

ARCHITECTURE IN PERSPECTIVE

VSB – TECHNICAL UNIVERSITY OF OSTRAVA

FACULTY OF CIVIL ENGINEERING

DEPARTMENT OF ARCHITECTURE



17

17th / 17.

Multilingual Proceedings of the 17th International Conference Architecture in Perspective 2025

/ Vícejazyčný sborník příspěvků z 17. ročníku mezinárodní konference Architektura v perspektivě 2025

Conference Title, Date, Location / Název konference, datum a místo konání:

Architecture in Perspective / Architektura v perspektivě

29th - 30th October 2025 / 29. - 30. října 2025

VŠB - Technical University of Ostrava, Czech Republic / VŠB-Technická univerzita Ostrava, Česká republika

Authors / Autoři:

Collective of Authors / Kolektiv autorů

Editors / Editoři:

prof. Ing. Martina Peřínková, Ph.D. (VŠB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Ing. arch. Sandra Jüttnerová (VŠB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Ing. arch. Lucie Videcká (VŠB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Graphic / Grafická úprava:

Ing. arch. Sandra Jüttnerová

Ing. arch. Lucie Videcká

Publisher / Vydavatel:

VŠB - Technical University of Ostrava, Faculty of Civil Engineering, Department of Architecture

Ludvíka Podéště 1875/17, 708 00 Ostrava-Poruba, Czech Republic, Company ID: 61989100, VATIN: CZ61989100

/ VŠB - Technická univerzita Ostrava, Fakulta stavební, Katedra architektury,

Ludvíka Podéště 1875/17, 708 00 Ostrava-Poruba, Czech Republic, IČ: 61989100, DIČ: CZ61989100

Contact details / Kontaktní údaje:

Web: <https://www.fast.vsb.cz/226/en/partnership/conferences-and-workshops/>

Email: architekturavperspektive@vsb.cz

Print / Tisk:

The Editing Centre, VŠB - Technical University of Ostrava, 17. listopadu 2172/15, 70800 Ostrava - Poruba, Czech Republic

/ Ediční středisko, VŠB - Technická univerzita Ostrava, 17. listopadu 2172/15, 70800 Ostrava - Poruba, Česká republika

Print run / Náklad:

25 copies / 25 výtisků

Number of pages / Počet stran:

260 / 260

Copyright © 2025 by VŠB - Technical University of Ostrava

Copyright © 2025 by authors of the papers

Papers are sorted by author's names in alphabetical order. / Příspěvky jsou řazeny podle jmen autorů v abecedním pořadí.

Authors are fully responsible for the content and originality of the papers. / Za obsah a originalitu příspěvků plně odpovídají autoři.

ISBN 978-80-248-4836-5 (print)

ISBN 978-80-248-4837-2 (on-line)

Conference Guarantee / Garant konference:

Prof. Ing. Martina Peřínková, Ph.D.

(Academic staff, VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Organizing Committee / Organizační komise:

Prof. Ing. Martina Peřínková, Ph.D.

(Academic staff, VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Ing. arch. Sandra Jüttnerová

(Academic staff, VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Ing. arch. Lucie Videcká

(Academic staff, VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Editorial Board / Redakční rada:

Prof. Ing. Martina Peřínková, Ph.D.

(Academic staff, VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Ing. arch. Sandra Jüttnerová

(Academic staff, VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Ing. arch. Lucie Videcká

(Academic staff, VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Ing. arch. Ivona Dlábková, Ph.D.

(Academic staff, VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Review process / Recenzní proces:

Reviewers are required to have a minimum of a Ph.D. degree. All papers passed a double-blind review process.

/ Na recenzenty jsou kladeny požadavky na minimální dosažené Ph.D. vzdělání. Všechny články prošly dvojité zaslepeným recenzním řízením.

Reviewers / Recenzenti:

Prof. Ing. arch. Ing. Zuzana Pešková, Ph.D.

(CTU Prague, Faculty of Civil Engineering, Czech Republic)

PhDr. Jung Jiří, Ph.D.

(VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Ing. arch. Adam Guzdek, Ph.D.

(Brno University of Technology, Faculty of Civil Engineering, Czech Republic)

Ing. Denisa Hrubanová, Ph.D.

(Brno University of Technology, Faculty of Architecture, Czech Republic)

Ing. arch. Ondřej Juračka, Ph.D.

(Architect, KJJ - Architekti, Ostrava, Czech Republic)

Ing. arch. Dagmar Kutá, Ph.D., Paed.IGIP

(VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

Ing. arch. Martin Nedvěd, Ph.D.

(Secondary school construction Pardubice, Czech Republic)

Ing. Radka Navrátilová, Ph.D.

(CTU Prague, Faculty of Architecture, Czech Republic)

Ing. Zbyněk Proske, Ph.D.

(VSB - Technical University of Ostrava, Faculty of Civil Engineering, Czech Republic)

International Conference Scientific Committee / Mezinárodní vědecká rada konference:

Prof. Ing. Martina Peřínková, Ph.D. - Chair

(VSB - Technical University of Ostrava, Faculty of Civil Engineering, Department of Architecture, Czech Republic)

Prof. Ing. arch. Petr Hrůša

(VSB - Technical University of Ostrava, Faculty of Civil Engineering, Department of Architecture, Czech Republic)

Prof. Ing. arch. Jindřich Svatoš

(VSB - Technical University of Ostrava, Faculty of Civil Engineering, Department of Architecture, Czech Republic)

Assoc. Prof. MgA. Marek Sibinský, Ph.D.

(VSB - Technical University of Ostrava, Faculty of Civil Engineering, Department of Architecture, Czech Republic)

Assoc. Prof. Ing. arch. Zdeněk Trefil

(VSB - Technical University of Ostrava, Faculty of Civil Engineering, Department of Architecture, Czech Republic)

Prof. Ing. arch. Zuzana Pešková, Ph.D.

(CTU Prague, Faculty of Civil Engineering, Department of Architecture, Czech Republic)

Assoc. Prof. Ing. arch. Branislav Puskar, Ph.D.

(Slovak University of Technology in Bratislava, Faculty of Architecture, Slovakia)

Assoc. Prof. Ing. arch. Michal Czafik, Ph.D.

(Slovak University of Technology in Bratislava, Faculty of Architecture, Slovakia)

Assoc. Prof. Ing. arch. Edita Vrablova, Ph.D.

(Slovak University of Technology in Bratislava, Faculty of Architecture, Slovakia)

Assoc. Prof. Ing. arch. Andrea Bacova, Ph.D.

(Slovak University of Technology in Bratislava, Faculty of Architecture, Slovakia)

Prof. Ing. arch. Joanna Sokolowska Moskwiak, Ph.D.

(State University of Applied Sciences in Raciborz, Institute of Architecture, Poland)

Dr. hab. inż. arch. prof. PŚ Tomasz Wagner

(Silesian University of Technology in Gliwice, Faculty of Architecture, Poland)

Dr. Ing. arch. Małgorzata Balcer-Zgraja

(Silesian University of Technology in Gliwice, Faculty of Architecture, Poland)

Dr. Ing. arch. Grzegorz Nawrot

(Silesian University of Technology in Gliwice, Faculty of Architecture, Poland)

Dr. arch. Monica Solorzano Gil

(ITESO, Jesuit University of Guadalajara, Department of Habitat and Urban Development, Mexico)

Dr. Mara Alejandra Cortes Lara

(ITESO, Jesuit University of Guadalajara, Department of Habitat and Urban Development, Mexico)

Prof. Mg. Ing. Marcelo Vega

(National University of Rosario, Institute of Technology, Development and Innovation, Argentina)

Arq. Camil G. Pizzorno Lerma

(National University of Rosario, Institute of Technology, Development and Innovation, Argentina)

CONTENT / OBSAH

1/ Theory and philosophy of architectural design / Teorie a filozofie architektonického navrhování

EVALUATION CRITERIA FOR ARCHITECTURAL AWARDS - TWO CASE STUDIES OF EUROPEAN AWARDS
/ HODNOTIACE KRITÉRIÁ ARCHITEKTONICKÝCH SÚŤAŽNÝCH PREHLIADOK – DVE PRÍPADOVÉ ŠTÚDIE
EURÓPSKÝCH OCENENÍ

M. HYBSKÝ.....10 / 142

SUITABLE MODIFICATIONS OF PUBLIC SPACES FOR PEOPLE WITH ASD / VHODNÉ ÚPRAVY VEŘEJNÉHO
PROSTORU PRO OSOBY S PAS

A. JANOŠOVÁ - P. HRŮŠA.....16 / 148

HOUSING TYPOLOGY FOR PEOPLE WITH AUTISM SPECTRUM DISORDER / TYPOLOGIE BYDLENÍ PRO
OSOBY S PORUCHOU AUTISTICKÉHO SPEKTRA

A. JANOŠOVÁ - J. SVATOŠ.....23 / 155

VERSATILE BOOKLET, POSTER, PRESENTATION—AS A PROJECT DEVELOPMENT AND COMMUNICATION
TOOL. URBORELO. / VŠESTRANNĚ KOMPATIBILNÍ BROŽURA, PLAKÁT, PREZENTACE—JAKO NÁSTROJ VÝVOJE
A KOMUNIKACE PROJEKTU. URBORELO.

R. KOLAŘÍK.....31 / 162

EXPRESSIVE ELEMENTS OF CONTEMPORARY SINGLE-FAMILY RESIDENTIAL ARCHITECTURE IN
THE CZECH REPUBLIC / VÝRAZOVÉ PRVKY SOUČASNÉ ARCHITEKTURY INDIVIDUÁLNÍHO BYDLENÍ
V ČESKÉ REPUBLICCE

I. KŘÍŽOVÁ.....39 / 170

WOMEN ARCHITECTS / ARCHITEKTKY

Z. PEŠKOVÁ.....47 / 178

FROM ELEMENT TO PLACE: A FIRST-YEAR DESIGN METHOD BASED ON THE GRAMMAR–LOGIC–
RHETORIC TRIAD / OD ELEMENTU K PROSTORU: METODA PRVNÍHO ROČNÍKU ZALOŽENÁ NA
TRIÁDĚ GRAMATIKA–LOGIKA–RÉTORIKA

P. ŘIHÁK.....52 / 183

2/ Urbanism and public space / Urbanismus a veřejný prostor

URBAN SPACE RESERVES: OPPORTUNITIES FOR INFILL HOUSING DEVELOPMENT IN CENTRAL BRNO
/ PROSTOROVÉ REZERVY MĚSTA: MOŽNOSTI ZAHUŠŤOVÁNÍ BYTOVÉ ZÁSTAVBY V CENTRU BRNA

J. MIKEL.....62 / 192

URBAN RIVERFRONTS AND FLOODS – PRACTICE, RESEARCH AND TEACHING OF LANDSCAPE ARCHITEC-
TURE / MĚSTSKÉ NÁBŘEŽÍ A POVODNĚ PRAXE, VÝZKUM A VÝUKA KRAJINÁŘSKÉ ARCHITEKTURY

B. ŠEVČÍKOVÁ - L. RADILOVÁ - A. LACINA.....68 / 198

PUBLIC SPACES AS ONE OF THE FACTORS OF A CITY OF SHORT DISTANCES. / VEREJNÉ PRIESTORY AKO
JEDEN Z FAKTOROV MESTA KRÁTKYCH VZDIALENOSTÍ.

L. VITKOVÁ - Z. SUCHÁNKOVÁ.....74 / 204

3/ Court architecture of housing, civil equipment and construction engineering

/ Soudová architektura bydlení, občanské vybavenosti a stavebního inženýrství

„THE GOLDEN AGE“ OF ZAGREB’S COLLECTIVE HOUSING BLOCK: THE „MARKET“ DESIGN AND
CONSTRUCTION BETWEEN 1955-1974

D. KAHLE.....88

CHILDREN’S WARDS – REQUIREMENTS VS. REALITY: A COMPARATIVE FRAMEWORK FOR ASSESING
SPATIAL QUALITY / DĚTSKÁ ODDĚLENÍ – POŽADAVKY VS. REALITA – KOMPARATIVNÍ RÁMEC PRO
HODNOCENÍ PROSTOROVÉ KVALITY

A. W. MOLNÁROVÁ.....95 / 216

4/ Monument care, renovation and conversion of buildings and architectural complexes

/ Památková péče, obnova a konverze objektů a architektonických celků

PARADOXES OF HERITAGE CONSERVATION IN THE COAL BASINS OF NORTHWESTERN BOHEMIA I – EX-
TINCT SETTLEMENT STRUCTURES IN THE MOST DISTRICT VS. THE BUCKET WHEEL EXCAVATOR RK5000
/ PARADOXY PAMÁTKOVÉ PÉČE V UHELNÝCH PÁVNÍCH SEVEROZÁPADNÍCH ČECH I – ZANIKLÉ SÍDELNÍ ÚT-
VARY V OKRESE MOST VS. KOREČKOVÉ RYPADLO RK5000

M. BARRA - T. EFLER.....102 / 222

VISUAL CHARACTER OF BUILDING CONVERSIONS / VIZUÁLNÍ CHARAKTER KONVERZÍ STAVEB

F. SLIVKA - K. RIEDLOVÁ - L. VOLNÁ.....108 / 228

CONTEMPORARY ADDITIONS TO HISTORIC BUILDINGS IN THE CONTEXT OF THE HISTORIC ENVIRONMENT
OF THE CITY / SOUDOBÉ DOSTAVBY HISTORICKÝCH BUDOV V KONTEXTU HISTORICKÉHO PROSTŘEDÍ
MĚSTA

V. SCHWARZ - M. KANTOROVÁ - J. VEČEŘOVÁ - M. PEŘINKOVÁ.....115 / 235

5/ Countryside and rural architecture / Venkovský prostor a architektura venkova

NEW CHALLENGES FOR SOCIALIST VILLAGES / NOVÉ VÝZVY SOCIALISTICKÉ VESNICE

V. VICHÉRKOVÁ.....124 / 242

6/ Trends and technologies in architecture / Trendy a technologie v architektuře

INTEGRATION OF SUSTAINABLE BUILDING PRINCIPLES INTO THE NEW STUDY PROGRAMME AT THE
FACULTY OF CIVIL ENGINEERING, VSB – TECHNICAL UNIVERSITY OF OSTRAVA / INTEGRACE PRINCIPŮ
UDRŽITELNÉ VÝSTAVBY DO NOVÉHO STUDIJNÍHO PROGRAMU FAKULTY STAVEBNÍ, VŠB – TECHNICKÉ
UNIVERZITY OSTRAVA

I. SKOTNICOVÁ - P. TYMOVÁ - Z. GALDA.....134 / 252

English part of the proceedings

1/ Theory and philosophy of architectural design

EVALUATION CRITERIA FOR ARCHITECTURAL AWARDS - TWO CASE STUDIES OF EUROPEAN AWARDS

Hybský Michal

MICHAL HYBSKÝ, ING. ARCH.

Faculty of Architecture CTU
Thákurova 9, 166 34, Prague,
Czech Republic

michal.hybsky@fa.cvut.cz

ORCID iD: 0009-0008-9256-6242

PhD candidate researching architectural awards and their impact on discourse in architecture through qualitative analysis methods. Teaching assistant of prof. Ing. arch. P. Melkova, PhD. at the Dept. of building theory, FA CTU. In addition to research activities, he is engaged in architectural practice.

ABSTRACT: Pan-European architectural awards and prizes are influential platforms for the evaluation of architectural quality. The jury is a key element in the evaluation of such awards. The jury's evaluation of values in architecture influences not only the laureates by awarding them prestige, but also the architectural discourse on a wider scale. The awarding of prizes in architecture can be said to be transformative. Through a qualitative analysis of jury verdicts, our work attempts to reveal the current evaluation criteria of European architectural awards through two case studies. Our case studies are the Mies van der Rohe Award - European Prize for Contemporary Architecture and the European Prize for Urban Public Space. We focus our analysis on the written outputs of these platforms: verdicts, statements and essays of the juries on the prizes in question. These data represent a comprehensive set of information on the editions of the awards used. Since one edition from each award would not be a representative sample, we analyze three editions within each award. Thus, one architectural award – one case study, is represented by three editions. Methodologically, we use one of a group of research designs, an established combination of methodological procedures, for our qualitative analyses. In our research, we are talking about the Qualitative Content Analysis. The basic procedure of this research design is a method called Text Segmentation and Coding. Our results of the research so far suggest that evaluation criteria can be identified and described. The results further suggest that differently focused architectural awards have different sets of evaluation criteria.

KEYWORDS: architecture award; Qualitative analysis; Mies van der Rohe Award; European Prize for Urban Public Space

INTRODUCTION

A lot is written every year about architectural awards and prizes. Press releases, popularisation articles, or critical essays. This phenomenon generates professional and public discourse, that is its greatest driving force. It has a transformative potential for the development of architecture, which is the first reason we address the presented topic. The second is that it is scientifically under-researched (Chupin et al., 2022). In examining the evaluation of architecture within awards, we focus on jury decision making. It is the jury that decides on the nominations and winners, using its own criteria for evaluation - and it is the criteria for evaluating architecture in awards that we will attempt to examine. Since we will be analysing the judgement of people, we are moving into the field of architectural humanities research, which implies the use of certain methodologies close to the social sciences (Lucas, 2016). The most comprehensive output of the architectural prizes are the catalogues of the editions containing the verdicts of the juries, the transcripts of the meetings or the essays of the jury members. Thus, we will examine the written media outputs of the award-giving platforms. To do so, we will use qualitative text analysis. Our aim will be to identify the criteria for evaluating architecture in the discourse, and to understand and interpret the phenomenon more gen-

erally. We will investigate the phenomenon through two case studies in an attempt to inductively derive the state of architecture evaluation in contemporary European architectural awards.

METHODOLOGY

When describing the methodology, we will talk about the research design, by which we mean an established combination of methodological procedures. Specifically, we will use qualitative content analysis (QCA). The reasons are following: it focuses on the properties of language as a communication tool, with a focus on the content of the text or its contextual meaning. It aims at gaining knowledge about studied phenomenon and, most importantly, understanding it. On content analysis, M. Heřmanský adds that it relates to the data as if they were "a window into the experience of the participants". Which means that the text conveys insight into the content of the data being analysed in order to understand the meanings they convey (Novotná et al., 2019). These predispositions are suitable for our goal of identifying and describing the evaluation criteria in the award, understanding this phenomenon and interpreting it. QCA exists in a trio of approaches (conventional, directed, summative), from which we select the conventional approach. The latter is used in researches whose purpose is to describe a phenomenon. It is appropriate in cases where the theory on the topic is limited. It does not use assumed categories in coding; these emerge from the data (Hsieh and Shannon, 2005). The coding scheme is based on a standardized procedure described by Miles & Huberman (Miles & Huberman, 1994). The named positions of the conventional QCA approach is suitable for us, as we are trying to do basic research and description of a phenomenon for which there is only limited theoretical foundation. To begin with, it is necessary to define a data collection approach. Since we are working on case studies based on written data, we have chosen purposive sampling. Cases are selected on purpose – based on their suitability to observe the selected phenomenon (e.g. a typical case). The data analysed were created outside our research; this is a non-obtrusive approach (Novotná et al., 2019).

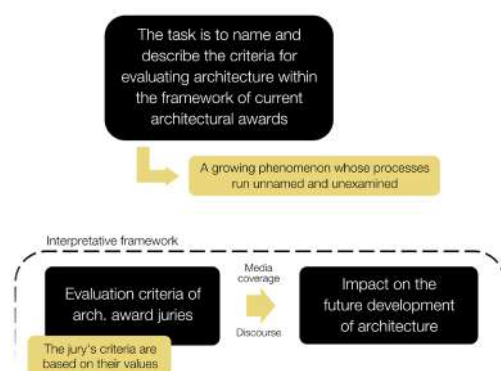


Fig. 1.: Graphical representation of the scope of the research (Source: author).

As part of the data collection process, we set our own

criteria for the sample - meeting certain assumptions and parameters. The basic assumption is the existence of outputs from the jury deliberations: transcript of the meeting / verdict / essay of the jury member on the award in question. Another assumption is that the requested text is of sufficient length. These text files become the source data. The required parameters are: 1. Evaluation of the award by an international jury; 2. European scene (cultural environment); 3. Application of both: a typologically defined and not-defined award; 4. Time frame: an award given up to 10 years back. Our aim was to find two suitable awards = two case studies. By surveying the awards, we were able to compile a data sample that matched the requirements and we will elaborate it in the case studies. These are: The European Union Prize for Contemporary Architecture - Mies van der Rohe Award and the European Prize for Urban Public Space. From the numerous editions of these awards, we have selected three editions of each. We selected the most recent editions available (sampled during 2022 and 2023), then the second and third editions chronologically back in time. In both cases, the jury verdicts published in the catalogues were used as data sources; in addition, the Mies Award provides essays by the jury members, and the Prize for Urban Public Space also provides "Jury minutes" - a brief selection of the jury's statements.

study, three editions of a award in question are included. We present each study in a separate subchapter. At the beginning of the subchapter, we provide a basic info for the editions, followed by the conclusions - the interpretive report and the categories with associated codes (evaluation criteria). Because of their extensive length, we do not list the coding books.

CASE STUDY 1 - MIES VAN DER ROHE AWARD

We analysed the editions: 2017, 2019, 2022. For all three of them, we used the jury verdicts and the essays of the jurors (published in the catalogues) as data.

Basic info about the editions:

Edition 2017 - Members of the jury: chairman architect Stephen Bates (UK), architect Gonçalo Byrne (PT), curator Peter Cachola Schmal (DE), architecture historian Pelin Derviş (TR), architect Dominique Jakob (FR), sociologist Juulia Kauste (FI), and architecture historian Małgorzata Omilanowska (PL). The winner is DeFlat Kleiburg in Amsterdam, The Netherlands. The designers of the project are studios NL Architects and XVW Architectuur. The evaluation session took place in May 2017 (Blasi and Sala Giral, 2017).

2019 Edition - Members of the jury: chairwoman architect Dorte Mandrup (DK), architect George Arbid (LB),

Architectural Award - Case Study	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
EU Mies van der Rohe Award	/	X	/	X	/	X	/	X	/	/	X
European Prize for Urban Public Space	X	/	X	/	X	/	X	/	/	/	X

Explanatory notes	
/	data does not exist or was not found
X	data exist for the given edition
X	the data exist, were obtained and used in the study

Tab. 1.: Case studies - editions of the awards collected. (Source: author)

RESULTS

Using QCA in a conventional approach, we analysed two case studies, one study = one award. We used the analytical software QDA Miner Lite. Within each

curator Angelika Fitz (AT), publicist Ștefan Ghenciulescu (RO), architect Kamiel Klaasse (NL), architect Maria Langarita (ES) and journalist Frank McDonald (IE). The winner was the Transformation of 530 dwellings - Grand Parc in Bordeaux, France. The project was de-

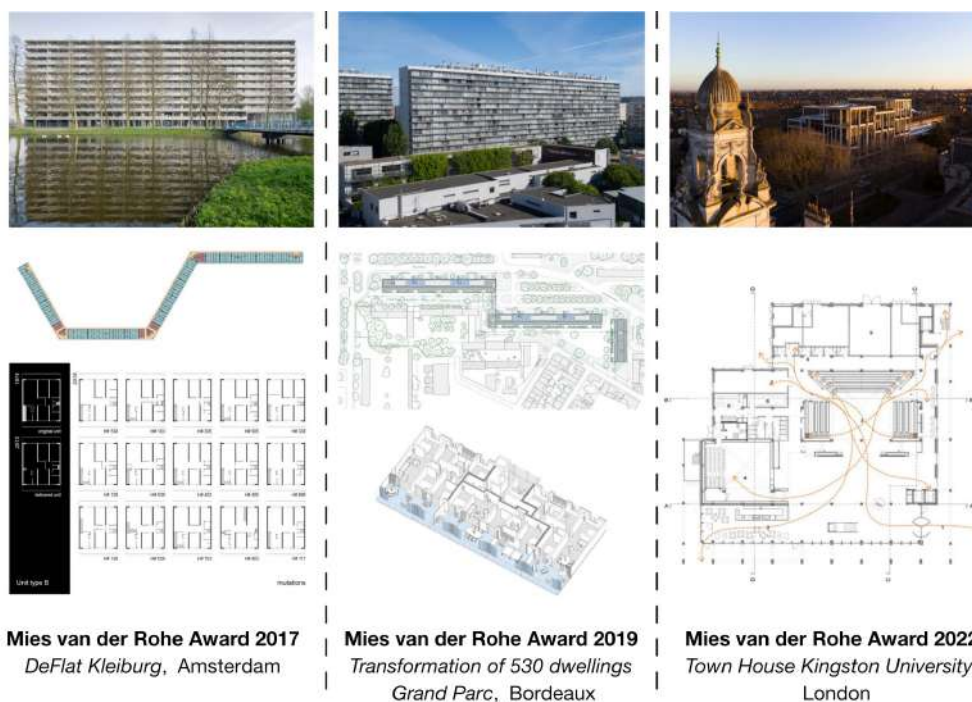


Fig. 2.: Winners of The European Union Prize for Contemporary Architecture - Mies van der Rohe Award 2017, 2019, 2022. (Source: photos - Marcel van der Burg, Philippe Ruault, Ed Reeve; schemes - NL Architects, Lacaton & Vassal Architects, Grafton Architects)

signed by Lacaton & Vassal Architects, Frédéric Druot Architecture and Christophe Hutin Architecture. The evaluation session took place in April 2019 (Blasi and Sala Giral, 2019).

Edition 2022 - Members of the jury: chairwoman architect Tatiana Bilbao (MX), journalist Francesca Ferguson (UK), architect Mia Hägg (SE), architecture critic Triin Ojari (EE), architect Georg Pendl (AT), cultural manager Spiros Pengas (GR) and architect Marcel Smets (BE). The winner is Town House - Kingston University, London, UK. The author of the building is the studio Grafton Architects. The evaluation session took place in April 2022 (Blasi and Sala Giral, 2022).

Interpretive report:

We were able to uncover a number of phenomena in the discourse that recorded how the juries approached the evaluation of architecture in the surveyed awards. The most important phenomena of evaluation, abstracted into evaluation criteria, were given their codes. Key criteria emerge in the discourse, which will be discussed in the individual subchapters. To begin, we offer a few observations on the data analysed. Award verdicts, being the most common output from jury evaluations, are highly descriptive in nature of the text; the content of descriptive codes dominates. Juror essays, written for the editions in question, are more interpretive, allowing for a greater range of interpretations of content. Generalizing the analysis, the more data we had from the evaluation processes, the better the saturation of categories and the "sharpening" of the phenomena discovered. Next, we will proceed according to the categories created.

Message of evaluation: the category represents introspective reflections and opinions directed at the award itself, its social role, its legacy and the values represented. In terms of the characteristics of the architecture itself it is auxiliary, but because of its strong influence on the selection of the laureates, it is a separate criterion. The most highlighted phenomenon of this category is the jury's discussions on the meaning and significance of contemporary awarding. In doing so, they often draw conclusions that can be interpreted as an application of the hermeneutic cycle (Fay, 2002) to this social phenomenon. In this application, the jurors respond to past architecture awards, to competitions that have been held, and to the qualities and values of existing architecture - thus acknowledging they are being influenced by current discourse. This can be illustrated, for example, by an excerpt from the text of the 2017 edition's jury chairman Stephen Bates: "The EU Mies Award had never been won by a housing project - until now. It had never been won by a re-use project - until now." (Blasi and Sala Giral, 2017) He was referring to the prize winner DeFlat Kleiburg, selected by a jury he was part of.

Abstract qualities of architecture: the first category representing directly the qualities or values of the evaluated architecture. It refers to qualities that are not immediately belonging to the built matrix, but to qualities that can be described as "meta-criteria", i.e. criteria that represent social values materialized in concrete manifestations of architecture. A very common phenomenon in the Mies Award is the positive critique of reinterpretation or continuity with the architectural culture of the region, a phenomenon we have called referentiality. However, referentiality also includes associations to general phenomena such as archetypality. Furthermore, the interest in working with existing building substance is noticeable in the evaluation. This is evidenced by Angelika Fitz's statement in her essay for the 2019 edition: "Conserving resources and taking a creative approach to the existing fabric is possible both in a context of dilapidated brick buildings and modernist concrete prefabs, as the projects of the EU Mies Award demonstrate." (Blasi

and Sala Giral, 2019) In other words, preserving and transforming is preferable to demolishing and building anew - one of the underpinning ideas of sustainability in construction, is spreading among architects thanks to the work of studios such as Lacaton & Vassal. They won the edition with the Transformation of 530 dwellings - Grand Parc in Bordeaux. In general, many of the criteria evaluated in this category fall under the growing phenomenon of social relevance in architecture.

Physical qualities of architecture: the previous abstract category implies the existence of physical qualities of architecture, these actually appear in the discourse. These are qualities that are explicit properties of the built matter. Jurors evaluate these concrete manifestations based on personal preferences, experience, and more widely accepted spatial assumptions. For example, we encounter praise for the versatility of buildings, their physical adaptability to change, and their ability to accommodate the various needs of life. On this theme, 2022 edition juror Mia Hägg writes: "When architects don't have the opportunity to work directly with a building's future occupants, however, they can create spaces that are adaptable for a variety of users." (Blasi and Sala Giral, 2022) The opinion is dedicated to the finalist of the prize, the 85 housing units in Cornella by the Peris + Toral studio. This criterion can be included in a broader group of spatial qualities that the juries evaluate very often. Spatial qualities include the layout, volume and proportional relationships of spaces and masses in a wide variety of situations. Evaluating proportion and composition is one of the most classic ways of looking at architecture. Despite centuries of architectural development, this age-old standard is still alive.

Criticism: Although it would be possible to consider the entire evaluation of architecture as constructive criticism, for our purpose we use the category of criticism in focused meaning - to classify negatively evaluated phenomena when they occur. Worth mentioning is the often represented criterion of fashionable character, as negatively evaluated subordination to style. The topic is addressed by Ștefan Ghenciuțescu in the 2019 edition: "Style as a set of fixed features and norms is becoming less and less relevant for architectural discussion and it certainly did not play any role in the jury's decisions." (Blasi and Sala Giral, 2019) The evaluation responds to the contemporary digital mainstream, the self-serving "instagram-ness" of architecture in the sense of submission to contemporary visual trends.

Urban planning qualities: refers to criteria for evaluating scale beyond the building itself and its interface. If we follow the logic of the previous categories, it focuses both on the physical relationships of buildings/spaces and the abstract values reflected in the urban design. Since the Mies Award is primarily an architectural award, not an urban design award, the urban solution is often viewed through the prism of the assessed building (or using more general themes of urban planning). When looking at the urban planning through the prism of the assessed building, we discovered the criterion of acupuncture of the place. This metaphorically refers to the initiation of positive change by a new building with an effect on the whole site. A site with a low quality of development, or one that has been damaged in the past. The criterion is well described in the 2022 edition by Marcel Smets: "A closer look at this panorama of shortlisted interventions clearly shows how meaningful buildings never really stand on their own. Because of their community-oriented program, their public significance, or their inspiring urbanistic aura, they successfully succeed in upgrading the entire neighbourhood." (Blasi and Sala Giral, 2022) Contextuality, a common urban planning value, has repeatedly become part of assessment, indirectly implied in the quote.

Process-oriented qualities: their content is not the actual matter of the architecture or the projection of an abstract principle into the design. In the case of process-oriented and programmatic qualities, we are talking about present and past events, the conscious activity of people, and also the function of the architecture in question. These phenomena are the evaluation criteria if they result in architectural design or, if they allow the building to survive and thrive. Projects that were the result of successful collaborations often enjoyed the jury's favour. This is well illustrated by Kamiel Klaasse's thought from the 2019 proceedings: "The role of the client in this project is vital. It takes two to tango, of course. This courageous commissioner managed to flip the typical aversion of risk into embracement of risk. What joy!" (Blasi and Sala Giral, 2019) That is the way he evaluated the Congress Centre Plasencia by SelgasCano. The collaboration between the architect, the investor, the municipality and the local residents is clearly yielding quality results. This criterion, which we have called the power of co-operation, thematically includes a positive assessment of the ability to compromise.

Enric Batlle (ES), curator Peter Cachola Schmal (DE), architect Matevž Čelik (SI), architecture historian Hans Ibelings (NL), sociologist Juulia Kauste (FI), architecture critic Ewa P. Porebska (PL), curator Francis Rambert (FR), theoretician Dietmar Steiner (AT) and architecture critic Ellis Woodman (UK). The laureates were ex aequo: 1. Recovery of the irrigation system of the orchards in Caldes de Montbui, Spain. Designed by Cíclica and CAVAA. 2. Dialogue Centre "Przelomy" in Solidarność Square in Szczecin, Poland. The author of the project is KWK Promes studio. The evaluation session took place in April 2016 (CCCB, 2016).

2018 Edition - Members of the jury: chairwoman architect Olga Tarrasó (ES), curator Peter Cachola Schmal (DE), architect Matevž Čelik (SI), architecture historian Hans Ibelings (NL), curator Katharina Ritter (AT), architecture critic Ewa P. Porebska (PL), curator Francis Rambert (FR) and architecture critic Ellis Woodman (UK). The winner was the Renovation of Skanderbeg Square in Tirana, Albania. The realization was carried out by the studios 51N4E, Anri Sala, Plant en Houtgoed and iRI. The evaluation session took place in April 2018

Message of evaluation	Abstract qualities of architecture	Physical qualities of architecture	Criticism	Urban planning qualities	Process-oriented qualities
Theme of award	Referentiality	Identifiability - descriptive code	Pastorality character	Certainty	The power of cooperation - descriptive code
The work conveys a message	Proud urbanity	Innovativeness - descriptive code	Generality	Community character	Referability
Revealing current problems	Quality of life	Communicativeness		The return of life to the city	Viability thanks to the programme
Speculation	Social relevance - descriptive code	Beauty		"Reconfiguration of the place" - interpretive code	Accelerator of change
Regeneration of culture and architecture	Care for architecture - descriptive code	Spatial qualities			Creativity-driven limitations
	"Met to demolish, to renew"	Architecturally superior project			The power of cooperation - interpretive code
	"Memory of place"	Referability			
	Environmental sustainability	Phenomenological evaluation			
	Social sustainability	Durability			
	Inclusivity	Variability - interpretive code			
	Transformative depth	Innovativeness - interpretive code			
	Social relevance - interpretive code				
	Visionary thinking				
	The power of concept - interpretive code				
	Democratic character				
	Care for architecture - interpretive code				
	Historic work				
	Authenticity - interpretive code				

Tab. 2.: Categories of Case Study 1: Mies van der Rohe Award (Source: author)

CASE STUDY 2 - EUROPEAN PRIZE FOR URBAN PUBLIC SPACE

We analysed the editions: 2016, 2018, 2022. For all three editions, we used the jury verdicts and a "Jury minutes" (published in the catalogues) as data. Basic info about the editions:

Edition 2016 - Members of the jury: chairman archi-

(CCCB, 2018).

Edition 2022 - Members of the jury: chairwoman landscape architect Teresa Galí-Izard (CH), historian Hans Ibelings (NL), anthropologist Eleni Myrivili (GR), architecture critic Andreas Ruby (CH), cultural manager Paloma Strelitz (UK) and architect Špela Videčnik (SI). The winner is the Restoration of the Catharijnesingel



Fig. 3.: Winners of the European Prize for Urban Public Space 2016, 2018, 2022. (Source: photos - Adrià Goula, Juliusz Sokolowski, Filip Dujardin, Stijn Poels-tra; schemes - Cíclica and CAVAA, KWK Promes, 51N4E, OKRA Landschapsarchitecten)

Canal in Utrecht, The Netherlands. The author of the realization is the studio OKRA Landschapsarchitecten. The evaluation session took place in July 2022, the public presentation of the finalists and the selection of the laureate in November 2022 (CCCB, 2022).

Interpretive report:

In the second case study, we were also able to identify phenomena in the discourse despite slightly different data. The award verdicts, also represented in this study, confirmed their style as descriptive. The short selections of jury quotations ("jury minutes" or "jury deliberations"), are varied - both descriptive and interpretive - but their content overlap with the verdicts is quite large. The categories that we developed for the first study could also be adapted, with some modifications, to a typological prize for urban public space. The key criteria of the processed study started to emerge in the same way, as well as key criteria overall, relevant for the whole sample.

Message of evaluation: It was confirmed that the juries are mindful of the impact and significance of the awards. The moral dimension of the evaluation itself was strongly felt. The juries consciously worked with the message and prestige of the award. In doing so, they indirectly confirmed the participation of architectural awards in the economy of prestige according to the theories of J. F. English (English, 2011). The assertion of values in the message of the prize is evident in the editorial by Teresa Galí-Izard, chairwoman of the 2022 jury: "We renounced individual positions for the common good, because we believe that it is important to send a message of unity." (CCCB, 2022) The revealing of current problems also appears in the discourse, whether in the position of describing the problem or in the position of trying to offer a solution. The problems named come from a wide range of fields, which means that they could be broadly branched by coding. There would be a great diversification of content, diverging from our research problem, so we group the topic under one code. In general, after analysing the two studies, we can say that discussions over the role of awards, the legacy of award-winning works and the uncovering of contemporary issues play an important role in the evaluation of architecture in European awards.

Abstract qualities of space: By adjustment (architecture → space), we can classify evaluation criteria into analogous categories. Criteria referring to "physically absent" social values had a strong influence in the evaluation. These criteria appeared in a smaller spectrum, which we do not interpret as that they were unimportant. On the contrary, we interpret the smaller dispersion of criteria as greater consistency in the jury's evaluation. Environmental sustainability had an important role in the evaluation of the award in all editions, as did social sustainability. The jury clearly declares this in its statement on the 2022 edition: "We have seen projects combining ecological and social value in new ways, and we have particularly welcomed those initiatives that encourage biodiverse, ranging from productive planting to the cultivation of wilderness within public space." (CCCB, 2022) We can

say that these two criteria played a major role in the study. Inclusivity emerged as a significant sub-theme of social sustainability, in its manifestations of humanism. On the other hand, a strong cultural criterion also emerged, dealing with the interpretation of the story of place, uncovering layers of time. We have called it memory of place.

Physical qualities of space: by the same modification of the category we can work with the physical aspects of space. The evaluation criteria of sites for public life proved to be stimulating - there were manifestations that were not common in the first study. Surprisingly, the juries often evaluated roughness positively, in the sense of crudeness and rawness. So reads the 2018 verdict: "[The project] combines the exceptionality of an internationally recognised site with everyday uses, without domesticating the wild feel of the site which was closed for years. In sum it successfully integrates the rawness of industrial infrastructure with fairly untamed vegetation." (CCCB, 2018) This is how the jury evaluates the Zollverein Park in Essen. We interpret this criterion to be the counterpart of the self-serving formality, mostly negatively evaluated. Roughness can also be positively perceived due to its association with low-budget activist-funded projects. In general, physicality in this study is of lower importance to the abstract criteria from the previous subsection.

Urban qualities: as an integral part of the evaluation of public space, this category was stronger than the previous one. This phenomenon can be interpreted this way: the physical substance of the materials and small-scale architecture of the public space itself is being overridden by the urban planning significance and impact. A strong phenomenon in the evaluation was the well-known community character, especially in the sense of creating conditions for the coexistence of locals through design. This sentiment is echoed in the verdict of the 2018 edition, in the evaluation of the Poblenou Superblock in Barcelona: "[The project] is based on the idea that the street is not just infrastructure for mobility but a place of social interaction." (CCCB, 2018) Furthermore, the return of life to the city, a complex phenomenon addressing the problem of urban hollowing out and the growth of suburbs, emerged as an important criterion. It includes returning of spaces to the people at the expense of individual transport. They are linked by a desire to intensify urban life and slow the exploitation of cities into open countryside. This phenomenon thus combines environmental and social assessment parameters.

Process-oriented qualities: had a specific place in the evaluation of the urban public space award. It is evident that the juries had a particular regard for the circumstances of the creation of the work, the story of its builders and the commitment of its operators. In the first study, this consideration was present time to time, but in the second it was present in every edition. Based on the importance of the criterion - power of cooperation - in the context of the public space prize, we consider relevant to return to it. For example, in the verdict on the winner of the 2016 edition, which was the Recovery of the irrigation system of the or-

Message of evaluation	Abstract qualities of architecture	Physical qualities of architecture	Urban planning qualities	Process-oriented qualities
The work conveys a message	Environmental sustainability	Rationality	Permeability	The power of cooperation - descriptive code
User satisfaction	Social sustainability	Innovativeness - descriptive code	Community character	Recycling, reorganization
Revealing current problems	"Memory of place"	Versatility - interpretive code	The return of life to the city	Viability thanks to the programme
	Layering of themes	Roughness	Contextuality	Accelerator of change
	Inclusivity	Adaptation and mitigation	"Acupuncture of the place" - interpretive code	Creativity driven by limitations
	Quality of life	Theatricality		Altruism
	Holistic work	Informality		
	The power of concept - interpretive code	Beauty		
	Transformative depth	Detailedness		
	Social relevance - interpretive code	Communicativeness		
	Visionary thinking	Post-pandemic design		
		Phenomenological evaluation		
		Equilibrium		

Tab. 3.: Categories of Case Study 2: European Prize for Urban Public Space (Source: author)

chards in Caldes de Montbui: "In this rural setting, seventy local farmers, private landholders, have worked together in this overlap of commons and private. More than concerns about design, the accent is on understanding community irrigation processes and how to recover them as an integral part of this new intervention." (CCCB, 2016) Emphasizing the importance of joining up runs through the evaluation as a backbone. This criterion can clearly be classified as a key one across the whole sample. On more than one occasion, the jury paid tribute to the authors and builders for their commitment in challenging conditions. In cases where constraints have driven the emergence of architectural quality, this phenomenon was highly praised, so we included it in the selection and named it creativity driven by limitations. Overall, procedural and programmatic qualities played a more significant role in the award than one might think in an architectural award.

CONCLUSION

Based on the research conducted, we conclude that the set of evaluation criteria of architecture awards can be described using qualitative content analysis. Whereby for typologically different prizes - the Mies van der Rohe Award (typologically indeterminate) and the European Prize for Urban Public Space (typologically determinate) - these evaluation criteria differ. The question for further research is whether the thesis of criteria diversity can also be applied to the geographical division of prizes - local/national/international prizes. We further suggest that individual codes, naming the evaluation criteria, may exist in descriptive and interpretive form for each criterion described (Miles & Huberman coding). However, the number of phenomena identified in our studies is finite. Apart from the two cases analysed, hypothetically, with a large sample expansion, it would be possible to construct a full set of evaluation criteria. This scale is probably difficult to achieve. However, we plan to continue research activities in this area. Specifically, by developing two further case studies, focusing on the context of national awards in Czechia and Slovakia.

SOURCES

[1] BLASI, Ivan and SALA GIRALT, Anna (eds.), 2017. European Union Prize for Contemporary Architecture – Mies van der Rohe Award 2017. Barcelona: Fundació Mies van der Rohe. ISBN 978-84-941836-6-9.

[2] BLASI, Ivan and SALA GIRALT, Anna (eds.), 2019. European Union Prize for Contemporary Architecture - Mies van der Rohe Award 2019. Barcelona: Fundació Mies van der Rohe. ISBN 978-84-9488-201-2.

[3] BLASI, Ivan and SALA GIRALT, Anna (eds.), 2022. European Union Prize for Contemporary Architecture - Mies van der Rohe Awards 2022. Barcelona: Fundació Mies van der Rohe. ISBN 978-84-123670-3-4.

[4] CENTRE DE CULTURA CONTEMPORÀNIA DE BARCELONA [CCCB], 2016. European Prize for Urban Public Space 2016 Results. Online. Available from: https://www.publicspace.org/documents/220568/1852804/Prensa_Premi+016_ENG.pdf/237d6aa6-5f9b-871e-7e5e-48838169d10e. [Accessed 18 March 2025].

[5] CENTRE DE CULTURA CONTEMPORÀNIA DE BARCELONA [CCCB], 2018. European Prize for Urban Public Space Results 2018. Online. Available from: https://www.cccb.org/rcs_gene/Public_Space_2018_Results_Press_Release_COMPR.pdf?_gl=1*owljdv*_ga*ODc4NjlyOTk2LjE3NDIzMDUzODY.*_ga_6PE54HGENN*MTc0MjMwNTM5MC4xLjEuMTc0MjMwNjlyMi41My4wLjA. [Accessed 18 March 2025].

[6] CENTRE DE CULTURA CONTEMPORÀNIA DE BARCELONA [CCCB], 2022. European Prize for Urban Public Space 2022. Online. Available from: https://www.cccb.org/rcs_gene/2022_European_Prize_for_Urban_Public_Space_book.pdf?_gl=1*rc6feb*_ga*ODc4NjlyOTk2LjE3NDIzMDUzODY.*_ga_6PE54HGENN*MTc0MjMwNTM5MC4xLjEuMTc0MjMwNjlyYwNC40My4wLjA. [Accessed 18 March 2025].

[7] ENGLISH, James F., 2011. *Ekonomie prestiže: ceny, vyznamenání a oběh kulturních hodnot. Teoretická knihovna*. Brno: Host. ISBN 978-80-7294-492-7.

[8] FAY, Brian, 2002. *Současná filosofie sociálních věd: multikulturní přístup. Studijní texty (Sociologické nakladatelství)*. Prague: Sociologické nakladatelství. ISBN 80-86429-10-5.

[9] HSIEH, Hsiu-Fang and SHANNON, Sarah E., 2005. Three Approaches to Qualitative Content Analysis. *Qualitative health research*. Vol. 15, no. 9, p. 1277-1288. ISSN 1049-7323. Available from: <https://doi.org/10.1177/1049732305276687>. [Accessed 18 March 2025].

[10] CHUPIN, Jean-Pierre; CUCUZZELLA, Carmela a ADAMCZYK, Georges (eds.), 2022. *The Rise of Awards in Architecture*. Wilmington, USA: Vernon Press. ISBN 978-1-64889-429-9.

[11] LUCAS, Ray, 2016. *Research methods for architecture*. London: Laurence King Publishing. ISBN 978-1-78067-753-8.

[12] MILES, Matthew B. and HUBERMAN, A. Michael, 1994. *Qualitative data analysis: An expanded sourcebook*. 2nd ed. Thousand Oaks, Calif.; London: Sage. ISBN 0-8039-5540-5.

[13] NOVOTNÁ, Hedvika; ŠPAČEK, Ondřej and ŠTOVÍČKOVÁ, Magdaléna (eds.), 2019. *Metody výzkumu ve společenských vědách*. Prague: FHS UK. ISBN 978-80-7571-025-3.

