiss Federal Institute of Technology in Lausanne, arch. Kazuyo Sejima + Ryue Nishizawa, SANAA (on the left); Ku.Be House of Culture and Movement, Frederiksberg, MVRDV, ADEPT, SLA (on the right); developed on the basis of: <https://www.google.pl/maps>; <http://buildipedia.com>

3.1. Design process – the author’s path

Throughout the previous century the evolution of the model of a community centre could be divided into several stages corresponding to general trends in architectural design. The grouping of existing solutions according to types and the comparison of patterns corresponding to series of architectural solutions is a result of an analytical procedure which is characteristic of a rational approach to architecture and an extension of design-related knowledge. The generation of new systems based on the analysis of existing ones is a process based on logical reasoning. Analytical typology constitutes the rational basis for the

generation of new patterns⁹. Intuition supports the above-named process, paving the way for new quests. When redefining the spatial systems, it is possible to introduce entirely new elements or to apply old elements combined with the application of entirely new principles. The new combination becomes then something more than just the transformation of old experience and the whole is more than just the sum of its components. Simon¹⁰ stated that, similar to painting, business, medicine or engineering, architecture is more about improving the world than answering the question of what the world looks like. For this reason, knowledge can merely be treated as the starting point of an individual search. Intuitively formulated hypotheses require extensive verification throughout the design process.

In architecture, an effective way leading to the final solution combines reasoning with intuition. In the 20th century, architects declared the rejection of irrational approaches to the shaping of architecture. New design issues had to be treated by means of strict analytical and classification tools. However, it appeared that while referring research results concerning previous solutions to new problems, intuition became indispensable again¹¹ – *Plastic events are not regulated by scholastic or academic formulae; they are free and innumerable*¹², *The unique ability of the genius can be approximated by everyone if only its essential feature should be apprehended: the flash-like act of connecting elements not obviously belonging together*¹³.

In a traditional three-stage model of the design process, which is composed of separate phases including: analysis, synthesis and assessment¹⁴ or divergence, transformation and convergence¹⁵, intuition and reason can variously affect the course of the design process at individual phases. The process of analysis and that of data verification can be automated using advanced digital tools¹⁶. The first, i.e. pre-design, stage is the phase of reconnaissance and involves the extension of the borders of a design situation. It analyses different approaches to a given problem from various perspectives and examines them through the observation of elements separated out of a greater whole¹⁷. This stage can be rationalised (in the Evidence-Based Design methods, the above-named phase involves a systematised test procedure¹⁸). At the same time, the aforesaid phase is connected with the search for inspirations, the selection of which can be intuitive and accidental. The second stage involves the reduction of

⁹ ‘Generative typology’, J. Pallado, *Typologia zabudowy wielorodzinnej. Teoria, dydaktyka, praktyka*, Wydawnictwo Politechniki Śląskiej, Gliwice 2016.

¹⁰ H. A. Simon, *The Sciences of the Artificial*, MIT Press, Cambridge USA, 1996 https://monoskop.org/images/9/9c/Simon_Herbert_A_The_Sciences_of_the_Artificial_3rd_ed.pdf, access: 02.05.2018.

¹¹ A. Colquhoun, *Typology and Design Method*, [in:] Nesbitt K. [ed.]: *Theorizing a New Agenda for architecture: An Anthology of Architectural Theory, 1965–1995*, Princeton Architectural Press, New York, 1996.

¹² Le Corbusier; [in:] Nesbitt K., *op.cit.*

¹³ L. Moholy-Nagy; [in:] Nesbitt K., *op.cit.*

¹⁴ M. Asimow, *Wprowadzenie do projektowania w technice*, Wydawnictwa Naukowo-Techniczne, Warszawa 1967.

¹⁵ J. Ch. Jones, *Metody projektowania*, Wydawnictwa Naukowo-Techniczne, Warszawa 1977.