SUITABLE MODIFICATIONS OF PUBLIC SPACES FOR PEOPLE WITH ASD

Janošová Anna - Hrůša Petr

ANNA JANOŠOVÁ, ING. ARCH.

Department of Architecture
Faculty of Civil Engineering
VŠB - Technical University of Ostrava
Ludvíka Podéště 1875/17
708 00 Ostrava, Czech Republic

anna.janosova@vsb.cz

ORCID iD: 0000-0002-5042-8182

Ing. arch. Anna Janošová is a PhD candidate at the Department of Architecture, Faculty of Civil Engineering, VŠB – Technical University of Ostrava. Her research focuses on housing for people with autism spectrum disorder and on architectural spaces adapted to their needs. In her professional practice, she primarily designs interiors and residential buildings.

PETR HRŮŠA, PROF. ING. ARCH.

Department of Architecture
Faculty of Civil Engineering
VŠB - Technical University of Ostrava
Ludvíka Podéště 1875/17
708 00 Ostrava, Czech Republic

petr.hrusa@vsb.cz

ORCID iD: 0000-0003-3019-7329

Prof. Ing. arch. Petr Hrůša works as an academic, researcher, and Head of the Department of Architecture at the Faculty of Civil Engineering, VŠB – Technical University of Ostrava. His professional focus includes the theory of architectural design, the cultural and social contexts of architecture, and the development of urban and residential structures. He is also actively involved in architectural practice, with experience in designing significant public, residential, and cultural buildings.

ABSTRACT: This text explores the design of public space for individuals with Autism Spectrum Disorder (ASD), emphasizing a philosophical and phenomenological approach to architecture. The framework is based on Kant's triad of perception, reception, and apperception, viewing space as a culturally and spiritually shaped structure. Unlike conventional functional or technical approaches, the article highlights the importance of spatial legibility, rhythm, sensory stability, and non-verbal communication through materiality and form. It introduces concrete design principles that support sensory integration, environmental control, predictability, calming escape zones, previewing, and respect for individual sensitivity. The study points out the broader societal benefits of such spatial modifications and argues for their usefulness not only for individuals with ASD but for the general population. Architectural space is presented as a therapeutic, inclusive, and existentially supportive framework that fosters a dignified human presence in the world.

KEYWORDS: architecture and autism; ASD; public space; sensory integration; perception and apperception; philosophy of space; inclusive design; spatial legibility; previewing; therapeutic environment

INTRODUCTION

The creation of architectural space for individuals with autism spectrum disorder (ASD) requires a deeper approach than purely technical or functional considerations. People with ASD perceive their environment not only through sensory stimuli but also through its rhythm, organization, legibility, and spiritual qualities. This article introduces a philosophical-theoretical framework that emerged from a professional discussion between Prof. Ing. arch. Petr Hrůša and Ing. arch. Anna Janošová, drawing on Kant's concept of perception, reception, and apperception. It presents space as a culturally and spiritually shaped entity capable of influencing the user's mental state and supporting dignity, stability, and sensory integrity. In the context of autism, space is revealed not only as a functional framework of everyday life but also as a tool of therapy, orientation, and self-understanding—a finding that stems from a survey of current and practiced therapies within the Czech Republic. The aim of this text is to demonstrate that the integration of philosophical and phenomenological principles into design can bring a new approach to architecture—one that responds to the deeper existential needs of people with neurodiverse experiences.

PHILOSOPHICAL BASIS FOR CREATING ARCHITECTURAL SPACE FOR INDIVIDUALS WITH ASD

Designing space for people with autism spectrum disorder (ASD) requires a specific approach that transcends purely functional considerations. The theoretical-philosophical framework for designing space for people with ASD builds upon the triad of perception, reception, and apperception [1]. While most professional literature focuses on the physiological perception of space (e.g., light, sound, matter), autistic individuals also respond sensitively to metaphysical qualities of space—for instance, the spiritual atmosphere of sacred buildings.

Reception is understood here as the perception of measurability in space—for example, measurable and recurring time (chronos) versus the corporeality of time-space (tempos). People with autism are particularly sensitive to the tempo of space; for example, the restlessness of a train station corridor can induce stress, whereas the calm environment of a library evokes a sense of safety. Apperception then represents the unification of all levels of perception by harmonizing them into a meaningful whole. This does not apply solely to individuals with ASD but extends to the entire neurotypical population. Related to this is a fourth

concept of spatial design—cultivation—through which meaningful space emerges.

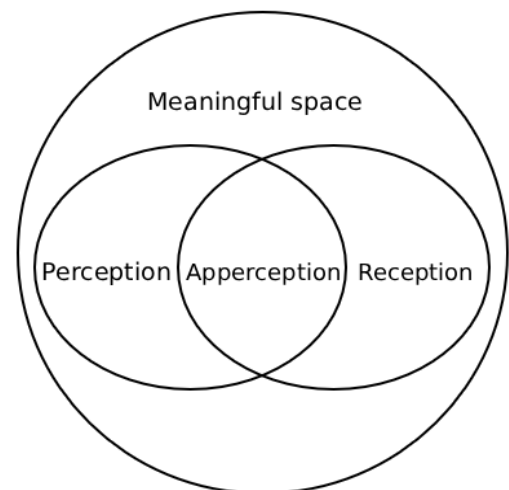


Fig. 1.: Venn diagram illustrating meaningful space (Source: Anna Janošová – own scheme), March 2025, VŠB-TUO

Modern, and particularly postmodern, architecture often neglects spatial stability and legibility. Yet individuals with ASD require space that is regular, legible, and predictable. Here, regularity carries a broader meaning and does not always imply symmetry or equidistant spacing. Regularity can manifest as the balance of spaces through a harmonious combination of multiple compositional elements. Rather than through evenly distanced elements, regularity may be perceived bodily—through the sense of “tactus,” for instance, what gives meaning to the rhythm of walking.

Legibility is not primarily about using pictogram signage but about avoiding mixed signals sent to users of the space. Materials, shapes, work with light, and other essentially receptive architectural tools convey nonverbal signals, which should not contradict one another. For example, through appropriate spatial structuring, choice of textures, or color placement, it is possible to create boundaries that clearly signal areas of focus and distinguish non-colliding, legible zones. A well-designed entrance is another typical example. Predictability of space can be ensured through visual connections or formal solutions.

All this can inspire a new architectural paradigm—perceiving space not merely as an intangible psychological locus, but as a culturally, physically, and spiritually shaped structure. Inspiration may also be found in phenomenology (Husserl, Brentano), which under-

stands space as existentially rooted [2].

HYPOTHESIS OF FOUR PARADIGMS FOR SPACE DESIGN [3]

1. Ontological paradigm (realist, essentially substantive): Emphasizes the permanence and immutability of things that exist independently of circumstances and are perceived through perception. In the context of an ASD-inspired approach, the epistemological question (noesis) is: “What does it mean that something permanent exists?” This approach is shared by classical philosophers such as Plato and Aristotle, as well as modern phenomenologists like Heidegger, who all sought enduring being. In architecture, permanence is not expressed by unchanging functions but, for example, through durable layouts shaped by high-quality materials or a sustainable rhythm of compositional elements.

2. Constructivist paradigm: Understands knowledge as the result of receptive consciousness, where what is substantive is created within conditions of cognition (such as logical rules or laboratory-like constructs). The central question is: “What can I know?” This approach is represented by René Descartes and Karl R. Popper and is linked to the development of noetics as a receptive epistemology. A typical example is the tectonics of space, which does not deny its fundamental principles.

3. Communicative paradigm (logically phenomenological): Based on the recognition that the boundaries of knowledge are limited by the possibilities of expression, it builds on apperception—that is, distancing from ordinary perception. The essential question is: “What can I understand?” This approach is associated with hermeneutics and supported by thinkers such as Brentano, Ingarden, Husserl, Patočka, Wittgenstein, Rezek, and Gadamer.

4. Complementary paradigm: Based on Plotinus’s philosophy [4], which concerns the Good and the Beautiful, where true beauty is bound to unity (the One), reason (Logos), idea, and soul. Architectural space should result from intelligent creation—a synthesis of spiritual and sensory cognition. The aim of design inspired by Plotinus’s legacy is not self-serving aesthetics but the achievement of a harmonious whole that fosters dignity, calm, and mental integrity of the user—especially those more sensitive to surrounding stimuli.

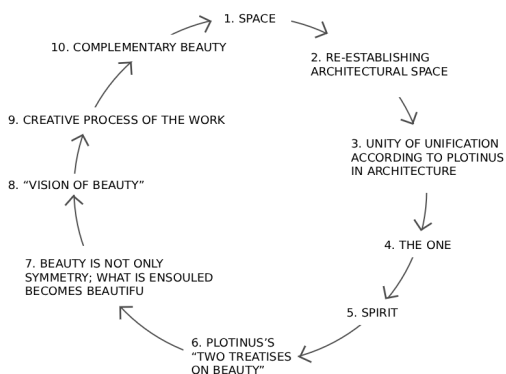


Fig. 2.: Diagram illustrating space design for individuals with ASD (Source: Anna Janošová – own scheme), March 2025, VŠB-TUO

A philosophical approach to designing space for individuals with ASD does not necessarily need to focus exclusively on people with ASD. On the contrary—surprisingly, it may also help the wider professional and lay public to uncover the deeper meaning of architecture as space rather than as a general environment; that is, space for human existence. A space designed according to these principles becomes not only functional but also therapeutic.

The above table illustrates the percentage of physical and mental health difficulties. If we acknowledge the importance of adapting space for people with physical impairments (16%) or visual disabilities (3%), why should we not adapt space for autistic individuals (1.4%) or for those with mental health problems (30%)? Such adjusted spaces are not only suitable for individuals with ASD but also generally reduce the psychological burden on all of us.

Category	Prevalence in Europe
Autism	0.8–1 % (max. ~1.4 %) [5]
Severe visual impairment	1 in 30 Europeans (approx. 3 %) experience some form of vision loss, including severe and mild cases [6]
Serious mobility impairment	7–10 %; up to 16 % if including other difficulties [7]
Mental health problems (prevalence)	~30 % (of which 16 % daily, 10–15 % annually) [8]

Tab. 1.: Prevalence of health problems in the population. (Data sources: cited individually, compiled by Anna Janošová, 2025, VŠB-TUO)

SPATIAL DIVISION BY FUNCTION

The autobiographical testimonies of Temple Grandin, Donna Williams, Gunilla Gerland, and Ida Kedar reveal that physical space provides individuals with autism a stable anchor in a changing world. Stability, predictability, and sensory friendliness of the environment—as well-conceptualized space (cf. Plotinus)—are more essential for them than interpersonal relationships. As Ruud Hendriks points out, “inhuman (un?)predictable behavior and iron regularity” represent precisely what

Space	Examples	Main Function	Secondary Function
Public space	Náměstí, ulice, parky, nákupní centra	Cannot be simply defined	
Semi-public space	Schools, rehabilitation institutes, therapy centers	Concentration, treatment	Rest
Soukromý prostor	Housing, sheltered housing, day-care centers	Rest, calm	Concentration

Tab. 2.: Table summarizing spatial perception (Source: Anna Janošová, September 2022, VŠB-TUO)



Fig. 3.: Example of a suitable public space design for autistic individuals (Source: Anna Janošová – own photograph, May 2022, VŠB-TUO) – clearly defined division of space and its functions through appropriate use of surfaces and materials.



Fig. 4.: Example of an unsuitable public space design for autistic individuals (Source: Anna Janošová – own photograph, May 2022, VŠB-TUO) – a wide and busy intersection without calm zones (e.g., can be improved with greenery or pavement change) represents a typical problematic location for people with autism.

brings safety to autistic people [9].

Research on spatial perception confirms the existence of a so-called “spatial logic”—the preference for ritualized routes, visual legibility, and tactile interactions. An appropriate environment should meet three dimensions: sensory quality, spatial legibility, and clear navigation. Temple Grandin describes how visual and haptic experience (e.g., sand construction) helped her understand the world [10]. Conversely, the case of Erik Langer shows that sensory destabilization (e.g., sudden loss of sight) may lead to deep regression, somatic difficulties, and loss of motor skills, with functional recovery depending on sensory balance.

REQUIREMENTS FOR ADAPTING PUBLIC SPACE FOR PEOPLE WITH ASD

When designing a public space, it is necessary to take into account that this space serves everyone, not just autistic people, and therefore it goes without saying that it is not possible to adapt all places and design architecture only for autistic people. It is also necessary to recall the individuality of autism itself. The term “autism spectrum” was created in order to capture the diversity of autism manifestations, but it is often perceived only as a specific, that is, too linearly – as a scale from “mild” to “severe” autism. In reality, the individual manifestations of autism do not overlap on a single axis, but rather function as a “constellation” of diverse, even for us, instructive characteristics. [11] Therefore, it makes sense to make as many adjustments as possible that have the greatest impact on people with autism, but it should be noted that they do not affect every autistic person in the same way. The overall conceived meaningful space is created through apperception, which will influence the stress load of these people.

TERRITORIALITY AND NEED FOR CONTROL OVER THE ENVIRONMENT

People with ASD have an increased need for control over their environment. This means that only a suitable harmonized space allows for predictability and clear boundaries between private, semi-public and public zones. The possibility of escape to a safe zone also helps. [12] To gain greater certainty in space from the point of view of territoriality, the creation of material boundaries can be helpful, where it is appropriate to maintain distance, wider passages from space to space or clear transition zones. Territoriality and the need for environmental control are examples of a communicative paradigm (the logical phenomenological paradigm) based on the awareness that the boundaries of knowledge are limited by the possibilities of expression. The basic question is: “What can I understand?” Nonverbal communication through space is more than just an environment – space can even communicate without words using textures, light, silence, structure or symbolism. It enables self-regulation, anticipation of situations and supports emotional stability. [13]

This is related to the transparency of space and previewing, which is also based on the communicative paradigm. The ability to visually look into the space in advance (so-called “previewing”) allows people with ASD to better prepare for a change in the environment and reduces anxiety. Transparent materials, perspective axes and logical continuity of spaces support orientation. [14]

ORGANIZATION OF SPACE AND REDUCING CHAOS

A public environment, which often lacks the concept of “space”, must at least be clearly structured to avoid

a feeling of overcrowding. It is important to eliminate visual noise, unnecessary elements and choose a simple, orderly character of the environment, which often contradicts fashionable design. [15] This is related to the above-mentioned constructivist paradigm, which is created within the framework of cognitive conditions assuming logical rules or logically constructed conditions.

A clear logic of arrangement helps people with ASD to orient themselves. Space is therefore what is related to the architectural approach to people with ASD, i.e. it must have legible zones, hierarchy and consistent navigation. In an environment arranged in this way, mixed signals should not be sent to the “space”, such as rushing to the station when they have to wait for the train. This will help to design, for example, quiet waiting rooms.

INCLUSION AND SOCIAL DIMENSION OF THE ENVIRONMENT, BALANCE BETWEEN PRIVACY AND INTERACTION

Public space is what should provide opportunities for casual social contact without pressure to interact. Suitable places for observed participation are community gardens, quiet corners, benches with a view. [16]

The environment itself, although not yet the space described above, should offer both a refuge for solitude and tranquility, as well as the possibility of safe, non-violent interaction. Transition zones are important - e.g. benches by the wall, views into the action. [17] A good option is to create semi-private courtyards, for relaxation without a large crowd. Appropriately designed public spaces (e.g. courtyards, fireplaces, semi-public courtyards) facilitate community life.



Fig. 5.: Visualization of a modern residential building with a communal courtyard. Visualization: Loomn, n.d. [online] [cited 2025-07-02]. Available from: <https://www.loomn.de/start>

NEIGHBORHOOD AND COMMUNITY

The broader environment surrounding people with ASD significantly affects their mental well-being. A supportive, safe, and inclusive neighborhood with access to nature, services, and opportunities for peaceful coexistence benefits not only the individual

with ASD but also their family. Poorly designed environments (e.g., noisy, neglected, or poorly lit areas) increase stress, reduce the sense of safety, and lead to social isolation. Proximity to nature, services, and community infrastructure is crucial.

An example is the current condition (before reconstruction) of the Republic Square underpass in Ostrava. In addition to its poor technical condition, the underpass exerts heavy sensory strain on everyone, not only autistic individuals. Dimness, poor ventilation, smell of urine, and echoing traffic noise are highly demanding. At night, the sense of safety is further reduced.

The proposed redesign appears promising in terms of natural light and ventilation. According to the visualization, however, it is unclear how the surfaces will be protected from graffiti and homeless occupancy. A potential risk is the use of mirrored metal surfaces above the platforms.

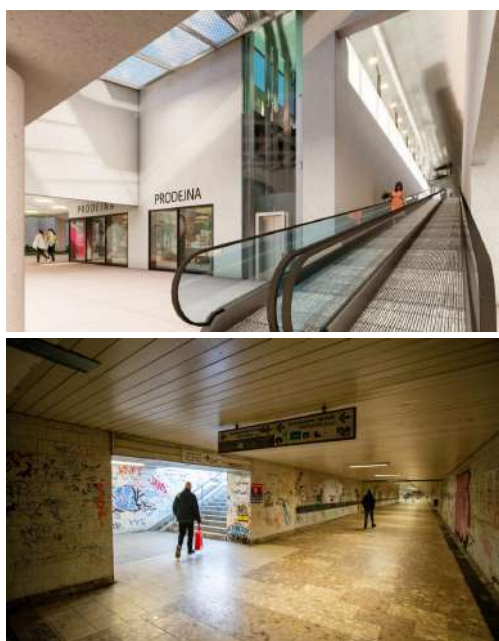


Fig. 6.: Republic Square underpass in Ostrava, current and proposed condition. (Photograph: Vladimír Pryček, ČTK, Novinky.cz, 2020 [online] [cited 2025-07-02]. Available from: <https://www.novinky.cz/clanek/bydleni-os-tuda-ostravy-konecne-zmizi-mesto-opravy-dopravni-uzel-v-centru-kam-se-slide-boji-chodit-40501539>)

ARCHITECTURAL ELEMENTS

PASSAGEWAYS, QUIET CORNERS (QUIET PLACE) AND SUPPORT OF SENSORY REGULATION

It would be appropriate to design public spaces for people with ASD with clearly designated transition zones ("transition zones") of main routes, which serve as mediators between the busy public environment and the space and quiet zones. These quiet corners, equipped with ergonomically designed seating, dimmed lighting, and haptic surfaces, for example, allow people with ASD to quickly calm down and self-regulate emotions after exposure to highly stimulating environments. [18] It is also advisable to place special sensory design zones – for example, magnetic walls, interactive panels, textiles, or soft touch surfaces – can help people with ASD regulate sensory activity. Such elements allow safe contact with stimulating materials and dosed stimuli according to individual needs. [19] This is advisable to place in places where rushing is not expected, but rather relaxation, such as parks.

STRUCTURE, SURFACES, AND COLOR

Hypersensitivity in people with ASD manifests itself as sensitivity to hard, cold, sticky, or sharp surfaces. Such materials can cause discomfort and even panic, so public infrastructure should use soft, natural or softened textures, such as felt, soft laminate, but even

with regard to the sustainability of textiles or natural wood and minimize contact with inappropriate surfaces. [20] Conversely, hyposensitivity forces them to seek intense sensory stimuli, such as distinctive structures, vibrating or rough surfaces. Architecture can offer, for example, textures or vibrating surfaces that serve as stimulation and help maintain attention or sensory walkways. [21] The possibilities of using surface structures in architecture support navigation and zoning, but also enable sensory regulation. Textures can visually and haptically signal the transition between activities (e.g., separating the zone of rest and activity), which facilitates orientation and regulates stimuli. [22] The use of mirrors and shiny surfaces is recommended in limited quantities. For some people with ASD, mirrored and shiny surfaces can cause stress, disorientation or panic, especially in crisis situations. For other autistic people, they act as a lure, they tend to look at them too much and they will not be willing to continue walking. If they are present in a public space, they should be placed away from the main traffic routes and matte surfaces with low reflection should be used. [23]

Even texture itself has an impact on emotional well-being. Subtle visual patterns (e.g., pastel gradients, soft transitions) realistic imitations of brick or wood are generally less distracting than glossy contrasting patterns, which can be confusing and increase cognitive load. [24] Billboards, typography, and photographs in the surrounding environment that do not harmoniously relate to the space have the same effect. When there is a large number or even advertising appeal, they can cause overload.

Colors significantly influence emotional and behavioral responses. Muted shades such as blue, green, beige and grey have a stabilizing and calming effect, while saturated red or yellow colours can cause stress, anxiety or aggression, especially in people with ASD. Individual testing and the use of colours only as functional boundaries is appropriate. Studies confirm the preference for subtle transitions and reduced contrast.

STIMMING IN SPACE

Stimming—repetitive behaviors that serve to harmonize emotions and sensory input—is a natural part of self-regulation in people with ASD. It should not be suppressed but rather supported through safe opportunities for practice. Stimming zones must be clearly separated from educational and therapeutic areas. Visual signals and free movement are important [25]. Possible design features include structured tactile elements, rotating components, or swinging elements. Large swings are not always necessary; such therapeutic tools can be integrated into interactive design solutions.

Water is also a form of stimming in space. While public water features can provide cooling in hot weather, for some autistic individuals they may pose challenges. In severe autism, a person may sit in the water and play with it for extended periods (over an hour), with interruption risking a meltdown. Therefore, water features should not be placed in critical locations, such as in front of hospitals, where they could hinder access to care.

SIZE OF THE SPACE, BARRIER-FREE AND SPATIAL ACCESSIBILITY

People with ASD often need more space due to the regulation of the stimulation load, predictability and zoning options (e.g. stim vs relaxation zone). It is recommended not to create narrow passages to allow for quality manipulation space. The size should be adequate to avoid feelings of claustrophobia or "agoraphobia".

People with ASD often have movement and vision dis-

orders. Clear navigation, contrast and enough space are necessary. Decree 398/2009 Coll. regulates the accessibility of buildings and facilities. Elevator accessible floors or alternative solutions (platforms), wide entrances, enough manipulation space. Minimum widths of doors, ramps, heights of switches and sinks must be observed. As with wheelchair users, it is necessary to address space for turning, undertaking and movement. Barriers as such can be a psychological obstacle, for example, a step that is too large may not be able to be overcome by an autistic person. The same barrier can be a color that is too contrasting.

SENSORY INTEGRATION

People with ASD often show hypersensitivity or hyposensitivity to sensory stimuli (e.g. light, noise, smell, touch). Public spaces should minimize sudden, unpredictable, or strong stimuli and allow for sensory self-regulation, for example by using textured surfaces, sound-deadening zones, or natural materials.

Acoustics are a typical problem for people with ASD. People with ASD have a high incidence of hyperacusis, phonophobia, and misophonia. [26] These sound filtering disorders, such as sensory overload, have been objectively confirmed by neurophysiological studies. Therefore, it is necessary to limit infrasound and inappropriate types of vibrations in the design. Autistic people's reactions to vibrations vary. Regular vibrations are perceived positively, while sudden vibrations can be significantly disturbing. If there is more noise in a place, such as a busy intersection, which, among other stimuli, has a lot of noise and vibrations due to traffic, it is necessary to create a quiet space nearby. It is also advisable to avoid smooth and hard surfaces that can reflect acoustics inappropriately.

Lighting design is also an important aspect. For people with ASD, it is necessary to design spaces with enough natural light. This mainly concerns the interiors of public buildings, so it is necessary to use skylights, studio windows, transparent materials appropriately. Autistic people respond better to LED lights or diffuse lighting. It is important to avoid flickering lights. A possible relaxation element can be colored light, but it is necessary to use it in a place where the autistic person does not have to walk quickly or concentrate, because colored light can attract their attention and they will not want to leave. The possibility of regulating the intensity is a suitable element especially during the day in interiors, if a person with ASD goes from a sunny day to a dark space, a problem may arise or vice versa. [27]



Fig. 7.: Illustrative photo of public space. (Source: Architect. Spring has arrived! Here are 10 fresh examples. [online]. 2023 [cited 2024-06-30]. Available from: <https://www.architect.com/news/article/150343160/spring-has-arrived-here-are-10-fresh-examples>)

The photographs show two seemingly similar designs for public seating. Why is one well-conceived while

the other has several shortcomings? The left-hand solution is superior: seating is placed in a recessed bay, forming an embracing curve that provides a sense of calm and enclosure. The design is moderate, functional, and well-crafted, offering autistic individuals a short-term refuge from overload.



Fig. 8.: Illustrative photo of public space. HOME X FASHION HUB. (Source: Modern Oasis: Illuminated Urban Garden Seating. [online]. 2023 [cited 2024-06-30]. Available from: <https://www.pinterest.com/pin/modern-oasis-illuminated-urban-garden-seating/>)

By contrast, the “pleasantly interesting” design on the right is overstimulating: too many lights, varied curves, and shapes unrelated to material division. If several people were seated here, personal space would be compromised. Ambient floor lighting may be pleasant for some autistic users but is more suitable in semi-public areas, where strong street lighting is absent. In public space, however, it may highlight litter such as discarded cigarette butts, which could severely distress individuals with a phobia of mess.

In urban environments, cultivating inner courtyards is an effective approach. Rather than generic parking or undefined surfaces, material design and carefully selected vegetation—professionally planned for maintenance—are essential. In landscaping, labeling areas merely as “green” is insufficient.

A common phenomenon is the “gazebo-non-gazebo”: small structures lacking architectural purpose, which only vaguely resemble their original function but serve no real use.



Fig. 9.: Roof of Nivy Bus Station, Bratislava, Slovakia (Source: Anna Janošová – own photograph, August 2022, VŠB-TUO)



Fig. 10.: Roof of Nivy Bus Station, Bratislava, Slovakia (Source: Anna Janošová – own photograph, August 2022, VŠB-TUO)

Fig. 9 – A smoking area: not only autistic individuals fail to understand why one should smoke in something resembling a cage. How does such a pseudo-solution even contain smoke?

Fig. 10 – The shading functions only at certain sun angles, and due to perforated metal hardly blocks sunlight at all—perhaps an intentional “anti-architectural” design gesture. The seating cubes are unsuitable for autistic individuals, whose heightened kinesthetic awareness may encourage rocking, posing safety risks. Such features can cause motor blockages and proprioceptive confusion.

CONCLUSION

The choice of a suitable environment is based on the meaning of creating an architectural space for people with autism spectrum disorder (ASD) and must not be reduced to the mere fulfillment of technical parameters or functional requirements. If we can design the space at least partially according to the above-mentioned elements, the space will be based on the Complementary Paradigm based on Plotinus' philosophy [28], where true beauty is connected with unity (One), reason (Logos), idea and soul. The architectural space will then become a synthesis of spiritual and sensory knowledge. The reason for the Plotinus reference mentioned here is that his philosophy does not describe only aesthetics for his own sake, but the effort to achieve a harmonious whole that supports the dignity, peace and mental integrity of the user.

As this research, based on several studies and my own research as the basis for this text, shows, a truly inclusive and therapeutic environment is created only when the design is guided by a deeper philosophical and phenomenological understanding not only of a “pleasant environment”, but directly of architectural space as a carrier of meaning, safety and continuity of harmonious existence. For people with ASD, space is a fundamental medium of self-regulation, orientation and relating to the world. Perception goes beyond the physiological senses – it includes rhythm, predictability, the logic of arrangement and non-verbal communication through materials, light, structure and time. All this points to the validity of the above-mentioned hypothesis of four paradigms: Ontological paradigm, Constructivist paradigm, Communicative paradigm and Complementary paradigm.

Based on an interdisciplinary approach – connecting findings from philosophy, psychology, architecture and neuroscience – it is possible to formulate specific design principles that respect sensitivity, the need for control, the need for escape and the desire for an intelligible world. Dividing space according to the degree of privacy, applying the principles of previewing, sensory zoning, choosing materials and lighting conditions, as well as emphasizing a culturally shaped sense of the wider environment – all of this contributes to a higher quality of life not only for people with ASD, but also for society as a whole.

Architectural space thus becomes a tool for inclusion, therapy and understanding. In the dialogue between the user and the architect, a space can be created that is at the same time functional, aesthetic and existentially supportive. The challenge for contemporary architecture is to accept this complexity and seek new paradigmatic frameworks that will allow the creation of environments sensitive to all forms of human experience.

SOURCES

- [1] KANT, Immanuel. (n.d.). Philosophy Research Guide. Online. University of Kentucky. [online] Available at: <https://libguides.uky.edu/philosophy/kant>. [Accessed 25 June 2024].
- [2], [3] HRŮŠA, Petr (2025). Statement for the discussion on the philosophy of architectural space for persons with ASD, within the lectures for the course Theory and Aesthetics of Architecture, VSB-TU Ostrava. Personal communication, April 2025.
- [4], [28] PLOTINOS (1994). *Dvě pojednání o kráse = ΠΛΩΤΙΝΟΥ διὰ λόγου περὶ καλῶν*. Greek text and Czech translation. Translated by P. Rezek. 1st ed. Prague: Petr Rezek, 96 pp. ISBN 80-901796-2-2.
- [5] MASTERMIND BEHAVIOR (n.d.). Autism in Europe. [online]. Mastermind Behavior. Available at: <https://www.mastermindbehavior.com/post/autism-in-europe>. [Accessed 25 June 2025].
- [6], [7] EUROSTAT (2022). Mental well being and social support statistics. Statistics Explained: European Commission. [online]. Article “Prevalence of chronic depression”. Available at: https://ec.europa.eu/eurostat/statistics_explained/index.php/Mental_well_being_and_social_support_statistics [Accessed 25 June 2023].
- [8] WORLD HEALTH ORGANIZATION (WHO) (2017). Depression and other common mental disorders: global health estimates. [online] Geneva: WHO. Available at: <https://apps.who.int/iris/handle/10665/254610>. [Accessed 25 June 2023].
- [9] HENDRIKS, Ruud (1998). Egg Timers, Human Values, and the Care of Autistic Youths. *Science, Technology & Human Values*, 23 (4), 399–424.
- [10] GRANDIN, Temple (2006). *Thinking in Pictures: And Other Reports from My Life with Autism*. Expanded ed. New York: Vintage Books. ISBN 978-0-307-27565-3.
- [11] WING, Lorna (1981). Asperger's Syndrome: A Clinical Account. *Psychological Medicine*, vol. 11. 115–129.
- [12] HENDRIKS, Ruud (1998). *Autism in a Socio-Cultural Context*. Rotterdam: Erasmus University.
- [13] HALL, Edward T. (1966). *The Hidden Dimension*. Garden City: Doubleday. ISBN 978-0-385-05566-3.

- [14] SCOTT, Ian (2009). *Design for Autism Spectrum Disorders*. New York: Routledge. ISBN 978-1-138-13263-6.
- [15] KAPLAN, Rachel a KAPLAN, Stephen (1989). *The Experience of Nature*. Cambridge: Cambridge University Press. ISBN 978-0-521-34139-3.
- [16] SCHON, Donald A. (1983). *The Reflective Practitioner*. New York: Basic Books. ISBN 978-0-465-06878-4.
- [17] BRAUN, Gabrielle (2015). *Architecture for Autism*. London: RIBA Publishing. ISBN 978-1-85946-603-0.
- [18] CREATIVE ACTIVITY (n.d.). *Sensory for ASD | Multi Sensory Environments*. [online]. Available at: <https://www.creative-activity.com/multisensory-environments/sensory-for-asd.html>. [Accessed 27 July 2025].
- [19], [24] MANGMANG, Joshua O. a BUSTILLO, Nurvin Zary E. (2025). *Sensory Design Towards the Built Environment for Autism: An Assessment of the Physical Environment of the Selected Shopping Centers in Davao City Through Autism ASPECTSS Design Index*. *Journal of Design and Built Environment*, 25 (1), 1–16. [online]. E-ISSN 2232-1500. Available at: <https://ejournal.um.edu.my/index.php/jdbe/article/view/51145> [Accessed 27 July 2025].
- [20], [23] TOLA, Giulia, TALU, Valentina, CONGIU, Tanja, BAIN, Paul a LINDERT, Jutta (2021). *Built environment design and people with autism spectrum disorder (ASD): a scoping review*. *International Journal of Environmental Research and Public Health*, 8 (6), 3203. [online]. DOI 10.3390/ijerph18063203. ISSN 1660-4601. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8003767/>. [Accessed 27 July 2025].
- [21] PAPADOPOULOU, Athina (2025). *The Rise of Sensory Rooms*. *Architectural Digest*, 30. 4. 2025. [online]. Bez číslování stránek. Available at: <https://www.architecturaldigest.com/story/the-rise-of-sensory-rooms>. [Accessed 27 July 2025].
- [22] MULLINS, Lauren (2022). *Intern Research – Sensory Design*. *Design Collaborative*, 20 June 2022. [online]. Available at: <https://designcollaborative.com/intern-research-sensory-design/>. [Accessed 27 July 2025].
- [25] MERRIAM-WEBSTER. *Stimming*. Merriam-Webster.com Dictionary [online]. Merriam-Webster, Incorporated, Available at: <https://www.merriam-webster.com/dictionary/stimming> [Accessed 26 June 2025].
- [26] WILLIAMS, Zachary J. *Decreased sound tolerance in autism: understanding and distinguishing between hyperacusis, misophonia, and phonophobia*. *ENT & Audiology News* [online], 3 May 2022. Available at: <https://www.entandaudiologynews.com/features/audiology-features/post/decreased-sound-tolerance-in-autism-understanding-and-distinguishing-between-hyperacusis-misophonia-and-phonophobia> [Accessed 26 June 2025].
- [27] JALALI, Mansoureh Sadat; JONES, James R.; TURAL, Elif; GIBBONS, Ronald B. *Human Centric Lighting Design: A Framework for Supporting Healthy Circadian Rhythm Grounded in Established Knowledge in Interior Spaces*. *Buildings*. Basel: MDPI, 2024, 14 (4), 1125. [online]. DOI: 10.3390/buildings14041125. Available at: <https://www.mdpi.com/2075-5309/14/4/1125> [Accessed 26 June 2025].

HOUSING TYPOLOGY FOR PEOPLE WITH AUTISM SPECTRUM DISORDER

Janošová Anna - Svatoš Jindřich

ABSTRACT: The article Typology of Housing for People with Autism Spectrum Disorder (ASD) focuses on the still insufficiently addressed area of accessible and appropriate housing for individuals with ASD. It highlights a serious lack of capacity as well as the limited typological differentiation of such housing in professional practice. In both the Czech Republic and abroad, the topic remains under-researched, leading to generalized design solutions that fail to reflect the specific needs of people on the spectrum. The article analyzes key housing limitations — from sensory stimuli and the degree of independence to the need for support services, safety, and privacy concerns. Conceptual measures are introduced as a foundation for creating functional and dignified living environments, applicable to both independent and supported housing. Furthermore, a typology is proposed that differentiates housing design based on the type of autism and level of support — ranging from fully independent housing with remote assistance to intensively supported facilities with high structural organization and staff presence.

KEYWORDS: autism; ASD; housing typology; supported housing; independence; architectural design; housing support; sensitivity; social services; inclusion; individual needs; spatial arrangement; functional environment; design for neurodiversity

INTRODUCTION

Housing for people with autism spectrum disorder (ASD) is significantly neglected in terms of both availability and quality. Although the right to housing is declared in basic human rights documents [1], in practice it remains unfulfilled for many people with ASD. Due to the lack of housing, even in adulthood, these people often stay with their families as long as they have enough strength. In the event that the family is no longer able to provide care, this lack leads to placement in psychiatric hospitals for severe and sometimes even moderate forms of autism (sometimes for life).

Current support for the construction of housing for people with ASD in Europe is mainly the domain of the non-profit sector. In the Czech Republic, municipalities draw state funds, which, however, are not specifically intended for autistic people and are often insufficient. In addition, there is a lack of experts in spatial solutions for ASD and available professional literature dealing with the design of housing for people with ASD. Although ASD is as common as other disabilities, regulations in the field of architecture for this group are still completely lacking.

AUTISM BY DESIGN

The prevalence of ASD in the European and North American population is estimated to be 1–2%, with boys being up to four times more likely to have the disorder than girls. [2] Autism spectrum disorder (ASD) is a heterogeneous spectrum of conditions with changing needs over time, and that individual forms of ASD require different approaches in terms of support, therapy and environment. The DSM-5 diagnostic classification distinguishes three levels of support — from mild (level 1), through moderate (level 2), to very severe (level 3), each of which requires specific therapeutic and spatial interventions. [3] The diversity

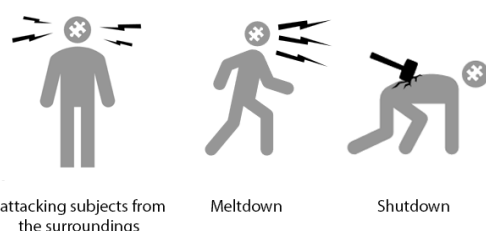


Fig. 1.: Diagram expressing meltdown and shutdown (Source: Anna Janosova, VŠB-TUO)

of ASD manifestations, including hypersensitivity and hyposensitivity, also plays an important role in housing design. Individuals with ASD may experience sensory overload, meltdowns or shutdowns, if they are unable to escape from an incomprehensible environment. When designing a space, it is important to take into account different types of perception (proprioception, interoception, kinesthesia).

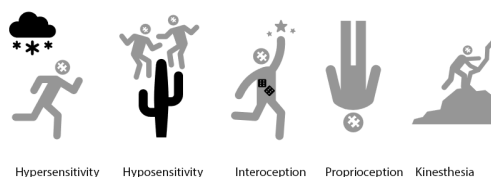


Fig. 2.: Schematic of perception in persons with ASD (Source: Anna Janosova, VŠB-TUO)

Another aspect of the behavior of people with ASD is the so-called triad of symptoms. These symptoms also significantly affect the housing needs of people with ASD: impaired social interaction, communication disorders and rigid behavior [4]. Social interaction means that a person with ASD requires privacy, a clearly defined space, and minimal contact. Small households or separate units with the possibility of controlling social interactions are suitable. In terms of communication, an environment with visual support (pictograms, schedules), simple language of the staff and alternative means of communication (AAC) are recommended. Rigidity and imagination can be supported by greater stability, predictability and structure. [5] Furniture should be unchanging, the daily routine should be visually represented. Space for calming down and tolerance of stereotyped activities is important.

ASD Type	Characteristics	Housing recommendations
Childhood Autism	Severely disturbed behavior, often mental retardation [6]	Simple environment, high level of support, safety measures [7]
Atypical Autism	Milder symptoms, often delayed diagnosis [8]	Flexible and individually adjustable environment [9]
Asperger Syndrome	High intellectual abilities, impaired social intuition [10]	Autonomous housing, logically arranged, quiet environment [11]
Rett Syndrome	Girls with severe physical and mental disabilities [12]	Barrier-free housing with continuous care [13]
Disintegrative Disorder	Developmental regression after 2–4 years of age [14]	Adapted, adaptable environment with comprehensive support [15]
PDD-NOS	Vague features, child cannot be accurately classified [16]	High level of flexibility, individualized approach [17]

Tab. 1.: Summary of autism types and housing recommendations, (Data sources: Anna Janosová, 2025, VŠB-TUO)

ANNA JANOŠOVÁ, ING. ARCH.

Department of Architecture
Faculty of Civil Engineering
VŠB - Technical University of Ostrava
Ludvíka Poděště 1875/17
708 00 Ostrava, Czech Republic

anna.janosova@vsb.cz

ORCID iD: 0000-0002-5042-8182

Ing. arch. Anna Janosová is a PhD candidate at the Department of Architecture, Faculty of Civil Engineering, VŠB – Technical University of Ostrava. Her research focuses on housing for people with autism spectrum disorder and on architectural spaces adapted to their needs. In her professional practice, she primarily designs interiors and residential buildings.

JINDŘICH SVATOŠ, PROF. ING. ARCH.

Department of Architecture
Faculty of Civil Engineering
VŠB - Technical University of Ostrava
Ludvíka Poděště 1875/17
708 00 Ostrava, Czech Republic

jindrich.svatos@vsb.cz

ORCID iD: 0000-0003-3019-7329

Prof. Ing. arch. Jindřich Svatoš works as an academic staff member at the Department of Architecture of the Faculty of Civil Engineering, VŠB TU Ostrava and also teaches at the Department of Architecture of the Faculty of Civil Engineering, CTU in Prague. In his architectural practice he has been running his own studio since 1992 and deals with the design of buildings including interiors from sketch to realization. He is the author of educational publications such as "FAQ for Architecture Students" (2016) and "Graphic Presentation of Architecture" (2019), supervises the teaching of many courses and supervises PhD students at both universities.

Phenomenon / Property	Characteristics	Impact on behavior	Requirements for housing design
1. Hypersensitivity [18]	Hypersensitivity to sounds, light, touch, etc.	Anxiety, panic, meltdowns	Dim lighting, sound insulation, natural materials, soft surfaces
2. Hyposensitivity [19]	Low response to stimuli (pain, noise, etc.)	Seeking intense stimuli (self-stimulation)	Possibility of safe stimulation (rocking chairs, tactile walls, structured floors)
3. Differences in all senses [20]	Can affect sight, hearing, smell, taste and touch	Reactions to common stimuli tend to be unpredictable	Possibility of individual environmental modification (regulation of light, ventilation, scents, surface textures)
4. Detailed perception [21]	Focus on details, difficulty understanding wholes	Confusion, disorientation in space	Clear, logically structured environment; visually legible structure of rooms
5. Literal perception [22]	Poor ability to abstract, difficulty with generalization	Misunderstanding the function of space, expectations of rigid logic	Pictograms, marking of functions, permanent placement of objects and equipment
6. Emotional overload [23]	Emotions are difficult to understand, stressful	Anxiety, withdrawal, affective reactions	Quiet zone, space for withdrawal, minimization of visual and sound chaos
7. Reaction to stress and change [24]	Unexpected situations and stimuli lead to disruption of psychological balance	Meltdown, anxiety, escape behavior	Predictable arrangement, unchanging rituals, clearly defined daily routine in the space
8. Neurophysiological basis [25]	Different activity of brain areas for perception and emotions	Sensory overload or deficits	Environmental design with regard to neurodiversity – balanced stimulation, possibility of choosing the intensity of stimuli

Tab. 2.: Summary table of the phenomenon of manifestations and their impact on housing for people with ASD, the way housing is affected and recommendations for modifications, (Data sources: Anna Janošová, 2025, VŠB-TUO)

TYPOLOGY OF HOUSING FOR PEOPLE WITH AUTISM SPECTRUM DISORDER

The typology of housing for people with ASD is and will be a complicated discipline, primarily due to the individuality of not only individual types of disabilities but also due to the individuality of each individual with autism. Therefore, it does not make direct sense to distort the exact dimensions of rooms or the exact rules of design. For a successful design, it is necessary to understand what specifics the entire autism spectrum may have and then adapt the entire design to the given individual, group or family housing. Several criteria are therefore specified for the typology in this research and when designing it, it is necessary to determine whether this issue concerns the people for whom it is designed or not. If you are designing housing as a place for living, not a place for surviving or resolving an acute condition (e.g. a hospital or institution), this place should suit the person who lives in it. This is mainly because the space for people with ASD has a great influence on their emotional well-being, which can in extreme cases lead to shutdown (up to long-term deterioration of cognitive functions).

Before starting to design housing for these people, it is necessary to make a thorough analysis of the family situation (or current housing) and also of the future housing. When designing, it is also necessary to work with the free will of people with ASD. As part of the research, Anna Janošová conducted an experiment in which 15 autistic people and their parents participated, most of the participants chose a different subject than the parents had expected. Communicating autistic people appreciated the possibility of choice and expressed that their opinion is not usually interested. The results confirm the importance of directly involving people with ASD in decisions about the environment in which they live, instead of relying solely on the judgment of caregivers.

From the issues listed below, we select only suitable elements for the given group or individual for the design. The analysis should be based on the following

points:

- Type of autism and its manifestations
- Age of the autistic person
- Analysis of the requirements of the given target group or individual
- Identification of sensory needs, level of autonomy, orientation abilities
- Typical behavior, phobias and crisis scenarios
- Hygienic and destructive behavior
- Analysis of possible deterioration of the condition in the future
- Clear definition of the type of housing and detailed requirements from the point of view of the client
- Preferred type of housing
- Space requirements (size, number of rooms)
- Necessary support (staffing, monitoring, assistance)
- Specific equipment or elements

From the results of the analysis, it is necessary to decide which of the following elements explained below is suitable for the given person with ASD: flexibility and individualization, environment for people with ASD, organization of space, housing requirements from the perspective of the psychology of people with ASD, housing limits for people with ASD - visual communication and orientation, therapeutic elements of housing, sensory integration, room size, barrier-free and spatial accessibility, smart technologies, ideological measures for people with ASD.

This analysis is best done through a guided interview with autistic people and their caregivers. The result of the analysis may look like this: "The proposal will be carried out for an autistic person with low-functioning autism, more precisely childhood autism with mental retardation and visual impairment. The autistic person is 18 years old. The autistic person has a strong fascination with water, a need to overeat, and frequent uncontrollable escapes. He has a big problem with echoes, with too much sunlight in the room, he cannot stand mirrors and wallpaper. He tends to eat chemicals, he hurts himself during seizures, and a large space is needed during seizures. When overloaded for a long time, he destroys furniture and dirty walls. Due to the shutdown he experienced, it is likely that he will end up in a wheelchair. He needs to live in a smaller group with continuous supervision. He needs his own bathroom, chair and swing." Another result of the analysis may give, for example, the following answers: "A twenty-year-old autistic person with Asperger's syndrome without other associated health problems needs independent housing. He has only a slightly reduced intellect, is unable to go to work regularly due to pressure to be disciplined. He has a problem with noise coming from outside and at the same time listens to very loud music as self-therapy. He does not like light. He is able to live independently with the need for occasional control and supervision of finances. He has a strong phobia of unpredictable events and space. The meltdown occurs through screaming. Significant deterioration of the condition is not expected in the future. He needs a small, dark bedroom and stimming cords." The third analysis of, for example, a high-functioning autistic person would be significantly similar to the usual housing of the neurotypical population, with the difference that he would require one room exclusively for himself, where he could be alone all day.

HOUSING REQUIREMENTS FOR PERSONS WITH A ASD

Flexibility and individualization of the environment

Housing for autistic people must take into account the great variability of needs. Supporting the choice directly from the autistic person themselves (e.g. choosing furniture, the possibility of changing the lay-

out) strengthens autonomy and reduces stress. At the same time, it is necessary to work with a degree of flexibility. Some autistic people need a stable arrangement without changes. Flexible furniture and variable interior elements can be beneficial, but they must be robust and safe. Individual solutions, such as soft lights around the bed or pleasant structures, significantly affect the feeling of safety and comfort. It is important to respect the specific perception of personal space for people with ASD - they often require greater distance, have difficulty with touch and physical proximity. [26] We distinguish four basic types of territory: personal space, primary territory (0.5 m), secondary territory (1.25 m), public territory (3.5 m and more).

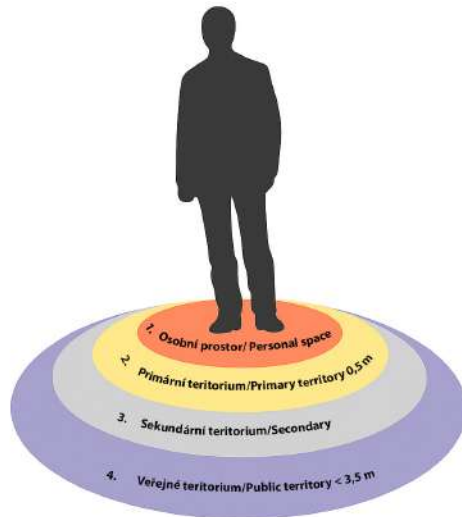


Fig. 3.: Hall's theory of proximity (Source: GAINES, Kristi; BOURNE, Angela; PEARSON, Michelle; KLEIBRINK, Mesha. *Designing for Autism Spectrum Disorders*. 1st ed. London: Routledge, 2016, ISBN 978 0 367 03046 9)

Environment for people with ASD

The location of the property has a fundamental impact on daily functioning. The location should offer: accessibility to therapeutic and health services, connections to the community (avoid institutional areas), transport accessibility, a quiet environment with low noise and the presence of nature. [27] A suitable location contributes to reducing sensory overload, supports routine and stability and facilitates integration.

The design of the environment can actively contribute to reducing social isolation. Important things are: the inclusion of community elements (e.g. shared gardens, shared rooms), facilitating pressure-free interactions (e.g. views from windows, vistas), supporting accessibility of information and orientation in space. [28]

The physical space should reflect the need for safe social inclusion while respecting the limits of individuals. A functional environment should support the development of independence, e.g. training in life skills (cooking, cleaning, communication) in real situations, visual plans and pictograms for orientation and independent decision-making, modular approach to housing – transitional phases between assisted and independent living.

Space organization

People with ASD often need to view the space before entering – so-called previewing reduces stress and supports orientation. It can be supported [29]: with windows, internal windows, partially glazed doors, open interior layout, clear views from one part to another. The design should offer the possibility of observing what is happening, but also shelter (prospect-refuge principle).

Interior layout significantly affects orientation, behavior and feelings of safety. For people with ASD, it is ap-

propriate to choose clear and logically structured environments with clearly defined room functions. Open space without significant division can be confusing, while structured zones (e.g. using furniture, colors or lighting) facilitate orientation [30].

Minimizing visual and functional clutter reduces cognitive load. Space organization refers to [31]: clearly defined zones (e.g. work, relaxation, stimulation), built-in storage to eliminate clutter, use of neutral and calm colors, minimalism in decoration.



Fig. 4.: Possible view into the space, In: GAINES, Miran Kambič (Source: ArchDaily, 2023, Bohinj, Available from: https://www.archdaily.com/1003278/bohinj-kindergarten-arrea-architecture-plus-kal-a/649dea08cb9c465929084c2f-bohinj-kindergarten-arrea-architecture-plus-kal-a-photo?next_project=no)



Fig. 5.: Illustrative photo of suitable office equipment (Photo author: unknown, available from: <https://cz.pinterest.com/pin/211174977694259/>)

HOUSING REQUIREMENTS FROM A PSYCHOLOGY OF PERSONS WITH ASD PERSPECTIVE

The psychology of housing deals with the relationship between the physical environment and the psycholog-

ical, social and cultural experience of an individual. For people with autism spectrum disorder (ASD), the environment plays an extremely important role, influencing their mental well-being, behavior, level of stress and ability to function in everyday life.

An important aspect when getting used to a new home. For people with ASD, a sense of “hominess” (home), which evokes a familiar, stable and safe environment, is important [32].

Housing should allow for the regulation of social contacts. People with ASD often need a greater degree of privacy and quiet zones, which serve for self-regulation. A larger number of people in one household without the possibility of escape increases the risk of conflict situations. If there is a lack of space, it is appropriate to use curtains, furniture zoning or acoustic barriers.

LIMITATIONS OF HOUSING FOR PEOPLE WITH ASD

Visual communication and orientation

People with ASD more often use visual systems to understand the environment and communicate. The use of pictograms, schedules, diagrams or visually divided space helps with better orientation, reduces uncertainty and supports independence. Visual marking and a clear structure of the environment contribute to the management of common activities and increases the effectiveness of support. [33]

Colors, materials and spatial division communicate meaning without words. However, for people with ASD they can send ambiguous signals - bright colors, mosaics or zones with unclear designation can lead to disorientation or even a meltdown. Housing design should be consistent, simple and predictable, without disturbing visual phenomena. For example, the differentiation of material for a person with ASD divides the space, and this can mean: "watch out here, don't go here". Which can help an autistic person respect their personal space.



Fig. 6.: Bistro with colour differentiation on the floor (Source: Alesya Kasianenko, Available from: <https://www.behance.net/gallery/142495921/lotus-bistro->)

Optical illusions and spatial illusions are perceived differently by autistic people. Autistic people often do not perceive optical illusions in the same way as the neurotypical population. Their perception is more detailed, less contextually modulated. In interiors, it is advisable to avoid distorted perspectives, diagonal patterns, or mirrored surfaces. [34] A stable and visually legible environment helps orientation and reduces risky behavior.

Therapeutic elements of housing

Interior design must respect individual needs and the type of therapy. The key is to create a structured, safe, and sensory-friendly environment. Furniture should allow for clear orientation, organization, and at the same time provide opportunities for hiding or distancing. [35] These can include: shelves, racks, screens, quiet corners (quiet places), toys, and aids.



Fig. 7.: Illustrative photograph of a quiet place (Source: Northwood Supply Co, Etsy, available from: <https://www.etsy.com/listing/1731578407/scandinavian-home-paint-palette-sherwin>)



Fig. 8.: Snoezelen - relaxation multisensory room (Source: Grandir avec Mino, available from: <https://grandiravecmino.fr/montessori/education-positive/le-sommeil-chez-lenfant/snoezelen-sommeil-enfants/principes-seance-snoezelen/>)

The therapy environment for people with ASD includes multisensory rooms (e.g. snoezelen), occupational therapy and speech therapy aids, and group therapy adaptations. These elements promote relaxation, motor and sensory integration, and the development of speech and social skills.

A safe room is used to manage seizure states and affective overload. It minimizes the risk of injury. It includes soft walls, floors (crash pads), rounded furniture, soft lighting, acoustic panels and soundproofing. Design in muted colours, without perfumes, without smooth and shiny surfaces, with the elimination of harsh lights. The safe room should be separate, marked and adaptable.

Stimming is a natural part of self-regulation. It is not advisable to suppress it, but to support its safe implementation. Stimming zones must be clearly separated from teaching and therapeutic spaces. Visual cues and free movement are appropriate. [36]

Sensory integration

Texture is a specific aspect. Autistic people's reactions to the texture of surfaces are manifested by hypersensitivity (oversensitivity) or hypersensitivity (low sensitivity). Hypersensitive individuals react negatively to sharp, cold or sticky surfaces. They may have difficulty perceiving textures with unexpected changes (e.g. tiles with pronounced joints) and may cause discomfort or an attempt to avoid them. Hyposensitive individuals seek out strong textures and vibrating elements. These individuals may seek out stronger tactile stimuli, such as repeatedly touching structured surfaces (walls, reliefs) or may prefer clearly shaped surfaces. [37] Structures can assist in spatial navigation, zoning, and sensory regulation. Mirrors and shiny surfaces are risky. They cause stress or excessive preoccupation in some autistic individuals, and can be dangerous in crisis situations. It is advisable to limit or cover them.



Fig. 9.: Illustrative photograph showing an alarming interior design with a high threat of space overcrowding (Source: Cottager & Cottager, available from: <https://www.chatar-chalupar.cz/stylova-i-moderni-koupelna/>)



Fig. 10.: Sensory Texture Wheel - a sensory texture wheel for children (Source: Extreme Kids World, available from: <https://extremekidsworld.com/products/sensory-texture-wheel?variant=40376449302615>)

The texture of, for example, wallpaper representing real tactile stimuli can be pleasant or repulsive. It is necessary to investigate the reaction of a given individual or target group before using it in an interior. [38] Anna Janošová conducted a second experiment on this topic. An experiment with painting and wallpaper in a child with severe autism demonstrated the importance of texture on spatial behavior. The wallpaper was perceived positively or negatively depending on the pattern.

Colors influence behavior and emotional state. Cold and muted colors (blue, green, beige, gray) stabilize and calm. Rich and contrasting tones (red, yellow) cause anxiety and aggression. Individual testing is recommended before use in buildings for people with ASD.

Acoustics People with ASD have a high degree of sensitivity to noise, which manifests itself in hyperacusis, phonophobia, or misophonia. [39]. Autistic people also react to low-frequency stimuli that influence their behavior. Research on this phenomenon is currently limited. Sound filtration disorders and sensory overload have been confirmed by neurophysiological studies. [40] When designing, it is necessary to avoid smooth and hard surfaces with low acoustic absorption. It is recommended to design zones with different acoustics and monitor the noise level in traffic.

For lighting for people with ASD, it is recommended to design LED lights without flickering, diffuse lighting, colored relaxation light and lights with the possibility of intensity regulation. [41] Circadian lighting affects sleep, hormones and mood. Simulation of the daily rhythm (strong white light in the morning, subdued warm light in the evening). The effect of light on performance and psyche is a key problem for people with ASD. [42]

Room size, barrier-free and spatial accessibility

As part of Anna Janošová's research on the topic of Housing typology, a questionnaire survey was conducted directly with people with ASD. A total of 9 respondents of different ages and with different autism diagnoses answered. In terms of housing size preferences, 77.8% prefer medium-sized spaces (main space around 30 m², bedroom 16 m²), 22.2% prefer large spaces (main space around 50 m², bedroom 20 m²). Based on this and a survey of available literature, research recommends increasing the minimum standard room sizes for people with ASD due to the need for more space, predictability and zoning options. Movement and vision disorders are common in people with ASD. Clear navigation, contrast and plenty of space are necessary.

At the same time, due to associated disabilities, the design must take into account Act No. 283/2021 Coll., the Building Act, which newly includes the requirement of "accessibility" as a basic requirement for buildings (§145) and stipulates in which areas accessibility should be applied (§149)., more precisely Decree No. 146/2024 Coll., on construction requirements — this decree is an implementing regulation for the new Building Act and contains basic functional requirements for accessibility (§29). For public buildings, it is necessary to create a floor accessible by elevator, or an alternative solution (platform), wide entrances, sufficient manipulation space. Minimum widths of doors, ramps, heights of switches and sinks must be observed. For wheelchair users, it is necessary to address the space for turning, undertaking and movement. Emphasis on functional layout and ergonomics - space in the kitchen, bedroom, bathroom, and garage is important.

Smart technology

Smart technologies and artificial intelligence represent an important tool for increasing the safety, autonomy

and efficiency of care for people with ASD. They help detect crisis situations using sensors (movement, noise, fall), automatically alert caregivers and reduce the need for constant supervision. For people with a higher level of independence, these technologies can enable independent living, while in more severe cases they contribute to a safer environment.

Artificial intelligence is gradually being applied to monitoring emotions and neurophysiological reactions, which can help to better understand and manage sensory overload or affective fluctuations. This trend is still in the research phase, but it brings the potential for deeper personalization of care. [43]

Housing measures for people with ASD

The design of the environment for people with ASD requires an individualized approach due to the great variability of autism manifestations, from independent functioning to the need for constant supervision. Research among 30 families caring for individuals with low- to moderate-functioning autism identified key priorities: safety, environmental resilience, ease of maintenance, and flexibility. [44] Safety is essential due to impulsivity, sensory hypersensitivity, and impaired ability to recognize risks. Resilience of space mainly concerns seizure behavior and stimulation habits. Ease of maintenance is especially crucial for caregivers of severely disabled individuals.

CONCLUSION

The design of housing for people with ASD is complex, because each individual has different needs and manifestations, so it is not possible to establish universal dimensions or fixed rules for design. The key is an individual approach based on the analysis of a specific person or group.

The design itself must be based on a clear spatial structure, readability and zoning, which ensure psychological and physical safety, sensory stability and the possibility of individual adaptation. The goal is to create an environment that supports orientation, peace and active participation in life.

The contribution of the work lies in the comprehensive connection of architectural, psychological and social aspects of the design and in the creation of a methodology for analyzing the needs of people with ASD. This is based on knowledge of sensory perception and spatial orientation and allows for the formulation of individual architectural assignments according to the degree of support needed.

The research is based on available professional literature and on our own empirical investigation, which included a series of experiments focused on the relationship of people with autism spectrum disorder (ASD) to the environment in which they live. In Experiment 1, 15 people with ASD and their parents participated in the selection of objects, with most autistic people choosing different objects than their parents had expected, which confirmed the need for direct involvement of people with ASD in spatial decisions. Experiment 2, conducted in the form of a workshop on the topic of Housing Typology for People with ASD, demonstrated positive reactions of children and adults with autism to structural visual-tactile images, which led to calming and repeated interaction. Experiment 3 then confirmed the importance of texture and visual pattern in the interior – a child with severe autism reacted to various wallpapers and colorful paintings differently, from calm to rejection. Together, these experiments demonstrate that the environment has a fundamental influence on the sensory and emotional experiences of people with ASD and that their active participation in the design process is crucial for creating a supportive and stable living space. The research

was also supported by a questionnaire survey.

The research represents the first comprehensive approach to defining typological principles of housing for people with ASD in the Czech context. It offers a methodological framework, practical recommendations, and empirically validated findings that can serve as a basis for future legislative and design standards for inclusive architecture.

SOURCES

- [1] Organizace spojených národů. (1948). Všeobecná deklarace lidských práv. New York: OSN.
- [2] Centers for Disease Control and Prevention. (2024). Data and statistics on autism spectrum disorder [online]. Atlanta: CDC. [cit. 2025-05-27]. Available at: <https://www.cdc.gov/ncbddd/autism/data.html>
- [3] ÚZIS ČR. Poruchy autistického spektra: Doporučený postup. Praha: Ústav zdravotnických informací a statistiky ČR, 2022. [online]. Available at: <https://kdp.uzis.cz/res/guideline/52-poruchy-autistickeho-spektra-final.pdf> [cit. 2025-06-26].
- [4] AUTISM.ORG.UK – National Autistic Society. (n.d.) The history of autism: From the triad of impairments to the spectrum [online]. London: National Autistic Society, [cit. 2025-06-26]. Available at: <https://www.autism.org.uk/advice-and-guidance/what-is-autism/the-history-of-autism>
- [5] National Institute for Health and Care Excellence (NICE). (n.d.) Autism spectrum disorder in adults: Diagnosis and management (CG142) – Recommendations [online]. [cit. 2025-10-23]. Dostupné z: <https://www.nice.org.uk/guidance/cg142/chapter/recommendations>
- [6] American Academy of Child and Adolescent Psychiatry. (n.d.) Autism Resource Center [online]. [cit. 2025-10-23]. Available at: https://www.aacap.org/aacap/Families_and_Youth/Resource_Centers/Autism_Resource_Center/Home.aspx
- [7] Scheeren, A.-M., Begeer, S., Oerlemans, A. M., et al. (2021) 'The importance of home: Satisfaction with accommodation, expectations and housing features among adults with autism spectrum disorder', *Frontiers in Psychiatry*, 12, p. 723. DOI: 10.3389/fpsy.2021.723.
- [8] National Center for Biotechnology Information (NCBI). (n.d.) Atypical autism (Concept ID: C0338986) [online]. [cit. 2025-10-23]. Available at: <https://www.ncbi.nlm.nih.gov/medgen/572882>
- [9] Sainsbury, W. J., McKeown, R., Patel, N., et al. (2023) 'Parent-reported early atypical development and age of diagnosis in autism spectrum disorder', *Journal of Autism and Developmental Disorders*, 53(8), pp. 2781–2793. DOI: 10.1007/s10803-022-05715-2.
- [10] Boschi, A. (2016) 'From High Intellectual Potential to Asperger Syndrome', *Frontiers in Psychology*, 7:1605.
- [11] Faridi, F., Wajid, A., and Khan, A. (2017) 'Behavioral, cognitive and neural markers of Asperger syndrome: A review', *Psychiatry Investigation*, 14(1), pp. 1–10. DOI: 10.4306/pi.2017.14.1.1.
- [12] Townend, G. S., Curfs, L. M. G., and Boer, H. (2020) 'Development of consensus-based guidelines for managing communication of individuals with Rett syndrome', *Journal of Applied Research in Intellectual Disabilities*, 33(5), pp. 1229–1240. DOI: 10.1111/jar.12750.

- [13] Lamb, A. E., Oliver, C., and Moss, J. (2016) 'Family functioning mediates adaptation in caregivers of individuals with Rett syndrome', *Patient Education and Counseling*, 99(11), pp. 1990–2000. DOI: 10.1016/j.pec.2016.06.016.
- [14] Mehra, C. (2019) 'Childhood disintegrative disorder and autism spectrum disorder: A systematic review', *Research in Autism Spectrum Disorders*, 64, p. 101434. DOI: 10.1016/j.rasd.2019.101434.
- [15] Angell, A. M., Frank, C., and Solomon, O. (2018) 'A review of diagnosis and service disparities among children with autism spectrum disorder and intellectual disability', *Journal of Child and Adolescent Behavior*, 6(1), p. 1000435. DOI: 10.4172/2375-4494.1000435.
- [16], [18], [19], [23] Autism Speaks. (n.d.) Pervasive developmental disorder – not otherwise specified (PDD-NOS) [online]. [cit. 2025-10-23]. Available at: <https://www.autismspeaks.org/pervasive-developmental-disorder-pdd-nos>
- [17] Brand, A. (2010) *Living in the Community: Housing Design for Adults with Autism*. London: Kingwood Partnership. 48, ISBN 978-1-907342-25-7
- [20], [24] Advanced Autism Services. (2025) 'How to create a sensory-friendly environment at home', *Advanced Autism Blog*, 28 Apr. [online]. [cit. 2025-10-23]. Available at: <https://www.advancedautism.com/post/how-to-create-a-sensory-friendly-environment-at-home>
- [21] Geilman, A. (2020) 'Designing for children with sensory integration disorders', *Honours Journal, Johnson County Community College*. [online]. [cit. 2025-10-23]. Dostupné z: https://scholarspace.jccc.edu/honors_journal/vol8/iss1/3
- [22] Discovery ABA. (n.d.) Autism sensory activities you can do at home [online]. [cit. 2025-10-23]. Dostupné z: <https://www.discoveryaba.com/aba-therapy/autism-sensory-activities-for-home>
- [25] Meritova, L., Smith, J., and Roberts, K. (2021) *eXtended reality for autism interventions: The importance of mediation and sensory-based approaches*, arXiv preprint, arXiv:2105.04233.
- [26], [29] Gaines, K., Bourne, A., Pearson, M. a Kleibrink, M. (2016). *Designing for autism spectrum disorders*. 1. vyd. London: Routledge. ISBN 9780367030469.
- [27] Scheeren, A.-M., Begeer, S., Oerlemans, A. M., et al. (2021) The importance of home: Satisfaction with accommodation, neighbourhood, and life in adults with autism, *Frontiers in Psychiatry*, 12, p. 723. DOI: 10.3389/fpsyt.2021.00723.
- [28] Haussmann, A. H. A. and Olin, C. V. (2025) Designing beyond walls: An exploration of how architecture can contribute to semi-independent living for autistic adults, *Architecture*, 5(3), 48. DOI: 10.3390/architecture5030048.
- [29], [31] Vartanian, O., Navarrete, G., Palumbo, L. a Chatterjee, A. (2021). Individual differences in preference for architectural interiors. *Journal of Environmental Psychology*, 2021(101668). DOI: 10.1016/j.jenvp.2021.101668. [cit. 2025-6-26]. Dostupné z: <https://doi.org/10.1016/j.jenvp.2021.101668>
- [30] Zaniboni, L., Marzi, A., Caniato, M. a Gasparella, A. (2021). Comfortable and safe environments for people with autism: preliminary analysis of risks and definition of priorities in the design phase. *Journal of Physics: Conference Series*, 8th International Building Physics Conference (IBPC 2021), 2069 (012177). Bristol: IOP Publishing. DOI: 10.1088/1742-6596/2069/1/012177. [cit. 2025-26-6]. Dostupné z: https://www.researchgate.net/publication/356734626_Comfortable_and_safe_environments_for_people_with_autism_preliminary_analysis_of_risks_and_definition_of_priorities_in_the_design_phase
- [32] The Autism Helper. (n.d.) Visual supports for the home [online]. [cit. 2025-10-23]. Dostupné z: <https://theautismhelper.com/visual-supports-for-the-home>
- [33] Madison House Autism Foundation. (n.d.) Architectural design for autism [online]. [cit. 2025-10-23]. Dostupné z: <https://madisonhouseautism.org/housing/architectural-design-for-autism/>
- [34] Happé, F. G. E. (1996). Studying weak central coherence at low levels: children with autism do not succumb to visual illusions. *The Journal of Child Psychology and Psychiatry*, 37(7), 873–877. [cit. 2025-26-6]. Dostupné z: <https://pubmed.ncbi.nlm.nih.gov/8923230/>
- [35] Russell, L. (2024). 28 tipů na stimulační hračky a pomůcky pro děti i dospělé s PAS [online]. *Autism-Port. Národní ústav pro autismus, z. ú., publikováno 15. 2. 2024; aktualizováno 17. 6. 2024*. [cit. 2024-18-6]. Dostupné z: <https://www.autismport.cz/o-autistickem-spektru/detail/28-tipu-na-stimulacni-hracky-a-pomucky-pro-deti-i-dospole-s-pas>
- [36] Merriam-Webster. (n.d.). Stimming [online]. Merriam-Webster.com Dictionary. Merriam-Webster, Incorporated. [cit. 2025-26-6]. Dostupné z: <https://www.merriam-webster.com/dictionary/stimming>
- [37] Cavallaro, G., Fitzpatrick, T., Walker, S., et al. (2012) Perceptual and neural response to affective tactile texture stimulation in adults with autism spectrum disorders, *Autism Research*, 5(6), pp. 350–363. [cit. 2025-10-23]. Dostupné z: <https://pubmed.ncbi.nlm.nih.gov/22447729/>
- [38] Autism Education Trust. (2025) *Autism design principles for schools* [online]. London: Autism Education Trust. [cit. 2025-10-23]. Dostupné z: https://www.autismeducationtrust.org.uk/sites/default/files/2025-01/autism_design_principles_for_schools.pdf
- [39] Williams, Z. J. (2022). Decreased sound tolerance in autism: understanding and distinguishing between hyperacusis, misophonia, and phonophobia [online]. *ENT & Audiology News*, 3. 5. 2022. [cit. 2025-6-26]. Dostupné z: <https://www.entandaudiologynews.com/features/audiology-features/post/decreased-sound-tolerance-in-autism-understanding-and-distinguishing-between-hyperacusis-misophonia-and-phonophobia>
- [40] Miron, O., Beam, A. L. a Kohane, I. S. (2018). Auditory brainstem response in infants and children with autism spectrum disorder: A meta analysis of wave V. *Autism Research*, 11(2), 355–363. DOI: 10.1002/aur.1886.
- [41], [42] Jalali, M.S., Jones, J.R., Tural, E. a Gibbons, R.B. (2024). Human Centric Lighting Design: A Framework for Supporting Healthy Circadian Rhythm Grounded in Established Knowledge in Interior Spaces. *Buildings*, 14(4), čl. 1125. Dostupné z: <https://www.mdpi.com/2075-5309/14/4/1125> [cit. 2025-26-6]. DOI: 10.3390/buildings14041125
- [43] Al Nafjan, A., Alharthi, K. a Kurdi, H. (2020). Lightweight Building of an Electroencephalogram Based Emotion Detection System. *Brain Sciences*, 10(11), čl. 781. Dostupné z: <https://www.mdpi.com/2076-3425/10/11/781> [cit. 2025-26-6]. DOI: 10.3390/brain-

[44] Janošová, A. (2025). Typologie bydlení pro osoby s poruchou autistického spektra [disertační práce, Vysoká škola báňská – Technická univerzita Ostrava, Fakulta stavební]. Výzkum zahrnuje skupinu 30 rodin z organizací ADAM – autistické děti a my, z.s. a RAIN MAN – Spolek rodičů a přátel dětí s autismem.

VERSATILE BOOKLET, POSTER, PRESENTATION— AS A PROJECT DEVELOPMENT AND COMMUNI- CATION TOOL. URBORELO.

Kolařík Radek

ABSTRACT: The paper presents the tools for processing and communicating a (studio) project, its possibilities and a case study with commentary, on a project for the field of urbanism. It reflects the author's experience of using it in teaching at three schools of architecture (ARCHIP, FA CTU, FUA TUL) in the last ten years.

The case study uses the Urborelo format, which I created for the needs of introductory projects in the field of urbanism at all three schools. Urborelo is a folio for the city and the landscape, or in general for any environment. It is a compound of the words urbanism and folio (children's picture folding book). Its form resulted from an effort to structure the procedure for managing a studio project at schools of architecture, and an even longer-lasting effort to find a contemporary, adaptable form of project communication in its conceptual phase. I evaluated the experience of using the tool so far. The evaluation criterion was the effectiveness of using the tool.

KEYWORDS: Urborelo; versatile booklet; effectiveness in education; project communication tool; conceptual phase; (typographic) grid; outline; narrative structure; graphic language

INTRODUCTION

Student projects need to be communicated, i.e. presented in an appropriate manner and in accessible forms.¹ To do this, students and future architects² are provided with the following basic tools:

- model (analogue, digital I include in 2D illustrations or animations, i.e. in printed form or digital projection),
- illustration (any 2D representation, but usually always basic parts of project documentation, but also photographs of models, collages, etc.)
- written word (various literary genres and styles)
- spoken word
- other (only for the needs of this essay): videos, animations, performances, etc.

The basic question is therefore: What tool should be recommended/prepared for students so that it does not reduce the authenticity of their individual outputs and helps their development and presentation?³

The following discussion presents the method of creating one such tool, a summary of the experience from its development and a decade of use. The text is a concentrate of topics that all have a relevant role in illuminating the creation and experience from its use.

Creating the tool reasons

A lot of energy, and usually not very effective, spent by most students⁴ (and subsequently their teachers) on preparing materials for consultations, checking the progress of individual phases of the project; or the same energy lost during consultations by explaining what it would be like if it were as the author believes and tries to say, even if he cannot currently prove it in any way, only abstractly verbally (usually lengthy and chaotically) describe it. The proverbial tripping over one's own feet, which complicates moving forward. From the beginning of the semester to its end.⁵ That is why I decided to create the tool on my own impulse and at the expense of my own office, so that this energy could be spent on feedback and discussion, open to all who can benefit from it (usually students and their classmates). The tool has, in simplified terms, the form of a brochure, poster, presentation template.

TOOL BASIC OBJECTIVES (ITS BASIC FORMS: BROCHURE, POSTER)

These are the maximum feasible simplification of com-

munication between students⁴ with the thesis supervisor, consultants, classmates, during consultations during the development of the concept; with opponents or members of the commission, or (and this was one of the main impulses) to communicate the basic ideas of the concept to representatives of the city's political representation, the public in the broadest sense of the word. For this reason, I primarily present the tool for urban or landscape projects in the design phase of the building, study (i.e. presentation of concepts and their justification). The use is then adapted analogously for building design projects and their sets.

METHOD (CHARACTERIZED BY RELEVANT ELEMENTS, STEPS AND THEIR CONNECTIONS AND ROLES WITHIN THE WHOLE)

Basic technology of the tool

In order to make working with the tool — more precisely, with the templates created for it — accessible to the widest (and above all necessary) number of students¹, it is necessary that its use be accessible to them quickly, within the framework of a short training, usually additionally held within the framework of studio teaching. Undemanding to previous experience with (pre-press) software. From this point of view, Adobe Indesign⁶ is primarily used.

Tool basic structure

In order to make working with the tool accessible to the widest (and above all necessary) number of students⁴ (and especially effective for students and teachers, it is necessary that the basic forms of the tool are adaptable and versatile, or that these forms have a uniform basis, easily usable in all its applications. This is ideally served by a tool designed for this purpose and used by those for whom this activity is the main professional activity: a type grid⁸ used by graphic designers.^{9,10}

Tool basic format

This is the usual one, also used in printing (books).¹¹ It is the A series format according to ISO 216, DIN 476¹², traditionally used for adjusting and shipping basic project documentation. This already shows its specific adaptation. And the complete basic unit is one A4 format in portrait (portrait). Two (double page) make up A3, most often used for project portfolios. The templates assume A4 binding, with the printing being double-sided, the double-page representing an A3 page, and in addition, the A3 proportion is suitable for digital projection.

RADEK KOLAŘÍK, DOC. ING. ARCH.

Faculty of Arts and Architecture
Technical University of Liberec
Studentská 1402/2
461 17 Liberec, Czech Republic

radek.kolarik@tul.cz

ORCID iD: 0000-0003-3414-2966

Radek Kolařík is an architect and teacher of architecture. He studied at the Faculty of Architecture, University of Technology in Brno, the Delft University of Technology and the Academy of Fine Arts in Prague. He began his practice at the SIAL studio in Liberec and the Jean Nouvel studio in Paris. He runs his own RKAW office. He was an assistant in Eva Jiřičná's studio at the AAAD in Prague and a visiting assistant at Doris Wächli's studio at ETH Zurich, he was the head of the studio at the FA CTU in Prague and is the head of the studio at the FAA TUL, and he draw up and runs the Architecture and City course at the ARCHIP school. www.rkaw.cz

³ KOLAŘÍK 2023

² PATT 2012

³ MAU—LEONARD 2024

⁴ The unit of measurement for this balance is the standard student. This does not consider the approximately 20% of students who are familiar with any acceptably conceived model of the study structure, are prepared in basic skills or are prepared to operationally supplement deficiencies in the basics independently, i.e. as it should be standard at a university-type school. KOLAŘÍK 2107.

⁵ MAU—WARD 2020

⁶ Adobe InDesign is a professional software from Adobe for typesetting and page layout design, which is used to create print and digital publications, such as books, magazines, posters, e-books and interactive PDF documents. It provides a wide range of tools for working with text, graphics and layout, which allows you to create high-quality and visually impressive content for various print and digital platforms. It provides options for creating content for both traditional print and digital distribution, including modern elements for interactive digital projects.⁷

⁷ OPENAI, 2025. Google. AI program: <https://www.google.com/search?q=adobe+indesign>. [Quoted 2025-08-18]

⁸ BLAŽEK 2024

⁹ BLAŽEK 2020

¹⁰ PECINA 2017

¹¹ AMBROSE—HARRIS 2009

Basic typographic grid

There are several ways to work with a typographic grid.¹³ The aim of this tool is not to demonstrate mastery of its use.^{13, 14} I adapted its use for the needs of teaching students at architecture schools. It must be user-friendly, especially from the students' perspective: its basic principles must be easy to explain and applicable, the adaptation of the template for each field (i.e. urban planning, which is illustrated in this article, and architecture) must be almost intuitive. The grid is therefore lapidary from a practical point of view, and the consequence of the lapidary achieved in this way is then, alongside the font, a fundamental part of the visual style of the tool.

Font

In addition to the application of the typographic grid (neutral, not strictly typographic), the font and its styles are what have a fundamental influence on the overall impression — and this, as follows from the logic of the matter — should be as neutral as possible. Which is objectively a condition that cannot be fulfilled from everyone's perspective. The conditions of neutrality, generality, with the fact that we are moving in a more technical field (than artistic, but here I mean rather than literary or advertising), are best met by the Helvetica font, which was created for this purpose. Due to its unavailability to everyone, a pragmatic decision was made to use Arial, available to all students with some exceptions. Its application as part of the visual style of the tool is essential.^{15, 16}

Visual style, characteristics

It must suit everyone and everything (students and their work), but also potential addressees (users, committee members, opponents, etc.). This is a feature that is completely unrealistic in reality; certainly not in a way that it is acceptable, accepted and embraced by everyone without reservations. The visual style is therefore neutral in its form, rather technical. Lapidary to banality supports neutrality and the necessary detachment in relation to the primary content of the pages.

Working with type is analogously mechanical, with these rules: the selected font in one cut is used in four basic and one accompanying size (for sources and footnotes); the font size automatically associates the meaning of the message (and the larger it is, the more concise the message must be, i.e. it is more easily accessible and its urgency is intuitively given). The text therefore flows from the upper left corner, without any further (usually unrealistic) ambition to organize the surface.¹⁷

Visual style, structure

The cover is designed to create tension, to initiate curiosity. On the front is the name of the project, it is essentially without illustrations, it offers nothing more than an abstract word, it entices. On the back is the abstract — because we read from front to back, but we pick up the book and after a brief look at the title page we first look at the back, I can read the short text (approx. 200 characters including spaces) in a few seconds and, in combination with the name of the project, be tempted to leaf through the content. (See Fig. 1.)

The structure of the brochure and poster template (analogously also the presentation) is based on the division of the project processing into individual phases: analytical, conceptual, design; sometimes it is introduced by chapter zero, containing illustrations of the area being addressed and selected materials, if it fits into the story of the project, or some other. Each chapter is usually introduced by a pictogram, slogan, gloss, essay; some or all; they always introduce what is to come; logically, they are therefore processed after the content is ready; the content of the phase follows.

This principle gives the brochure and presentation the necessary rhythm and flow, supports the impact of the story, and makes it easier for the addressee to navigate.

The poster in its basic form has the form of a strip consisting of four A1 formats laid out. Complemented by a strip of four A4 formats, basically the book cover and free interpretation of the content and imprint. At eye level, two formats are (usually) intended for the design phase, the lower format for the concept development phase and the upper format for the initial analytical phase. In accordance with the role of the poster, we very often intentionally disregard this arrangement and subordinate it to the nature of the work. (See Fig. 2., 3.)

The goal of this visual style, which is very economical in its possibilities, is the intuitive perception of the message (conveying the content to the addressee). Therefore, the labels do not dominate, but the content (in order of importance of the illustration, text). The labels are placed in the upper left corner, made in the smallest (additional) size, distinguished by underlining, or supplemented with a subtitle. They only serve to ensure that the addressee can occasionally confirm that he is perceiving the content correctly.

The name visual style is perhaps ambitious, considering the final form of the materials (templates) and the principles on which they are based; it is simply the appearance of the result. But I stick to the term (visual style) that is common today, if we are talking about the appearance of something that is part of the communication tools, or rather the visual identity (this is not the case here).

Visual style, pros and cons

From the above, it follows that the visual style is built on a certain deficiency, the consequence of which is a certain degree of uncertainty — imbalance: but there is usually no time for this during the processing of semester papers, and moreover, for a large part of students it is something that they have difficulty dealing with. Thus, a clear rule that is obvious is preferred, the usual imbalance remains, but a readable structure and rational order are present.¹⁸

Tool basic versatility

The basic—most commonly used—sub format of the A series (A3), i.e. one double-page spread of a brochure, one image, can simply be arranged in rows and columns for poster application. And in addition, it can be enlarged or reduced diagonally within the same typographic grid. The application possibilities are unlimited (reasonably, naturally). In cases where this form is used to its full extent, the form is often chosen very individually.

Tool basic forms

The communication of a student project is essentially no different from the communication of a project in life after graduation, i.e. professional life. In principle, it is no different from the presentations of "projects" in other fields. It has two basic forms: printed and presentational. The printed form usually takes the form of a brochure and poster for school projects. Presentational forms are usually (annotated) digital presentations on a projector or screen, i.e. a series of images. Students receive templates for these three as part of their semester assignment.

Roles of individual forms

For the final, targeted application of individual forms of the tool, I always try to clarify their primary role. This means that the explanation can, of course, be any other conceivable one in justified cases. However, in the end, it must always be clear what the form is supposed to be, and it should be fulfilled as successfully

¹² Paper size: https://cs.wikipedia.org/wiki/Formát_papíru

¹³ VIGNELLI 2010

¹⁴ VIGNELLI 2013

¹⁵ SHAW 2009

¹⁶ SIDUN 2021

¹⁷ MAU—KOOLHAAS—SIGLER 1997

¹⁸ VOSSOUGHIAN 2011



Fig. 1.: Brochure template, as part of the binding assignment document. Yellow parts indicate graphics, red texts are instructions to follow. The first slide with a grid, the following without it. Basic idea of what is described in the individual chapters (Source: author Radek Kolařík, RKAU)

as possible, i.e. it should use the potential of its role within the overall communication of the project to the maximum. The initial characteristics, which I present to students as part of the initial assignment of semester assignments, are as follows:

- **brochure (ad Fig. 7):** it provides detailed information about the project, chronologically arranged; it has a rhythm, it is structured according to the phases of the work; it can be flipped through unevenly, slowly or quickly, depending on the interest of the addressee, returned, stopped, several brochures can be flipped through at once for comparison and accelerated insight into the works;

- **poster (ad Fig. 8):** its role is to attract attention during the initial seconds, at a great distance, within the overall — without disturbing it; to attract attention, arouse curiosity to take a further interest in the project: it can also contain information that can only be read up close; however, it primarily leads the addressee to the brochure, to leaf through it; or it motivates them to spend even more time watching the presentation on the screen;

- **presentation** (digital projection on the screen) can be an attractive, because dynamic, way of presenting, complementing static ones (including analogue models, which can be animated here); to a certain extent

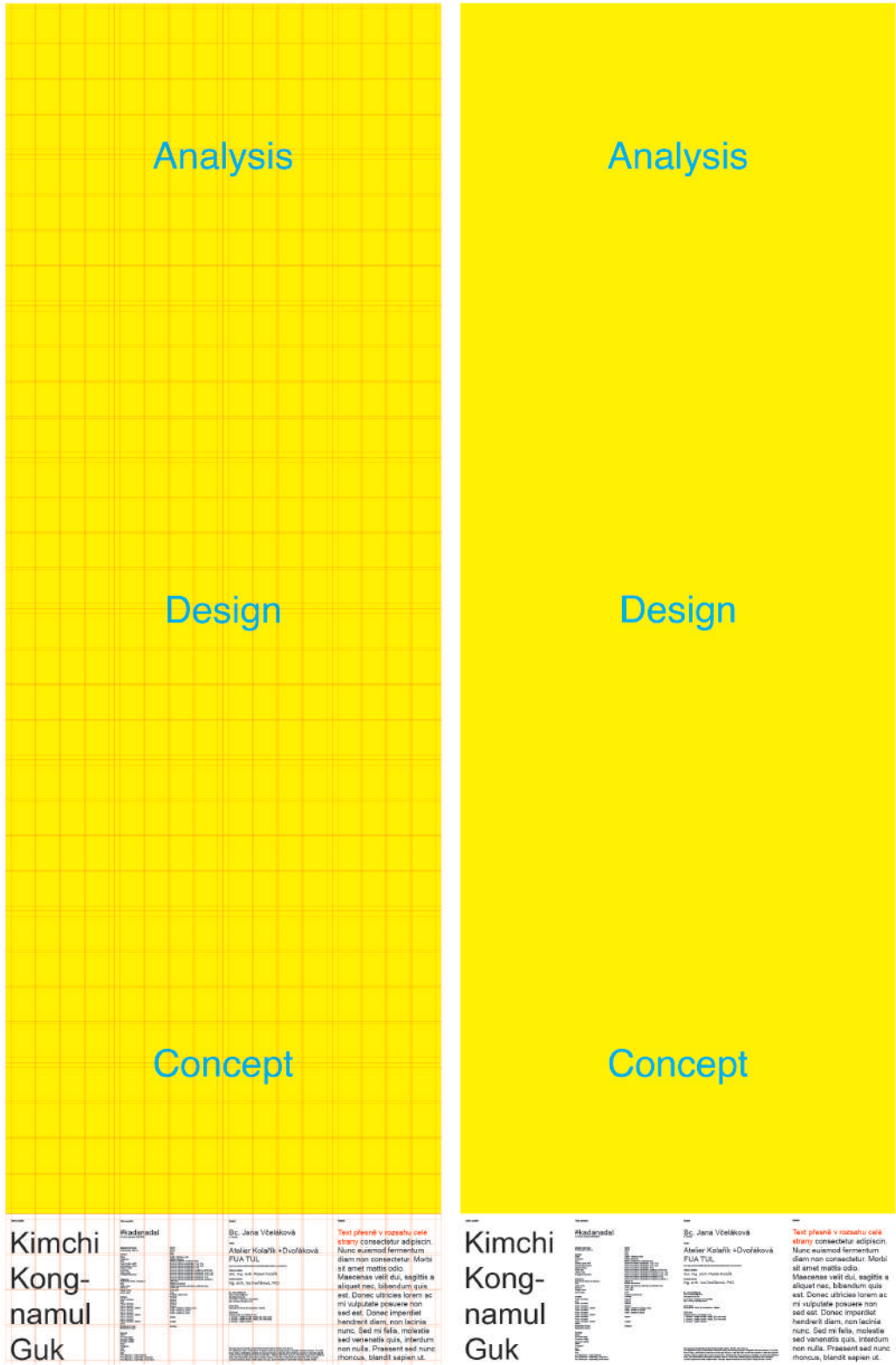
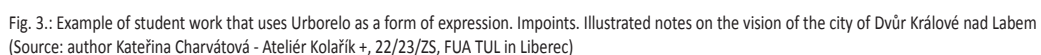


Fig. 2.: Poster template, as part of the binding assignment document. Yellow parts indicate graphics, red texts are instructions to follow, blue indicates the recommended location of phase documentation. Left with a grid, right without it. Basic idea of what is described in the individual chapters (Source: author Radek Kolářik, RKAU)

Im-
points

Webconnectivity
A charming, medium-sized town located in Eastern Bohemia. Your common goal will be to get to know the city. On the basis of a personal inspection and study of all available documents. After that, you each define plans or topics that according to you are meaningful for further thinking about the development of the city. This is how you specify your individual assignment. You will proceed it in the form of illustrated recommendations on how to proceed with a specific assignment. The results of the work can serve the representatives of the city and its residents as a confirmation of their own reflection on the future of the city. View of the city of Vrchlabí
The city is aimed a prototype of many cities of Central Europe. If you learn to understand Divův Kůň and Lábeň, you will be nearly to understand those other cities as well.



it can be personified by a medallion — a personal introduction, introduction, conclusion of the topic (in the case of an installation within an exhibition, when the author is not personally present); a presentation intended for personal interpretation tends to be more economical in the number of images (especially comment sections) and usually does not contain animations or videos.

CONCLUSION

Freedom of use (and the freedom that comes from using the tool) are for me the basic criteria of its usefulness. Understandably, the tool is not always received with enthusiasm (by students). However, it is a mandatory part of the assignment with the following justification: it allows us to fully concentrate on the content of your message during consultations and presentations, we are not distracted by the external form of the graphic design; the impact of your design is up to you. In the practice of an architect, this condition is not exceptional, practicing architects know this and graduates often subsequently appreciate it.

The uniformity of the presentation (supported by the basic structure of the arrangement of characteristic pages (ad template structure) helps communicate the concept towards the public or the commission. This is repeatedly confirmed with frequent praise. So, I apply this idea appropriately: "Freedom is the understanding of necessity."¹⁹

Templates are mandatory for standard semester theses. For master theses (bachelor's and diplomas), they can be used by students, but on the contrary, I expect their specific interpretation, which will help support the tone of the concept. Or they may not be used.

Tool use justification

The experience gained by applying the tool (brochure, poster, or presentation templates) is, although it is experience gained in a related field, it is applicable to a (not) surprisingly large extent in the teaching of architecture, urban planning, landscape architecture — that is, everything that is somehow related to the built or, more generally, urbanized environment. Again, simplified for illustration: how does working

on the initial phase of a project of anything, which partly takes place in a 2D display, differ from working with the surface of a page or poster? In both cases, it is about finding a specific form of harmonization of the arrangement of elements, in some order, based on some outline.

Use of the tool effectiveness²⁰ evaluation.

The effectiveness was evaluated in terms of two factors:

- development of the project/concept (factor 1) and
- communication of outputs/results of the work (factor 2).

This is for seminar papers at the ARCHIP school and semester projects at the Faculty of Architecture of the Czech Technical University and the Faculty of Architecture of the Czech Technical University. (See Fig. 4., 5., 6., 7., 8.)

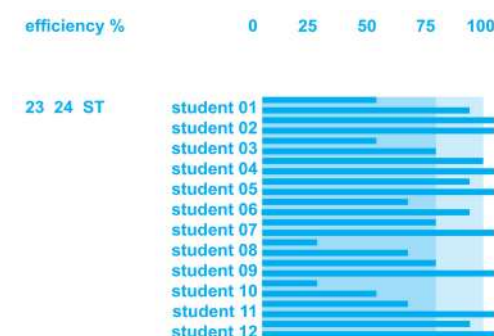


Fig. 6 Tool efficiency; the upper line indicates factor 1, the lower factor 2; individual students, how they stand with each other and within the aggregate value of the results of all in the semester; sample of the semester 23-24-ST; t students only of the Mg. degree ARCHIP (Source: author. Evaluation of seminar papers, relevant part. ARCHIP 2015-2025. Architecture and City. Radek Kolařík Archive.)



Fig. 7.: Tool efficiency; the upper line indicates factor 1, the lower factor 2; The number shows the number of students in a particular semester, also expressed by a block of the height of both lines; Bc. and Mg. students of the Faculty of Arts of CTU. (Source: author. Evaluation of semester projects, relevant part. Faculty of Arts of CTU 2015-2022. Archive Ateliér Kolařík +.)



Fig. 8.: Tool efficiency; the upper line indicates factor 1, the lower factor 2; the number shows the number of students in a given semester, also expressed by a block of the height of both lines; students of Bc. and Mg. degrees FUA TUL (Source: author. Evaluation of semester projects, relevant part. FUA TUL 2019-2025. Archive Ateliér Kolařík +.)

¹⁹ Josef Škvorecký: <https://citaty.net/citaty/13406-baruch-spinoza-svoboda-je-poznana-nutnost/>

²⁰ Efficiency is a physical quantity describing how input energy is converted into required energy. Efficiency is determined by the ratio of output to input power. I use the term efficiency in a figurative sense.