¹⁶ *Ibidem*

¹⁷ ‘Analysis’, Taura, Nagai, *Creativity in Innovation Design: the roles of intuition, synthesis, and hypothesis*, International Journal of Design Creativity and Innovation, Taylor & Francis, Volume 5, 2017, Issue 3–4, UK 2017.

¹⁸ E. Niezabitowska, *Metody i techniki badawcze w architekturze*, Wydawnictwo Politechniki Śląskiej, Gliwice 2014.

uncertainties, the identification of variables and their purpose as well as the construction of patterns. This creative phase also includes fun and play, changes and assumptions as well as the integration of previously separated elements into an entirely new whole, i.e. the synthesis of solution¹⁹. The final stage, tasked with the elimination of doubts, is the phase where the ultimate version of a design solution is chosen. Ron Kasprisin provides a schematic illustration of the design process leading to innovation in the CPS as a winding path meandering between intellectual work (evaluation) and an emotional approach involving the senses and experiments. In the rational approach, the creative problem-solving is like a game governed by established principles, whereas in the emotional approach it is the phase of pure fun²⁰. The flexible combination of both techniques helps to solve problems in a creative way.

Experiment at the Faculty of Architecture – typological and conceptual design [Ill. 1].

Attempted separation of the intuitive and rational approaches to architecture is difficult and often even impossible. This issue will be demonstrated by the results of an experiment carried out at the Department of Housing and Public Architecture Design (RAR-2) of the Faculty of Architecture at the Silesian University of Technology. First-year students of 2-and degree full-time studies in classes of the architecture of multifunctional public utility complexes had the option of choosing one of two design modules, i.e. the module of ‘typological design’ or the module of ‘conceptual design’. The idea behind the experiment was to differentiate the approaches to problem-solving and the adaptation of topics to a previously assumed specific nature of classes run in individual modules. The functional programmes of mixed-utility buildings included educational functions (as components) constituting an element of the programme integrating public municipal functions such as business, tourism, culture and temporary residence. Students could implement competition topics or select a specific location in town, including one agreed with an investor from the University’s business environment.

The assumption of the experiment was that in the typological module more emphasis was given to the analytical and research phase as a path enabling the rational approach to the ultimate solution. In the conceptual module more emphasis was given to ideas, inspirations, redefinition of patterns and experimentation as tools used for searching for new types of solutions. This aspect was to be particularly highlighted and dominate the initial phase of work on the design. In this group, competition studies were to constitute the majority of work. Most students, regardless of initially declared preferences, creative temperaments and efforts to individualise methods of work, freely combined both methods of work at various stages of the design development, thereby achieving the best final effect.

Process automation – human intuition + machine as the source of innovation. In the rational approach, architectural design is a process based on knowledge, using advanced and scientific methods when searching for the right solution. The course (sequence) of related analytical-scientific activities is based on uncertainty and logical reasoning. In today’s era of digitalisation, increasingly often the above-named process can be automated, at least in terms of routine tasks. Question-asking and unorthodox thinking, so important in the process of design, remain the exclusive domain of humans. There are no creative, resourceful or innovative machines²¹. Because of the automation of computational processes, the combination of

¹⁹ Taura, Nagai, *op.cit.*

²⁰ R. Kasprisin, *Play in Creative Problem-solving for Planners and Architects*, Routledge, New York 2016.

²¹ E. Brynjolfsson, A. McAfee, *op.cit.*

the human's creative work and the computing power of machines can result in the generation of an enormous number of variants, far beyond the potential of a human-creator or a design team and, consequently, lead to obtaining more appropriate solutions. Erik Brynjolfsson and Andrew McAfee highlight many and varied successes resulting from the combination of human intuition and artificial intelligence, e.g. freestyle chess games, open innovations of crowdsourcing utilising possibilities of Web 2.0.

Collaboration between creator and user. The design involving the participation of users and the use of participation techniques including observation of behaviour, surveys, interviews, focus meetings, modelling and action research enable the verification of the expert's knowledge²² as well as the designer's intuitions.