²¹ A metric is a quantitative measurement or indicator used to evaluate performance, efficiency, and progress in various areas: <https://cs.wikipedia.org/wiki/Metrika>

²² An Internet conversion refers to a situation where a website visitor performs an action requested by the operator, which is of particular commercial benefit to him: [https://cs.wikipedia.org/wiki/Konverze_\(marketing\)](https://cs.wikipedia.org/wiki/Konverze_(marketing))

²³ In my case, these were illustrated notes on a city selected by a student, prepared based on a brochure template, in the form of Urborelo. All first-year students, i.e. from the fields of art, architecture, and urbanism, participate in the workshop. Each week of the semester, they receive a task assignment that they will process during that week. Assignments and consultations are prepared for each week by a different teacher, usually the head of the studio or one of the main accompanying disciplines. This method of managing the semester is now in its third year and is under development. Last year (which I present as a case study), students were asked, due to capacity reasons, to choose for the final presentation the one of fourteen assignments that they considered to be the best prepared in their opinion and that they wanted to be evaluated. Out of a total of 54 completed assignments presented (out of a total of 64 first-year students of all disciplines), 10 chose the Urborelo project. And most of them were also highly rated by the committee. I do not consider the evaluation to be decisive in this case, nor the subjectively influenced fact that 18.5% of students of all disciplines (including art) chose the preparation of an urban planning assignment as the calling card of their semester work. The assignment was therefore the second best rated in the selection of the students themselves. I consider this to be a sign of the usefulness of the tool, measured by its popularity. Given that the vast majority of students go to the Faculty of Arts and Architecture with the idea that they will design works of art and houses, not cities. In my experience, there are less than 1% of them. The highest-rated assignment was chosen by 12 students (22.2%).

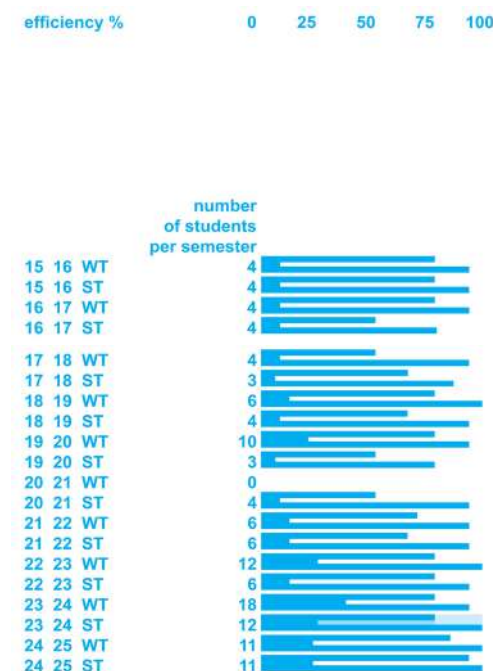


Fig. 4., 5.: Tool efficiency; the upper line indicates factor 1, the lower factor 2; the number shows the number of students in a parti semester, also expressed by a block of the height of both lines; students only of the Mg. degree ARCHIP (Source: author. Evaluation of seminar papers, relevant part. ARCHIP 2015-2025. Architecture and City. Radek Kolařík Archive.)

To show a possible/additional perspective, I present below an evaluation of short-term tasks assigned to students of the 1st semester of the Bachelor's degree at FUA as part of the Freshmen Workshop. The effectiveness is evaluated in terms of the popularity of the tool and Urborelo (factor 3, see Fig. 9.)

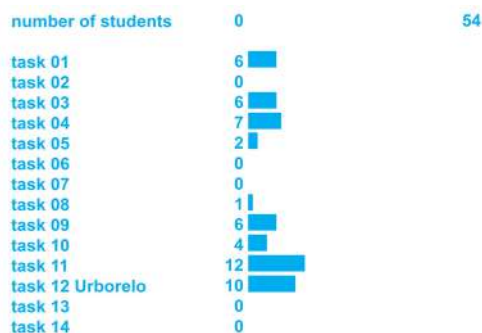


Fig. 9.: Tool efficiency, mandatory form of Urborelo, task processed during the 1st week; the number and block indicate factor 3: i.e. the number of students out of a total of 54 who chose the specified task for the final presentation; students of the 1st semester of Bc. degree FUA TUL (Source: author. Evaluation of one student-chosen task, Workshop freshmen. FUA TUL 2024. Archive Ateliér Kolářík +.)

Factors 1 and 2 are partial evaluations of student works supervised by me, which form the overall grade. They are therefore understandably individual, subjective—however, they are usually an aggregated item of the grade of the supervisor, assistant and 2-3 independent members of the commission. Factor 3 is, from the point of view of measuring effectiveness, the result of collecting feedback (a certain form of a questionnaire method), or data analysis (a summary table of students and the tasks they selected for presentation). It is a metric.²¹ It is an analogy of the conversion ratio.²²

Factor 1 could be characterized as the measure of the benefit of the tool for understanding, using and developing the potential of the assignment and for structured work on the project during its preparation, processing and completion.

Factor 2 could be characterized as the measure of the benefit of the tool in communicating the outputs after the project is completed, as the effectiveness of using the results of the work as a result of its use.

Factor 3 could be characterized as the degree of popularity (success) of the tool and Urborelo among students in the context of the other thirteen tasks assigned by other FUA teachers. To a certain extent, it can be said about the degree of compliance with the set goals.²³

The evaluation conclusions could be characterized as follows: if factor 1 > 50%, then factor 2 is mostly > 75%. In words: if the student uses the tool meaningfully when working on the project, the effectiveness of its use in presenting the outputs is high. With a positive impact on the quality of the overall result. If factor 1 < 50%, then factor 2 is mostly < 75%. In words: if the student uses the tool little when working on the project, the effectiveness of its use in presenting the outputs is low. With a negative impact on the overall result.

The results of the use and the declared properties of the tool must be viewed in the necessary context. By the universality of the tool, I mean more its universality and versatility in direct connection with specific (in this case, my) methods of teaching and managing student work. In this, the resulting tool is, on the contrary, significantly individual. The use of the principle is demanding in its adaptation for a specific teacher. The tool encourages discipline and systematicity, but at the same time requires them from both the student and the teacher. In this especially I see its justification.

URBORELO

Represents the optimal form of use, which exactly corresponds to the presented tool — a brochure.^{24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35} In addition to semester designs at the Faculty of Architecture of the Czech Technical University in Prague, where I worked, and at the Faculty of Architecture of the Czech Republic in Liberec, where I work now, I use this particular application with a very positive response for seminar papers at the ARCHIP school in Prague, within the course Architecture and City, which I conceived and lead. Here I present as an illustration — a case study — a semester project for the city of Dvůr Králové nad Labem, prepared at the Faculty of Architecture of the Czech Republic in Liberec (see Fig. 3). I present this single case study, among other reasons, for the sake of directness and therefore the clarity of the message: the prescribed output format at the ARCHIP school is a square, the font recommended by Filip Blažek³⁶ is Flama³⁷, in two cuts. The application is therefore analogous; its form and appearance are different and for the purposes of this article it would be confusing. The use of the folio form is not particularly exceptional (although it usually does not use the properties of the original format of a children's folding book, but only its external form: a folding book).³⁹ In the studios I run, we generally use all the properties in principle.

SOURCES

[1] AMBROSE, Gavin; HARRIS, Paul, 2009. Layout: velký průvodce grafickou úpravou. Brno: Computer Press. ISBN 978-80-251-2165-8.

[2] BLAŽEK, Filip, 2020. Typokniha: průvodce tvorbou tiskovin. Second revised and supplemented edition. Praha: UMPRUM. ISBN 978-80-88308-70-6.

[3] BLAŽEK, Filip, 2024. Typomřížky: mřížkové systémy v grafickém designu. Praha: UMPRUM. ISBN 978-80-88622-05-5.

[4] DEMLOVÁ, Zuzana, 2018. Pohádky o kolečkách a nekonečnu. Praha: Baobab. ISBN 978-80-7515-086-8. DEUTINGER, Theo, 2019. Ultimate Atlas: Logbook of Spaceship Earth. Zürich: Lars Müller Publishers. ISBN 978-3-03778-592-8.

[5] DEUTINGER, Theo, 2018. Handbook of Tyranny. Zürich: Lars Muller Publishers. ISBN 978-3-03778-719-9.

[6] GUALLART, Vicente, 2008. GeoLogics: geography information, architecture. Barcelona: Actar. ISBN 978-8495951-61-8.

[7] LLOYD, Peter B.; OVENDEN, Mark, 2012. Vignelli transit maps. Rochester, New York: RIT Cary Graphic Arts Press. ISBN 978-1933360621

[8] KOLÁŘÍK, Radek, 2023. The notional space of the intellectual load of the architecture student. Architecture school — what should it be? The framework for a possible discussion on the further development of the architectural school. In: Architecture in Perspective 2023. Ostrava: VŠB - Technical University of Ostrava, Faculty of Civil Engineering, Department of Architecture, s. 8. ISBN 978-80-248-4711-5. ISSN 978-80-248-4712-2.

[9] KOOLHAAS, Rem, 2007. The Gulf. Zürich: Lars Müller Publishers. ISBN 978-3-03778-088-6.

[10] LEHNERER, Alex, 2013. Grand Urban Rules. Rotterdam: 010 Publishers, 2009. ISBN 978-94-6208-054-6.

[11] LIU, Yang, 2022. Yang Liu, Today/Yesterday. Co-

²⁴ LEHNERER 2013

²⁵ ODA 2018

²⁶ STALDER—
2018

²⁷ MIKOLEIT—PÜRCKHAUER 2011

²⁸ GUALLART 2008

²⁹ LLOYD—OVENDEN 2012

³⁰ DEUTINGER 2019

³¹ DEUTINGER 2018

³² DEMLOVÁ 2018

³³ ŠAŠEK—HORVÁTH 2014

³⁴ LIU 2022

³⁵ SUTNAR—ANĎEL 2003

³⁶ Filip Blažek (1974) is a graphic designer, typographer, teacher and publicist. He graduated in cultural studies from the Faculty of Arts, Charles University in Prague. Since the mid-1990s, he has been lecturing on typography and leading various workshops in our country and abroad. He currently teaches at the Academy of Arts, Architecture and Design and at the private university ARCHIP in Prague. In 2022, he founded the graphic studio Designiq, which specializes in the design of periodicals, books and corporate identity. He co-founded the magazine Typo (2002-2012). Together with Pavel Kočíčka, he wrote the textbook Practical Typography (2000), is the author of the script Font in Computer Graphics (2007), the publication Posters of the Velvet Revolution (2009), wrote essays mapping events in Czech typography for the collection Typo 9010 (2015), and published the textbook Typokniha - a guide to printing (2020, 2022) and Type grids: grid systems in graphic design (2024)³⁸

³⁷ FELICIANO, Mário, 2004. Flama font. Lisboa: Feliciano Type foundry.

³⁸ Projekt Identita: příběh českého grafického designu, 2024. Praha. [Shortened and freely supplemented 2025-08-18]: <https://projektidentita.cz/tvurci/filip-blazek/>

³⁹ KOOLHAAS 2007

logne: TASCHEN GmbH. ISBN 978-3-8365-9214-7.

[12] MAU, Bruce; KOOLHAAS, Rem; Office for metropolitan architecture; SIGLER, Jennifer (ed.), 1997. S,M,L,XL: Small, Medium, Large, Extra-large. Köln: Benedikt Taschen Verlag. ISBN 3-8228-7743-3.

[13] MAU, Bruce; WARD, Jon, 2020. Mau MC24: Bruce Mau's 24 principles for designing massive change in your life and work. New York: Phaidon Press Limited. ISBN 978-1-83866-050-5.

[14] MAU, Bruce; LEONARD, Jennifer, 2024. Massive change. London: Phaidon Press, cop. ISBN 0-7148-4401-2.

[15] MIKOLEIT, Anne; PÜRCKHAUER, Moritz, 2011. Urban code: 100 lessons for understanding the city. Cambridge: MIT Press. ISBN 978-0-262-01641-4.

[16] ODA NEW YORK, 2018. Unboxing New York. Barcelona: Actar. ISBN 978-1-945150-77-7.

[17] PATT, Doug, 2012. How to architect. Cambridge, Mass: MIT Press. ISBN 0262516993.

[18] PECINA, Martin, 2017. Knihy a typografie. Third edition, expanded. Brno: Host. ISBN 978-80-7577-040-0.

[19] SHAW, Paul, 2009. Helvetica and the New York City subway system. New York: MIT Press. ISBN 9780262015486.

[20] SIDUN, Radek, 2021. Diakritický manuál: případová studie nově navržených akcentů současných písem. Prague: Academy of Arts, Design and Architecture. ISBN 978-80-88308-07-2.

[21] STALDER, Laurent; ; and , 2018. Architectural Ethnography. Tokio: TOTO Publishing. ISBN 978-4-88706-371-6.

[22] SUTNAR, Ladislav; ANDĚL, Jaroslav, 2003. Ladislav Sutnar - Praha - New York - Design in action. Translated by Šimon PELLAR. Praha: Argo. ISBN 80-7203-515-0.

[23] ŠAŠEK, Miroslav; HORVÁTH, Juraj, 2014. This is New York: according to the original 1960 edition prepared for printing by Juraj Horváth. Translated by Jiří DVOŘÁK. Praha: Baobab. ISBN 978-80-7515-002-8.

[24] VIGNELLI, Massimo, 2010. The Vignelli Canon. Zürich. Zürich: Lars Muller Publishers. ISBN 978-3-03778-225-5

[25] VIGNELLI, Massimo, 2013. Massimo Vignelli Makes Books. Mohawk. Available from: <https://www.youtube.com/watch?v=xDKLB47oiLU>. [cit. 2025-08-31]

[26] VOSSOUGHIAN, Nader, 2011. Otto Neurath: The Language of the Global Polis. Rotterdam: Nai Publishers/D.A.P. Distributed Art Publishers. ISBN 978-90-5662-798-0.

EXPRESSIVE ELEMENTS OF CONTEMPORARY SINGLE-FAMILY RESIDENTIAL ARCHITECTURE IN THE CZECH REPUBLIC

Křížová Iveta

ABSTRACT: If we reflect on the 20th century through the lens of residential architecture, we find that it represents a truly unique period. Despite numerous efforts, no unified architectural style system was established; instead, the century can aptly be described as the “century of iconic villas.” How does the early 21st century build upon this significant chapter of architectural history, particularly within the field of residential design? Is it already possible—despite the relatively short time span—to identify key characteristics and elements that define contemporary residential architecture? What defines the current approach to designing single-family homes? Are there any consistent and emerging design tendencies, conceptual principles guiding architects, patterns of collaboration with clients, or other recurring factors shaping the design process? Can we identify concrete and measurable aspects that are distinctive and characteristic of this creative period? What principles are currently being applied in the design of residential architecture?

Can they be clearly articulated, named, and used to define a coherent theoretical framework—particularly in a field where such a framework remains underdeveloped?

Finally, is the terminology commonly used today sufficiently accurate and appropriate, or might there be more suitable terms to better capture the nature of this contemporary architectural discourse?

KEYWORDS: function; shape; silhouette; elements; facade; relation; sign; context; concept; mass; volume

INTRODUCTION AND HISTORICAL CONTEXT

Architecture is a synthesis of the scientific and the artistic—neither can be assessed without the other. All criteria are an inherent, natural part of architecture; by fulfilling them or failing to do so architecture differentiates itself from non-architecture. This approach to evaluating architecture requires a certain degree of subjective sensitivity. At the same time, architecture should not be viewed as a purely artistic product; it is always a combination of pragmatic assessment and artistic perspective. We must distinguish between building and architecture. Engaging with what is contemporary demands great attention, prudence, and receptivity; only then can we achieve meaningful, profound theoretical understanding. We are part of an ongoing evolution, and thus we must not succumb to external pressures that profit from building as such. If, however, we suppress these entrenched rules often advocated even by theorists it may spark new impulses within us. “When a person is not constrained by what is permitted and forbidden, when intent suppresses the distinctions between one function and another, people tend to open up their repertoire of observations and their behavior becomes all the richer.” [1]

At times, however, the market is stimulated in the opposite direction by architects and critics who ride the waves of fashion. “To sell it, they are obliged to suppress any application of accumulated theoretical knowledge. This prevents the development of a theoretical foundation.” [2] In *A Theory of Architecture*, Nikos A. Salingaros urges us to reject a certain rampant “new architecture.” And yet even that architecture by its scale, detailing, form, structure, and context—can have validity. It is not always an aggressive form; rather, it is, cautiously speaking, a new approach. Sometimes it incorporates more of structure, of scale, or, for example, a certain rawness of form and expression. One thing is certain: development is much faster and sharper than it was in history. Even without listing examples, if we consider the scale and size of architecture, there should be a clear reciprocity with the magnitude of the function.

Vitruvius already knew, in his *Ten Books on Architecture*,

that the entire principle of architecture is composed of the triad *utilitas, firmitas, venustas* utility, firmness, and beauty (or space, mass, and form). This triad will be one of the fundamental pillars I will try to develop as a basis for the principles under examination in the proposed buildings and the justification of their concepts. There exists a close proportional relationship among these three realities, which mutually influences the combined effect of the architectural work. The outcome should create the harmony already mentioned. Beauty, aesthetics, and meaning are the added value of architecture; they are what evoke emotion in a subjective sense. The ratio of differentiation creates specificities. Some architects naturally find balance among these pillars, while others focus only on certain poles.

There are, of course, physiologically valid facts: blue and green tend to calm us, while red and orange activate us; soft materials embrace us, while glossy and smooth ones feel impersonal. Color undertones, context, and material structure also play roles. An ascetic interior may, for one person, deepen inner focus, while for another it causes unease. Such phenomena already fall within a certain subjectivity. “Psychological and physiological elements influence each other, and individual, cultural, and universal responses are linked beyond the limits of our perception these interwoven levels affect our reaction to a specific place.” [3] We cannot ponder everything endlessly; feeling is a fact of our heart, our plane of being. “Subjectivity is the terror of all serious scientists; it is part of our emotional life. But if we declare emotions invalid, will there be anything left to live for? How can we provide the soul with what it needs without becoming entangled in individual subjective differences?” [3] Places are spaces with identity “*genius loci*.”

If we further develop the plane of traditional architecture, we can clearly define it by its “own language,” which, regardless of location, speaks in a given idiom. Here, “language” functions as an “expressive means” that interprets how a building is formed. “The language of form is only a prescription for creating structural order. Its products acquire their characteristic appearance.” [2] But such an approach would produce a building impoverished of inner richness, a flat transcription devoid of the work’s potential added value.

IVETA KRÍŽOVÁ, ING. ARCH.

dodetailu atelier
Hlavní 16, 664 91 Neslovice
Czech Republic

iveta@dodetailu.com

ORCID iD: 000-0003-0340-7634

During the final phase of my master’s studies and the early stages of my independent practice, I became increasingly interested in certain questions concerning architectural expression. This interest led me to pursue doctoral studies focusing on the expressive elements of contemporary architecture – specifically, how architectural form communicates identity, meaning, and context.

I had the opportunity to deepen the theoretical framework of this research while co-teaching the course *Fundamentals of Architectural Design* with Associate Professor Drápal. At the same time, the topic is closely tied to daily architectural practice, where theory meets reality in the dialogue with clients and the broader public. This confrontation provides a crucial feedback loop that helps test and refine theoretical assumptions in real-world conditions.

The language of pattern is set by tried-and-tested rules and tendencies. It also points to the threat posed by a language of form that is not sufficiently rich and leans on new modernist themes. I would add that modernist form need not always be poor; asceticism, for example, can be a positive life stance. For the most part, Salingaros brands modern and modernist tendencies as insufficiently rich and beneficial. I would like to be less skeptical and present contemporary tendencies with clearly justifiable architectural intent even where the architecture is less expressively abundant. From the perspective of deeper meaning, spatial archetypes are interpreted in today's architecture as symbols of lasting order or they slide toward immutable dogmas somewhat removed from real life. A tension arises between the pursuit of unequivocal solutions and the concurrent necessity of subdividing them into parts; between a need for the world's givenness and our awareness of its constant transgression. Traditional regionalism, according to Salingaros, includes adaptation to local materials, climate, culture, and social practices. Traditional architecture should reference local culture and materials and be natural to its time and place. Yet we should ask whether, in the 21st century, it is truly natural in our hyper-technologized world to cling to these tendencies. The countryside no longer fulfills its historic functions, and most materials can easily overcome any challenges or distances. Is it not merely pathos a forced contrivance to preserve such traditions where there is no organic interest in them? Critical regionalism perhaps responds to this: it adapts design to local needs. Yet even here a paradox emerges, for regionalism's basic principle ought to be "liberation from any global language imposed from above and from all efforts at uniformity and conformity." Critical regionalism rejects the vernacular and "advocates the abstract aesthetics of international modernism." [2] Critical regionalism must be understood as a practice at the margins; while critical of modernization, it refuses to abandon the emancipatory ideas of modern architecture. It is therefore a consciously bounded architecture that emphasizes place created through building on a specific site and highlights both tactile and visual qualities.

"The correct path for designing in a given language is first to compare and document that language based on one or more oppositions, and then to use the language to design a new building." [2]

In this context, the process of understanding an architectural work may be defined as follows: seeking archetypes of spatial arrangement derived from the local cultural and spatial context; historical models serve as raw material rather than as goals, yet they ensure that the work is anchored in its environment and thus primarily legible. The process of abstracting this model its transformation (anamorphosis) into an imaginary plane expresses timeless validity and stability of value; the means of abstraction is often the historically common process of geometrizing planes, masses, and spaces. Then follows a process of questioning and ironizing the model by intentionally violating it in details, though not in the overall concept; this is not a rejection of fundamental principles.

Alternatively, we might seek richness in content rather than merely in expression. We should look for concrete reasons that would encourage these tendencies in a positive direction. Must a house in the countryside always have a gable roof? Is that invariably correct? What if someone in the foothills builds a concrete house instead of the expected wooden one? Is conformity with surroundings always necessary? Jana Tichá speaks of a "phenomenological and topographical turn" occurring in architecture at the end of the 20th and the beginning of the 21st century, as architecture found itself at the exhaustion of modernism with its rational, functional, and hierarchical approach

to organizing space and the processes within it. Can we really find in current practice the excessive richness she describes?

Salingaros's views position architecture as a science that should be firmly rooted in scientific foundations and inspired by human perception. Even in architecture, a scientific discipline can reveal measurable results, on which we may base further development of knowledge. "Even genuinely intended architectural creation must grapple with the absence of socially shared values and ideas that could guide its content." [4]

The current state of architecture—what is it? Surely not so bad. We cannot evaluate excessively what we ourselves are living through. The problem is not the production of architecture as such, but rather that quality theory does not stand behind this production—naming it and bringing it to the fore. In contrast to the "speed" of the times, there prevails a rigidity of public conviction and a conservatism further fueled by this speed. As another example, in my own practice, most current clients (note: not from the period when the representative sample of the studied buildings was created) perceive "contemporary architecture" as a house with a "flat roof, white plaster, and anthracite-colored windows..."

We stand on a notional threshold between historical and modern times. Yet even this period undoubtedly spans a century; it, too, will one day be considered history and development. Neither the postmodern nor the subsequent deconstructivist phase became a lasting value in architectural evolution, but both brought lessons still valid today—especially work with urban context and the strong formal concept that becomes the main motive of a building, without which it appears bland. The building mass is strongly articulated; surfaces are highly distinctive.

Rem Koolhaas describes the present as one of "junkspace": "Junkspace is the sum total of our current achievement; we have built more than all previous generations combined, yet somehow it does not weigh the same. We will not leave pyramids behind. In line with the new gospel of ugliness, at the beginning of the 21st century more junkspace is under construction than all we inherited from the 20th century... The invention of modern architecture for the twentieth century was a mistake; architecture in the twentieth century disappeared; we read a footnote under the microscope and hoped it would become a novel; our interest in the masses made us blind to the architecture of the people. Junkspace looks like an aberration, but it is the essence, the main thing... the product of the encounter between the escalator and air-conditioning, conceived in a drywall incubator (you will not find either of these in history books)." [5] Christopher Alexander even speaks of "the overinflated bubble of mendacious architecture at the end of the 20th century," which should burst.

Michal Kohout states: "A new form in itself is basically superfluous—something reserved for madness or festivities. It should enter real life only under the pressure of necessity, as slowly as possible, if we wish to avoid chaos. The existing form, as a means of mutual communication, needs to be protected and cared for." [2] The modern era is often characterized by the loss of a unified perspective and, with it, the relativization of values. Yet social cohesion depends to a large extent on shared values; society must therefore seek some common value base. In my further work, I would like to focus on more than the search for straightforward formal archetypes that fit into a single category of design approach. Do truly scientific criteria exist that can show us the indicators that produce quality architecture and a good environment? Generally, we should

strive to seek harmony in all buildings. Let us now try to explain how we might achieve it.

Organic architecture vs. functionalist modernism? "There are universal criteria for evaluating architecture by which the quality of an architectural work should be judged, especially: urban quality in the sense of seeking real contexts as well as urban discipline; functional quality in fulfilling natural demands on the functionality of spaces and architectural elements, correct typological hierarchies of spaces, and the use of the natural properties of the adopted building systems, structures, and materials; quality of building details (thoroughness); and the expressive power, philosophy, and message of architecture." [6]

Approximately 200 buildings were initially included in the preliminary selection, from which 30 were chosen through an empirical process of observation and scaling. These 30 buildings were then subjected to a complete analysis.

The selection was based on several criteria. Firstly, the buildings had to fall within a ten-year period — between 2008 and 2018 - referring to the completion of construction, with a natural continuity from design to realization. Each building had to be a stand-alone structure, not directly influenced by compositional requirements arising from its attachment to neighboring buildings. Structures located within areas with strict urban regulation were also excluded.

The selection was made from works published by their authors in publicly accessible sources, including the shared platform archiweb.cz. Extremely expressive or iconic buildings were excluded from the selection, as were small-scale structures such as cottages or temporary buildings, as well as overly ostentatious houses and villas.

The main selection criterion was an evidently distinctive architectural language that clearly differed from the broader scaled spectrum of the initial sample. The key lay in the nuances of construction details in contrast to the mass of average buildings. Thanks to this principle, the sample size can be expanded, and the analysis repeated.

One of the comprehensive methods of assessing architecture is architectural criticism. However, such criticism is often insufficient, incomplete, or entirely absent. Yet it represents the first tool allowing for a structured comparison, evaluation, and the search for answers. To apply it properly, it is necessary to examine the topic more closely.

"Esa Laaksonen from Finland points out the importance of criticism, as even star architects can make mistakes. Dorota Leśniak-Rychlak from Poland emphasizes the role of criticism in an age overwhelmed by images and data and warns against reducing it to aesthetics, while Andrija Rusan from Croatia sees the problem in the closed and small size of the professional community." [7]

To achieve versatility, a reviewer or critic must possess a comprehensive understanding of the subject. They should not be merely a theorist but should also master the process of design.

"A pragmatic shift away from criticism, or its integration into architectural design and presentation, may result in the loss of independent, critical function, a general decline of the profession, and its transformation into commerce and entertainment. The reviewer should assess all impulses, including the background of the architect's work. Architecture is a synthesis, and criticism should be an analysis — yet these roles are often confused today. Architects absorb various forms

of information without being able to identify what is essential, while critics often proceed unilaterally, judging only formal expression. Non-functioning architecture ceases to be architecture." [7]

Architectural criticism is therefore a necessary tool that defines the value of scientific knowledge. It should be purposeful, factual, and impartial. Criticism addresses a wide audience — from academic publications to the general-public - since everyone perceives and uses architecture. It encompasses preparatory and regulatory phases, as well as evaluative and comparative mechanisms, enabling precise comparison of a work with already established valid forms and standards.

Architectural criticism in this study was carried out on a representative sample of examined buildings using the cluster analysis method:

"Cluster analysis is a multivariate statistical method used for the classification of objects. It groups units into clusters so that those within the same cluster are more similar to each other than to those in other clusters. Cluster analysis can be performed either on a set of objects — each described through the same set of features meaningful to the dataset — or on a set of features characterized through their carriers, the objects themselves." [8]

It is therefore a quantitative method suitable for analysing a larger number of samples containing multiple classification parameters. To reveal all relationships and interconnections, architectural criticism in this research followed a unified structure, examining both content-related and expressive aspects.

Theoretical framework of criticism:

- Description of the site and slope
- Evaluation of the building program and individuality
- Examination of the design principle – criticism, justification, discovery of novelty
- Specific expressive elements

For the theoretical analysis, a highly valuable set of buildings was selected, where each analysed example revealed a dominant positive characteristic that defined and categorized the building at least partially.

RESEARCH FINDINGS

From the analytical examination of the selected samples, a set of main verifiable features recurring across the buildings was identified. Some of these features were purely typological, others emerged from the context while still contributing to typological classification. Additional features were conceptual, artistic, or expressive in character. Certain attributes served as supporting elements for the articulation of the building's concept.

All identified main features were listed in a comparative table, regardless of order or significance.

An interesting determining factor revealed by the research was that most houses positioned the building mass toward the northern side of the plot, allowing the residential garden to benefit from southern exposure and sunlight. This finding also correlated with the orientation of the main living area (social space), which was in most cases located adjacent to the primary residential zone of the house.

From both an artistic and typological perspective, several examples integrated terraces (often in the form of loggias) into the main building volume rather than designing them as secondary, added-on elements. Conversely, in two cases the roofing and form of the

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
primary direct expressive element	Color Accent																														
	Fine Rhythm																														
overall massing solution of the house	Functional Elements – in an Almost Brutalist Manner																														
	Innovation in the Use of Scaffolding Material																														
	Contrast and Nuance in Window Composition																														
	Color Contrast																														
	Color Nuances																														
	Thatch Cladding																														
	Timber Cladding – Irregular Rhythm																														
	Timber Cladding – Flat Surface																														
	Timber Cladding – Regular Rhythm																														
	Dark Timber Cladding – Small Scale																														
	Steel Grating Cladding																														
	Metal Sheet Cladding																														
	Corten Steel Cladding																														
	Metal Sheet Cladding – Regular Rhythm																														
	Profiled Metal Sheet Cladding																														
	Distinctive Element: Layering																														
	Glazing – Regular Rhythm																														
	Work with the Scale of Cladding																														
	Dark Timber Cladding – Regular Rhythm																														
	Stucco Façade Finish																														
	Stucco Façade Finish – Paraphrase																														
<i>connection of functional relationships between interior and exterior – context</i>																															
	Shift of the House Toward the Northern Side																														
	Shift of the House Toward the Northern Side – Rear Placement																														
	Connection of the Main Living Space with the Terrain																														
	Sloped Roof – Abstraction of Form																														
	Sloped Roof – Exposed Roof Structure																														
	Sloped Roof – Abstraction of Form with Intense Coloration / Unified Execution																														
	Recessed Terrace Integrated into the Volume																														
	Bedroom Oriented Toward the Atrium																														
	Study Located on the Roof																														
	Ribbon Window – Daylight Access																														
	Concept of Volume – Striving for Contrast within Context																														
	Concept of Form + Context = Plasticity																														
	Concept – Volume and Gradation of Mass																														
	Concept – Building Volume and Context																														
	Concept – Building Mass Formed from Floor Plan Geometry																														
	Contextual Response – Framed Views																														
	Abstraction of Sloped Roof – Intense Coloration / Unified Execution																														
	Functional Expression of Windows																														
	Functional Expression of Windows – Harmony																														
	Connection with Nature																														
	Bedroom Facing Private Area Rather Than the Street																														
	Original Element – Pergola																														
	Tectonic Framing of the Terrace																														
<i>concept of mass and volume</i>																															
	Concept of the House – Simple Form																														
	Concept of Volume and Dynamics																														
	Concept of Building Mass – Formal Strictness																														
	Concept – Volume of the Building Mass																														
<i>concept of mass – organic shaping and plasticity</i>																															
	Contextually Shaped Mass – Organic Form																														
	Abstractly Plastic Façade																														
	Soft Curvature – Plasticity and Refinement of Mass																														
	Roof – Contextually Shaped Mass with Organic Form																														

Tab. 1.: Comparative overview of recurring verifiable features identified across the analyzed houses (Source: author's own elaboration based on the analytical examination of selected samples)

terrace were designed as distinctive features seamlessly incorporated into the architectural concept of the house.

The most distinct recurring feature appeared in houses with prominent sloped roofs. In all cases, such roofs were implemented as a required regulatory element, never voluntarily — and these examples were therefore later excluded from the primary research sample, though the total number of analyzed buildings was accordingly increased to maintain balance. In most cases, these buildings displayed refined detailing and a minimalist execution, emphasizing precision and craftsmanship. All such houses also shared the principle of an open interior space beneath the roof slope, though the degree of openness varied. The relationships and proportions of internal spaces were not the main focus of this phase of research.

Some buildings employed a higher degree of abstraction, attempting to visually merge the sloped roof with the vertical façade, effectively neutralizing or even negating the perception of the roof. A broad spectrum of houses, however, demonstrated a clear conceptual expression based on orthogonal or other geometric forms, often overlapping strong geometric compositional principles.

The first directly visible expressive feature identified across many buildings was the use of façade cladding. Although not a revolutionary solution, it represented a consistent approach typical of recent decades.

The principles of its application varied—there was no unified or dominant method. The most common materials included wood, typically in the form of slatted cladding, occasionally as panel cladding or tongue-and-groove boards. Wooden slats can be considered an overused material, frequently appearing in many of the selected examples.

Another frequently applied material was metal sheet cladding, in various forms: flat, perforated, profiled, or corrugated.

The reasons for its use differed in some cases it was intended to emphasize the volume of the building through scale; in others, to visually soften or suppress certain compositional moments; in yet others, it lacked a direct functional justification. Hence, the work with scale and surface treatment did not reveal a uniform direction or innovation.

It is understandable that small-scale buildings do not necessarily require grand gestures or spectacular formal statements. Buildings that adequately meet their programmatic and spatial requirements can respond with more modest means and limited budgets.

“The contrast between the simplicity of the project’s means and the richness of its space is convincing — a whole has emerged that is greater than the sum of its parts. This ‘accumulative essentialism’ focuses our attention on fundamental architectural acts: defining, opening, and determining distance — in short, on architecture as the art of shaping and configuring space.” [9]

In their design reasoning, contemporary architects no longer refer to historical periods. While certain principles such as regular rhythm (e.g., in corrugated metal sheets) may reappear, they do not serve as direct references to historical architecture — perhaps only as subconscious, archetypal patterns. At the same time, new tendencies were also identified: houses with clear conceptual structure combining geometric formal language with varied cladding techniques — from flat to articulated surfaces with different depths and artistic expression.

A secondary, yet significant, expressive approach concerns the treatment and shaping of the overall building mass.

The first category includes the connection between interior and exterior functional relationships. This may involve basic spatial reactions such as placement and orientation on the plot, as well as window size, shape, and proportion. Window dimensions often reflect interior space requirements rather than strict façade tectonics; thus, they do not follow a rigid rhythm but are instead direct responses to exterior views and lighting.

In these cases, the architectural expression derives from the context (e.g., footprint geometry transformed into volume), leading to the more expressive shaping of the entire building mass.



Fig. 1.: The family house in Chlumec nad Cidlinou has its main façade oriented towards the garden and the views of the Karlova Koruna Chateau (source: <https://www.archiweb.cz/b/rodinny-dum-v-chlumci-nad-cidlinou>)



Fig. 2.: Family House near Libčice and Views of the Landscape (Source: <https://www.archiweb.cz/b/rodinny-dum-u-libcic>)



Fig. 3.: Family House with a Ramp — side view of the façade and integration of the building mass into the terrain (Source: <https://www.archiweb.cz/b/dum-s-rampou>)

The shaping of volume may also respond to terrain morphology, creating an organic approach — adapting to the natural environment. In the project Family House with a Ramp (2018, by Prokš Příklad Architects — Martin Prokš and Marek Příklad), one may speak of a tendency toward organic architecture, as the flat terrain aligns with the flat parapet line of the roof, and the building's profiling follows the terrain, despite the overall form being a clear, minimal rectangular prism.

The overall massing may, however, also be deliberately simple and restrained, defined purely by the architect's conceptual intention. From a research perspective, the key contribution lies in understanding how architects consciously work with volume, a process that can be described as plasticity — not as a mimicry of natural or biological forms, but as a spatial strategy responding both to internal programmatic relationships and to the external form of the mass itself.

Family House in Dobříš

Authors: *Mimosa architekti*

At first sight, the building appears as a monumental volume, yet its form is softened by plastically rounded corners and a subtly irregular footprint. Plasticity is further expressed in the entrance zone, which spirals into the curved mass of the house, becoming a natural part of its sculptural logic. This is a conscious form of plasticity, intended to regulate and balance the perception of the overall volume.

The entire façade is covered with delicate wooden shingle cladding. This finely structured natural surface creates a material symbiosis with the passive timber construction beneath. From the standpoint of architectural perception, the delicate shingle texture dissolves the sense of monumentality, fragmenting the volume into a tactile, scaled surface. The subtle shimmering of the wooden scales enhances the building's intimacy and visually reduces its mass.



Fig. 4 : Family House in Dobříš — photograph of the corner, softening of the building mass, and recessed entrance bay (Source: <https://www.archiweb.cz/b/rodinny-dum-v-dobrisi-1>)

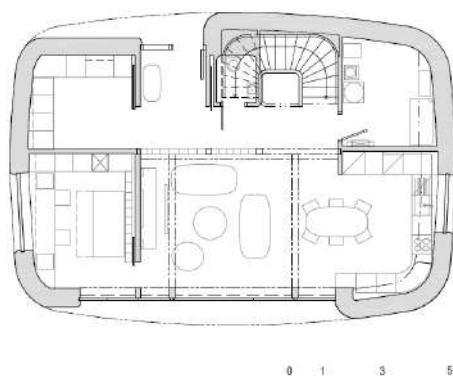


Fig. 5 : Family House in Dobříš — floor plan (Source: <https://www.archiweb.cz/b/rodinny-dum-v-dobrisi-1>)

Family House in Litvínovice

Authors: *ATELIER 111 architekti s.r.o.*

The placement of the house near the site boundary demonstrates a direct contextual response to the surrounding built environment — a contextual approach that extends even into the design of the boundary wall, which merges with the façade and becomes part of the building's spatial language.

The façade itself thus acquires a plastic, sculptural quality. The interior composition reveals a clarity and elegance, highlighting the hierarchy of spaces — from socially significant open areas to more intimate zones. The use of identical and interpenetrating materials throughout the interior reinforces the simplicity of exterior forms, creating a unified aesthetic continuity. A key feature along the garden façade is the integration of a loggia-terrace recessed into the building's main volume, enhancing both functional and expressive coherence.



Fig. 6 : Family House in Litvínovice — view of rounded boundary corner and façade plasticity (Source: <https://www.archiweb.cz/b/rodinny-dum-litvinovice>)

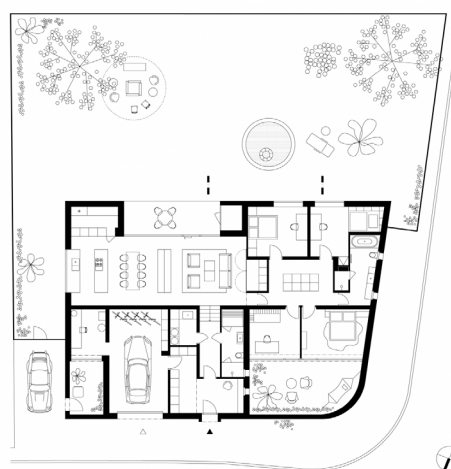


Fig. 7 : Family House in Litvínovice — floor plan (Source: <https://www.archiweb.cz/b/rodinny-dum-litvinovice>)

Family House in Blansko

Authors: *ATX Architekti s.r.o.*

The form of the house represents a direct response to the softly undulating landscape and to specific design requirements. The low horizontal mass harmonizes with the natural topography, and the gently undulating roof introduces a subtle sense of movement and dynamism. This wave-like roof form is echoed in minor details and softly irregular interior curves, creating a sense of organic continuity between inside and outside.

In several places, the roof detaches from the main volume, forming naturally sheltered terraces or arcades. This is a clear example of plasticity in architecture — a controlled sculptural response to context and function.



Fig. 8.: Family House in Blansko – view of the house in the context of its surroundings (Source: <https://www.archiweb.cz/b/rodinny-dum-blansko>)

Forest Villa

Authors: *mjolk architekti*

In this case, both context and expression are closely interlinked. The building's defining feature is the continuously undulating façade line, forming an almost endless, flowing perimeter.

Apart from this defining gesture, the house is intentionally devoid of additional ornamental elements. The façade surface is rendered in a light beige plaster, a tone that neither dominates nor disappears within the forest surroundings. The roof edge is seamlessly projected into the ground plan, reinforcing the organic unity between vertical and horizontal planes.



Fig. 9.: Forest Villa – view of the house within the landscape (Source: <https://www.archiweb.cz/b/lesni-vila>)

Family House "Heart"

Author: *Daniela Polubědová*

This project presents a deliberately ambiguous mass that is difficult to read at first glance. The street façade is wrapped in rust-colored corrugated Corten steel cladding with a fine vertical rhythm. The small-scale corrugation visually conceals vertical joints, eliminating the need for a traditional panel layout. A horizontal line aligns the window lintels, complemented by regular rivets, visible only upon close inspection. The corrugated profile was likely chosen to allow easier bending of thick steel sheets following the curved footprint.

The garden façade is fully glazed, structured by the rhythm of the curved plan. Within the structural glazing system, operable openings are inserted according to interior functions. The design combines several principles: contextual adaptation, plastic shaping, and integration into the landscape. According to Frank Lloyd Wright, such an approach can be considered a form of organic architecture - where the form, material, and setting are harmoniously unified.

The building responds to its surroundings through form (softened curves, expanded footprint) as well as material palette - dark metal, wooden roof profiles, and the meaningful creation of garden spaces interconnected with the architecture.

The interior design was developed simultaneously

with the architectural concept, ensuring a deep spatial continuity. Due to the complex geometry, standard furniture placement was often impossible, prompting custom-designed built-in elements - such as elongated work desks under windows, bathroom countertops, and kitchen islands.

Even small details such as handles, heating rods, and handrails - were designed as direct analogies of natural forms, cast from objects collected on site (leaves, wood fragments). This represents the second form of organic architecture - the architecture of archetype, where natural motifs are directly embedded in material and detail.

"Let us define it as a modern movement seeking harmony between nature and the built environment - a direction that aims to create space inspired by natural archetypes: animals, plants, humans, sky, water, air, the universe, and beyond." [10]



Fig. 10.: Family House "Heart" – street façade with curvature and landscape integration (Source: <https://www.archiweb.cz/b/rodinny-dum-srdce>)



Fig. 11.: Family House "Heart"- inner courtyard and terrace formation (Source: <https://www.archiweb.cz/b/rodinny-dum-srdce>)

SUMMARY

New tendencies and directions were identified. In the buildings observed, a clear concept prevailed, interwoven with a formal geometric approach. It was possible to find buildings whose shaping resulted from topographical relationships; this helped refine and delimit the notions of organic architecture and plasticity, as well as contextual architecture. In this respect, there is a clear conviction about the appropriateness—and, rather, the inappropriateness—of using certain terms.

No direct use of a new material was discovered, whether for construction itself or as a specific expressive element. In the case of scaffolding that substitutes for an access gallery/walkway including a terrace, it is a recycling of a cheaper material and a contrasting approach that has already appeared in architecture in the past (Family House in Luhačovice, built 2011–2012, author: OK PLAN ARCHITECTS—Luděk Rýžner, Marcela Susedíková), as well as in the use of containers (House in a Fence, Pardubice, built 2015, author: *mjolk architekti*).

“Every building always expresses the era in which it was created. It speaks of it with a unique truthfulness, revealing the social situation of its time. With new energy, there always comes a desire to experiment; yet in most cases these attempts result in sophisticated, convincing outcomes—architecture shows persuasiveness and positive energy.”

A plurality of opinions and a richness of approaches to design solutions were confirmed. This diversity and lack of a single unified approach will surely be appreciated as part of the era’s legacy, since it is always beneficial to think in terms of having options to choose from. A blind alley of a wholly uniform movement is therefore completely ruled out.

A certain reaction to pressure was evident in buildings that used a gable roof (and related features): such solutions were implemented only where mandated by regulations—never “voluntarily.” In most cases, these were well-developed designs with a strong emphasis on detail and a “minimalist to abstract” execution. This issue should be addressed through more refined spatial planning and, more generally, as a topic to be examined in greater depth.

SOURCES

[1] Simitch, A., Warke, V.K., Carnicero, I. et al. (2015) *The language of architecture: 26 principles every architect should know*. Translated by A. Poláčeková. Prague: Slovart. ISBN 978-80-7529-034-2.

[2] Salingaros, N.A. and Horáček, M. (eds.) (2017) *Unified architectural theory: form, language, complexity*. Brno: VUTIUM. ISBN 978-80-214-5345-6.

[3] Day, C. (2004) *Spirit and place: healing our environment – healing environment*. Brno: ERA. ISBN 80-86517-95-0.

[4] Švácha, R. (2004) *Czech architecture and its austerity: fifty buildings 1989–2004*. Prague: Prostor – architektura, interiér, design. ISBN 80-903257-3-4.

[5] Koolhaas, R. (2014) *Texts*. 1st ed. Translated by J. Tichá, L. Vidmar and A. Všecková. Prague: Zlatý řez. *Reading on Architecture*, vol. 2. ISBN 978-80-903826-8-8.

[6] (2011) *Czech and Slovak architecture 1971–2011*. Prague: Zlatý řez. ISBN 978-80-87108-28-4.

[7] Pištek, P. (2023) *Reviews of family houses in architectural journals*. PhD thesis. Brno University of Technology, Prague.

[8] Řezanková, H., Húsek, D. and Snášel, V. (2009) *Cluster analysis of data*. 2nd ed. Prague: Professional Publishing. ISBN 978-80-86946-81-8.

[9] Siza, Á., Machabert, D. and Beaudouin, L. (2013) *The question of scale: interviews with Dominique Machabert and Laurent Beaudouin*. Zlín: Archa a Architektura. ISBN 978-80-87545-21-8.

[10] (2012) *Organic contemporary architecture and housing* [online]. Available at: <https://invenio.nusl.cz/record/558220?ln=cs> [Accessed 2 March 2025].

WOMEN ARCHITECTS

Pešková Zuzana

ABSTRACT: In the 19th century, architecture began to be systematically taught at universities. The École des Beaux-Arts in Paris is considered to have the earliest comprehensive modern curriculum. A department of architecture was officially established there in 1819, and the school became a model for other architecture schools. Although architecture had been taught in Prague since the early 18th century, it was not until 1864 that it was separated from engineering disciplines at the Prague Technical School. Soon, schools of architecture began admitting women. Among the first women architects to graduate were Mary Louisa Page (University of Illinois, 1878), Sophia Hayden (Massachusetts Institute of Technology, 1890), and Margarete Schütte-Lihotzky (School of Arts and Crafts in Vienna, 1920). In Czechoslovakia, Milada Petříková Pavlíková graduated as an architect from the Czech Technical University in Prague in 1921; she was the only female student in her class. Today, female architecture students exceed 60% of the student body at the CTU in Prague, and overall, they outnumber male students worldwide. Yet, architecture is increasingly the domain of men. Only 20% of architects in senior positions in studios are women. The underrepresentation of women in the architectural scene is highlighted, for example, by the platform Architektky.

The paper aims to highlight the pioneering women architects whose efforts have made contemporary architecture more open to women. It also reflects on why architecture attracts so many female applicants, despite the fact that women still do not dominate the field. A unique comparison of data from EU registers and information systems with those of the Czech Technical University in Prague is also provided.

KEYWORDS: architecture; study of architecture; women architects; Mary Louisa Page; Sophia Hayden; Margarete Schütte-Lihotzky; Milada Petříková Pavlíková; Stanislava Nowicki; Alena Šrámková; Zaha Hadid

INTRODUCTION: WOMEN'S PATH TO ARCHITECTURAL EDUCATION AND THE PROFESSION

Although women undoubtedly left their mark on many historical buildings in antiquity and the Middle Ages, their role remains obscure because, unlike men, it has not been recorded due to social conventions. Women from the upper classes could have had considerable influence over the commissioning and financing of building projects, thereby affecting the final form of architecture. They could influence aesthetic and functional requirements. In some cultures and periods, women may have played specific roles in religious buildings or within households, overseeing the construction or modification of spaces. They may have had knowledge and experience of the building trade, but they could not apply it in the same way as is possible today, i.e. through a career in architecture.

Lady Elizabeth Wilbraham (1632–1705) is widely regarded as the first female architect in modern history. She was a prominent patron of architecture and, according to some scholars [1], is credited with as many as 400 architectural works, although these were commissioned by various men. Some findings suggest that she may also have tutored Sir Christopher Wren, who may have commissioned her to design some of his London churches. However, her authorship has been questioned by other scholars [2]. Although she left little evidence of her work, a few dozen of her designs have been discovered [1].

Since the mid-19th century, the profession of architecture has been perceived as distinct, and the university environment has responded accordingly, with architecture becoming an academic discipline that has gradually become more accessible to female students [3]. The earliest comprehensive modern curriculum is considered to be that of the École des Beaux-Arts in Paris, where the Department of Architecture was officially established in 1819, setting a precedent for other schools of architecture [4]. The first female graduates of architecture schools and their subsequent professional careers can be traced back to North America and Northern Europe at the end of the 19th century, and later to the Habsburg Monarchy and Czechoslovakia.

Mary Louisa Page (1849–1921) was the first woman to graduate from a technical college, earning a Bachelor of Architecture degree from the University of Illinois in 1878. Following her graduation, she founded the firm Whitman & Page. Her partner was Robert Farwell Whitman, a surveyor and civil engineer, who was also a fellow student. Page was responsible for the drafting. For a woman at that time, choosing a male partner was a strategic business practice [7].

Sophia Hayden (1868–1953) graduated with honours in 1890, becoming the first woman to earn a degree in architecture from the Massachusetts Institute of Technology (MIT). MIT's four-year architecture curriculum emphasised both practical knowledge and the theoretical design methods established by the École des Beaux-Arts in Paris. On 2 February 1891, the Building Department of the World's Columbian Exposition announced a competition to design the Woman's Building, one of the exhibition halls to be built for the 1893 Chicago International Exposition. Hayden won the competition, and despite major changes and time pressures, she successfully completed the building. The response was both laudatory and critical. Two years of living under great stress took a toll on her health. This was the first and last project she completed, sparking a debate about whether women can succeed in architectural practice [8].¹

In Europe, women were assigned a kind of 'amateur architect-philanthropic' role. In the United Kingdom, for example, designing social housing for workers was considered a "suitable pastime for upper-class ladies", but as the building process moved away from its craft origins and became more industrialised, architecture was considered a "male" profession. By the end of the 19th century, women were permitted to draw plans and write specifications at most. While this permitted at least some personal and financial independence, the work was mundane and held little prestige. Women were generally restricted to working at the drawing board due to the anticipated difficulties they would face when inspecting buildings on site. Even in office environments, men and women were often seated in separate rooms [10].

Finland was the first European country to allow women to study architecture and obtain academic qualifications, although initially they were considered special students. The earliest recorded case is that of Signe

ZUZANA PEŠKOVÁ, PROF. ING. ARCH., PH.D.

Department of Architecture
Faculty of Civil Engineering CTU
Thákurova 9, 166 29, Prague,
Czech Republic

zuzana.peskova@FCE.cvut.cz

ORCID iD: 0000-0002-8837-5098

She is a professor in the Department of Architecture at the Faculty of Civil Engineering at CTU in Prague, and is the guarantor of the Bachelor's and Master's degree programmes in Architecture and Buildings Sciences. She is also the Vice-Dean for Teaching. Her interests include architectural education, teaching methods, architectural drawing, computer graphics, interiors, and rural space. She teaches studio work, supervises thesis projects and trains doctoral students. She also runs her own design practice.

¹ The Pioneering Women of American Architecture project, initiated in 2012 by Wanda Bubrick and Beverly Willis, presents the work of fifty selected women architects from the early 20th century [9].

Hornborg (1862–1916), who attended the University of Art, Design and Architecture in Helsinki from spring 1888, graduating as an architect in 1890 with a special permit [10].

Margarete Lihotzky (1898–1979) was one of the first women to study at the Vienna School of Applied Arts (now known as die Angewandte) from 1915 to 1919. She remained active in design until the 1960s and also wrote a number of scientific texts [11].

Christian Josef Willenberg taught architecture in Prague from 1718. Architecture only separated from engineering disciplines at Prague Technical University in 1864 [5]. Towards the end of the 19th century, the newly emerging women's movement took up the issue of women's education. Before women were granted full access to architecture and related subjects at secondary schools and universities in the Czech lands, some of them travelled abroad to study. From 1914 onwards, women were permitted to attend lectures at the technical university in Prague, albeit as guests. That same year, Milada Petříková Pavlíková (1895–1985) became the first female student of architecture and civil engineering. Following the outbreak of the First World War, an increasing number of exceptional female students joined the dwindling ranks of students leaving for the front, while applications for transfer to regular studies were rejected. Change was not brought about until the establishment of the independent Czechoslovak Republic and its new constitution, which formalised the equality of women and men. Hospitants were converted into full-time students and their studies were recognised. In 1921, Milada Pavlíková graduated as the first female architect from the Czech Technical University in Prague. Architecture was only taught at the Brno University of Technology (VUT) from 1919 onwards, by which time there were no longer any restrictions on admitting female students. Jagiela Blažková was the first woman to graduate in 1929. Architecture was not taught in Slovakia until 1946 [12].²

The "Women in Architecture" research project is dedicated to mapping and interpreting the work of female architects in the Czech lands between 1945 and 2000. It showcases the diverse range of activities of women in architecture. As well as the perspective of architectural history, it incorporates interdisciplinary themes such as the practice of architecture, the education of female architects, the balance between professional and family life, and the recognition of women architects' work. One hundred and five women architects and their four hundred and thirty-eight works are presented [13].

More than a century has passed since women were officially granted the opportunity to study architecture at university and practise as architects. However, their journey has not been easy. How has the proportion of female architecture students changed? How many women have actually succeeded in architecture? Do they still have to 'hide behind men', or is society now willing to recognise their abilities and value their work? Can we predict whether architecture will become a predominantly female field in the 21st century?

METHODS: WOMEN ARCHITECTS IN KNOWN AND LESS KNOWN DATA

The basic method involved searching literature and sources to gain an understanding of the problem and its broader context. This was followed by data collection from CTU registers and their subsequent comparison. Data was also obtained from other databases and sources to show how female architecture school graduates are involved in practice and academia, and whether they have won awards for their work. Empirical experience was also involved. Using analysis and

synthesis, we predicted the future situation of women in architecture.

RESULTS: WOMEN ARCHITECTS TODAY

In 1914, Milada Pavlíková was the only Czech student of architecture. By the beginning of the millennium, one third of students at the Faculty of Architecture (FA) of the Czech Technical University in Prague were female. At the Faculty of Civil Engineering (FCE), up to 40% of students were female in the field of Civil Engineering and Architecture, which educates engineers with advanced architectural knowledge. In 2003, structured studies were introduced, and the FCE began implementing the Architecture and Building Sciences degree programme, which culminates in an Eng. degree. Arch. In the first year, 44% of students in lecture halls at FCE were female, compared to 40% at FA [14]. The number of female architecture students has continued to increase steadily, reaching 50% of students on the Bachelor's programme at FCE in 2005 and on the Master's programme at FA in 2008 [14]. By 2024, 64% of students on the Bachelor's programme and 62% on the Master's programme were female, with the proportion of female architecture students already surpassing 65% in the Bachelor's programme at FCE in 2024 and in the Master's programme at FA in 2021 [14]. The number of female students is steadily increasing. This is not only the case at CTU. According to the Eurostat database, 57.7% of women graduated from Bachelor's degree programmes in Architecture and Urbanism (ISCED-F 0731) in the European Union (EU) in 2023. The highest number of female graduates were in Bulgaria (88.9%), Poland (69.4%), Croatia (69.2%) and Slovakia (68.1%), and the lowest were in Malta (25%) and Spain (28.2%). The Czech Republic was in the top quarter of countries surveyed with 64.5%. Among Master's degree programmes, 59.4% of graduates were women across the EU. The highest proportion was in Iceland (81.3%), Slovakia (72.7%) and Poland (72.4%), while the lowest was in Switzerland (45.9%) and the Netherlands (46.6%). The Czech Republic had a 60% female graduate proportion, placing it approximately in the middle of the ranked countries [15].

Although the study of architecture has become much more popular among women over the last hundred years, this trend has yet to be reflected in architectural practice and senior academic positions. According to statistics from the Architects' Council of Europe (ACE), a body representing the interests of over half a million architects across 36 European countries, 45% of architects in Europe will be women by 2024, up from 31% in 2010. Higher proportions of female architects are practising in Serbia (63%), Estonia (58%), Lithuania (58%), Croatia (55%), Sweden (55%), Italy (54%), Norway (54%) and Finland (52%), while the lowest proportions are in Slovakia (19%), the Netherlands (20%) and Hungary (24%) [16]. As of 1 January 2025, the Czech Chamber of Architects (CCA) recorded a total of 4,226 authorised architects (3,042 men and 1,184 women), i.e. 39% women [17].

Zaha Hadid was the first woman to win the Pritzker Architecture Prize in 2004 (she graduated from the Architectural Association School of Architecture in London in 1977). In 2010, Kazuyo Sejima was awarded the prize alongside her collaborator Ryue Nishizawa (SANAA). In 2017, Carme Pigem (who graduated from the Escola Tècnica Superior d'Arquitectura del Vallès in 1987) won the prize with her collaborators Rafael Aranda and Ramón Vilalta (RCR Arquitectes). In 2020, the prize was awarded to Shelley McNamara and Yvonne Farrell (Grafton Architects), who both graduated from University College Dublin in 1974. The most recent winner, in 2021, was Anne Lacaton (Bordeaux MONTAIGNE University graduate, 1984), with her collaborator Jean-Philippe Vassal (Lacaton & Vassal) [18].

² The "Women in Architecture" research project is dedicated to mapping and interpreting the work of female architects in the Czech lands between 1945 and 2000. It showcases the diverse range of activities of women in architecture. As well as the perspective of architectural history, it incorporates interdisciplinary themes such as the practice of architecture, the education of female architects, the balance between professional and family life, and the recognition of women architects' work. One hundred and five women architects and their four hundred and thirty-eight works are presented [13].

The largest Czech architectural competition, which recognises the best designs, was founded in 1993 by Alena Šrámková. She was the first woman to win the Lifetime Achievement Award in 2000, a feat later matched by Věra Machoninová in 2006, Zdeňka Vydrová in 2023, and Vítězslava Rothbauerová in 2024 [19]. In 2007, Alena Šrámková became the first woman to receive an honour from the Czech Chamber of Architects, followed by Věra Machoninová in 2014, Eva Jiříčná in 2021, and Zdeňka Marie Nováková in 2023 [20].

Women have only very slowly made their way into senior academic positions. Stanisława Sandecka-Nowicka (1912–2018) was the first woman in the United States to be appointed as a full professor of architecture at the University of Pennsylvania in 1963 [21]. Flora Ruchat-Roncati (1937–2012) was the first woman to hold a full professorship at ETH Zurich, serving from 1985 to 2002 [22]. Until 1989, there were no women in leadership positions in the department or the faculty at the FCE or FA of CTU. The first woman to become vice-dean of the FA did not take office until 2003, and currently, there are two female vice-deans in the FA leadership and one female architect at the FCE [25]. In teaching, women have appeared in assistant professor positions. Until 1989, Milada Radová Štiková, Dagmar Rybářová and Vlasta Řezníčková were awarded associate professorships at CTU. Zdeňka Nováková was habilitated at the Academy of Fine Arts (AVU) in Prague in 1980. At the VUT, Dagmar Matoušková, Libuše Kostelková and Růžena Bartková were awarded associate professorships in 1967/1968, 1969/1970 and 1973/1974 respectively. In 1987, Růžena Bartková became the first woman to receive a professorship at the same institution. Helena Zemánková was appointed professor at VUT in 1997 [13]. Alena Šrámková was appointed Professor of Architecture at the Academy of

Fine Arts in Prague in 1999/2000 [23]. Irena Šestáková was appointed Professor of Architecture at the Faculty of Architecture (FA) of the Czech Technical University (ČVUT) in Prague in 2014, and Zuzana Pešková was appointed Professor of Architecture and Civil Engineering at the Faculty of Civil Engineering (FCE) in 2018 [24]. In 2025, 44 people with the academic title doc. Ing. arch. work at CTU in Prague, of whom 11 are women (25%), and 24 prof. Ing. arch. and 3 prof. Akad. arch., of whom four are women (15%) [25].

DISCUSSION: WILL THE ARCHITECTS OF THE 21ST CENTURY BE WOMEN?

During the first quarter of the 21st century, the proportion of women studying architecture has essentially overtaken that of men. This issue of the feminisation of architecture students is a topic of strong resonance not only in academic circles, but also on Czech and European platforms. What are the main reasons for the growing interest among women in studying architecture? This is certainly a sign of social change. The profession of architecture became socially acceptable during the 20th century. Stereotypes are changing. Architecture is no longer exclusively considered a 'male technical profession'. The new millennium has brought a new view of architecture as a multidisciplinary field, which is a consequence of the increasing complexity of design and construction practices. Architects are no longer the sole creators, but members of a broad team. The creative aspect of the work and the social nature of the field are undoubtedly attractive features. There is a greater emphasis on equality of opportunity, and education has become more inclusive and supportive. Additionally, strong female architectural role models have emerged since the beginning of the millennium, achieving extraordinary recognition and

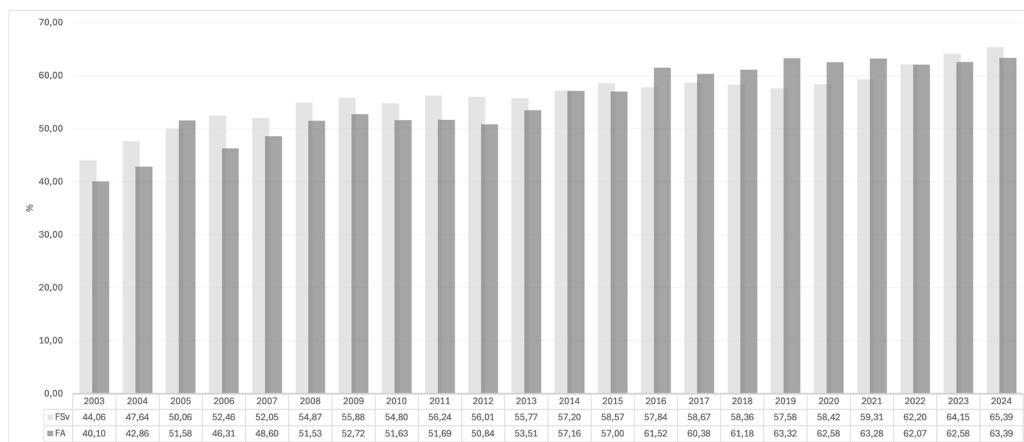


Fig. 1: The chart shows the percentage of female students enrolled in architecture bachelor's degree programmes at the Faculty of Architecture (FA) and Faculty of Civil Engineering (FSV) of the Czech Technical University in Prague between 2003 and 2024., author Zuzana Pešková. (Source: author)

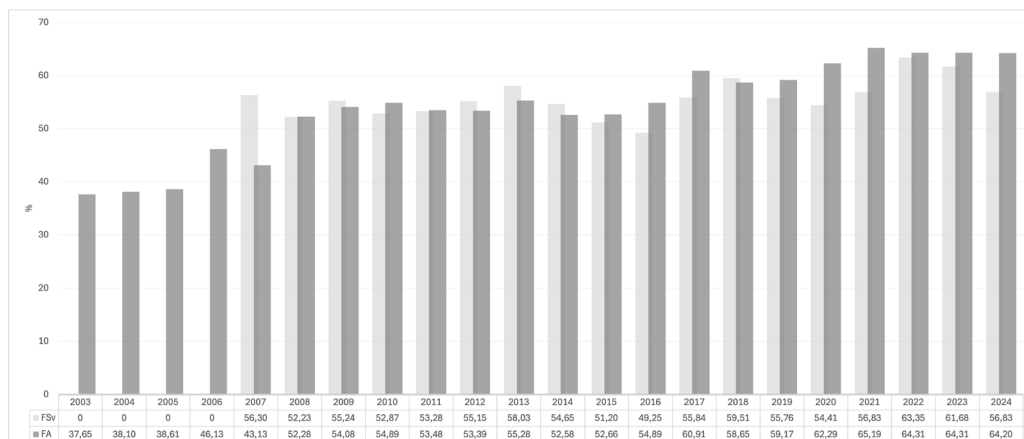


Fig. 2: The chart shows the percentage of female students enrolled in architecture master's degree programmes at the Faculty of Architecture (FA) and Faculty of Civil Engineering (FSV) of the Czech Technical University in Prague between 2003 and 2024., author Zuzana Pešková. (Source: author)

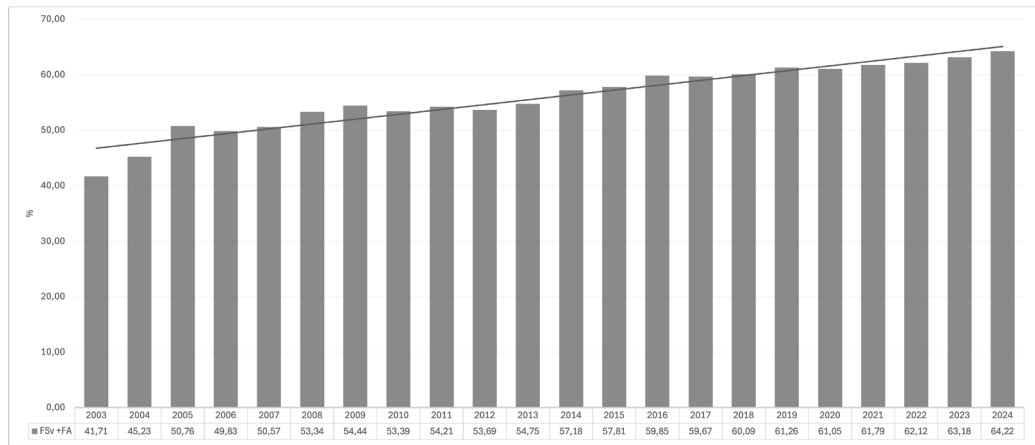


Fig. 3: The chart shows the percentage of female students enrolled in architecture bachelor's degree programmes at Czech Technical University in Prague in total (FA+FSv) between 2003 and 2024., author Zuzana Pešková. (Source: author)

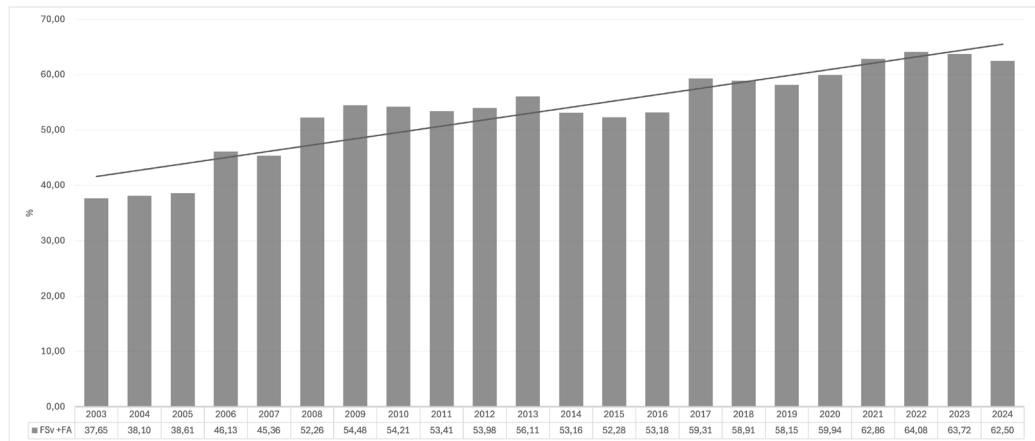


Fig. 4: The chart shows the percentage of female students enrolled in architecture master's degree programmes at Czech Technical University in Prague (FA+FSv) in total between 2003 and 2024., author Zuzana Pešková. (Source: author)

becoming more widely known. Meanwhile, new opportunities have opened up for men in technical studies and lucrative careers in information technology. It can be assumed that the number of female applicants interested in studying architecture will continue to increase. Over the next decade, the proportion of female architecture students in the Czech Republic is likely to exceed 70%. Unless architecture schools implement a reverse gender policy, the number of female students could potentially rise to 80% by the middle of the 21st century. However, it is unlikely to rise much further than this, as there will always be a certain percentage of men attracted to the profession of architecture.

Although architecture schools are producing more female graduates than ever before, only a fraction of them are employed in architectural practices. This is mainly due to the demanding nature of the profession and its low social status, which can make it difficult to combine with motherhood and family life. Consequently, many women choose administrative and academic positions, or leave the field altogether. This issue has been highlighted by the RIBA in collaboration with the University of the West of England, Bristol [26], the Architect Women platform [27], and the research report Working Conditions of Young Architects [28]. Nevertheless, the market share of practising female architects is slowly but surely growing. There is also a gradual generational change in architectural practices, bringing with it a shift in stereotypes. Younger generations already perceive women's abilities differently, and men's attitudes towards childcare and traditional gender roles are slowly changing too. Therefore, it can be assumed that the proportion of women in architectural practices will continue to rise, and they will gradually become more prominent in key and leading positions, as seen with Viktoria Souček at Bogle Archi-

tects and Eva Le Peutrec at Casua. It usually takes 20 years of hard work to receive recognition after graduation. Pritzker Prize winners received the award 27, 30, 46 and 37 years after graduating. Senior positions are generally not attained until the age of around 40–50. The same is true in academia. It is estimated that the second half of the 21st century will be the period when women start to dominate architecture. However, they are more likely to be part of architectural teams, albeit more feminised ones. Only the most exceptional are likely to emerge from the shadows of their colleagues and establish their own brand.

CONCLUSION: WOMEN ARCHITECTS: YESTERDAY, TODAY AND TOMORROW

The 20th century saw opportunities arise for women to study architecture and work as architects. However, the path to achieving this social acceptance and ensuring that architecture was not perceived as an exclusively "male field" was not easy. Without the global efforts of a number of determined, persistent and indomitable women, this would not have happened. The new millennium brought changes. The work of the first female architects was recognised, whether through professional awards or the highest academic degrees. Architecture schools experienced a significant increase in the proportion of female students, and this trend is expected to follow in architectural practice with a certain delay. This article looks back at the pioneers: the first women to graduate from domestic and foreign architecture schools; the first women to win prestigious architectural awards; and those who achieved professorial positions. Statistical analyses examined the representation of women in architecture studies and practice in a European context, as well as in more

detail at the Czech Technical University in Prague. The data suggests that, unless there is a fundamental change in external circumstances, the trend of increasing numbers of female architecture students and practising architects in academia will continue steadily. In the second half of the 21st century, women will be predominantly represented in architecture and will also hold key management positions.

Thank you to Ing. Ditta Saláková, Head of the Study Department at the Faculty of Civil Engineering at CTU in Prague, for her dedicated help in obtaining data from CTU registers.

SOURCES

- [1] MILLAR, John (2020). The first woman architect. Online. Architects' Journal. Available at: <https://www.architectsjournal.co.uk/practice/culture/the-first-woman-architect> [Accessed 17 July 2025]
- [2] KAHN, Eve M (2012). Maybe a Lady Taught Christopher Wren. Online. The New York Times. ISSN0362-4331. Available at: <https://www.nytimes.com/2012/03/09/arts/design/the-case-for-a-17th-century-female-british-architect.html> [Accessed 8 March 2012].
- [3] BRŮHOVÁ, Klára a DOUDOVÁ, Helena (ed.) (2024). Ženy v architektuře: kritické studie a genderové analýzy českého architektonického prostředí po roce 1945. Vysoká škola uměleckoprůmyslová v Praze. ISBN 978-80-88622-10-9.
- [4] JACQUES, Annie (2001). Les Beaux-Arts, de l'Académie aux Quat'z'arts, anthologie historique et littéraire établie. Paris. É.N.S.B.A.
- [5] DULLA, Matúš (ed.). FA ČVUT 1976–2016. Praha: Fakulta architektury ČVUT, 2016. ISBN 978-80-01-06031-5.
- [6] Historie. ČVUT v Praze. Online. Available at: <https://www.cvut.cz/historie> [Accessed 15 July 2015].
- [7] Mary Louisa Page. Online. Illinois Distributed Museum. Available at: <https://distributedmuseum.illinois.edu/exhibit/mary-louisa-page/> [Accessed 15 July 2015].
- [8] HYDE, Timothy. Sophia Gregoria Hayden Bennett. Pioneering Woman of American Architecture. Online. Available at: <https://pioneeringwomen.bwaf.org/sophia-gregoria-hayden-bennett/> [Accessed 15 July 2015].
- [9] Pioneering Woman of American Architecture. Online. Available at: <https://pioneeringwomen.bwaf.org> [Accessed 15 July 2015].
- [10] CAVEN, Valerie a DIOP, Marie (2011). Women and Equality in Architecture: An Anglo-French Comparative Study. Online. Association of Research in Construction Management. Available at: https://www.arcom.ac.uk/-/docs/proceedings/ar2011-0217_0226_Caven_Diop.pdf [Accessed 15 July 2015].
- [11] Margarete Schütte-Lihotzky. Online. Archiweb. Available at: <https://www.archiweb.cz/margarete-schutte-lihotzky> [Accessed 15 July 2015].
- [12] Cesta žen k architektonickému vzdělání. Online. Ženy v architektuře. Available at: <https://zenyvarchitecture.cz/tema/temata-detail/?tema=6> [Accessed 15 July 2015].
- [13] Ženy v architektuře. Online. Available at: zenyvarchitecture.cz [Accessed 15 July 2015].
- [14] Sdružené informace matrik studentů (SIMS) - aggregated student enrolment registry data as of 30 October of the given year.
- [15] Databáze Eurostat. Online. Available at: https://ec.europa.eu/eurostat/databrowser/view/educ_uae_grad10__custom_17519909/default/table?lang=en [Accessed 17 July 2015].
- [16] ACE Observatory. Online. Available at: https://aceobservatory.com/A_Gender.aspx?Y=2018&c=Europe&l=EN [Accessed 17 July 2015].
- [17] Česká komora architektů. Základní informace. Online. Available at: <https://www.cka.cz/komora/o-komore/zakladni-informace> [Accessed 17 July 2015].
- [18] The Pritzker Architecture Prize. Online. Available at: <https://www.pritzkerprize.com> [Accessed 17 July 2015].
- [19] Grand Prix Architektů. Národní cena za architekturu. Online. Available at: <https://www.grandprixarchitektu.cz/grand-prix-architektu/> [Accessed 17 July 2015].
- [20] Pocta ČKA. Online. Česká komora architektů. Available at: <https://www.cka.cz/svet-architektury/prehlidky-a-oceneni/pocta-cka> [Accessed 17 July 2015].
- [21] Humanist modernity. Stanisława and Maciej Nowicki. Online. Narodowy instytut architektury i urbanistyki. Available at: <https://przewodniki.niai.pl/en/humanist-modernity/> [Accessed 17 July 2015].
- [22] PEROTTI, Eliana a kol. Flora Ruchat Roncati at ETH Zürich. Online. ETH Zürich. Departement of Architecture. Available at: <https://arch.ethz.ch/en/news-und-veranstaltungen/lehre-forschung/archives/flora-ruchar-roncati.html> [Accessed 17 July 2015].
- [23] HORSKÝ, Jiří (2003). Profil: Alena Šrámková. Architekt. Vol. 49, no. 2, pp. 44–47.
- [24] Profesorské spisy. Portál ČVUT. Online. Available at: <https://portal.cvut.cz/informace-pro-zamestnance/habilitace-a-inaugurace/profesorske-spisy/> [Accessed 17 July 2015].
- [25] Usermap. Databáze lidí na ČVUT. Online. Available at: <https://usermap.cvut.cz> [Accessed 17 July 2015].
- [26] DE GAFT-JOHNSON, Anne; MANLEY, Sandra; GREED Clara (2003). Why do women leave architecture? Online. University of the West of England, Bristol. Available at: <https://www.scribd.com/document/324503599/Why-Do-Women-Leave-Architecture> [Accessed 18 July 2015].
- [27] Platforma Architektky. Online. Available at: www.architektky.net [Accessed 18 July 2015].
- [28] LOKŠOVÁ, Terezie; POMYJOVÁ Eliška a kol. (2020). Pracovní podmínky mladých architektů a architektek. Online. Available at: <https://www.era21.cz/vyzkum/> [Accessed 18 July 2015].

FROM ELEMENT TO PLACE: A FIRST-YEAR DESIGN METHOD BASED ON THE GRAMMAR–LOGIC–RHETORIC TRIAD

Řihák Pavel

PAVEL ŘIHÁK, ING. ARCH., PH.D.

Department of Architecture
Faculty of Civil Engineering
VŠB-Technical University of Ostrava
Ludvíka Podéště 1875/17
708 00 Ostrava, Czech Republic

pavel.rihak@vsb.cz

ORCID iD: 0000-0002-1000-7340

The author graduated from Technical University of Ostrava with a degree in Architecture. Today, he lectures Urbanism and town planning at the Department of Architecture. His research focuses on the relation between architecture and urbanism. He gained practical expertise not only in the Czech Republic but also in Santa Cruz de Tenerife. Since 2019, he has worked for a planning and architectural studio in Ostrava (MAPPA).

ABSTRACT: This paper presents a didactic method for teaching foundations of architectural design in the first-year studio. The approach rests on two pillars: designing from week one and a fixed sequence of elementary tasks—element → opening → plane → object → path → pavilion. A guiding triad—grammar–logic–rhetoric—aligns compositional/tectonic rules, spatial behaviour in time, and clear argumentation. Methodologically, we report practice-based qualitative evidence from a large cohort (100–150 students; 7 tutors), with a weekly rhythm and overlapping assignments mapped to Kolb’s experiential cycle. Standardised deliverables (diagram, orthographic drawings, axon/perspective, concise text; models where relevant) document decisions and proofs. Results indicate faster engagement and higher conceptual clarity without resorting to trivial tasks. We discuss limits (formalism, limited quantification) and mitigations, and argue for the transferability of the “element-to-space” curriculum skeleton.

KEYWORDS: architecture education; first-year studio; design pedagogy; grammar–logic–rhetoric; sequence of tasks; threshold and light; tectonics; figure; object–place field; path design; pavilion; Kolb cycle; qualitative case study; curriculum design

INTRODUCTION

The first studio is often the most intense encounter of beginners with the architectural discipline: beside enthusiasm comes uncertainty, different skills, and simplified ideas about the result. The common ground is the ability to make informed decisions and to see their consequences in drawings and models. Therefore, this text defends two mutually supporting pillars:

1. designing from the first week
2. working in a fixed sequence of elementary tasks: compositional element → opening → surface → object → path → pavilion.

Thesis: spatial literacy, critical judgement, and authorial responsibility can be developed most effectively in the first year if the student from the beginning experiences choice (what is essential and why), proof (how the choice appears in drawings and perspective), and message (how to express the principle clearly and briefly). We formulate these three requirements as the triad grammar–logic–rhetoric: “grammar” means compositional and tectonic order, “logic” means the behaviour of space in time and its sensory effects, and “rhetoric” means clear representation and defence.

Research question: Does the sequence of elementary tasks and explicit work with the triad grammar–logic–rhetoric help to engage first-year students faster and more intensively in architectural design? A second question: Does this “framework” serve as a transferable structure, on which it is possible to attach programme, standards, and typology without losing the clarity of the concept?

We do not make quantitative comparison in terms of percentage improvement. We present a qualitative, practice-based overview of specific tasks from first-year works (more than 150 students, a team of 7 teachers). The goal is not the selection of “best images”, but an overview of diverse results.

METHODOLOGICAL BASIS

Students learn to think architecturally not by collecting data, but by creating – by choosing, setting hierarchy, and defining, all in the rhythm of short tasks. We follow the development (sketch – diagram – drawings – model – short text) through different types of consultations (individual and group, open discussion

among all students and teachers is welcome) with overlap between several tasks.

Form and tectonics: The first year needs a “common language” for composition and readability (e.g. Ching, 2015; von Meiss, 2018). Tectonic logic – what carries and what is carried – gives the design credibility (e.g. Deplazes, 2013; van der Laan, 2012).

Phenomenology: Space is “read” through body, light, and movement (e.g. Rasmussen, 1977; Pallasmaa, 2012). At the scale of path and city, configuration and clarity of passage are decisive (e.g. Hillier, 2015; Norberg-Schulz, 2010).

This double framework would not be enough without rhetoric – the ability to clearly show what is essential and to defend the design decision (e.g. Rowe, 2007; Zumthor, 2009). Therefore, three elements are necessary: the diagram (what is essential), the drawings (proof), and the short text (argument).

From the early phase of teaching, the focus is on reasoning, not on simple quantified evaluation. Simple metrics (for example light tests or configuration clarity of passage) are used where they strengthen understanding, not as a replacement for architectural judgement.

CURRICULAR STRUCTURE OF ZAN 1,2

Organization of the week. Each meeting has three stable parts: a short introductory lecture (about a principle, precedent, or tool), independent work, and consultations (during the afternoon students can talk alternately with different teachers. Students are guided to listen and learn also from consultations of their classmates), and submission of partial tasks with reflection. Consultations are intentionally diverse. Sometimes they focus more on meaning and composition, other times on clarity of presentation. We evaluate together, all teachers, according to three criteria: composition and tectonics, spatial readability, and clarity of message. Attendance and timely submission are monitored as basic requirements.

Each task lasts about six weeks; the next one begins in the fifth week. The overlap leads students to work on different tasks at the same time. One task is being finalized while the next one begins. This rhythm also follows Kolb’s cycle: experience–reflection–generaliza-

tion—experiment (Kolb, 2014).

Media and outputs. The basis consists of drawings, axonometry/perspective, diagram, and short text. A model is required for selected tasks. The rule is clarity and internal consistency across all media (Ching, 2015; Rowe, 2007).

Focus of tasks. Each task has a different main point. Some are without a specific location (so that the student cannot hide behind “solving the site” before having a clear principle), some have a given site. Sometimes the focus is on craft and composition (compositional element), other times on threshold and light (opening), division and connection (surface), tectonic readability and relation part–whole (object), sequence and orientation (path), or creation of interior space and its boundaries (pavilion).

TRIAD GRAMMAR–LOGIC–RHETORIC

Grammar gives the design order: the relation of figure and background, organization (centralization, line, radial, cluster, grid), compositional principles (axis, symmetry/asymmetry, hierarchy, rhythm, contrast), and tectonics (carrying × carried, edge, joint, transition). Grammar is not a style or a rule. It is an alphabet (Ching, 2015; von Meiss, 2018).

Logic creates the sense and meaning of each space in time: configuration, network, paths, and hierarchy remove impression and transform emotion into understandable qualities of each element or space (Hillier, 2015; Norberg-Schulz, 2010).

Rhetoric ensures the clarity of the message: diagrams separate the essential from the non-essential, drawings are proofs, and the short text formulates the argument. The layout of the poster is not understood only as a graphic skill, but as part of the design. Confusion in formal presentation often reflects confusion in thinking (Rowe, 2007; Zumthor, 2009).

The triad is also a brake on aestheticization. It requires order, meaning, and clarity at the same time. If one of these poles is missing, it can be identified and corrected (Olgíati, 2019).

SEQUENCE OF TASKS: FROM ELEMENT TO SPACE

The sequence compositional element → opening → surface → object → path → pavilion builds teaching on the gradual extension of skills. From the compositional element and its relations (order, rhythm, joint) through thresholds and light (reading space by the body) and coherent field (division and connection) to tectonic readability (part–whole) and walking sequence (configuration), up to the creation of an interior space with a convincing boundary. Each task has a different focus, but all of them overlap. The result of one task becomes a skill for the next one. In practice, it means that in every phase the student focuses on a few essential topics — and is able to show them clearly (drawing/model/text). In this way, from the beginning, the student learns to decide, not to decorate.

Compositional element. It is an exercise in restraint. The goal is a minimum of shapes and a maximum of relations. The student learns hierarchy and rhythm, distinguishes what is the datum and what is variation. The key is the joint, division, and spatial structure — not as decoration, but as a carrier of order. On the smallest unit it is best visible whether there is a proper composition, whether rhythm can work with pause, whether the gap is intentional, and whether scale and proportion are present in principle. When variability gets out of control, we return to a single rule and its consistent variation. When the joint slips into ornament, we return it to the logic of composition. The goal is not a

“nice pattern” but a meaningful structure (Fig. 1–2).

Opening. From a “hole in the surface” it becomes an element (or elements). The threshold is a band (covered fore-space – semi-public niche – door). The shape and depth of the reveal create light gradients that hold scale and intimacy. The opening is a form-giving unit. In section it must be readable where shadow appears, how the flow of light shows on the reveal, and where the real transition between outside and inside occurs. If the opening floats without context, we return to grammar (axis, rhythm, datum). If it is only an effect, we ask about the meaning, which must be confirmed by drawing and model (Fig. 3–4).

Surface. It is not a “cluster of cells,” but division and connection into a coherent field. We work with rhythm, contrast, and human scale. The goal is coherence without monotony. Figures help to verify that the background really “expands” and the field holds together. One simple compositional principle (axis, band, grid) protects against purposeless design. We introduce a dominant — emptiness or contrast — to create a focus, and at the same time we ensure that exception is readable for better orientation and not self-serving. The surface is the basic mediator between element and space (Fig. 5–6).

Object. The goal of the task is to design an object as a generator of surrounding space — a body that by its form, figure, placement, height, or porosity creates a magnetic field, a local center, a focus that organizes near and distant relations (square, courtyard, corner). We do not solve the interior, but the principle is the same. For us, the exterior space founded by the object is primary. We work with edges (wall, colonnade), cover (canopy, cornice, tree crown), base (step, bench), and openings framing views — their mutual configuration defines the degree of enclosure, orientation, and movement. Scale and distance (near – middle – far field), rotation and layering give space clarity and quality for staying. The proof is the plan (how the void holds together), section through intermediate space, and elevations (where a node appears, where the horizon opens/closes). We evaluate whether the object creates a clear field, maintains hierarchy of places, and guides paths (Fig. 7–8).

Path. It is a sequence and also a configuration. A good path is a figure that leads and at the same time offers places to stay. It alternates narrowing/widening, light/shadow, straight/oblique, and creates readable nodes and thresholds. In plan, the readability of movement can be estimated by depth and integration. When the network is too complex, we return to meaning and quality of nodes. When “dead spaces” appear, a small geometric correction is often enough. The sequence is complemented by scale archetypes — railing, cornice, lamp — to balance “mind and body” (Fig. 9).

Pavilion. The last task does not aim at a “synthesis of everything,” but at creating interior space and its boundaries. The pavilion is an intimate test of thickness and tectonic naturalness of the envelope, light, and scale, and at the same time a test of rhetorical clarity. We start with the interior. We define the “inner room” (intimacy, acoustics, view), and only then we draw the outer outline. A formal envelope alone is not enough; the goal is the relation between exterior and interior form with one defining principle (raumplan, plan libre, spatial plan) to which everything else is subordinated. The result should be calm form chosen with disciplined limitation of means (Fig. 10).

The sequence of tasks from element to space is not a catalogue of skills. On the element the student learns to distinguish rule and mistake. On the opening, to understand threshold and gradients. On the surface, to control field and scale. On the object, to create a magnetic field. On the path, to compose time and orienta-

tion. In the pavilion, to create an interior that stands by its boundary, light, and scale. Each step develops a part of essential skills and passes it on. The joint and thickness return in the reveal, the perforation of surface becomes a façade, the magnetic field of the object creates a node, and the experience of sequence co-forms the pavilion. The teaching is therefore clear and transferable. The student knows what question they are solving, in what language they defend it, and what proof they present.

CASES OF TASKS

The examples serve as clear evidence of process and approach — how the solutions are presented differently and how the triad grammar–logic–rhetoric is expressed from the compositional element to the pavilion. We deliberately choose various approaches to show that quality does not lie in one style, but in precision of design, reasoning, and invention.

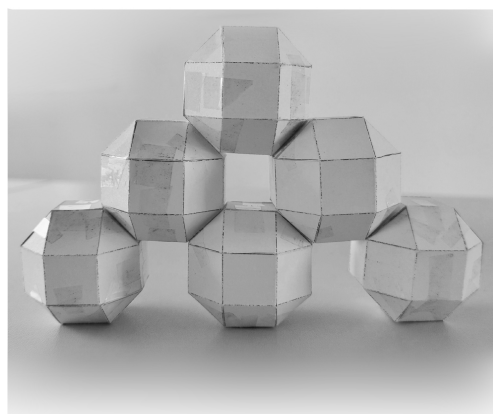
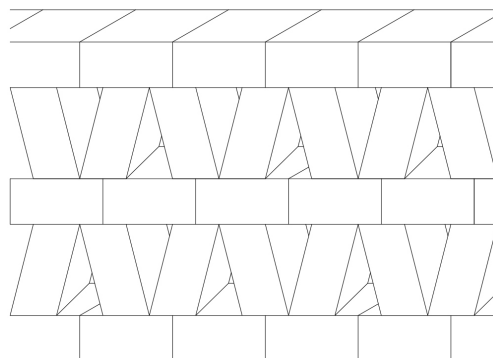
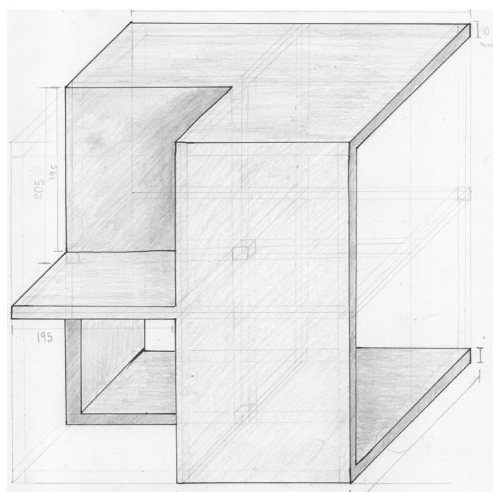


Fig. 1.: Compositional element, year 2023/2024, authors (top to bottom): Zuzana Ryšavá, Daniel Dostál, Filip Grosman. Compilation and selection: author (Source: Ryšavá, 2023; Dostál, 2023; Grosman, 2023)

The results of students in subjects ZAN 1 and ZAN 2 in 2023/24 and 2024/25 show a stable level of submitted works. In the academic year 2023/24, students in ZAN 1 received grades as follows: excellent 20%, very good 56%, good 21%, and failed 4%. In ZAN 2 in the same year, the distribution was similar: excellent 23%, very good 65%, good 8%, and failed 4%. In 2024/25, there was a stronger focus on consistent quality across tasks. In ZAN 1, 15% of works were graded excellent, 60% very good, 19% good, and 6% failed. In ZAN 2, 10% achieved excellent, 54% very good, 25% good, and 11% failed. These results do not indicate worsening of submitted work, but rather that excellent works are more often distributed across individual tasks, which makes the final “excellent” grade harder to reach. At the same time, students who successfully complete the subject consistently deliver solid and high-quality outputs. The article does not further analyse detailed

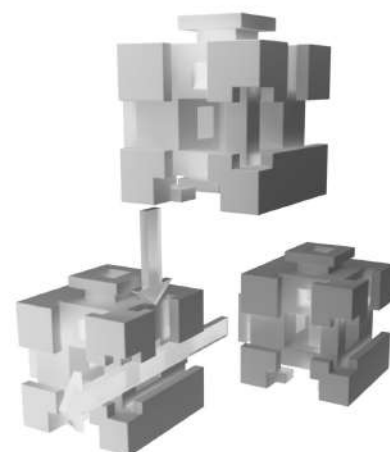
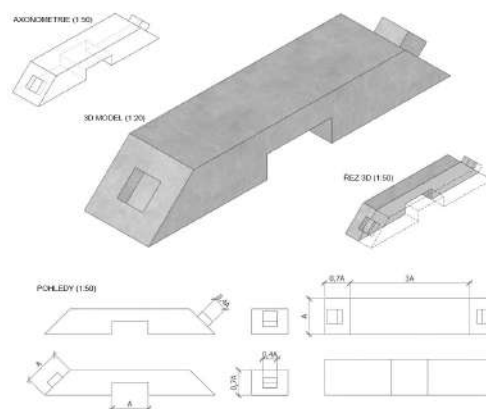
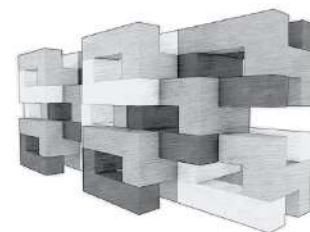
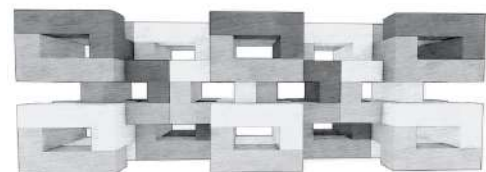


Fig. 2.: Compositional element, year 2024/2025, authors (top to bottom): Miroslav Volný, Pavel Růžovský, Patrik Čapka. Compilation and selection: author (Source: Volný, 2024; Růžovský, 2024; Čapka, 2024)

assessment of individual works, but it will be possible in the future to continue this analysis and connect it with results from other studios.