Examples of action research activating the local community of future users of educational facilities are adaptations of Berlin schools involving the participation of students, performed by Die Baupiloten BDA group supervised by Professor Susanne Hofmann. Similar co-participation took place during action research preceding the design of the Ama'r Children's Culture House in Copenhagen, Dorte Mandrup²³. In the latter case, an artist Kerstin Bergendal ran a cycle of drawing and modelling workshops involving the participation of a designers' bureau, children (aged 8–14) and adults representatives of the profession 'sensitive' to the children's world (community centre personnel, librarians, teachers, musicians, visual artists and actors). The workshops were filmed on a continuous basis by the leading artist. The tests led to the identification of a set of nine principles serving as the basis for the development of the spatial programme of the building. The bureau translated the expectations of the action research participants into the language of architecture [Ill. 2]. The objective was to create an environment satisfying the children's expectations (as well as expectations of the adults working with children), to make it possible for young users to express their individuality through art, music or dance, thus obtaining a didactic effect. The identification of users' spatial needs and preferences ensures the proper communication of a piece of work. These forms of co-operation correspond to today's models of cultural institutions. In the 'dialogue' model, culture is defined as an internally diversified result of the clashing of independent opinions²⁴, which, in accordance with the definition of the dialogue, may lead to an agreement.

3.2. Reception of a work – the path of the user as a co-author

Community centres are places of creative participation in culture, i.e. personal experiencing, where the border between the creator and the user becomes 'blurred'²⁵. The experiencing of space is intuitive and emotional, yet it can also be based on knowledge and spatial education²⁶.

²² E. Niezabitowska, *Metody i techniki badawcze w architekturze*, Wydawnictwo Politechniki Śląskiej, Gliwice 2014.

²³ Dorte Mandrup Architects, *Children's Culture House Ama'r*, 08/27/2014, on: <http://archidose.blogspot.com/2013/06>, access: 02.05.2018.

²⁴ A. Tyszka, citing E. Bobrowska, *op.cit.*

²⁵ J. Gajda, *ibidem*,

²⁶ E.g. within the third mission of the university, i.e. educational programmes for children and youngsters such as 'Shaping Space' in Ireland, being a model pattern for the programme by the Chamber of

The best form of spatial education is the environment of an educational process, a real place. Community centres are social institutions, regulated and sanctioned forms of social activity. In reference publications social institutions are defined as the typification of activities, patterns, sets of standards and values, organised things, groups of people, scopes of continuous activity²⁷. Social institutions are people united by common goals, equipped with appropriate material and non-material goods enabling the accomplishment of the goals²⁸. A place, a building is an important element of the aforesaid 'equipment', enabling the functioning of a social institution providing non-formal education. Architectural objects "*form culture and provide successive generations with a great deal of information [...] including building patterns and patterns of artistic expression*"²⁹.

In the era of advanced educational techniques (EdTech) offering work in the non-physical space and new network-based forms of social contacts, it is necessary to look unconventionally at the social aspect of the physical space of education, i.e. places of informal meetings, integration, interaction, interdisciplinary activities, collaboration and recreation. An example of such a new and unorthodox look is Ku.Be, i.e. the Community Centre for Culture and Motion at the 'Spark' complex in Frederiksberg, MVRDV, ADEPT, SLA [Ill. 3]. The town and the interior of KuBE form a functional and spatial whole. The façade does not constitute a partition but determines the shape of a form resembling a box for blocks. Inside there is a composition of separate elements triggering associations with toys and containing zones of rhythm, performances, education/information, gastronomy/education, play, zen/concentration and health. The intermediate zone is the 'zone of motion' and digital games. Like cement, the aforesaid zone connects all of the elements and becomes an interactive playground provided with a climbing wall, an obstacle course, labyrinth, nets and slides. The arrangement of the 'zone of motion' makes it possible to move around the object at various rates and in various manners, activating all groups of residents, thus meeting the demand for popularising physical culture. The design process was preceded by sectoral consultation with Jens Ole Jensen (a specialist from VIA University College), concerning the programme of education through physical exercise and fun. The local community is to be involved at the second stage of the project, i.e. during the design of a multi-functional 'urban screen', i.e. the screen shielding the complex of three designed objects. By assumption, the intended use and form of the 'screen' are to be subjected to public consultation. As a result, the user participating in the process of the formation of architecture will become a co-author. The aforesaid action, this time described from the user's perspective, is part of the dialogue culture model³⁰. An information campaign aimed to attract and involve the community's attention was conducted using large-sized models which were presented in the public space (one of the models at a scale of 1:10 was given the form of a children's playground). According to the authors of the Ku.BE project, architecture signifies the creation of 'possibilities' leaving the user with the freedom of choice in relation to the definition of functions.