Compositional element 2023/2024 (Fig. 1). Three approaches to the element: (1) a porous field created by overlapping elements, (2) a single change – beveling of two edges – opens a wide range of compositional possibilities, (3) a simple volume designed for spatial composition in several variants. The focus on the joint and the datum rule shows that the grammar of the element and the logic of its combinatorics are equally essential.

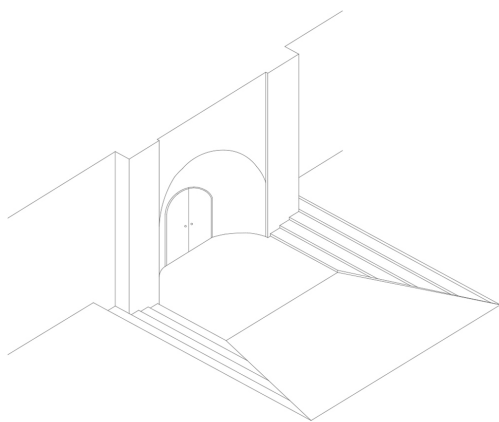
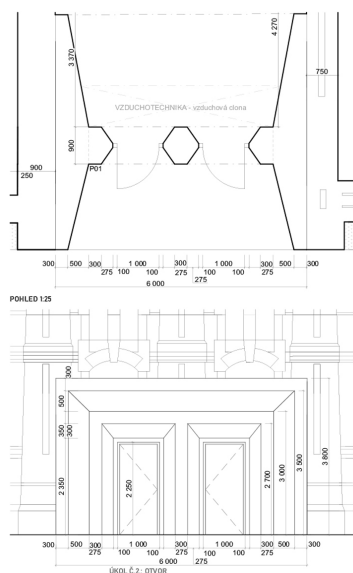


Fig. 3.: Opening: Entrance to former Ostrava slaughterhouse, year 2023/2024, authors (top to bottom): Pavel Dorociak, Andrea Mikešová, Izabela Hanzelková. Compilation and selection: author (Source: Dorociak, 2023; Mikešová, 2023; Hanzelková, 2023)

Compositional element 2024/2025 (Fig. 2). All three examples work with “interlocking”: (1) The element allows sliding and rotation, the field is rigid. (2) Variations inspired by wooden joints are firm and readable. (3) A more complex volume assembles walls into precise locks – tectonic rigidity is part of the concept. Good compositionality is a structural property, not an ornament.

Opening: entrance to former slaughterhouse 2023/24 (Fig. 3). Different works deal also with differences in terrain and floor levels. (1) A restrained portal unifies simple doors into a strong threshold. (2) A recessed entrance with ramp and side stairs, an abstracted half-arch vault – “Plečník-like” restraint without citation or reference. (3) A new form referring to circle and diagonal façade motives, but remaining clearly contempo-

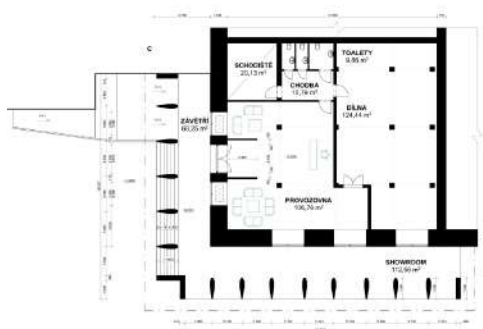
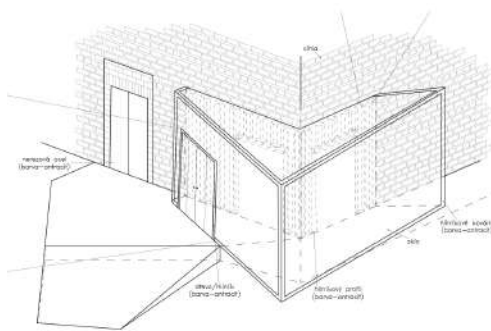
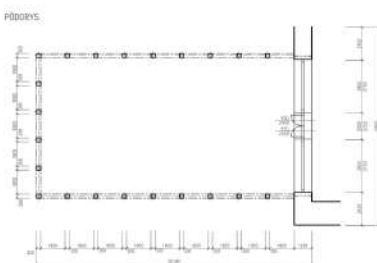


Fig. 4.: Opening: Post-industrial hall, year 2024/2025, authors (top to bottom): Petra Simová, Karolína Vedrová, Adam Profota. Compilation and selection: author (Source: Simová, 2024; Vedrová, 2024; Profota, 2024)

rary.

Opening: post-industrial hall 2024/25 (Fig. 4). The task works with a hall in one of the former Ostrava mines, including a complex of buildings and extensions. (1) An added volume with clear geometry absorbs all transitions and creates a new, readable frame. (2) In contrast, a minimalist corner as a “beacon” uses existing openings and a contrast corresponding, for example, to current preferences in heritage care. (3) An extended terrace integrates ramps and stairs, follows the rhythm of columns, and opens the corner.

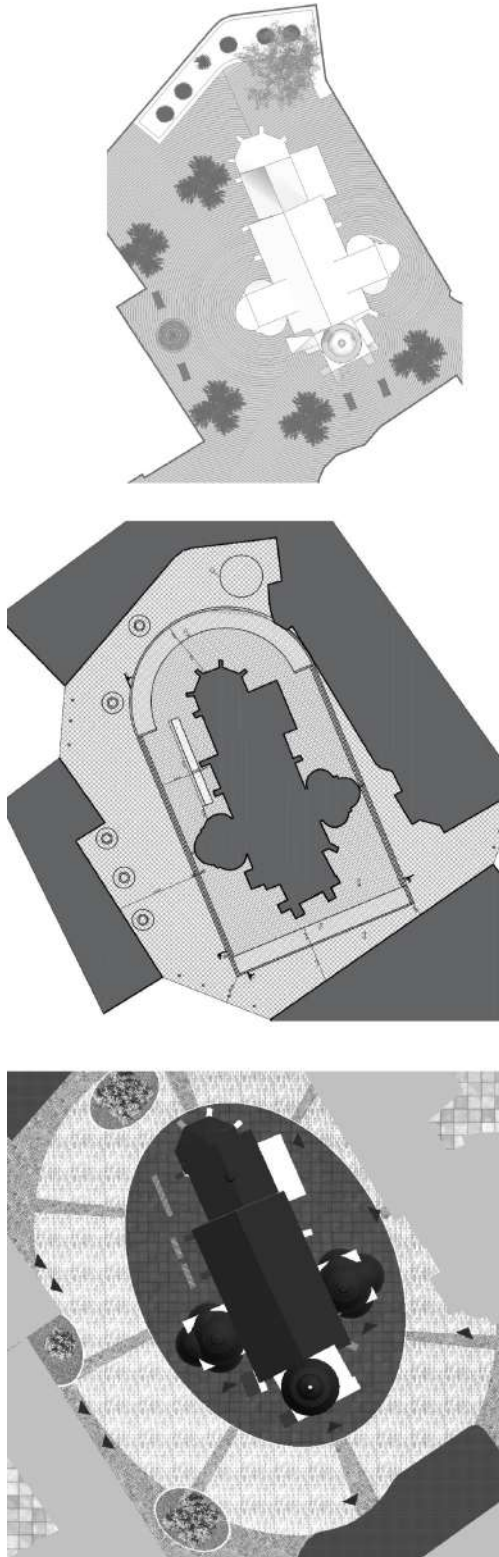


Fig. 5.: Surface: Church Square, year 2023/2024, authors (top to bottom): Mariana Polášková, Viktorie Mádrová, Katarína Hofierková. Compilation and selection: author (Source: Polášková, 2023; Mádrová, 2023; Hofierková, 2023)

Surface: Church Square 2023/24 (Fig. 5). Complex terrain, additions to the church, and remains of fortifications. Selected designs, instead of a “functional plan,” propose a clear, unified surface to which the operation adapts. They work with the hierarchy of bands, emptiness, and the dominance of the sacred figure. The result is a shared space without preference for different types of traffic – first the field, then the function.

Surface: FAST Garden 2024/25 (Fig. 6). The unanchored edge requires new order. Two designs use lines for division and hierarchy; the central example inserts a generous circular field that unifies the space and gives it scale. Generous surface grammar better suppresses the complexity and lack of structure of the site; purely linear solutions end rather as functional organization.

Object: confluence of Ostravice and Lučina rivers 2023/24 (Fig. 7). Three place-making strategies: (1) A solitary object as magnetic core and small mounds as secondary elements. (2) A dispersion of 23 slender elements forming a circle – symbol of connection of all three riverbanks. (3) No vertical form, only a network of paved lines crossing in a focus point. Different approaches in the form of object, field, or line can all

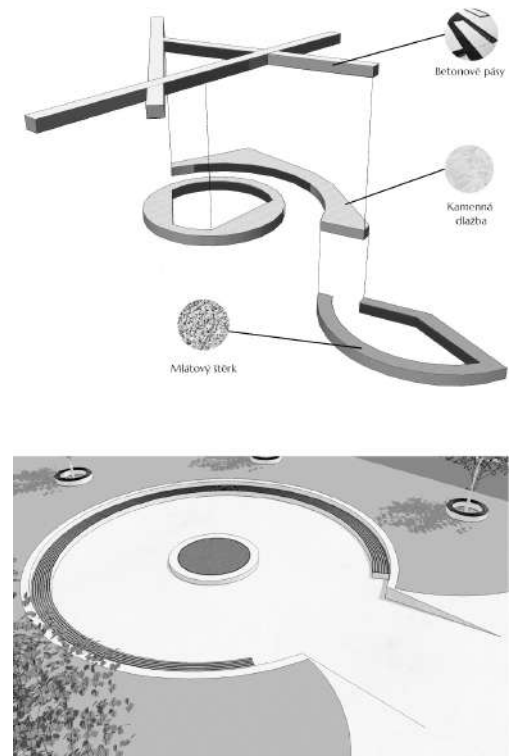


Fig. 6.: Surface: FAST Garden, year 2024/2025, authors (top to bottom): Anežka Planková, Nikola Lusková, Karolína Vedrová. Compilation and selection: author (Source: Planková, 2024; Lusková, 2024; Vedrová, 2024)

create a place.

Object: Memorial to victims of the war in Ukraine 2024/25 (Fig. 8). Variety of approaches, high quality. (1) A broken circle with a pair of human silhouettes creates a space for staying. (2) A traditional monument on a pedestal with expression of dignity. (3) An abstract “inscription” of solid volumes, passages vary in width – the “forced” effect of passage was discussed. Common scale and work with light give the designs weight without gesture.

Path: corridor in an apartment building 2023/24 (Fig. 9). Loosely specified layouts. (1) A segmented corridor follows the division of flats; cores create clear nodes of the plan. (2) A circular motif continues into the staircase and elevator, entrances to flats are around the corner – forming protected vestibules. (3) A “ravine” of a gallery house with organic profile teaches discipline of drawing and composition. The path is a series of figures, not a leftover space.

Pavilion 2024/25 (Fig. 10). Three different approach-

es to interior space. (1) A dismantlable wooden frame with membrane – the structure defines expression both outside and inside. (2) Free addition of volumes with skylights, various sizes = various lighting and connections. (3) Strong geometry of plan and roof that carries the whole spatial structure.

The examples show that students can, in a short time, transform a principle into a concrete design. It is not about one correct form, but about clear composition, verified logic, and understandable rhetoric. Where these three levels meet, a complex architectural design emerges.

LIMITS AND THEIR BALANCING

Quantification. Phenomenological qualities (light, haptics, calmness of form) cannot be reduced to a single number. At the same time, we do not ignore measurable minima where they help understanding (for example simple light tests, basic acoustic consideration, or configuration clarity of passage). We use them as a

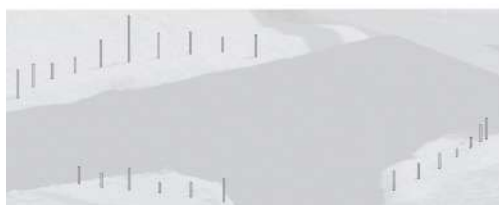


Fig. 7.: Object: Confluence of Ostravice and Lučina rivers, year 2023/2024, authors (top to bottom): Pavel Dorociak, Tomáš Křížek, Matěj Lasák. Compilation and selection: author (Source: Dorociak, 2024; Křížek, 2024; Lasák, 2024)



Fig. 8.: Object: Memorial to victims of the war in Ukraine, year 2024/2025, authors (top to bottom): Yaroslav Kachurovskiy, Monika Šuláková, Barbora Štorková. Compilation and selection: author (Source: Kachurovskiy, 2025; Šuláková, 2025; Štorková, 2025)

corrective, not as a replacement for judgement (Norberg-Schulz, 1979; Valena, 2018).

Risk of formalism. Work with “grammar” can lead to a formal ritual. The counterbalance is twofold: phenomenology – space must be understood by the body; tectonics – the section and joint must make sense. In practice, it means that every “beautiful” decision must have spatial and structural logic (Olgiati, 2019).

Variability of teachers. Seven teachers intentionally bring different opinions – this is the intention. The robustness of evaluation is increased by shared consultations and common minimum outputs (diagram,

drawings, model, text). Different, but argument-based opinions are beneficial for students.

Digital tools and AI. AI is used instrumentally (research, post-production). The authorship of concept and decisions remains with the student. We require that the student can explain why their solution is the best in given conditions.

CONCLUSION

The presented method stands on a simple but demanding ambition: to design from the first week and to insist that every decision can be understood grammatically (composition/tectonics), logically (behaviour/meaning), and rhetorically (communication/defence). The sequence of elementary tasks — compositional element → opening → surface → object → path → pavilion — provides a clear “framework” on which programmatic complexity, standards, and metrics can later be attached without losing the clarity of the principle.

The documented cases show that students, in a short time, are able to name what they do and why, and to prove it in drawings. The limits (quantification, formalism) are balanced by observable minima and, above all, by joint consultation and evaluation by up to seven teachers.

We do not want the first year to become a “production of effects” or a “catalogue of analyses.” We want it to become a place of learning responsible creation: what is essential, how to express it most precisely, and how to prove it. In this way, from the first semester, students acquire what we believe makes an architect an architect – the ability to seek the best possible solution in given time and place and to take responsibility for it.

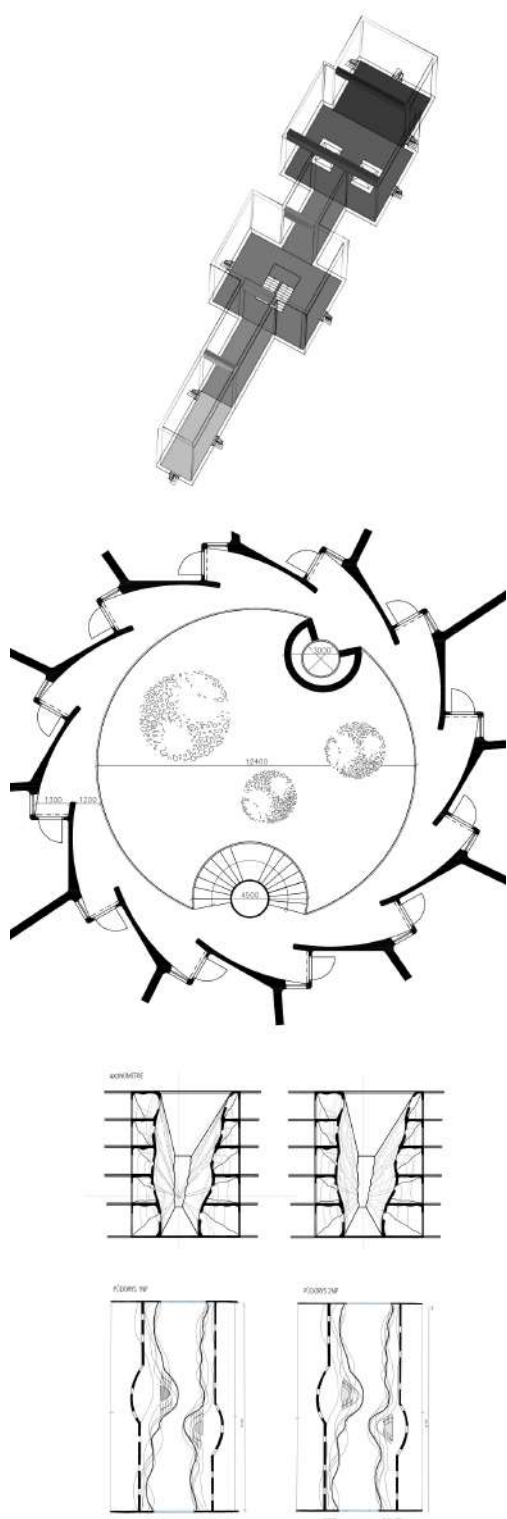


Fig. 9.: Path: Corridor in an apartment building, year 2023/2024, authors (top to bottom): Zuzana Topinková, Klára Zavadilová, Eliška Talandová. Compilation and selection: author (Source: Topinková, 2025; Zavadilová, 2025; Talandová, 2025)

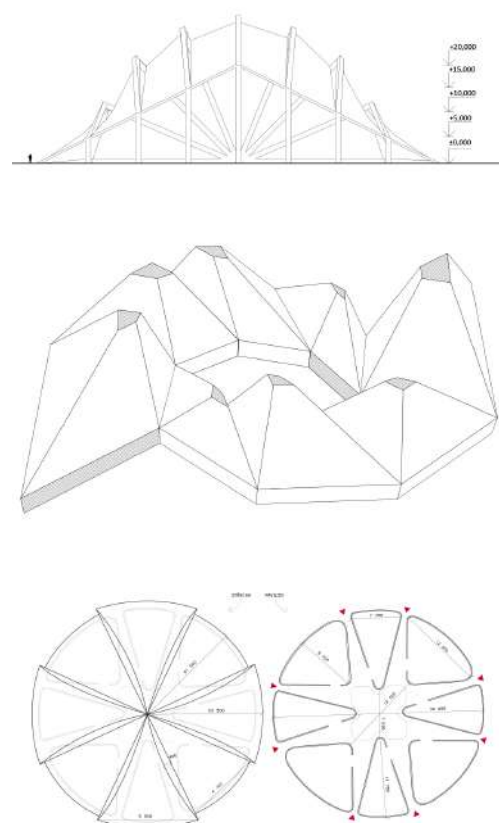


Fig. 10.: Pavilion, year 2024/2025, authors (top to bottom): Nella Kulhánková, Petra Šimová, Karolína Vedrová. Compilation and selection: author (Source: Kulhánková, 2025; Šimová, 2025; Vedrová, 2025)

SOURCES

- [1] AURELI, Pier Vittorio (2011). *The Possibility of an Absolute Architecture. Writing Architecture Series.* Cambridge, Massachusetts: The MIT Press. ISBN 978-0-262-51579-5.
- [2] CARUSO, Adam (2008). *The Feeling of Things.* Barcelona: Ediciones Polígrafa. ISBN 978-84-343-1186-2.
- [3] CHING, Francis D. K. (2015). *Architecture: Form, Space, & Order.* 4th ed. Hoboken: Wiley. ISBN 978-1-118-74508-3.
- [4] DEPLAZES, Andrea (ed.) (2013). *Constructing Architecture: Materials, Processes, Structures: A Handbook.* 3rd extended ed. Basel: Birkhäuser. ISBN 978-3-03821-451-9.
- [5] HILLIER, Bill (2015). *Space Is the Machine: A Configurational Theory of Architecture.* CreateSpace. ISBN 1511697768.
- [6] HERTZBERGER, Herman (2012). *Přednášky pro studenty architektury [Lessons for Students of Architecture]* [in Czech]. Translated by Šárka RUBKOVÁ. Dolní Kounice: MOX NOX. ISBN 978-80-905064-0-4.
- [7] KOLB, David A. (2014). *Experiential Learning: Experience as the Source of Learning and Development.* FT Press. ISBN 9780133892505.
- [8] KRIER, Léon (2001). *Architektura: volba nebo osud [Architecture: Choice or Fate]* [in Czech]. Translated by Jaroslav HUŤA. Prague: Academia. ISBN 80-200-0012-7.
- [9] LAAN, H. van der (2012). *Architektonický prostor: patnáct naučení o povaze lidského obydlí [Architectonic Space: Fifteen Lessons on the Nature of Human Dwelling]* [in Czech]. A Architektura. Zlín: Archa. ISBN 978-80-87545-13-3.
- [10] MEISS, Pierre von (2018). *Od formy k místu: úvod do studia architektury; + O tektonice: úvod do studia architektury [From Form to Place: An Introduction to the Study of Architecture; + On Tectonics: An Introduction to the Study of Architecture]* [in Czech]. Translated by Michaela BROŽOVÁ. A Architektura. Zlín: Archa. ISBN 978-80-87545-61-4.
- [11] MELKOVÁ, Pavla (2016). *Humanistická role architektury [The Humanistic Role of Architecture]* [in Czech]. Řevnice: Arbor vitae. ISBN 978-80-7467-114-2.
- [12] NORBERG-SCHULZ, Christian (2010). *Genius loci: krajina, místo, architektura [Genius Loci: Landscape, Place, Architecture]* [in Czech]. ISBN 8073633035.
- [13] OLGATI, Valerio and BREITSCHMID, Markus (2019). *Non-referential Architecture.* Park Publishing (WI). ISBN 303860142X.
- [14] PALLASMAA, Juhani (2012). *Oči kůže: architektura a smysly [The Eyes of the Skin: Architecture and the Senses]* [in Czech]. A Architektura. Zlín: Archa. ISBN 978-80-87545-10-2.
- [15] RASMUSSEN, Steen Eiler (1977). *Experiencing Architecture.* 2nd ed. [S.l.]: M.I.T. Press.
- [16] ROWE, Colin (2007). *Matematika ideální vily a jiné eseje [The Mathematics of the Ideal Villa and Other Essays]* [in Czech]. Brno: ERA. ISBN 978-80-7366-094-9.
- [17] ŠEVČÍK, Jiří and MITÁŠOVÁ, Monika (eds.) (2013). *Česká a slovenská architektura 1971–2011: texty, rozhovory, dokumenty [Czech and Slovak Architecture 1971–2011: Texts, Interviews, Documents]* [in Czech]. Prague: Academy of Fine Arts, Research Center, in co-operation with the Slovak National Gallery in Bratislava, the Research and Development Department and the Academy of Fine Arts and Design in Bratislava, Research Center. ISBN 978-80-87108-28-4.
- [18] VALENA, Tomáš (2018). *Vztahy: o vazbě k místu v architektuře [Relationships: On Attachment to Place in Architecture]* [in Czech]. ISBN 8088033055.
- [19] ZUMTHOR, Peter (2009). *Promýšlet architekturu [Thinking Architecture]* [in Czech]. A Architektura. Zlín: Archa. ISBN 978-80-87545-42-3.
- [20] ZUMTHOR, Peter (2013). *Atmosféry: architektura v okolním prostoru [Atmospheres: Architectural Environments—Surrounding Objects]* [in Czech]. A Architektura. Zlín: Archa. ISBN 978-80-87545-22-5.
- [21] ČAPKA, Patrik (2024). *Opening: Post-Industrial Hall.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [22] DOROCIÁK, Pavel (2023). *Opening: Entrance to the Former Ostrava Slaughterhouse.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [23] DOROCIÁK, Pavel (2024). *Object: Confluence of the Ostravice and Lučina Rivers.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [24] DOSTÁL, Daniel (2023). *Compositional Element.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [25] GROSSMAN, Filip (2023). *Compositional Element.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [26] HANZELKOVÁ, Izabela (2023). *Opening: Entrance to the Former Ostrava Slaughterhouse.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [27] HOFIERKOVÁ, Katarína (2023). *Surface: Kostelní Square.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [28] KACHUROVSKÝI, Yaroslav (2025). *Object: Memorial to the Victims of the War in Ukraine.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [29] KŘÍŽEK, Tomáš (2024). *Object: Confluence of the Ostravice and Lučina Rivers.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [30] KULHÁNKOVÁ, Nella (2025). *Pavilion.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [31] LASÁK, Matěj (2024). *Object: Confluence of the Ostravice and Lučina Rivers.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.
- [32] LUSKOVÁ, Nikola (2024). *Surface: FAST Garden.* Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Su-

pervisor: P. Řihák et al.

[33] MÁDROVÁ, Viktorie (2023). Surface: Kostelní Square. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[34] MIKEŠOVÁ, Andrea (2023). Opening: Entrance to the Former Ostrava Slaughterhouse. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[35] PLANKOVÁ, Anežka (2024). Surface: FAST Garden. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[36] POLÁŠKOVÁ, Mariana (2023). Surface: Kostelní Square. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[37] PROFOTA, Adam (2024). Opening: Post-Industrial Hall. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[38] RŮŽOVSKÝ, Pavel (2024). Compositional Element. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[39] RYŠAVÁ, Zuzana (2023). Compositional Element. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[40] SIMOVÁ, Petra (2024). Opening: Post-Industrial Hall. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[41] SIMOVÁ, Petra (2025). Pavilion. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[42] ŠTORKOVÁ, Barbora (2025). Object: Memorial to the Victims of the War in Ukraine. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[43] ŠULÁKOVÁ, Monika (2025). Object: Memorial to the Victims of the War in Ukraine. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[44] TALANDOVÁ, Eliška (2025). Path: Corridor in an Apartment Building. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[45] TOPINKOVÁ, Zuzana (2025). Path: Corridor in an Apartment Building. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[46] VEDROVÁ, Karolina (2024). Surface: FAST Garden. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[47] VEDROVÁ, Karolina (2024). Opening: Post-Industrial Hall. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[48] VEDROVÁ, Karolina (2025). Pavilion. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[49] VOLNÝ, Miroslav (2024). Compositional Element. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

[50] ZAVADILOVÁ, Klára (2025). Path: Corridor in an Apartment Building. Student project. Faculty of Civil Engineering, VŠB–Technical University of Ostrava (FAST VŠB-TUO). Supervisor: P. Řihák et al.

Parts of the students' works are published with the authors' consent.

2/ Urbanism and public space

URBAN SPACE RESERVES: OPPORTUNITIES FOR INFILL HOUSING DEVELOPMENT IN CENTRAL BRNO

Mikel Jakub

JAKUB MIKEL, ING. ET ING. ARCH.

Faculty of Architecture
Brno University of Technology
Poříčí 273/5,
639 00 Brno, Czech Republic

xamikel@vutbr.cz

ORCID iD: 0009-0005-0367-7767

The author is a PhD candidate at the Institute of Urbanism, Faculty of Architecture, Brno University of Technology, where his research focuses primarily on the economics of urbanism. He graduated from the Faculty of Architecture and the Institute of Forensic Engineering, which enables him to integrate architectural knowledge with the legislative and economic aspects of urban planning.

In addition to his academic work, Jakub Mikel is also active in practice, co-leading his own architectural and design office. By combining academic research with professional experience, he contributes to the application of theoretical insights in concrete projects and solutions.

ABSTRACT: The paper addresses the possibilities of urban densification as one of the potential solutions to the housing crisis. It focuses on the identification and analysis of underutilized spaces, such as vacant lots, underbuilt structures, and attics, which may represent reserves for new residential development. The research conducted in a district of Brno assessed these areas in terms of their physical and legislative suitability for redevelopment. The paper highlights densification as a key instrument of sustainable urban development, offering economic, environmental, and legislative advantages. A more efficient use of the existing urban fabric allows the transformation of unused resources into new housing capacity and contributes to the optimization of urban space without the need for urban sprawl into the surrounding landscape. At the same time, the paper outlines the main barriers to densification, including technical, legislative, and social constraints, which may complicate the implementation of such projects.

KEYWORDS: urban densification; housing crisis; urban space reserves; vacant lots; underbuilt structures; attics; sustainable urban development

INTRODUCTION

The current lack of housing affordability in the Czech Republic ranks among the highest in Europe. According to research conducted in 2023, the average Czech had to spend 13.3 average annual salaries to purchase an average 70 m² dwelling (Deloitte, 2023). Compared with other countries—where, for example, Denmark's coefficient is 5.0 and geographically closer Poland's is 8.1—this figure appears very high. It is also necessary to consider the actual mortgage repayment period: in 2023 the average loan maturity was 26.6 years (Česká národní banka, n. d.). These data suggest that housing affordability has a significant impact on overall quality of life, as households pay a substantial share of their disposable income on mortgage repayments throughout most of their economically active years. For instance, in 2021 the average housing affordability index was 61.5% (Golem Finance, 2021). In other words: if the average Czech household purchased a dwelling at the average price level, it would spend 61.5% of its net monthly income on the mortgage instalment.

The situation in the property market is further reinforced by the fact that the current young generation prefers independent living—both rental and owner-occupied (Eurostat, n. d.). However, they often cannot afford it and are ultimately forced to use shared housing or remain with their parents. Once they are able to cover the costs of owner-occupied housing, they choose that option. Likewise, throughout the Czech Republic, owner-occupation is preferred over renting (RE/MAX, 2024). This strong demand for housing further deepens the imbalance between supply and demand, leading to a growing disequilibrium in the real estate market. Building new homes would seem to be the solution to restore balance between demand and supply. Yet the current trend is the opposite: the number of newly built apartments is decreasing, with a year-on-year decline in completed new dwellings reaching 60.1% (Český statistický úřad, 2025). The reasons for this can be identified in several key factors, with a dominant role played by a high degree of regulation associated with a time-consuming permitting process, the complexity of amendments to land-use plans often required for larger residential schemes, and complicated property-rights relations. Another crucial aspect is that new construction often results in the take-up of agricultural land, the protection of which is enshrined in Czech law—justifiably making development more expensive, slower, or in some cases impossible in certain areas. In this context, the question arises whether there is a way to expand

the housing stock that would minimise environmental impacts such as the loss of arable land and the need to build new transport and utility infrastructure.

A possible answer—alongside brownfield regeneration—is the densification of urban centres. This is a process that enables the efficient use of available space in already urbanised areas while contributing to improvements in urban design quality and the long-term sustainability of cities. The approach focuses on city centres that exhibit high housing demand, thereby creating dwellings where demand is real and economically justified. Densification is also conceptually anchored in theories of decision-making by urban development actors, particularly developers, who, when deciding on an investment, consider a combination of expected return, the complexity of permitting procedures, and regulatory barriers (Brueckner, 2011; Henderson & Ioannides, 1983). Institutional and behavioural factors also play a significant role, such as neighbour opposition (the NIMBY—“Not In My Backyard”—effect), fragmented ownership, or a lack of incentives for owners to activate underused spaces (Monkkonen, Lens & Manville, 2020).

Despite this potential, capacities for densification often remain underutilised. One reason may be the lack of municipal strategies aimed at activating internal development potential and regulatory frameworks that fail to reflect the changing needs of the city (Gechter & Tsivanidis, 2023).

The benefits of this process can be divided into three categories:

1. Economic:

- Eliminating the need to build new transport and utility infrastructure. Higher population density allows more efficient use of existing infrastructure and reduces the costs of public services (Ahlfeldt & Pietrostefani, 2019).

- Utilising existing structures—such as roofs and foundations—when creating attic conversions. Efficient use of the existing building fabric can reduce construction costs and accelerate urban regeneration (Brueckner, 2011).

2. Environmental:

- Eliminating the take-up of agricultural land. Densification helps to curb urban sprawl and thereby protect farmland (Bertaud & Brueckner, 2005).

- Shortening travel distances. A more compact urban layout leads to shorter trips and thus to lower emis-

sions (Carozzi & Roth, 2023).

3. Social:

- Leveraging existing cultural and civic amenities. Denser development supports the efficient use of public facilities and services without the need to expand them (Institut plánování a rozvoje hl. m. Prahy, 2020).

Among the still insufficiently explored aspects of the densification of urban centres are, above all, the scale of its potential to create new dwellings and to increase population within a stabilised urban structure. This study focuses on identifying reserves for housing construction in these areas and examining the possibility of using available space efficiently. The key research question is: how much potential for residential development is embedded within a stabilised urban fabric?

Delimitation of the study area

The research analysed a selected district of Brno as a model area to assess the amount of available land within stabilised development (Figure 1). Specifically, the area was Zábřehovice, chosen for its suitable location, urban structure, and data availability. The area represents a typical example of a stabilised inner-city

zone, enabling the method to be verified under conditions common to most large Czech cities. The method as a whole is designed to be transferable to other areas with similar characteristics while maintaining sufficient precision and relevance of results.

Zábřehovice is a medium-sized urban district that forms a separate cadastral area [610704] with a total area of 1.64 km². In 2021, it had 12,632 inhabitants (Český statistický úřad, 2021). The district directly adjoins the city centre and forms a transition between the historic core and other neighbourhoods, making it a sought-after location. Zábřehovice is connected to central urban zones by major transport infrastructure, including public transport and principal road arteries, enabling efficient links to the broader regional and urban network.

Zábřehovice is characterised by a relatively dense perimeter-block structure formed primarily in the 19th and 20th centuries, with most buildings constructed during periods of industrialisation and urban change, when urban functions expanded significantly. This structure still represents a typical urban fabric with a high share of residential uses alongside smaller commercial premises and public buildings. The area contains several historical and cultural landmarks, which creates pressure to preserve the specific character of the built environment during regeneration and transformation.

The area is served by complete utility and transport infrastructure—including sewerage, water and gas networks—and a relatively diverse range of amenities such as schools, kindergartens, shops, restaurants, and healthcare facilities. This makes it a suitable environment for further urban development without the need for extensive investment in basic public services and transport connections. These characteristics make Zábřehovice an apt location for assessing densification potential within a stabilised urban structure.

METHODOLOGICAL APPROACH

The aim of the research was to design and test a pilot approach to identifying and quantifying development capacities within stabilised urban areas, and then to evaluate these data in the context of potential additions to the housing stock.

Although existing approaches to capacity assessment of stabilised areas—such as the IPR Prague methodology (Institut plánování a rozvoje hl. m. Prahy, 2020) or the approach of Monkkonen et al. (2020)—provide a useful framework for strategic planning at the city or regional level, the method presented here differs in its emphasis on the micro-scale. It focuses in detail on a specific locality through a combination of map layers, field surveys, and individual classification of each potentially developable site. This brings greater spatial accuracy and more realistic results for applied practice.

Compared with existing approaches that often operate at the city-wide macro-level or rely solely on typological analyses (e.g., brownfields), this method tracks specific blocks within a stabilised urban structure and yields detailed quantitative data on usable development potential (Institut plánování a rozvoje hl. m. Prahy, 2020; Hudeček et al., 2019).

The pilot approach builds on prior research into urban development and capacities, such as Prague's Territorial Analytical Data (Institut plánování a rozvoje hl. m. Prahy, 2020) or quantitative analyses of how urban structure affects public expenditures in Czech cities (Hudeček et al., 2019).

The analytical framework combines spatial identifi-



Fig. 1.: Graphic interpretation of the delineation of the research area (author's own work).

cation of underused sites with basic urban, legal, and demographic inputs, with the aim of testing the feasibility of using these areas for residential purposes.

For the purposes of the study, three types of sites with development potential were defined:

Unused attics (NS) — spaces suitable for creating residential units.

Unbuilt gaps (VP) — plots enabling the construction of new apartment buildings.

Underbuilt stock (PV) — buildings whose height or footprint fails to utilise their maximum potential. In these cases, rooftop extensions for residential use were considered. If an extension proved technically unfeasible, demolition and replacement with a new

building was considered, while calculations only included the net additional area compared to the original state. Schematic: (Figure 1)

The selection of locations and data collection drew on the applicable land-use plan, the Building Act, and basic urban and architectural principles—rules that preserve spatial continuity, urban scale, the building line, the proportions of public spaces, and residential quality. These principles correspond to the tenets set out, for example, in the Czech Republic’s Policy of Architecture and Building Culture (Ministerstvo pro místní rozvoj ČR, 2015).

Within Zábřehovice, blocks designated as “stabilised” in the land-use plan were selected (Statutární město Brno, 2024a). In total, 29 such blocks were identified (Figure 3). The blocks were analysed using aerial imagery, cadastral maps (ČÚZK, 2024), and field surveys to

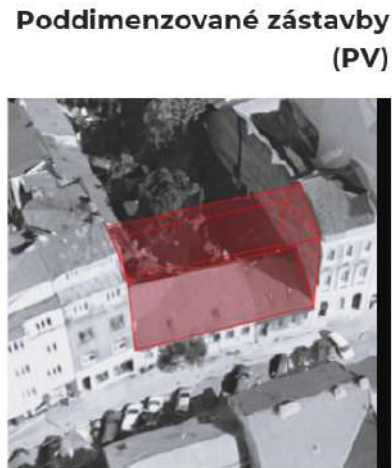
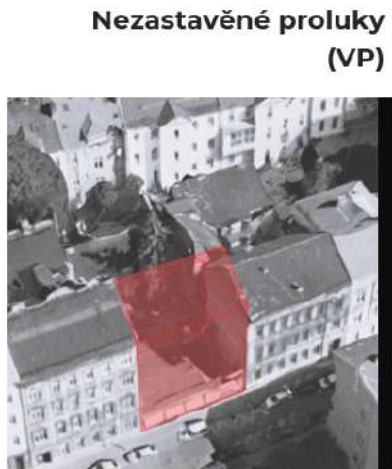
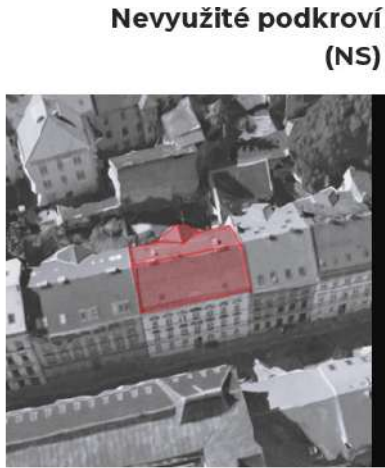


Fig. 2.: Interpretation of the methodology for defining the examined phenomena (author’s own work).



Fig. 3.: Map of the division of the assessed blocks (author’s own work)



Fig. 4.: Map of available development areas (author’s own work).

compile a detailed inventory of available sites. These sites were assigned IDs and colour-coded in a custom map of available development areas (Figure 4).

For all identified sites, data were collected on type, footprint area (m^2), and potential number of floors. To increase the accuracy of calculations, the footprint area was adjusted using reduction coefficients—0.8 for standard floors and 0.7 for attic spaces—allowing conversion to net floor area without the thickness of structures and shared/common spaces.

The total usable area for dwellings was then calculated as the product of the reduced footprint and the estimated number of floors. To reflect requirements for public amenities, the resulting area was further reduced by a 0.9 factor, creating a 10% reserve for potential public facilities. The remaining area was divided by the average dwelling size—assumed at $75 m^2$ —to estimate the potential number of new apartments. Based on average household size (2.4 persons/apartment), the expected population increase associated with each identified site was then derived (Český statistický úřad, 2022).

Označení	Typ plochy	Plocha půdorysného průmětu (m²)	Koeficient redukce plochy (využitelnost)	Čistá podlahová plocha jednoho podlaží (m²)	Koeficient redukce plochy (vybavenost)	Potencionální počet obytných podlaží	Celková čistá podlahová plocha (m²)	Počet bytů (75 m²)	Počet obyvatel (2,4 os./byt)
Blok 1									
1	VP	1445	0,8	1156	0,9	5	5202	69	165,6
2	PS	459	0,8	367,2	0,9	2	660,96	9	21,6
3	PS	440	0,8	352	0,9	2	633,6	8	19,2
4	PS	420	0,8	336	0,9	2	604,8	8	19,2
5	NP	685	0,7	479,5	0,9	1	431,55	6	14,4
6	NP	245	0,7	171,5	0,9	2	308,7	4	9,6
7	VP	1191	0,8	952,8	0,9	7	6002,64	80	192
8	NP	154	0,7	107,8	0,9	1	97,02	1	2,4
9	VP	825	0,8	660	0,9	5	2970	40	96
10	PS	654	0,8	523,2	0,9	5	2354,4	31	74,4
Celkem:							19265,67	256	614,4

Tab. 1.: Block 1 – Collected data and calculation procedure (author's own work).

These data were subsequently aggregated by block (Table 1) and overall, yielding an estimate of how many new apartments could be created within Zábřdovice's stabilised areas and how many potential new residents the locality could accommodate.

Structure and justification of the analytical procedure Site typology. The delineation of development potential in stabilised areas—including unused attics, gap sites, and underbuilt stock—follows approaches recommended in planning documents, such as the Ministry's methodological guidance on assessing the need for developable land (Ministerstvo pro místní rozvoj ČR, 2022).

Area delimitation. The analysis focused exclusively on areas designated as stabilised in the land-use plan. Although generally considered spatially "built-out," they may still contain latent capacities. The approach builds on planning documents such as Prague's Territorial Analytical Data, which point to possible internal reserves even within stabilised areas (Institut plánování a rozvoje hl. m. Prahy, 2020).

Data collection and spatial identification. A combination of aerial imagery, cadastral data, and fieldwork enables the identification of sites that would not be captured using GIS tools alone. A similar approach is used in city-centre regeneration (e.g., Auckland—Murphy, 2012).

Calculation of usable floor area. Reduction coefficients of 0.8 for standard floors and 0.7 for attics were applied. These reflect common practice in urban analyses for estimating net floor area after deducting common/technical spaces and structural thicknesses. In the case

of attics, the coefficient also reflects unusable portions under slopes and therefore uses a stronger reduction. Allowance for public amenities. A 10% reserve for public amenities was included as a methodological estimate based on common planning practice whereby residential development areas allocate a share to civic facilities.

Conversion to dwellings and population. Based on the 2021 Census, where average dwelling sizes are most commonly in the 60–80 m² band and the average occupancy is roughly 2.3 persons per dwelling (Český statistický úřad, 2022). The values used here (75 m², 2.4 persons/dwelling) therefore reflect a slightly optimistic yet realistic urban scenario.

FINDINGS

A total of 412 development sites were identified, of which 167 were unused attics, 60 were unbuilt gaps, and 187 were underbuilt sites.

Total net floor area after applying the coefficients: 24,586 m²; number of dwellings at 75 m² net floor area: 328 units; population (2.4 persons/unit): 787.

For better comparison, results can be normalised per hectare (10,000 m²).

Net floor area: 4,867 m²; number of dwellings (75 m²): 65 units; population (2.4 persons/unit): 156.

Shares of net floor area: 13.64% unused attics, 41.86% unbuilt gaps, and 44.49% underbuilt stock.

Graphical representation: (Figures 5 and 6)

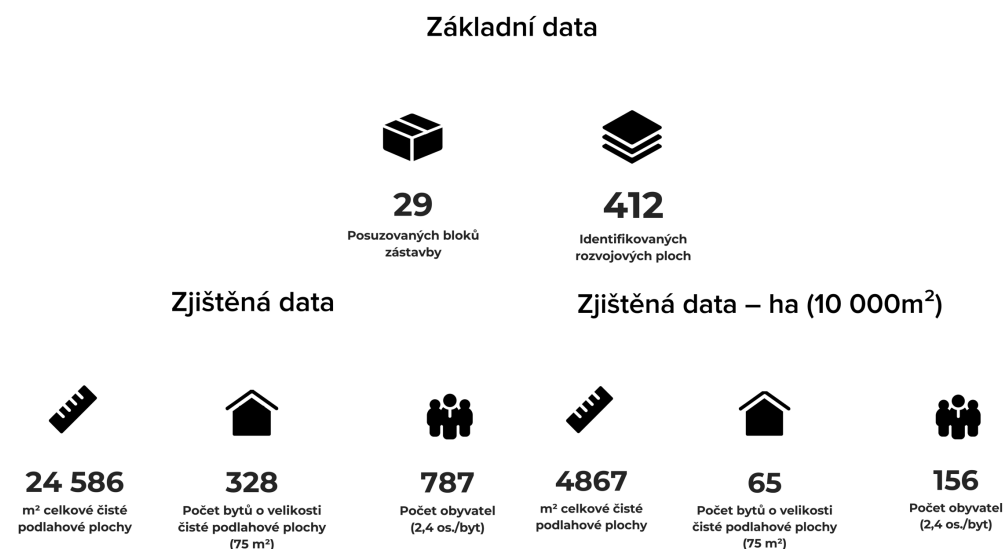
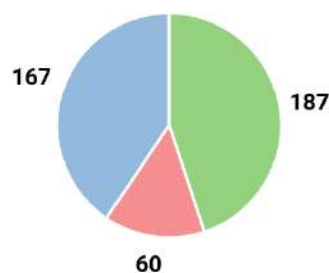
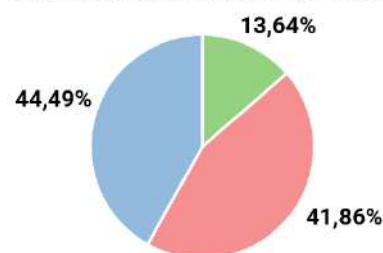


Fig. 5.: Graphic interpretation of results 1 (author's own work).

Počet identifikovaných rezerv



Podíl čistých podlahových ploch



■ 1. NP - Nevyužitá podkrovní ■ 2. VP - Nezastavěné proluky ■ 3. PS - Poddimenzovaná zástavba

Fig. 6.: Graphic interpretation of results 2 (author's own work).

ANALYSIS OF RESULTS

The data indicate that within the assessed stabilised areas of Zábřehovice—which represent approximately half of the district's total area—reserves were identified that, after considering applicable legislation and an allowance for civic amenities, could provide housing for roughly 7,910 new residents. This suggests potential for a substantial population increase, given that the last census (2021) recorded 12,632 inhabitants in Zábřehovice (Český statistický úřad, 2021). The potential increase thus reaches 62.62%, which can be considered significant for this locality.

It should be noted that the 62.62% increase is based on the number of residents officially registered as of the 2021 census. In urban districts with a higher share of rental housing, there are often more residents without permanent registration (e.g., students, foreign workers, etc.), suggesting the actual number of people living there may be higher. The true relative increase could therefore be somewhat lower when compared to this more realistic baseline. Even with this caveat, the identified capacity remains substantial.

Why has the potential for densification not been utilised more widely? Its use is constrained by a number of regulatory hurdles that slow implementation and reduce the economic advantage compared with projects outside the built-up area. The high regulatory burden—linked not only to a complex and time-consuming permitting process but also to strict general technical building requirements—slows the process considerably and often leads to project abandonment in city centres. A regulatory framework originally designed to protect public interests can, in practice, hinder adaptation to changing needs—such as the need to increase the supply of affordable housing. In addition, complicated ownership structures and neighbour opposition constitute further barriers, with the NIMBY ("Not In My Backyard") pattern often at play: people support densification in general but oppose it in their immediate vicinity, which complicates and slows implementation.