Polish Architects, Kształtowanie Przestrzeni (Shaping Space) or a programme of the National Centre For Culture addressed to kindergartens 'Archi-Przygody' (Archi-Adventures).

²⁷ Berger, Luckmann; Parsons; Chmielewski; Sztompka; Zieleniewski; Miller; Rybicki; citing Bobrowska, *op.cit.*

²⁸ *Op.cit.*

²⁹ E. Niezabitowska, *Architektura – podejście naukowe*, Builder, 01.2017, PWB Media Zdzieblowski SJ, Warszawa 2017.

³⁰ A. Tyszka, citing E. Bobrowska, *op.cit.*

The second Machine Age has seen the advent of intelligent and highly technologically advanced buildings equipped with integrated management systems, 'artificial intelligence' and interactive spatial solutions based on the effective collaboration of humans with 'intuitive' digital machines (such as media-facades as Puzzle Façade Ars Electronica Centre, Javier Lloert; Kunsthau Graz, Peter Cook, Colin Fournier). A prototypical design of an automated and interactive community centre was developed in the 1960s, at the initiative of Joan Littlewood – a British avant-garde director, actress, the head of a theatre and the founder of Theatrical Workshops in East London³¹. The author of the Fun Palace design was architect Cedric Price. The entertainment facility offered lifelong learning and the adaptation of professional qualifications to the ever-changing labour market. The idea was inspired by the British tradition of organising multi-functional people's palaces/universities, i.e. centres of culture, entertainment and education in the Victorian era. The design was the result of cooperation between an architect, a theatre director and a cyberneticist (Gordon Pask). The solution which aimed to address specific social needs was entirely innovative and visionary, and was based on authors' intuition. The single-space interior was equipped with mobile elements and platforms. Automation was used to adjust physical parameters of the environment (sound system, air-conditioning, mechanically controlled blinds) as well as to programme the arrangement by using mobile elements of the building (walls, floors, stairs, screens). The design assumed the use of IT systems and networks, communication, cybernetic art, educational machines, multimedia, TV screens, cameras and computers. Fun Palace was to be a 'game' or a 'large-scale puzzle', a space equipped with inflatable elements as well as electronic and interactive solutions unheard of before. The project was never completed, but it reached the phase of specific technical solutions. The authors never verified 'the hypothesis', yet the design inspired other designers (Renzo Piano, Richard Rogers, Will Alsop, or MVRDV, ADEPT in the above-presented Ku.Be).

4. Summary

The optimisation of the design process involves the process of its organisation, enabling the greatest results to be obtained at the lowest expense. The ability to combine designer's intuition with reliable verification of hypotheses (based on available design and research techniques and (also digital) tools is the most effective approach to architecture. Similar to other educational facilities, community centres designed for today's users require the involvement of high social sensitivity and imagination from designers. Community centres shaped with users' participation, through 'dialogue' and cooperation, the creation of which requires extra-architectural expertise and new ideas may well be treated as an experiment involving the innovative 'mixing of functions'. Perhaps hybrid solutions, combining culture, education, fun, work and entertainment will appear inspirational enough for young people's imagination to stop the process of transferring social contacts from the public space to virtual reality.

³¹ J. Littlewood, *Leisure and the arts in 1984. Laboratory of fun*, New Scientist, 14 May 1964, Cromwell House, London.

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