Public authorities can play a role not only by lowering regulatory barriers through adjustments to building codes and streamlined permitting, but also by introducing positive incentives—such as grants for creating new dwellings within stabilised areas—or negative incentives, for example through tax instruments that motivate owners of underused spaces to develop them for housing. Although first positive steps are emerging—such as the adoption of Brno's building regulations (Statutární město Brno, 2024b), which to some extent reduce regulatory burden, or subsidies under the Affordable Rental Housing programme (Státní fond podpory investic, 2025)—these measures still appear insufficient relative to the severity of the housing affordability problem.

In light of the findings, a comprehensive assessment of all Brno districts would be advisable to obtain more accurate and representative data for the entire city. This would provide a more integrated view of Brno's urban and spatial characteristics. Given the time intensity of such a process, automation offers an efficient alternative for collecting and analysing data. Another option would be to assess characteristic fragments of each district and then extrapolate them to the whole district and, progressively, to the entire city using appropriate mathematical methods. This would allow comprehensive and legible data for Brno without a substantial extension of the research timeline.

CONCLUSION

The results confirm that densifying the stabilised urban fabric in Zábřehovice represents significant development potential for new dwellings that can materially improve housing affordability not only locally but also in Brno more broadly. This approach can be regarded as an effective urban development strategy combining the economic, environmental, and social aspects of sustainable urbanisation.

Densification enables maximum use of existing transport and utility infrastructure, generating savings both in acquisition and in ongoing maintenance. Environmentally, it reduces the need to convert agricultural land and helps curb urban sprawl, benefiting ecosystems and landscape character. At the same time, it leads to more efficient use of the existing built-up area and strengthens the functional cohesion of the urban structure.

However, the identified potential can only be fully realised if key barriers are removed or substantially mitigated—especially complex and lengthy permitting, low incentives for owners of underused spaces to develop them, and often negative public attitudes toward nearby new construction. If these hurdles were reduced—e.g., through streamlined legislation, targeted support to municipalities, or better public engagement—a larger share of the potential could be realised. Without such steps, only part of it is likely to materialise in practice. Even so, the results indicate that meaningful gains in new housing within the existing urban structure are achievable even with partial uptake.

SOURCES

- [1] AHLFELDT, G.M. & PIETROSTEFANI, E. (2019). The economic effects of density: A synthesis. *Journal of Urban Economics* [online], 111, 93–107. Available at: <https://doi.org/10.1016/j.jue.2019.03.004> [accessed 31 May 2025].
- [2] BERTAUD, A. & BRUECKNER, J.K. (2005). Analyzing

- building-height restrictions: predicted impacts and welfare costs. *Regional Science and Urban Economics* [online], 35(2), 109–125. Available at: <https://doi.org/10.1016/j.regsciurbeco.2004.02.004> [accessed 31 May 2025].
- [3] BRUECKNER, J.K. (2011). *Lectures on Urban Economics*. Cambridge, MA: MIT Press.
- [4] CAROZZI, F. & ROTH, S. (2023). Dirty density: Air quality and the density of American cities. *Journal of Environmental Economics and Management* [online], 118, 102767. Available at: <https://doi.org/10.1016/j.jeem.2022.102767> [accessed 31 May 2025].
- [5] ČESKÁ NÁRODNÍ BANKA (n. d.). Český trh obytných nemovitostí: včera, dnes a zítra [online]. Available at: https://www.cnb.cz/cs/o_cnb/cnblog/Cesky-trh-obytnych-nemovitosti-vcera-dnes-a-zitra/ [accessed 10 Feb. 2025].
- [6] ČESKÝ STATISTICKÝ ÚŘAD (2021). Výsledky sčítání 2021 – otevřená data [online]. Prague: ČSÚ. Available at: <https://csu.gov.cz/produkty/vysledky-scitani-2021-otevrena-data> [accessed 31 May 2025].
- [7] ČESKÝ STATISTICKÝ ÚŘAD (2022). Sčítání lidu, domů a bytů 2021 [online]. Available at: <https://www.czso.cz/csu/scitani2021> [accessed 31 May 2025].
- [8] ČESKÝ STATISTICKÝ ÚŘAD (2025). Výstavba budov [online]. 6 Feb. 2025. Available at: <https://csu.gov.cz/vystavba-budov> [accessed 10 Feb. 2025].
- [9] ČÚZK (2024). Letecký měřický snímek [online]. Prague: Czech Office for Surveying, Mapping and Cadastre. Available at: <https://ags.cuzk.cz/archiv> [accessed 12 Dec. 2024].
- [10] DELOITTE (2023). Property Index 2023 [online]. Available at: <https://www2.deloitte.com/content/dam/Deloitte/cz/Documents/real-estate/property-index-2023.pdf> [accessed 4 Oct. 2024].
- [11] EUROSTAT (n. d.). Young people – housing conditions [online]. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Young_people_-_housing_conditions [accessed 10 Feb. 2025].
- [12] GECHTER, M. & TSIVANIDIS, N. (2023). Spatial spillovers from high-rise developments: Evidence from the Mumbai Mills [online]. Available at: <https://www.nicktivianidis.com> [accessed 31 May 2025].
- [13] GOLEM FINANCE (2021). Index (ne)dostupnosti bydlení překonal 60% hranici [online]. 17 Dec. 2021. Available at: <https://golemfinance.cz/2021/12/17/index-nedostupnosti-bydleni-prekonal-60-hranici/> [accessed 10 Feb. 2025].
- [14] HENDERSON, J.V. & IOANNIDES, Y.M. (1983). A model of housing tenure choice. *The American Economic Review* [online], 73(1), 98–113. Available at: <https://www.jstor.org/stable/1803922> [accessed 31 May 2025].
- [15] HUDEČEK, T., HNILIČKA, P., DLOUHÝ, M., LEŇO CUTÁKOVÁ, L. & LEŇO, M. (2019). Urban structures, population density and municipal expenditures: An empirical study in the Czech Republic. *Urban Studies* [online], 56(16), 3450–3465. Available at: <https://doi.org/10.1177/0042098018810605> [accessed 31 May 2025].
- [16] INSTITUT PLÁNOVÁNÍ A ROZVOJE HL. M. PRAHY (2020). Územně analytické podklady [online]. Available at: <https://iprpraha.cz/stranka/3360/uzemne-analyticke-podklady> [accessed 31 May 2025].
- [17] MINISTERSTVO PRO MÍSTNÍ ROZVOJ ČR (2015). Politika architektury a stavební kultury České republiky [online]. Prague: MMR. Available at: <https://www.mmr.cz/getmedia/6fd4b994-88ee-48c2-8ebc-3ae5fa9c787e/Politika-architektury-a-stavebni-kultury-CR.pdf> [accessed 31 May 2025].
- [18] MINISTERSTVO PRO MÍSTNÍ ROZVOJ ČR (2022). Metodický pokyn k vyhodnocení potřeby zastavitelných ploch [online]. Available at: https://www.uur.cz/media/fdujhbrs/69-mmr-1640_2022_81-vyhodnoceni-potreby-zastavploch-metodika-2022-01-12.pdf [accessed 31 May 2025].
- [19] MONKKONEN, P., LENS, M. & MANVILLE, M. (2020). Built-out cities? How California cities restrict housing production through prohibition and process. *Journal of the American Planning Association* [online], 86(4), 403–419. Available at: <https://doi.org/10.1080/01944363.2020.1747591> [accessed 31 May 2025].
- [20] MONKKONEN, P., MARTINEZ, D., PARK, J. & RONGBIN, Z. (2020). Built-out cities? Housing development in Los Angeles. *Journal of the American Planning Association* [online], 86(3), 306–321. Available at: <https://doi.org/10.1080/01944363.2020.1726303> [accessed 31 May 2025].
- [21] MURPHY, L. (2012). Land assembly for urban transformation – the case of Auckland's CBD. *Planning Practice & Research* [online], 27(3), 329–345. Available at: <https://doi.org/10.1080/02697459.2012.681130> [accessed 31 May 2025].
- [22] RE/MAX (2024). REMAX 2022 European Housing Trend Report [online]. Available at: <https://remax.eu/wp-content/uploads/2024/03/REMAX-2022-European-Housing-Trend-Report.pdf> [accessed 10 Feb. 2025].
- [23] STÁTNÍ FOND PODPORY INVESTIC (2025). Program Dostupné nájemní bydlení [online]. Available at: <https://sfpi.cz/dostupne-bydleni/> [accessed 10 Feb. 2025].
- [24] STATUTÁRNÍ MĚSTO BRNO (2024a). Přípravovaný návrh územního plánu města Brna: Návrh OOP 2024 [online]. Available at: <https://upmb.brno.cz/pripravovany-uzemni-plan/upmb-navrh-oop-2024/> [accessed 31 May 2025].
- [25] STATUTÁRNÍ MĚSTO BRNO (2024b). Nařízení č. 14/2024 o požadavcích na výstavbu ve statutárním městě Brně (brněnské stavební předpisy) [online]. Effective from 1 July 2024. Available at: <https://www.brno.cz/w/narizeni-4375> [accessed 31 May 2025].

URBAN RIVERFRONTS AND FLOODS – PRACTICE, RESEARCH AND TEACHING OF LANDSCAPE ARCHITECTURE

Ševčíková Barbara - Radilová Lucie - Lacina Adam

BARBARA ŠEVČÍKOVÁ, DOC. ING., PH.D.

Department of Garden and Landscape Architecture, FH MENDEL University in Brno, Zemědělská 1, 613 00 Brno, Czech Republic

barbara.sevcikova@mendelu.cz

ORCID ID: 0000-0002-0915-0297

Barbara Ševčíková is an associate professor at the Department of Garden and Landscape Architecture, Faculty of Horticulture, Mendel University in Brno, which she currently heads. She is the guarantor of the Landscape Architecture study programme, teaches studio and theoretical courses, and is active in research as well as professional practice. She has long focused on public space—its transformations, planning, design, and identity.

LUCIE RADILOVÁ, ING., MGR., DIS.

Landscape Architecture Studio Sendlér–Radilová/Dep. of GALA, FH MENDEL University in Brno, Tomešova 1, 602 00 Brno, Czech Republic

lucie.radilova@mendelu.cz

ORCID ID: 0009-0006-1445-1277

Lucie Radilová is a chartered landscape architect and art historian. Projects by the Sendlér–Radilová Landscape Architecture Studio, where she serves as the lead landscape architect, have received dozens of awards in the Czech Republic and abroad. She is a jury member for architectural competitions, and since 2023 she has been sharing her experience with landscape architecture students at the Faculty of Horticulture, Mendel University in Brno.

ADAM LACINA, ING. ARCH., MGR.

Ertepl Architecture/Department of GALA, FH MENDEL University in Brno, Zemědělská 1, 613 00 Brno, Czech Republic

adam.lacina@mendelu.cz

ORCID ID: 0009-0000-4221-2800

Adam Lacina is an architect and biologist who studied at the Faculty of Science at Masaryk University in Brno and the Faculty of Art and Architecture at the Technical University of Liberec. In 2019, he founded his own studio, ertepl—an underground apple pushing its way through the soil of architecture. Since 2023, he has been leading studio teaching and creative workshops for landscape architecture students at the Faculty of Horticulture, Mendel University in Brno.

ABSTRACT: The paper addresses the issue of urban riverfronts from the perspective of landscape architecture in research, teaching, and practice, with a focus on flood events. Using examples from the Czech Republic and Slovakia, it examines the planning and implementation of flood control measures in active flood zones and identifies legislative and institutional barriers. It presents three theoretical approaches (Water-Sensitive Urban Design, Sponge City, Room for the River) and emphasizes the role of the state policy, interdisciplinary cooperation, and community involvement in implementation. The practical part describes experiences with teaching at Mendel University in Brno. The studio topic for the winter semester of 2024 were riverfronts in the town of Jeseník, unexpectedly shaped by a devastating flood. The adaptation of cities to climate change requires experts capable of multidisciplinary cooperation and a holistic approach to the problems of urban riverfronts, with an awareness of the connections in the landscape beyond the city limits. Linking research and teaching in landscape architecture can significantly support the transfer of innovative methods into practice.

KEYWORDS: riverfront; landscape architecture; urban planning; flood adaptation; active flood zone; resilience to floods; education; Jeseník

INTRODUCTION

The exhibition of studio works by students of the Master's degree program of Landscape Architecture at the Faculty of Horticulture at Mendel University, which took place in the Moravian Regional Library in Brno in 2023, became the impetus for starting cooperation with the city of Jeseník. The opening was attended by Ing. arch. David Zatloukal, who approached us with an offer to deal with the options for solving the urban riverfronts of the Jeseník rivers. In August 2024, everything was ready – and then it started to rain. Floods devastated Jeseník and wiped out our preparations. When the water receded shortly before the start of the semester, a message came from Jeseník – come, we need you! In addition to the journey into an uncertain situation, a complete change in the studio assignment awaited us. There was no time for preparation, it was agreed that this time the studio would take place differently – by making decisions on the spot, according to the current situation, teaching through direct experience in crisis planning and design. We had no prior theoretical preparation regarding flooding in the context of urban public space. There was not enough time to prepare and carry out standard research. Through discussions among the participating teachers, three research questions were selected, the solution of which during the semester was to help students in searching the ideal form of the Jeseník's riverfronts:

- What problems are associated with the implementation of public space in the active zone of the floodplain in the Czech Republic?
- What current theories and innovative approaches addressing active flood zones can be inspiring for our cities?
- What circumstances help to implement planned innovative projects?

PRACTICE (LANDSCAPE ARCHITECTURE STUDIO SENDLER–RADILOVÁ)

Lucie Radilová, from the Landscape Architecture Studio Sendlér–Radilová in Brno, undertook the task of identifying problems associated with the implementation of new urban riverfronts in the Czech Republic using selected examples from design practice.

Example 1_Green spine of the city of Žďár nad Sázavou'

The conceptual territorial study aimed to define the spaces connected to the Sázava River, their functional use and architectural and landscape character. The city of Žďár nad Sázavou is set in the landscape, and it was the landscape character of the river banks that formed the starting situation for most of the locations being designed. The character of classic "hard" embankments was applied in the concept only within the historical center. Most of the designed public spaces had a more park-like character, as they directly connected to existing city parks.

Given that the Sázava River is designated as an active flood zone (AFZ), the originally proposed interventions were significantly limited during negotiations with the relevant state administration bodies. Most of the interventions were rejected with reference to the provisions of the Water Act (No. 254/2001 Coll.), according to which it is not possible to reduce flow profile or carry out construction within the AFZ. The nature protection authority also pointed out the risk of disrupting the continuity of the riparian vegetation that was a part of the Territorial System of Ecological Stability biocorridor.

The concept was completed in 2019, when the preparation of the pilot project "Living Farčata–pier and sandy beach" in the Farská humna park began. Taking into account the financial possibilities and the opinions of the competent state authorities, only an acupuncture intervention was carried out: the installation of a recreational pier, sandy beach and barbecue area within the park's shoreline. The project received support from the Nadace Proměny funds and in the year 2019 territorial consent.

During the engineering process, further compromises were made, which negatively affected the final architectural quality of the design. The pier had to be moved further away from the river (the question of whether it can still be called a "pier"), the sandy beach was replaced by a gravel lawn. The grill and oak seating beams, on the other hand, were assessed as permissible elements within the framework of the AFZ. The implementation took place thanks to the initiative of volunteers from the association Žijeme Žďárem in the same year.

Since then, the city has been striving to ease strict restrictions not only from the Vltava River Basin Authority, but also from the Department of the Environment through other projects. Let us hope that some of the

remaining planned riverside public spaces, for example around the cultural center called "Prostor kultury"² or in Libušín Park³, the intentions outlined in the Green Spine of the City concept will be fulfilled.

Example 2_Revitalization of the Janka Král Park⁴

The project was commissioned as a detailed feasibility study with a follow-up architectural study for the area of Sad Janka Kráľa and the adjacent Tyrš's Riverfront in Bratislava. From our team's perspective, the project was attractive mainly due to the strong character of Tyr Riverfront and the dynamics of the Danube, in which we saw an opportunity to design a contemporary and high-quality public space.

In cooperation with engineer Martin Mišík (a specialist in water management and water structures), we, following the logic of "if the flow rate cannot be reduced, it must be increased," set about designing modifications involving virtual dredging of the riverbank to define the space with a combination of natural and technical measures. Their balanced combination had a positive impact not only on flood protection, but also on biodiversity enhancement and adapting the area to climate change.

The design variants were subsequently converted into hydraulic models, which confirmed the correctness of the chosen strategy. The result was mutually beneficial. The risk of extensive damage during floods was reduced (this section of the Danube has long been highly vulnerable in the long term in the context of its connection to the critical flow point Bridge of SNP), and at the same time a design of a public space of European standard was created. It was gratifying that the design received the support of all representatives of the relevant state administration bodies, including the river administrator (SVP) and the monument care. We even obtained approval for locating extensive catering facilities in the form of mobile container buildings with its own flood plan.

The proposed modifications to the Tyrš's Riverfront have the potential to become an effective part of a comprehensive flood protection system for the center of Bratislava, designed for a thousand-year flood. The only significant problem turned out to be the issue of mooring existing floating facilities, which would have to be relocated to implement the measures. This obstacle seemed insoluble, until the moment when the contract with us was unilaterally terminated without giving any reason⁵. And so ended a rather fairy tale about a European riverfront.

Example 3_River Park Pilsen⁶

The topic of the riverfront was rather marginal in this territorial landscape study, although almost the entire area under consideration is located in the active flood zone, and the proposal therefore had to respect the conditions arising from the law. The initial proposal was relatively generous, inspired by the experience gained while working on the Danube, and in cooperation with engineer Marek Viskot (a specialist in water management and water structures), we focused on improving the flowability of the area. The key measure was to enlarge the meander of the Mže River, which was to contribute to improving the conditions for subsequent vegetation arrangements and amenities. However, it turned out that the Vltava River Basin is not the Danube River Basin, and we were unable to defend the proposal for mobile park facilities (toilets, café). However, the proposed vegetation structures and sports facilities were approved to a satisfactory extent. The design of the residential riverfront in the enlarged meander worked with proven and conservative principles: fortifications up to the level of two-year water, grassed banks, concrete and stone elements of furniture, i.e. a pragmatic, minimalist solution, without ambitions for revolutionary architecture. It was

this modest concept that received a positive opinion from the river administrator. The territorial landscape study was approved and registered, however, the implementation of part of the riverside remains conditional on the termination of the lease agreement of the allotment gardens on city land, and from our point of view it is therefore postponed indefinitely.

During the course of individual projects, it became clear that the original idea of creating architecture comparable to foreign implementations was naive. It is clear that although the legislative and technical conditions for designing in an active flood zone are generally similar, the results achieved often differ significantly. Our direct experience in practice therefore shows that:

- Realized result of planning and design is largely dependent on the interpretation of legislative and technical conditions by watercourse administrators and the relevant state administration bodies.
- It is reasonable to believe that high-quality implementations in the Czech Republic are more often the result of political interest and will than a manifestation of an enlightened and accommodating approach by responsible institutions.

RESEARCH (DEPARTMENT OF GARDEN AND LANDSCAPE ARCHITECTURE, FACULTY OF HORTICULTURE, MENDEL UNIVERSITY IN BRNO)

In her final statement, L. Radilová came to the conclusion that there is an absence of an enlightened and supportive institutional approach from responsible institutions that would support the emergence of innovative strategies. Theoretical research, which was carried out improvised in a short time (October, November 2024) at the Institute of Garden and Landscape Architecture of the Faculty of Horticulture at Mendel University in Brno,⁷ followed up on this formulation and focused on two research questions:

- What current foreign approaches to addressing active flood zones could be inspiring for planning and designing riverfronts in the Czech Republic?
- What circumstances help innovative urban water-front projects to be implemented?

The research methods included identifying suitable information sources (Google Scholar, Scopus databases, monographs and professional journals in the specialized collection of the Department of Garden and Landscape Architecture library and the MENDELU library, currently published monographs and monothematic issues of journals, websites of landscape and urban studios, strategic, research, government and development organizations, professional groups and societies were used), their classification, study, comparison and analysis with the aim of distinguishing the most prominent currents of opinion and theories. In the second step, inspiring theories were selected with regard to the conditions in the Czech Republic, critical evaluation, selection of representative examples of the implementation of innovative projects and search for information on the circumstances that most significantly contributed to their emergence. Due to research limitations (lack of time, absence of grant funding, activity beyond the scope of planned research), it was not intended, nor could it be, an exhaustive answer to the research questions, but rather an attempt to extract key information and convey it to students.

Results

In current thinking about ways to deal with floods in cities, a significant paradigm shift can be noted from the "flood-safe city" (a city that is resistant, resisting floods using flood protection in the form of building

¹ Radilová, L., Ryška, Z. (2019) Green spine of the city: territorial study. Žďár nad Sázavou: Investment Department of the Žďár nad Sázavou Municipal Office.

² M&P Architects; Landscape Architecture Studio (2019). Žďár nad Sázavou: OSRI of the Žďár nad Sázavou Municipal Office.

³ The study is being prepared by students of the Landscape Architecture department at the Department of Landscape Architecture of Mendel University in Brno under the supervision of L. Radilová. The client was the OSRI of the Žďár nad Sázavou Municipal Authority (2019).

⁴ Hornáková, M., Sendler, Z., Radilová, L., Mišík, M. (2023). Revitalization of the Janka Král Park: a study feasibility. Bratislava: Metropolitan Institute of Bratislava (MIB).

⁵ See Sárközi (2023)

⁶ Radilová, L., Viskot, M.; Ateliér Sendler–Radilová (2024). Pilsen River Park: territorial landscape study. Pilsen: Department of Conception and Development of the City of Pilsen.

⁷ It was carried out by the first author of this article.

⁸ or example, Schielen and Roovers (2008) encourage society to prepare for a different perception of floods. If society is prepared, a flood is not a crisis event, but a natural phenomenon. What is being addressed is not flood protection, but flood safety.

⁹ While browsing the extensive database of projects and realizations in the field of landscape architecture at Landezine.com, we can see in the Flood Section Resilience view 52 projects from around the world (Netherlands, Denmark, Switzerland, Germany, Sweden, Finland, China, France, Canada, USA, Ireland, South Africa, Chile, Australia, Taiwan, Luxembourg, Oman), which, according to the specifics of the given country, reflect new ways of dealing with flood events.

¹⁰ CRC for The Water Sensitive Cities (CRCWSC, <http://watersensitivecities.org.au/>) brought together world-renowned subject matter experts and industry leaders to conduct research that would transform water management in Australia and overseas, develop socio-technical solutions to urban water management, education and training programs, and engage industry to enable cities to manage water wisely. The center collaborated with more than 80 research, industrial and government partners.

¹¹ Commonwealth Government's Cooperative Research Centre (CRC) program, which supports diverse research centres to commercialise cutting-edge research and innovation, primarily from Australian universities and research institutions, and produce graduates with practical experience in the field (Eastern Metropolitan Regional Council, undated).

¹² In the field of soil bioengineering, 10 strategies were tested over 11 months – a solution was sought that would ensure the good functioning of the park as a flood-plain. A variety of plants and substrate materials were used to stabilize the banks, and several processes were used to naturally purify the water.

and structural solutions) to the “flood-resistant city” (a city that is resilient, flexibly adapting through nature-based solutions. The seeds of thinking in this direction can be found, according to Liao Kuei-Hsien (2012) date it to the beginning of the second millennium.⁸ Urban rivers should be understood as dynamic and variable systems that evolve in space and time with an acceptable degree of unpredictability. In other words, a flood will come, the city is prepared for it, it will partially hold it back, absorb it, accumulate it, and release the rest without causing any major damage. That this was not just a theory, but an intensively growing innovative approach, is also confirmed by the comment of the jurors of the American Society of Landscape Architects (ASLA) awards given in 2015: “We’ve all seen projects that aspire to return water to its natural condition. This seems remarkably believable.” (ASLA Awards Jury, 2015). Currently, the principle of “urban resilience to floods” is a common part of the development strategies of cities all over the world⁹

The principle described above is the basis for three main current theories addressing flood events and flooding: Water Sensitive Urban Design, Sponge City and Room for the River.

Theory 1_ Water-Sensitive Urban Design

Water-Sensitive Urban Design (WSUD) is a comprehensive approach to sustainable urban planning and design that restores the natural water cycle by mimicking natural hydrological processes. It involves a fundamental rethinking of the city's relationship to floods and its implementation can bring about ecological, economic, social and cultural sustainability. WSUD minimizes the impacts of urbanization on waterways, seeks ways to manage rainwater, supply drinking water, treat and recycle wastewater and maintain the cleanliness of watercourses. The aim is to restore the natural water balance, reduce flood risk, improve water quality and strengthen the social and environmental role of water in the city (Hoyer et al., 2011).

A similar concept is called Low Impact Development (LID) in the USA, Sustainable Drainage System (SuDS) in the UK, and in the Czech Republic, Rain Water Management (HDV in Czech). However, Rain Water Management in the Czech Republic represents only a part of WSUD. WSUD is a less well-known concept here and is usually identified with the principle of Blue-Green Infrastructure (BGI). Since BGI refers to systems of natural and semi-natural elements with the aim of reducing storm water runoff, increasing biodiversity, adapting cities to climate change and creating an aesthetically valuable environment it can be seen as a means for partial implementation of the WSUD concept.

The successful implementation of WSUD projects depends on interdisciplinary collaboration, especially between landscape architects, urban planners and water managers. Government research programs, such as the Cooperative Research Centre for Water Sensitive Cities (CRCWSC),¹⁰ established in Australia in 2012 with funding until 2021, are significantly contributing to changing approaches to the design and management of cities and municipalities.¹¹ Projects in Elwood, affected by regular flooding, have shown that participatory planning and the involvement of local communities strengthen the legitimacy of the program and the responsibility of residents and create conditions for good public acceptance of innovative solutions (CRC FOR WATER SENSITIVE CITIES, undated).

Singapore's water scarcity has been a driving force for national policy and innovation to such an extent that the Asian city can be considered a model for WSUD application. The situation in the city is also complicated by the increasing intensity of torrential rains,

causing frequent flooding and inundation. One of the systemic measures to address flooding was the reconstruction of Bishan-Ang Park Mo Kio (doc. 2012). The reconstruction was carried out as part of the Active, Beautiful, Clean Waters (ABC Waters) program, which is a long-term initiative of Singapore's National Water Authority (PUB). The National Parks Authority (NParks) was also involved in the planning and implementation of the project. While PUB was concerned with the efficiency of the new riverbed, NParks specialists focused on quality public space. A series of discussions, openness to new solutions, local community involvement and information campaigns contributed to the fulfillment of the common goal (C40 CITIES, undated).

The project involved transforming a concrete drainage channel into a river meandering through the park with dynamic, nature-based plantings, designed by Ramboll studio Dreiseitl. A comprehensive approach to planning and design integrated water supply, flash flood management and river ecosystem restoration (including bioremediation). The planned innovative solution needed to be supported by extensive experimental research into appropriate technologies,¹² they were minimized costs of moving materials and felling existing trees and used various recycling methods (C40 CITIES, undated). Benefits that projects like Bishan-Ang Mo creates go beyond protecting the city from floods. They have a positive impact on strengthening local community relationships, enabling recreation, improve the health of residents, increase property values, provide new job opportunities, increase biodiversity (by 30% in Bishan Park), and cool the built environment.

Theory 2_ Sponge City

The Sponge City concept has been evolving since around 1997 by prof. Kongjian Yu and his team (now Turenscape) to the present. Kongjian pointed out that “natural wetlands along rivers can act as sponges, retaining water during floods and replenishing water during droughts.” (Turenscape, undated) In 2001, Kongjian and his colleagues proposed the “Ten Strategies for Urban Ecological Infrastructure Construction,” one of the first systematic discussions on ecological stormwater management. The main strategies of Sponge City include ensuring clean water, protecting against drought and floods, recharging groundwater, protecting diverse habitats, providing recreational opportunities, and providing an aesthetically pleasing, high-quality environment for urban residents. In 2004, these ten strategies were incorporated into the “Technical Concept for Construction of the China Ministry of Construction, and in the period 2011–2013, the first three cities were implemented, where the Sponge City theory was piloted under the leadership of Kongjian Yu (Suining, 2011, Qian'an, 2010 and Xixian New Area, 2013). Subsequently, in 2014, Sponge City principles were given attention by the Ministry of Housing and Urban-Rural Development, which issued “interim technical guidelines” for their construction. Three years later, the Chinese government's work report listed the promotion of Sponge City urban construction as one of the four major government priorities (Turenscape, undated). It is therefore not surprising that the urban development of “mushroom” cities has been strongly supported by the Chinese government, including through large-scale landscape planning projects.

The principle of the Sponge City is essentially simple: using an interconnected network of blue-green infrastructure elements (parks, gardens, permeable surfaces, biotope lakes, wetlands, etc.), the city absorbs rainwater with the aim of managing floods or inundations and subsequently droughts, improving water quality, reducing the environmental impacts of urbanization, and creating a sustainable water cycle. WSUD and the Sponge City principle are conceptually

very similar. They similarly focus on sustainable management of the water cycle in cities and use natural and nature-based methods. WSUD originated as a holistic approach to integrating the water cycle into urban planning, Sponge City is a system perhaps more focused on water purification and reuse also with the help of technical measures and places more emphasis on urban and regional planning.

Theory 3_ Room for the River

National Strategy Room for the River was launched after major floods in the Netherlands in 1995. The aim of the programme was to give rivers more space to safely accommodate and discharge higher water levels. A comprehensive government program for the design of large rivers—Room for the River 2.0—was launched from 2006–2015. The main goal is flood protection, landscaping and improvement of the overall environmental condition, including urban public spaces. Specifically, the strategy concerns four large rivers, for which 40 projects have gradually been created.

This approach was already reflected in 2000 in the “Flood Protection Strategy for the Czech Republic” (2000, p. 20), which states: “The basic trend currently applied in flood protection abroad is to limit economic activities in flood areas instead of trying to protect these areas from floods at all costs. This trend, known as “giving water space”, has not yet been supported in Czech legislation and most of the funds are still devoted to restoration in flood areas.” Today, 25 years later, we can state that the first timid flood protection projects using riverbed expansion in built-up areas have been completed, and we can start to assess their functionality.¹³

The Dutch government's strategy was preceded by thinking of a “space for the river” for the Isar in Munich, Germany. The origins of the Munich embankment improvement project can be dated back to 1970, when a professor of landscape architecture at the Technical University of Munich Alwin Seifert published a memorandum entitled “Isar North, Inside and South of Munich – A Restoration Plan” (Bämle and Czisch, 2023). The plan was supported by the public, which created political pressure and initiated the establishment of working groups of local residents to draft principles for the restoration of the Isar. In 1980, the first official document was approved with the support of the Bavarian Ministry of the Environment. In 1995, the interdisciplinary working group “Isar Plan Munich” was founded based on earlier city council resolutions. The project involved the State Water Management Office Munich, the City of Munich (Department of Public Construction, Regional Planning and Building Office), the Ministry of Health and the Environment and the Isar-Allianz (an alliance of NGOs). Public participation was ensured through comprehensive communication techniques. The effective cooperation of all the above-mentioned entities was one of the key factors for the project's success (Schaufuß, 2016).

Implementation also required legislative changes and a new wastewater management plan (modernization of wastewater treatment plants along the Isar River) or an increase in water flow, which was blocked by historical agreements with energy producers. The actual implementation of the project began in 2000 and lasted until 2011. The riverbed was widened by 50–90 m, the banks were reinforced with gravel, lowered and expanded into a new recreational area (Zingraff, 2023).

The examples show that the implementation of innovative WSUD, Sponge City and Room for the River projects is mostly contributed by government support and policy, involvement or initiative of local communities, academic, research, civic and other organizations, in-

terdisciplinary cooperation and a suitably set legislative environment. Despite the partial legislative framework (obligation to manage rainwater, protect groundwater and surface water), methodological and construction-technical tools (standards) and national strategies, the WSUD, Sponge City and Room for the River theories are still insufficiently applied in the Czech Republic and require an active approach. Essential for the successful implementation of similar projects is long-term and intensive government support, appropriate funding for research and innovation, well-advised participatory planning methods, incorporation of principles suitable for the conditions of the Czech Republic into legislation and adequate financing (including the costs of long-term care). And last but not least, education, both for the professional and lay public.

LANDSCAPE ARCHITECTURE TEACHING (DESIGN STUDIO IV)

Wende et al. (2020) precisely describe the creative essence of landscape architecture, which, like urbanism and architecture, is increasingly struggling with increasing complexity. Understanding all related processes and the ability to work with them is essential for creating a built environment. At the same time, technological development and the growth of cities have increased the dynamics of processes and ideas about future development are increasingly uncertain. Landscape architects are learning to work with the dynamics of processes from the beginning, their basic building elements are constantly developing, growing, dying, changing their size and shape. The landscape, whether rural, urban or other, is changing in time and space at every moment. Wende et al. (2020, p. 141) continue: “If ... we view the landscape as a holistic and dynamic “system of systems”, then it is understood as an expression of the dynamic interaction between ecological, social and economic processes. These various processes are continually altering the landscape, making the dynamics of transformation a key issue in research and design.” From the above, it is clear that the role of landscape architecture in the planning of waterfronts (and all other public spaces) is indispensable. The question that we address especially in the planning and design studio's for landscape architects is how to teach understanding and receptive creative work with the “system of systems.”

At this point, we will briefly present the course and results of the Design Studio IV, which took place in the winter semester of 2024 under the leadership of Ing. Viktor Filipi and Mgr. Ing. arch. Adam Lacina,¹⁴ who explains: “Initially, before the devastating floods in September 2024, the assignment for the city of Jeseník had a completely different dimension. Originally, it was supposed to be about modifying the embankments of two rivers forming the backbone of the city, the Bělá and the Staříč. The students were supposed to look for a solution that would make the rivers within the city accessible and increase their attractiveness. After the flash floods, the topic was changed and the aspect of flood protection was emphasized. And since both rivers flowing through the city are located in the Jeseník Protected Landscape Area, nature protection and nature-sensitive treatment of streams turned out to be another key theme of our approach. The assignment was coordinated with the management of the city itself and the city architect, Ing. arch. D. Zatloukal. The cornerstone of the design was a field survey, which, due to the situation, dysfunctional logistics and the sensitivity of the topic, was ultimately concentrated in one day. The streets were largely cleared of mud and debris thanks to the work of locals and volunteers, but damage to houses, the riverbed and the infrastructure were widespread.”

The three-phase assignment began with broader-scale

¹³ We are thinking, for example, of the mediaally well-known riverfront of the Svratka River in Brno. The 3 km long construction began in 2022 and was completed in the summer of 2025.

¹⁴ The studio is taught in the first semester of the master's degree in the follow-up study program Landscape Architecture.

¹⁵ Retention capacity, water erosion, hypsometry, land use, forestry, drainage lines, flooding, problem map. Special note for understanding: "throwing somebody (who cannot swim) into the water with the instruction "Swim!" is a Czech adage that means, that a good way how to learn something new is to be "thrown" into the problem and have to learn how to solve it themselves.

planning and was to be refined to selected design detail:

1_study of the issue of floods, analysis of the broader context of floods in the cadastre of the city of Jeseník and proposal of measures in the landscape of the cadastre. Objective: to try to determine the causes of the devastating floods in the city and landscape, to understand the effects of human activity and the principles of flood phenomena, to propose changes in the surrounding landscape leading to the protection of the city's urban area from high water and to explain them to the public.

METHODS: field research, study of recommended and other sources, own research on the issue, lecture by L. Radilová (experience from practice), landscape analysis. It is an exaggeration to say that the method of "throwing into the water with the instruction "Swim!" was applied.¹⁵ Joint work.

In this phase, the preparation of an educational flood brochure for the city of Jeseník was chosen as a specific teaching method. It was also included in the final outputs of the studios, unplannedly, based on the surprising finding for the students that the floods in Jeseník influenced more the methods of farming in the surrounding landscape and its geomorphology than the course of the rivers through the city and the properties of the riverbeds. Of course, flood protection measures in the area of the city riversides are important, but in the specific context of the city in the foothills of the Jeseníky Mountains they will be effective only in combination with comprehensive measures in the surrounding landscape. To create the brochure, the students first had to study the problems being solved, propose ways to solve them and think about how they could explain everything to the public in a comprehensible way, i.e. look for the form and content of the message as well as the visual language.

2_detailed landscape and urban analysis of the Staříč and part of the Bělá riversides. Objective: to understand the key characteristics of selected locations and their connections to the surrounding area, identify their problems and formulate design principles.

METHODS: standard analytical process deepened in the water management. Interpretation of analyses in the form of problem maps and design starting points. Feedback during the studio critique with the participation of city representatives and invited experts. Lecture and consultation by Ing. Marek Viskot (Moravian River Basin). Work in five-member teams.

3_design. Objective: to examine, design and present possible solutions for specific public spaces in relation to watercourses and probable future flood events.

METHODS: principle of "research through design"—solutions for public spaces, adaptation to flood events. Feedback during the studio critique with the participation of city representatives and invited experts. Lecture summarizing the conclusions of the research on current theories and practices. Communication with the professional and lay public by preparing a presentation in the form of posters that were displayed and presented at a public exhibition in Jeseník. Each student individually.

Evaluation of the studio's progress:

Positives:

- The opportunity to start the studio with a field survey shortly after the floods was a powerful experience and motivation for the students.
- Opportunity to introduce students to the issues of planning and design in the active zone of a flood area, in contact with the reality of the affected city

- The feeling of meaningful work that can really help, not "put in cold storage"

- Space for simplified specific research without connection to project challenges and generating new teaching materials, knowledge and experience

- Positive responses to the originally unplanned flood brochure and the exhibition of student projects

Negatives:

- Planning and design would require more detailed field research

- The higher level of necessary improvisation (positively assessed by teachers) was not met with understanding by students; most would prefer a predetermined content and scope of tasks and outputs.

- The whole group working together did not work, it would be more appropriate to divide the tasks into smaller groups throughout the semester

- The issue of floods is extensive, requiring a more intensive dive and a more robust package of analyses than has been possible

- The results of the parallel basic research were only available in the second phase of design and could not significantly influence the course of the studio

The studio for the city of Jeseník was a creative laboratory opening up new topics and opportunities. Our assignment was followed up by colleagues from the Institute of Landscape Planning, who in the next semester worked with the same students on the issue of landscape planning with an emphasis on protecting the Jeseník Mountains from flood events. The studio demanded flexibility and independence from the students, and its management was demanding in terms of organization and communication. Although the connection of research and design did not go as planned, the research continues and will enrich future teaching. Interdisciplinary connections between students of related fields in the form of mixed work teams, which has already proven successful, are also desirable.

Despite the negatives mentioned, it is undeniable that the positives of teaching in the form of direct experience with the topic being addressed prevail. Design Studio IV and its unplanned continuation in the following semester made for students possible to learn about multi-layered planning and design driven by the dynamics of natural processes. If they strengthened the ability to question the status quo, to experiment, and persevere in finding and promoting new solutions and procedures, we were successful.

CONCLUSION

Urban waterfronts are key public spaces where flood protection needs meet with requirements for quality public space and ecological sustainability. Successful practice requires not only an adequate legislative framework, open-minded administrative authorities and government/local government support, but also the ability to find innovative, nature-based solutions, active community involvement and multidisciplinary cooperation. Successful implementation of these projects requires the connection of experts from various professions, such as landscape architects, urban planners, water managers and others. Government research and support programs or state policies and strategies are key for financing, developing and implementing comprehensive solutions.

The challenges of today are aimed at adopting a new paradigm: a change in the perception of floods as a cyclical phenomenon, against which the city does not have to fortify itself in a medieval way, but to which it adapts and accepts its dynamics. Research and teaching of landscape architecture are of fundamental importance in supporting the implementation of

these changes, developing innovative methods and preparing experts who can comprehensively solve the problems of urban riversides. In situ experience of students is optimal (out of their comfort zone) and important is to try to strengthen their flexibility, courage to experiment, perseverance in finding solutions, ability to work in multidisciplinary teams and personal resilience.

SOURCES/REFERENCES

[1] ASLA Awards Jury (2015). Available from: <https://www.asla.org/2015awards/95842.html> [cited 2025-07-10].

[2] Bäumler, K. and Czisch, W. (2023). Die Isar in München : Bürgerengagement als Motor der Fluss-Renaturierung . Munich: Franz Schiermeier Verlag. Available from: <https://muenchner-forum.de/die-isar-in-muenchen/> [cited 2025-07-28].

[3] C40 Cities (undated). Singapore: Bio- Engineering Works at Bishan-Ang Mo Kio Park to Prevent Urban Flooding. Available from: <https://www.c40.org/case-studies/singapore-bio-engineering-works-at-bishan-ang-mo-kio-park-to-prevent-urban-flooding/> [cited 2025-07-28].

[4] Czech Technical University in Prague (2017). Czech Implementations of Water Sensitive Design [PDF]. Available from: <https://portal.cvut.cz/wp-content/uploads/2017/04/HP2013-09-Stransky.pdf> [cited 2025-06-10].

[5] CRC for Water Sensitive Cities (undated). Water Sensitive Elwood. Shifting from conventional water management. Available from: <https://watersensitivecities.org.au/solutions/case-studies/water-sensitive-elwood/> [cited 2025-07-28].

[6] Eastern Metropolitan Regional Council (undated). Cooperative Research Centre for Water Sensitive Cities. Available from: <https://www.emrc.org.au/sustainability/environmental-services/energy-water-and-climate-change/crc-for-water-sensitive-cities.aspx> [cited 2025-07-28].

[7] Hoyer, J., Dickhaut, W., Kronawitter, L., and Weber, B. (2011). Water Sensitive Urban Design Principles and Inspiration for Sustainable Storm Water Management in the City of the Future. Manual. Jupiter Publisher GmbH, Berlin. ISBN 978-3-86859-106-4. Available from: https://www.hcu-hamburg.de/fileadmin/documents/Research/Forschungsgruppen/REAP/WD_Publikationen/Hoyer_Dickhaut_Kronawitter_Weber_Manual_WSUD_2011.pdf [cited 2025-07-28].

[8] IPR of the Capital City of Prague (2025). Sample solution of the BGG system of blue-green infrastructure in Prague. Available from: <https://iprpraha.cz/assets/files/files/67fff716c533791b23d1dd66a5d691b7.pdf> [cited 2025-07-28].

[9] Liao, K. (2012). A theory on urban resilience to floods — a basis for alternative planning practices. *Ecology and Society*, 17(4), 48. Available from: <http://dx.doi.org/10.5751/ES-05231-170448> [cited 2025-07-10].

[10] Macháč, J., Hekrlé, M. et al. (2022). Blue-green cities: Examples of adaptation measures in the Czech Republic and their economic evaluation. Ústí nad Labem: Institute for Economic and Ecological Policy (IEEP). ISBN 978-80-7561-405-6.

[11] Ministry of the Environment of the Czech Republic (2000). Flood Protection Strategy for the Czech Republic. Approved by Government Resolution No. 382 of 19 April 2000. Available from: <http://www.dppcr.cz/prilo>

<hy/pravo/2000-382-Strategie.pdf> [cited 2025-07-28]. Ministry of the Environment of the Czech Republic (2024). Blue-green infrastructure. Available from: <https://mzp.gov.cz/cz/agenda/klima-a-energetika/adaptace-na-zmenu-klimatu/modrozelená-infrastruktura> [cited 2025-07-27].

[12] Interreg project Central Europe MaGICLandscapes (ed., 2019). Green Infrastructure Handbook – Conceptual and Theoretical Foundations, Terms and Definitions (Czech abridged version). Available from: <https://www.interreg-central.eu/Content.Node/MaGICLandscapes.html> [cited 2025-07-28].

[13] Ramboll (undated). Bishan Park Singapore: nature for all. Available from: <https://www.ramboll.com/projects/water/bishan-park-singapore-nature-for-all> [cited 2025-07-28].

[14] Rous, V. (2020). Green infrastructure? Are they like those trees in the streets? Available from: <https://ekolist.cz/cz/publicistika/nazory-a-komentare/vitekrus-zelena-infrastruktura-to-jsou-jako-ty-stromy-v-ulicich> [cited 2025-07-27].

[15] Sárközi, A. (2023). Huge loss. Mainly the city canceled the contract with the architects of Sad Jan-ko Král, those they describe non-standard practices. Available from: <https://www.asb.sk/architektura/obrovská-prehra-hlavne-mesto-zrusilo-zmluvu-s-architektmi-sadu-janka-krála-ti-opisujú-ne-standardne-praktyky> [cited 2025-04-04].

[16] Schaufuß, D. (2016). Isar-Plan – Water management plan and restoration of the Isar River, Munich (Germany). Available from: <https://climate-adapt.eea.europa.eu/en/metadata/case-studies/isar-plan-2013-water-management-plan-and-restoration-of-the-isar-river-munich-germany> [cited 2025-07-27].

[17] Schielen, RM J. and Roovers, G. (2008). Adaptation as a way of flood management. 4th International Symposium on Flood Defense: Managing Flood Risk, Reliability and Vulnerability, Toronto, Ontario, Canada, 6–8 May 2008. Available from: https://www.researchgate.net/publication/357406663_4_th_International_Symposium_on_Flood_Defence_Managing_Flood_Risk_Reliability_and_Vulnerability_ADAPTATION_AS_A_WAY_OF_FLOOD_MANAGEMENT [cited 2025-07-10].

[18] Turenscape (undated). "Sponge City" Theory and Practice by Kongjian Yu and his team. Available from: <https://www.turenscape.com/topic/en/spongecity/index.html> [cited 2025-06-10].

[19] Wende, W., Nijhuis, S., Mensing-de Jong, A. and Humann, M. (eds.) (2020). Inclusive Urbanism: Advances in research, education and practice. TU Delft OPEN Publishing . Available from: <https://doi.org/10.7480/rius.6> [cited 2025-07-27].

[20] Zingraff-H., A., Lupp, G., Bäumler, K., Huang, J. and Pauleit, S. (2023). The Isar River: Social Pride as a Driver of River Restoration. In: Wantzen, KM (ed.) *River Culture – Life as a Dance to the Rhythm of the Waters*, pp. 611–636. UNESCO Publishing, Paris. DOI: 10.54677/YXWJ9055.

PUBLIC SPACES AS ONE OF THE FACTORS OF A CITY OF SHORT DISTANCES.

Vitková Lubica - Suchánková Zuzana

**LUBICA VITKOVÁ, , PROF. ING.
ARCH. PHD.**

Faculty of Architecture and Design
Slovak University of Technology in
Bratislava
Nám. Slobody, 19, 812 45, Slovakia

lubica.vitkova@stuba.sk

ORCID ID: 0009-0004-4199-5275

Lubica Vitková is architect, planner, PhD and professor of the Faculty of Architecture, STU Bratislava. Her pedagogical, research and creative activity focuses on the area of urban design and urban planning with an emphasis on the monitoring of qualitative and quantitative aspects of urban structures. She is a member of the Management board of the EUI EUIST Project Steering Committee and a senior researcher of domestic and international projects at STU.

**ZUZANA SUCHÁNKOVÁ, ING. ARCH.
PHD.**

Faculty of Architecture and Design
Slovak University of Technology in
Bratislava
Nám. Slobody, 19, 812 45, Slovakia

zuzana.suchankova@stuba.sk

ORCID ID: 0009-0005-5623-3924

Zuzana Suchánková is an architect with experience in architectural studios in Europe and China. She is an assistant professor at the Faculty of Architecture and Design of the Slovak University of Technology in Bratislava. In her scientific and creative work, she focuses on the issue of the overlap between urban planning and architecture (urban structures and architecture of various types of buildings) with an emphasis on public spaces, verification of the quality and effectiveness of urban structures.

ABSTRACT: Sustainable transport is one of the important factors contributing to urban resilience and sustainability, given the fact that transport is responsible for a quarter of all carbon dioxide emissions in the EU. Road transport contributes to these emissions by over 70 percent. Therefore, increasing attention is being paid to concepts for reducing car traffic in favour of public and bicycle transport and, in particular, supporting pedestrian movement.

The paper presents the basic concepts of urban transformation based on the principle of sustainable transport with an emphasis on tools for transforming urban neighbourhoods and their public spaces, applied to the real conditions of Bratislava. The paper focuses on the presentation and evaluation of proposed concepts, as well as implementation of interventions. It presents strategies for the development of public transport, concepts for sustainable neighbourhoods based on the principle of the city of short distances, as implementation of the transformation of the city's public spaces.

The Faculty of Architecture and Design (FAD) of the Slovak University of Technology in Bratislava is working intensively on this topic together with the Metropolitan Institute Bratislava (MIB - a conceptual institute in the field of architecture, urban planning, participation and strategic planning). The teachers and students are verifying the set strategies and concepts on model solutions for urban districts, as well as on the possible transformation of public spaces through research and student projects. A joint FAD and MIB project was submitted within the framework of the POO for research into the issue of reducing the carbon footprint of transport.

KEYWORDS: sustainability and resilience of cities; sustainable transport; city of short distances; public spaces for people

INTRODUCTION

Sustainable transport is one of the important factors contributing to urban resilience and sustainability, given that transport is responsible for a quarter of all carbon dioxide emissions in the EU. Road transport accounts for over 70 percent of these emissions. The situation is similar in Slovak cities. Car transport accounts for 50% of the total transport capacity, and it is still growing. The reason is the long-standing and persistent functionalist principle of development of Slovak cities, recently reinforced by extensive territorial development. This is manifested both in the growth of cities in width and in intensive suburbanization. This is present not only in the vicinity of larger cities, but is also manifested in less developed regions.

The preference for the car mode of transport is environmentally, economically, and spatially unsustainable in the long term. Therefore, more and more attention is paid to concepts of reducing car transport in favor of urban mass transport, cycling and supporting pedestrian movement.

Concepts that develop and support sustainable urban development include: the city of short distances, the compact city, the Ecocity concept, which have been developed by many authors

All of the above concepts of development, or rather the transformation of cities, are based on the principle of sustainable transport, on the optimization of the density of urban structures, or the mixing of functions. The quality of public spaces plays a significant role in the above concepts, given their social, economic, environmental, or cultural significance. Public spaces also play an important role in regeneration and development programs.

In the context of focusing on the topic of sustainability and reducing the carbon footprint of transport, the contribution is focused primarily on their environmental significance and their role in the transformation processes of cities.

THEORETICAL BASIS

The compact city model is based on the principle of economic and social activity around centres of different hierarchies (Vitková, 2008). The urban structure is organized around multifunctional centres of gravity with higher density of development, which serve the territories within the parameters of commuting. The territory of the city is thus divided into coherent territorial units organized into rings based on differentiated effective accessibility, from neighbourhoods around local centres within walking distance, to more complex units with higher intensity of development and representation of amenities accessible by public transport, or by bicycle connection (The Urban Task Force, 1999; Lozano, 1990). Compact urban development is based on inner-city development with an emphasis on recycling the territory and on reducing traffic, especially automobile traffic. It takes into account the economic, social and environmental aspects of development.

Urban development concepts applying the compact city model are based on the application of contrasting and diverse development in terms of its intensity, functions and forms. The intensive multifunctional structure is naturally concentrated around centres of various importance and important urban corridors and axes (Vitková, 2008). Many authors have developed the theory of the compact city since the 1960s. Pioneers in this theory were Jacobs (1965), De Roo (1998), Krier (1998), and The Urban Task Force (1999). The concept of compact cities has become an important part of development strategies at both the global (Peters, Novy, 2012; UN-Habitat, 2014), and national levels (Mazúr Ján, et al., 2022).

The Ecocity model represents the most complex ecological model of sustainable urbanism. Eco-city cities are based on minimizing demands on energy resources, or consumption of areas and materials. The model is based on the creation of a healthy and habitable environment using renewable resources. The model therefore emphasizes inner-city development through the recycling of territories and existing urban struc-

tures, through the valorisation of unused areas while supporting efficient transport. The model is based on the polycentric principle, the formation of distinctive urban districts and the principle of the city of short distances (Coplák, et al., 2009; Komrska, et al., 2005).

The model of the traditional city (theory of New Urbanism) is based on traditional compact and multi-functional forms of urban structures - on the application of traditional building elements of the city, such as streets, squares, city blocks. The concept of the traditional city was developed in the works of Katz, (1998), Kostof (1992), Krier (1998) and other authors active in the Congress for the New Urbanism (2006).

The concept of the 15-minute city represents an urban theory and an urban model, which is based on the proximity of individual functions, necessary for ensuring the daily needs of city residents, such as housing, work, services, education, healthcare, culture and leisure. The model that was formulated by the urban planner Moreno (2024) works with the distribution of the above functions within a 15-minute walking or cycling distance. The model consistently follows the principles of economic, environmental and social sustainability.

Public spaces play an important role in models of sustainable cities, due to their social, economic, cultural and environmental significance. The importance of public spaces for the functionality of the city, especially for its social contacts, is fundamental. In the theoretical works of Jan Gehl (2010), as well as in their practical application for a large number of cities. Public spaces fundamentally affect to the quality of the urban environment and life in it. Equally important for the quality of the urban environment is their environmental function, as part of the green-blue infrastructure of the city - public spaces as the lungs of the city, as its green oases or lines. According to Carmona (2010), public spaces are also a significant economic phenomenon. They play an important role in urban or commercial regeneration and development programs.

Public spaces are the basic building elements of a city of short distances. Street design in particular plays a crucial role in reducing the carbon footprint of automobile transport. Promoting sustainable forms of transport and improving the quality of public spaces should therefore be part of the overall concept of urban transformation (Kasralian, Maat, Van Wee, 2019; McCann, 2017).

APPLICATION OF SUSTAINABLE CITIES MODELS IN SLOVAKIA. CASE STUDIES FOR BRATISLAVA

Slovak cities and towns are beginning to reflect the requirements of sustainable development in their strategic materials and social and economic development plans. However, these requirements are no longer reflected in the spatial plans of Slovak cities, as they are mostly outdated. Out of inertia, they persist in applying functionalist and extensive development. The above-mentioned situation is largely suitable for commercial development activities. These are concentrated mainly in mono-functional zones (trade, administration, or warehouses) or in suburbs. This represents an increased traffic load between individual functional systems (housing and work, housing and amenities), which is mainly provided by passenger car transport. The situation is further aggravated by the fact that the spatial plans of settlements, as well as zones, reflect the requirements of the valid traffic standard, which set high demands on static transport capacities and road parameters.

Cities do not specifically apply the principles of a compact city, a polycentric city, or a city of short distances.

This requires rethinking urban development strategies and reflecting them in their spatial plans.

Positive examples include the activities of the Capital City of the Slovak Republic, Bratislava. The City of Bratislava has been involved in many international projects aimed at sustainable urban development. In order to support the theoretical and methodological basis, the projects focused on the city's readiness for climate change RESIN (2014-2020), or the ATELIER Project (2019-2026) within the EU Horizon 2020 scheme. Experience from international projects was reflected in the city's strategic and methodological materials (Hudeková, 2014; Streberova, Reháčková, Kučáková, 2017), as well as in the actual implementation of measures to mitigate the impacts of climate change.

Bratislava has developed a strategic document Bratislava 2030 (Fajta, Círanová, Sidorová, 2022), the City Development Program 2022 – 2030 (Mazúr, et al., 2022). Important materials in the context of sustainability include the Public Spaces Manual (Žitňanský, et al., 2021). It represents a tool that sets out the overall concept, principles of renewal and creation of public spaces in terms of increasing their quality and reducing the carbon footprint. These materials were processed by the Metropolitan Institute of Bratislava (MIB). MIB is the city's expert institute for architecture, spatial planning, participation and strategic planning. It prepares model studies of the development of selected urban zones based on the principle of a city of short journeys.

It is worth mentioning the activities of Bratislava and MIB aimed at the renewal of streets. The projects include increasing their quality, mainly through the reorganization and calming of traffic, adding greenery, replacing surfaces or furniture. Streets thus become not only a communication corridor, but also a pleasant place for social contacts and spending free time. Other implementation activities include the transformation of selected public neglected spaces under the common name "Living Places". The aim of the program is to revitalize selected areas of the city so that they create a system of inclusive, functional and attractive places for spending free time for its residents and visitors. These include squares, parks, areas in front of schools and etc.

The Faculty of Architecture and Design of STU was involved in this process through student work.

Research at the Faculty of Architecture and Design of the Slovak University of Technology has been devoted to the issue of sustainable cities for a long time. The topic of sustainable city and regional development was developed within the framework of many international projects in cooperation with local governments. The Ecocity (EU 5RP project), DANuRB, DANuRB 2 (Interreg, DTP), Creative Danube (Erasmus+ K2) projects focused on the concept of a sustainable city. In all projects, theoretical principles of a sustainable city were developed and applied to specific cities in a positive confrontation with the experiences of partner institutions and cities abroad. The main goal of the Ecocity project was to verify the concept of a compact and polycentric city model with an emphasis on sustainable transport. The project was focused on harmonizing urban structures with the needs of pedestrians and cyclists and on building efficient public transport systems. The DANuRB and DANuRB + projects were oriented towards the sustainable development of small and medium-sized cities through sustainable tourism (Kádár, Vitková, 2019). The transformation of the mentioned cities was also based on the application of the city of short journeys - supporting local communities and complex urban areas. High-quality public spaces and sustainable transport were an integral part of

the strategies and model solutions of the Štúrovo city (Joklová, Kristiánová, 2019) and of the Komárno city (Šeligová, Smatanová, 2018).

An important part of research at the Faculty of Architecture of the Slovak University of Technology is research by design. In studio assignments, we verify the application of the short-distance city model together with students in cooperation with local governments. The most active is cooperation with the Bratislava City Hall, specifically with its conceptual department - the Bratislava Metropolitan Institute. At the Faculty of Architecture and Design of the Slovak University of Technology, in cooperation with the aforementioned institute, we verify the possibilities of transforming selected city locations on the principle of a short-distance city. The verification studies will serve the Bratislava Metropolitan Institute as a basis for preparing a new spatial plan. One of the important challenges and possibilities of applying the short-distance city principle, which has not yet been sufficiently applied in the concepts of the development of the city of Bratislava, is the more significant integration of rail transport into the urban public transport system. Several studies are underway proposing possible routings for new tram-lines, as well as studies evaluating the possible use of existing railway lines for servicing development areas. The aforementioned studies on the use of rail transport are intended to support the inner-city development of the city at the expense of intensive sub-urbanization in the Bratislava region dependent on individual car transport.

The prerequisite for the successful introduction and efficiency of rail transport are the parameters of new, or rather transforming, areas in contact with it. The nature of urban structures is essential for the efficiency of rail transport and its profitability - more intensive and compact forms of development, ensuring adequate transport capacities and suitable walking distances to rail transport stops or stations. The optimal connection of intensively populated areas with the city centres (or with secondary centres). Given the fact that the centres of gravity of the tertiary and quaternary sectors are tied to city centres, it is ideal that the highest concentration of these activities be implemented around rail transport hubs, which supports polycentric and inner-city development. Rail transport stops and stations fulfil the role of magnets for territorial development (Peters, Novy, 2012).

Development areas around the traffic stops must, in addition to adequate development intensity and a high degree of poly-functionality other requirements.

They are:

- Integrity of the stop or station and the adjacent area.
- Direct transport connection with several transport systems (public transport - tram, bus lines, cycling and pedestrian routes).
- Optimal location of the stop or station relative to the main urban public spaces (development axes, main pedestrian zones, etc.) and a clear network of public spaces in the development area.
- Emphasis on efficient forms of transport (preference for walking, cycling).
- Richness of functional use – as a catalyst for urban life (shopping, services, leisure activities, job opportunities, temporary accommodation).
- Characteristic spatial solutions of the development area – especially around the centre of gravity
- Flexible locality program.
- Development phasing (Vitková, 2019).

The model locations were several areas linked to existing railway lines in some areas and with existing

railway stations, or even functional points of integrated urban transport stops. The aim of the verification studies was to verify the development possibilities of adjacent areas:

- With different characteristics (brownfield, undeveloped area, diverse form and function of existing development, agricultural land).
- In different locations within the city (inner city, peripheral location of the city).
- With different relationships and potential to different hierarchies of centres (city centre, regional, district, neighbourhood centre, local centre).

These were mostly undeveloped areas, or brownfield areas with significant development potential. As part of the verification studies, we focused on fulfilling the necessary parameters of a city of short distances, which were defined in the works of the collective of the Institute of Urbanism and Spatial Planning of the FAD (Vitková, 2008):

- Parameters of intensity and poly-functionality of development.
- Quality of public spaces.

We verified the forms of intensity of development adequate to the importance of the given location and pointed out the fact that the city's spatial plan does not sufficiently take into account the degree of poly-functionality, or rather defines it too strictly without the necessary flexibility, necessary as a reaction to changing market conditions and demand (Vranková, et al., 2007).

Within the framework of model solutions, we emphasized the concept of public spaces as a system of streets, squares and elements of green-blue infrastructure (parks, vegetation and water lines) connecting blocks of urban development. The profiles and form of street spaces were designed with an emphasis on pedestrian, cycling and calm car traffic, optimal availability and accessibility with an emphasis on inclusion. To support orientation in space, especially in strategic locations, emphasis was placed on views, landmarks and lines, or the form and functions of the parterre).

Defining the material-spatial structure is essential for optimizing the development of development areas based on the principle of a city of short distances and tied to local/district, district, regional centres of gravity with rail transport stops (railway station, tram stop). The application of a rational grid based on a network of streets appears to be optimal. The street grid acts as a natural regulator of development. It prefigures a set of criteria and rules that are based on it. It defines the city block by the building line, the height parameters of new development and the conditions of glare of buildings. Other criteria such as the intensity, form and function of development allow for a wide range of options, resulting from both the specific characteristics of the location, but also current and future needs and the state of the economy. The fundamental principle is the application of differentiated density and degree of poly-functionality from the highest in the central positions around stops and rail transport lines with their gradual reduction with increasing walking distance.

Within the framework of the implemented model studies, we verified the stated differentiated density of urban structures. For the urban structure of the inner city in direct contact with the railway station (as part of the district centre), we verified the density of development with density of 2.50 to 3.00 FAR. Within the urban classes, we verified the application of multifunctional development with density of 2.00 to 2.50 FAR. Residential development reached a density of development from 1.00 to 1.8 FAR depending on the walking distance from the proposed centres of gravity.

In the conditions of the outer city, the densities of the urban structure within the framework of the verification studies tied to the railway station ranged from 2.00 to 2.50 FAR. The density of residential structures ranged from 1.25 to 1.8 FAR (for block development) to values of 0.8 to 1.00 FAR (for low-rise development) at the edge of a walking distance.

A significant factor in the success of development based on the principle of a city of short distances is the multifunctional nature of the urban structure. This helps create local communities. This is a necessary mix of functions - housing, services, job opportunities, leisure activities in accordance with local needs and demand within walking distance of residents. The viability of the area also ensures a consistent distribution of housing within the entire development site, naturally with the application of different types depending on the importance and nature of the location. An important principle is the creation of an active parterre in frequented public spaces.

For this reason, we verified a flexible interval of multifunctionality, able to respond to changing market demand. For the district centres in the inner city, we considered various combinations of commercial, equipped and residential functions in the range from 60 to 40%. For the housing structure in the inner city, we verified a combination of amenities and housing in the range from 20 to 80%. For the structure of the outer city, a range of commercial and residential functions of 30 to 70% was verified for the local centre. We combined the residential environment for the outer city in the range from 10 to 90% between amenities and housing.

We paid great attention to the street profile. City avenues, boulevards, a system of service and residential streets. As part of the model solutions, we verified a

hierarchical system of linear spaces based on the XL, L, M, S principle. Linear public spaces in our models are following:

- Streets XL are presented as boulevards up to 50 meters,
- Streets L are presented as main axes with dimensions up to 35 meters,
- Streets M presented service roads and residential streets up to 24 meters,
- Streets S sized presented residential streets and pedestrian zones up to 12 meters.

The development of areas around railway stations and



Fig. 2.: Concepts for the development of the "Šajby" area around the Rača railway station based on the principle of a city of short journeys, implemented within the GLOCAL studio (Vitková_Suchánková). Author: E. Benčíková A: overall design; B: Design of street profiles with traffic calming; C: Scheme of a differentiated hierarchy of the public space system based on the grid principle.



Fig. 1.: Concepts for the development of the "Šajby" area around the Rača railway station based on the principle of a city of short journeys, implemented within the GLOCAL studio (Vitková_Suchánková). Author: E. Benčíková, Laura Ožvaldová, Katarína Mindová

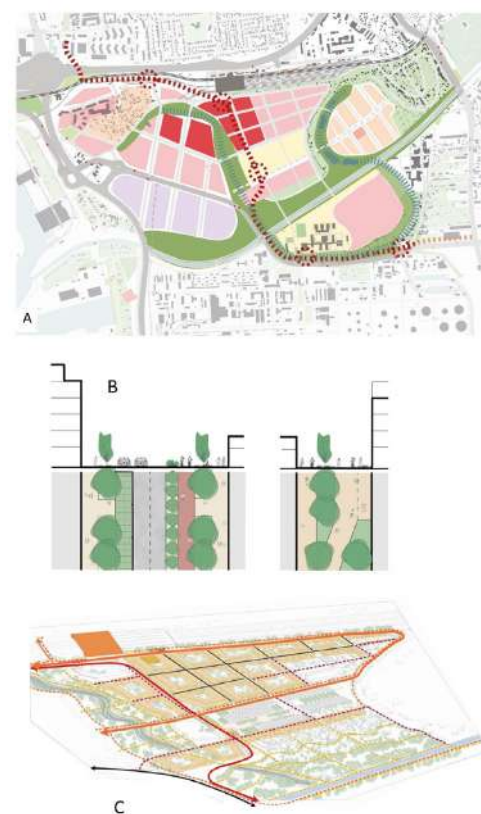
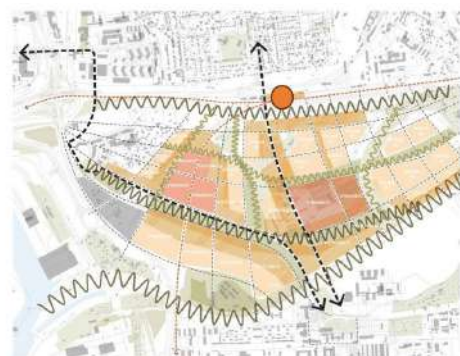


Fig. 3.: Concepts for the development of the "Domové role" area around the Ružinov railway station based on the principle of a city of short journeys, implemented within the GLOCAL studio (Vitková_Suchánková). Author: D. Pamulová A: overall design; B: Design of street profiles with traffic calming; C: Scheme of a differentiated hierarchy of the public space system based on the grid principle.



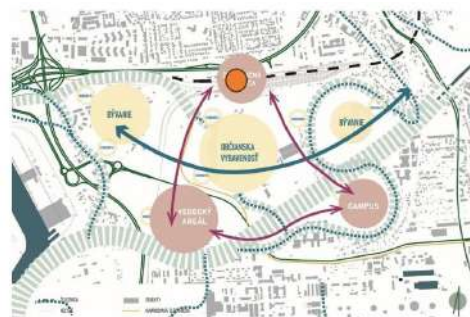
Students: Zuzana Hulecová, Andrea Illešová, 2024



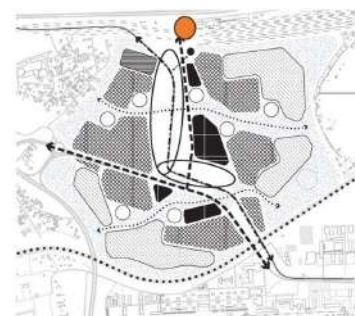
Student: Nina Jadrná, 2024



Student: Dominika Pamulová, 2024



Student: Veronika Vatehová, 2024



Student: Barbara Štofová, 2024



Student: Viktória Maláková, 2024

Fig. 4.: Concepts for the development of the “Domové role” area around the Ružinov railway station based on the principle of a city of short journeys, implemented within the GLOCAL studio (Vitková_Suchánková).

Location	Position in the city	Význam lokality	Vázba na železniciu/električku	Forma rozvoja	Density of urban fabric in the /net Measure of poly-functionality *	Density of urban fabric with a predominant residential function/net Measure of poly-functionality **
Petržalka New district and district center on the Dunube	Connection with the city centre	As a part of city centre and district centre for 100 thousand inhabitants	Existing railway and tram line	Brownfield transformation	Floor area index 3,00 - 4,00 Poly-functionality measure interval 80 – 20 %	Floor area index 1,5 – 2,5 Poly-functionality measure interval 20 – 80 %
Nové mesto New District City District Nové Mesto	Inner city	A new district centre	Existing railway and tram line	Brownfield transformation	Floor area index 2,5 - 3,00 Poly-functionality measure interval 60 – 40 %	Floor area index 1,5 – 2,5 Poly-functionality measure interval 20 – 90 %
Zones Domové role City District Ružinov	Vonkajšie mesto	New city district	Existing railway line and planned tram line	New development, brownfield transformation, Connection with existind urban fabric (housing, warehouses, traffic areas)	Floor area index 2,50 - 3,00 Poly-functionality measure interval 50 – 50 %	Floor area index 1,5 – 2,5 Poly-functionality measure interval 20 – 80 %
Zone Šajby City District Rača	City periphery	New city district	Existing railway and tram line	New development, brownfield transformation, Connection with existind urban fabric (housing, warehouses, traffic areas)	Floor area index 2,00 – 2,5 Poly-functionality measure interval 30 – 70 %	Floor area index 1,5 – 2,5 Poly-functionality measure interval 10 – 90 %

Note: * Interval of the share of amenity functions and housing; **Interval of the share of housing and amenity functions

Tab. 1.: Evaluation of the character of model areas and a proposal for regulating the density and poly-functionality of their urban structure

rail transport is a long-term process. Correct set phasing is important for the success of the above projects. In addition to its appropriate setting based on the set concept and the importance of individual parts of the area, the economic situation and socio-demographic development are determining factors.

CONCLUSION

The development and transformation of areas around rail transport stops, especially railway stations, are key locations for promoting the compact city model and supporting efficient transport, in terms of promoting the compact polycentric city model, or the city of short distances. It is urban rail transport, due to its transport capacity and efficient and direct routing, that is able to ensure effective connections between individual parts of the city, between coherent and functional urban areas. It has a significant contribution to strengthening inner-city development compared to suburban development and thus also to reducing the carbon footprint of car transport.

A targeted city transport policy is a key tool for achieving sustainable mobility. To be effective and efficient, it must be based on thorough analyses that monitor and take into account population mobility, the state of the environment, socio-economic trends, as well as the wider context of the city. Sustainable development strategies, as well as decarbonization policies, should be based on an understanding of the relationships within the city and within its functional region. Existing relationships and connections within the city and its wider surroundings can be appropriately redirected to other more efficient forms of connections through sustainable development concepts and well-thought-out transport strategies, as well as strengthening the uniqueness of individual parts of cities.

SOURCES/REFERENCES

- [1] CARMONA, Matthew - TIESDELL, Steve - HEATH, Tim - OC, Taner. (2010). Public places Urban spaces. The dimensions of urban design. Second Edition, Routledge. p. 77,
- [2] CONGRESS FOR THE NEW URBANISM. <http://www.cnu.org/charter>, accessed on 23 June 2025.
- [3] COPLÁK, Jaroslav - PIFKO, Henrich - GREGOROVÁ, Jana - RAKŠÁNYI, Peter - KOVÁČ, Bohumil - KOMRSKA, Ján - ŠABIKOVÁ, Jana - VITKOVÁ, Ľubica - IVANIČKA, Koloman (2009). Plánovanie ekologických sídlisk. Bratislava, Road. p. 132. ISBN 978-80-88999-37-9.
- [4] DE ROO, G. (1998). Environmental Planning and the Compact City a Dutch Perspective. In.: Studies in Environmental Science, edited by T. Schneider, s. 1027–1042, Elsevier.
- [5] FAJTA, Zuzana - CIRANOVÁ, Lucia - SIDOROVÁ, Milota (2022). Bratislava 2030, Metropolitný inštitút Bratislava, ISBN 978-80-973834-7-3
- [6] GEHL, Jan (2010). Life Between Buildings. Using Public Space. Sixth Edition. The Danish Architectural Press.
- [7] HUDEKOVÁ, Zuzana (2014). Stratégia adaptácie na nepriaznivé dôsledky zmeny klímy na území hl. mesta SR Bratislavy. Bratislava hl. mesto SR, p. 48 https://bratislava.blob.core.windows.net/media/Default/Dokumenty/Str%C3%A1nky/Chcem%20vediet/064_Adaptacne%20strategie.pdf, accessed on 23 June 2025
- [8] JACOBS, Jane (1965). The Death and Life of Great American Cities. 2 ed. London: Penguin Books.
- [9] JOKLOVÁ, Viera - KRISTIÁNOVÁ, Katarína (2019). DANURB - Impulzy pre Štúrovo, Impulses for Štúrovo. 1. vydanie. Bratislava : Vydavateľstvo SPEKTRUM STU. p. 104 . ISBN 978-80-227-4898-8.
- [10] KÁDÁR Bálint - VITKOVÁ, Ľubica (2019). Sustainability options for tourism development. In.: Book on the unexplored cultural heritage in communities by the Danube : DANURB 2017 - 2019. 1. vydanie. Praha, Česko : Gasset, p. 88-95. ISBN 978-80-87079-63-8.
- [11] KASRAIAN, D. – MAAT, K. - VAN WEE B. (2017). The Impact of Urban Proximity, Transport Accessibility and Policy on Urban Growth: A Longitudinal Analysis over Five Decades. Environment and Planning B: Urban Analytics and City Science 46 (6): 1000–1017. <https://doi.org/10.1177/2399808317740355>, accessed on 23 June 2025
- [12] KATZ, P. (1994). The new urbanism: Toward an architecture of community. New York: McGraw-Hill.
- [13] KOMRSKA, Ján - FINKA, Maroš - GÁL, Peter - ŠPAČEK, Robert - PIFKO, Henrich - COPLÁK, Jaroslav - KOVÁČ, Bohumil - VITKOVÁ, Ľubica - GREROROVÁ, Jana - PETRIKOVÁ, Dagmar - BELČÁKOVÁ, Ingrid - BOBER, O. - PAŠIAK, Ján - STRUSSOVÁ, Mária - RAKŠÁNYI, Peter - JAŠŠO, Matej (2005). Ecocity Trnava. In. Ecocity Book I. A better place to live /2002-2005. Viedeň : Vienna University of Economics and Business,, s.67-72. ISBN 3-200-00421-5.
- [14] KOSTOF, Spiro (1992). The city assembled: The elements of urban form through history. London: Thames and Hudson.
- [15] KRIER, Leon. (1998). Choice or fate. Windsor, UK, Papadakis.
- [16] LOZANO, Eduardo (1990). Density in Communities, or the Most Important Factor in Building Urbanity. From Community Design and the Culture of Cities. In: Urban Design Reader, London, Routledge. p. 680
- [17] MAZÚR Ján a kol. (2022). Bratislava 2030, Program rozvoja mesta 2022-2030, Vízia a strategická časť. Metropolitný inštitút Bratislava; https://bratislava2030.sk/wp-content/uploads/2023/03/A-C-Strategicka-cast-Bratislava-2030_032023.pdf, accessed on 18 August 2025
- [18] MCCANN, Eugen (2017). Mobilities, Politics, and the Future: Critical Geographies of Green Urbanism. Environment and Planning A, vol. 49 (8), p. 1816–1823
- [19] MORENO, Carlos (2024). The 15-Minute City. 2024, s. 350, ISBN 9781394228140
- [20] OECD (2012). Compact City Policies: A Comparative Assessment. OECD Green Growth Studies. Paris: OECD Publishing.
- [21] PETERS, Deike – NOVY, Johannes (2012). Train Station Area Development Mega-Projects in Europe: Towards a Typology. Build Environment. 38/1, p. 5 – 30.
- [22] STREBEROVÁ, Eva - Rehačková, Tamara – Kučárová, Katarína (2017). Akčný plán adaptácie na zmeny klímy hl. mesta SR Bratislavy 2017 – 2020, p. 94 https://mycovenant.eumayors.eu/storage/web/mc_covenant/documents/17/yUYkiS5oqAVN7sNim-8PQzfFSxCvORHg3.pdf accessed on 18 August 2025
- [23] ŠELIGOVÁ, Andrea - SMATANOVÁ, Katarína (2018). Udržateľný rozvoj malých a stredných miest na Dunaji : Vymedzenie území a ich valorizácia v prípadovej štúdii Komárno. In ALFA. Roč. 23, č. 2, p. 18-23. ISSN 1335-2679.

[24] THE URBAN TASK FORCE (1999). Towards an Urban Renaissance. London: Routledge. UN-Habitat (2014). A New Strategy of Sustainable Neighbourhood Planning: Five Principles. Nairobi: UN Habitat.

[25] VITKOVÁ, Ľubica (ed.) (2008). Kvantitatívne parametre urbanistických štruktúr. Zborník príspevkov. Zost. Ľ. Vitková. Bratislava : Road, p. 90 s. ISBN 978-80-88999-35-5.

[26] VITKOVÁ, Ľubica (2019). Železničné stanice ako súčasť koncepcie Smart City, overovacie štúdie pre Bratislavu. In.: Inžinierske stavby. Roč. 67, č. 1, p. 49-51. ISSN 1335-0846.

[27] VRANKOVÁ, Oľga - DROBNIÁKOVÁ, Dana - LUNÁČEK, Vladimír - HREŠKO, Peter – DEĎO, Vasil - ŠIMLOVIČOVÁ, Jana (2007): Územný plán hlavného mesta SR Bratislavy, Hl. mesto SR Bratislava. <https://bratislava.sk/zivotne-prostredie-a-vystavba/rozvoj-mesta/uzemnoplanovacie-dokumenty/platna-uzemnoplanovacia-dokumentacia/uzemny-plan-mesta-a-jeho-zmeny-a-doplňky/uphm2007>, accessed on 18 August 2025

[28] ŽITŇANSKÝ, Roman - NOVÁČEK, Oto - LUKAČOVIČ, Adam - ŠINGEROVÁ, Petra - MARCINOV, Michal (2021). Manifest verejných priestorov, Metropolitný inštitút Bratislava. ISBN 978-80-973834-0-4

THE CITY WALLS OF MILAN AND THEIR IMPACT ON THE URBAN FORM OF THE CITY

Volná Lenka - Svatoš Jindřich - Počil Jozef - Pytel Jan

ABSTRACT: This paper examines the city fortifications of Milan and their everlasting impact on the urban form and identity of the city. Being one of the most significant Italian cities, Milan has gradually and substantially transformed in the context of the change and later removal of the city's fortifications. The contribution focuses on the development of the defensive walls, their gradual alteration, and the new utilization of the former fortification sites and their impact on the urban and architectural character of the city. The research addresses other phenomena related to the city walls, and particular emphasis is laid on the influence of the original street network on today's urban layout. The research methodology consists of visual methods, field study, and literature review. Through exploration of the physical remains and the urban memory and urban patterns of the city in dialogue with current and historical maps, the paper accentuates the relevance of the contemporary approach in the framework of the imprints of historical urban forms. Based on the research, the paper's conclusion recommends emphasizing the historical context of the site and the genius loci in proposed designs of the former fortification sites.

KEYWORDS: fortifications; conversion; urbanism; architecture; history

INTRODUCTION

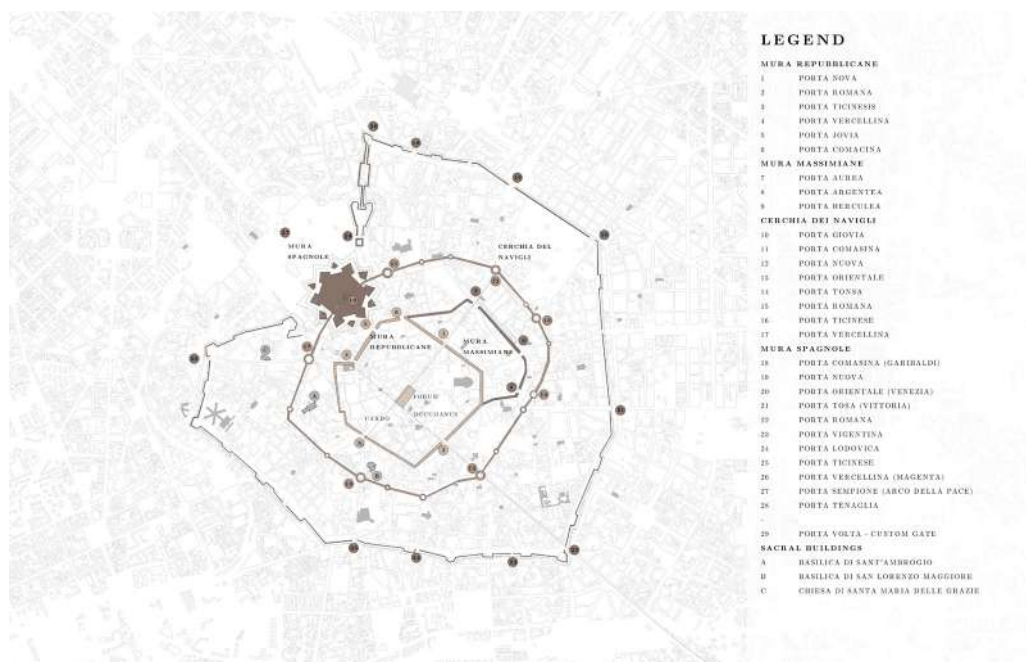
Fortifications and city walls have been a part of urbanization and habitation since the dawn of human civilization and culture. Being more than bare defensive structures, historically, city walls have represented the power, value, and status of the settlements they surrounded. Fortifications have defined the urban form, both physically and symbolically, shaping the compact cores of cities across historical epochs. Among the oldest known urban settlements is the biblical city of Jericho, while Jerusalem also holds ancient urban significance, with its history chronicled in biblical texts. Beyond the original city of Jerusalem, the concept of the New Jerusalem, especially in the Western world, has remained predominant as a flawless urban model – a vision of sacred perfection [1]. City walls delineated not only the tangible limitations but also the boundaries of a religious and communal kind. These structures, in connection with the nearby sacred places (loca sacra), created what was known as the murus protectionis – a symbolic and defensive ring imitating the sacred cities of Jerusalem or Rome [2].

The paper focuses on the city of Milan, where sever-

al rings of city walls can be found, subsequently built throughout history. While traces of these walls are not always evident in the current urban layout, their legacy has continued to influence the structure of the city. Preliminary field research revealed a tendency for radial growth of Milan over time. A recurring topic was the vicinity of significant churches to historical fortification circuits, suggesting a deeper geometric and symbolic relationship. This research aims to investigate the long-term influence of the historical fortifications on the recent urban form of Milan. During our research, we sought answers to the following questions we had set ourselves: Has the original layout of Milan influenced its current urban network? To what extent did the fortifications shape the city's development? Do current urban planning and architectural interventions in the context of former fortification areas offer practical value to the city today?

To address these questions, a blended methodological framework was used, combining field study, visual methods, and a literature review. The observations were documented during an in-situ field study of Milan, focusing on identifying remnants of fortifications and analyzing their relationship with surrounding ur-

Fig. 1.: Map of Milan with designated city wall rings and gates (Author of the map: Lenka Volná [5])



LENKA VOLNÁ, ING. ARCH.

Department of Architecture
Faculty of Civil Engineering
VSB - Technical University of Ostrava
Ludvíka Poděště 1875/17, 708 33
Ostrava - Poruba, Czech Republic

lenka.volna@vsb.cz

ORCID iD: 0000-0002-2448-8608

Doctoral student at the Department of Architecture, FAST, VSB. She also works as an architect.

JINDŘICH SVATOŠ, PROF. ING. ARCH

Department of Architecture
Faculty of Civil Engineering
VSB - Technical University of Ostrava
Ludvíka Poděště 1875/17, 708 33
Ostrava - Poruba, Czech Republic

jindrich.svatos@vsb.cz

ORCID iD: 0000-0003-3019-7329

University professor at the Department of Architecture at FAST, VSB, and CTU. He also works as a practicing architect in his own architectural studio.

JOZEF POČIL, ING. ARCH

Department of Architecture
Faculty of Civil Engineering
VSB - Technical University of Ostrava
Ludvíka Poděště 1875/17, 708 33
Ostrava - Poruba, Czech Republic

jozef.pocil@vsb.cz

ORCID iD: 0000-0003-4137-6429

Doctoral student at the Department of Architecture, FAST, VSB. He also works as an architect.

JAN PYTEL, ING. ARCH.:

Department of Architecture
Faculty of Civil Engineering
VSB - Technical University of Ostrava
Ludvíka Poděště 1875/17, 708 33
Ostrava - Poruba, Czech Republic
janpyt@seznam.cz

Master's degree graduate from the Department of Architecture and now a practicing architect.

¹ This military alliance secured Vladislav II the non-hereditary royal title for the Czech lands in 1158, and according to Dalimil's chronicle, the Czechs earned their lion emblem. [6].

ban aspects and the cityscape. These findings were supported and interpreted with the help of historical maps and current mapping tools such as Google Maps, Google Street View, and Cadmapper. The visual methodology consisted of digital sketches and photographic documentation, and all figures were created by the authors. The map in Figure 1 was created using CAD software and highlights the successive rings of Milan's fortifications along with their gates. This map serves as both a means to designate and present historical layers of urban structure and as an analytical tool for the interpretation of urban patterns in Milan's cityscape.

MAIN PART

Historical Context, Layering, and Historical Tendencies in the Area of Former City Fortifications

The area of current Milan was settled by the Gauls from the 6th century BC. Following its conquest by the Romans in 222 BC, the settlement of Metlaun was transformed into the castrum called Mediolanum [3], which expanded into a city following the Roman scheme of a castrum. The city fortifications were constructed in a square layout, intersected by two main axes, the decumanus (southwest to northeast) and the cardo (southeast to northwest), accessed through gates with watchtowers [4]. The earliest defensive walls of the Roman castrum, known as the Mura Repubblicane, were raised in 49 BC. This fortification system included six main gates [5] – see Figure 1 for their names and locations. A few centuries later, Roman walls were expanded by the Mura Massimiane, which added three new city gates [5] – see Figure 1. Traces of the Roman urban grid and the fortification outlines of the original castrum are still evident in the historical core of Milan, as in other cities, e.g., in Bologna, Florence, and Vienna [1]. It can also be observed in Figure 1 that the cardo and decumanus are still identifiable and that later gates adhere to the same pattern – Porta Nuova (7,12,19) connects to the cardo, while Porta Romana (2,15,22) connects to the decumanus.

Following a brief period of decline after the fall of the Western Roman Empire and the barbarian invasions of the 6th century, Milan reemerged as a key northern Italian city-state. Throughout the Middle Ages, the city gradually grew and expanded concentrically around the Roman urban nucleus [4]. The partial destruction of Milan by the armies of Frederick I, Holy Roman Emperor, in 1158, with the help of Czech troops, marked another milestone in the history of Milan's city walls¹ [6]. A new perimeter wall circuit was erected, surrounded by a moat filled with water from the Navigli Canal – Cerchia dei Navigli [7]. The final form of the defensive wall included main gates (designated in Figure 1) and about a dozen secondary gates, called pusterle, of which the Pusterla di Sant'Ambrogio depicted in Figure 2 has been preserved. Of the main gates, Porta Ticinese (Figure 3, 16) and Porta Nuova have been preserved to this day.

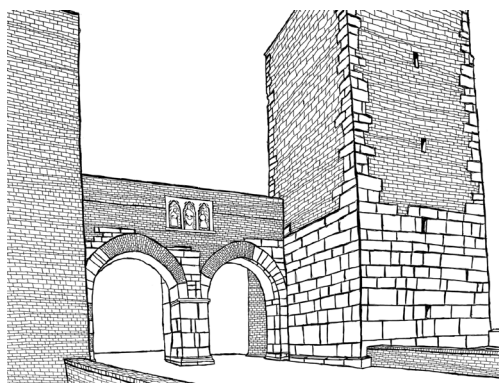


Fig. 2.: Sketch of Pusterla di Sant'Ambrogio (Author: Jan Pytel)

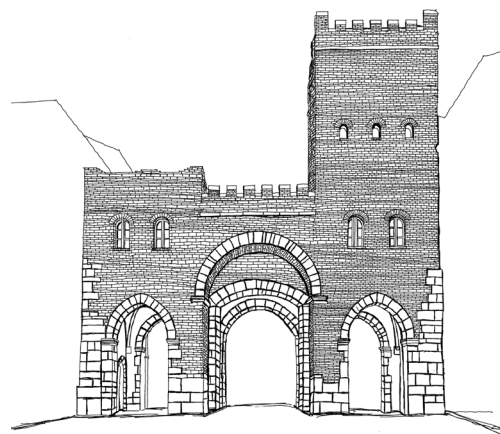


Fig. 3.: Sketch of medieval Porta Ticinese (Author: Jan Pytel)

Under Spanish rule in the early 16th century, Milan saw the construction of a third fortification ring known as Mura Spagnole, bastioned walls strategically positioned further from the medieval perimeter, incorporating new suburban development [4]. This shift in the positioning of the city walls marks the evolution of the military and urban planning of the period. During the culturally and technologically transformative era of the 18th and 19th centuries, Spanish bastions were adapted into a panoramic promenade [4]. The transformation of the promenade is also evident in publicly available historical maps from 1820, 1846, and 1885, which reflect changing urban planning tendencies [8–10]. Although the walls had outlived their defensive function by this period, the boundaries they created remained as administrative boundaries until 1873 [4]. The defensive structures were transformed into landscaped boulevards. The Spanish walls represent not only a layer of fortifications, but also a milestone in the urban palimpsest of the city. As part of the dismantling of the bastion walls, customs gates and triumphal arches were also built on the site of the original gates [4, 11]. Porta Sempione (27), on the axis from Castello Sforzesco, was remarkably transformed into a memorial arch known as Arco della Pace [12]. Among the altered gates, Porta Ticinese stands out – a monumental gate supported by Corinthian columns (25, in Figure 1, sketch in Figure 4).



Fig. 4.: Sketch of 19th-century Porta Ticinese (Author: Jan Pytel)

Contemporary Approach as a Current Tendency in the Area of Former City Fortifications

A typical approach to the design and use of the space of former city walls is the creation of new city rings. This approach can be observed in several Czech and European cities. After the walls were dismantled, relatively large vacant areas remained, offering numerous possibilities for use. For example, transport hubs, park rings, or ring roads could be created, in which new building typologies and existing typologies, which were revisited in the 19th century due to national re-

vivalist tendencies, could be applied. This period thus marked a flourishing of cultural buildings – philharmonic halls and theaters – as well as memory institutions such as museums and libraries. New institutions of state and government were also being built. In this regard, Czech cities such as Brno, Opava, and Krnov stand out. Among European cities, there is Vienna, and similar tendencies can also be seen in Milan.

For example, the city of Brno retained its fortifications until the mid-19th century. After the demolition of the walls, architect Förster submitted a proposal for the regulation and expansion of the city, which included the creation of tangents around the historical center of the city. Other architects gradually followed suit with subsequent public building projects [1]. In Milan, two ring roads were in fact created over time. These rings take the form of park-landscaped boulevards.

As a positive example of the contemporary approach to construction in areas of former city walls in the context of Milan, we highlight the master plan for Porta Volta (29), which was once part of the Mura Spagnole. The current form of the gate connects the city with the cemetery and has provided a radial connection [13]. The urban regeneration plan for Porta Volta was designed in 2010 by the architectural studio Herzog & de Meuron. Since then, Porta Volta has become a cultural center, implementing new functions and many green areas (Figure 5). The building follows the contour of the Porta Volta gate and preserves the footprint of the original bastions. The gate serves as a reference point within the city, complementing the two preserved original customs gates, Caselli Daziari di Porta Volta. In its simplicity and grand scale, the design is reminiscent of historic Milanese architecture, such as the Rotonda della Besana and Castello Sforzesco. The proposed buildings were also inspired by the elongated linear buildings of traditional rural architecture in Lombardy. The architects from studio Herzog & de Meuron subsequently created an elongated and narrow structure that embodies the geometric contours of the site and balances between transparency and the definition of space [11].



Fig. 5.: Photograph of Porta Volta Feltrinelli Publishing by Herzog & de Meuron (Author of the photograph: Lenka Volná)

Another transformation of the city's bastion ring is, for example, the City Gate project, which completely reshaped the main entrance to Malta's capital, Valletta (studio Renzo Piano Building Workshop). This project is composed of four parts – Valletta's city gate and surrounding public space, the design of an open-air theater on the site of the former Royal Opera House, the construction of a new parliament building, and the landscaping of the moat [14].

The City Walls and Their Relationship to the Christian Sacral Buildings of Milan

An interesting phenomenon occurs in Milan, namely that some important early Christian churches are located near the city walls, which gives the impression of a certain sacredness intended to protect the city

within the walls. The relationship between religious complexes and fortifications is documented in professional literature. It is described, for example, in the book *Opavské hradby* (The City Walls of Opava), and the following excerpt illustrates this connection [15]:

"Since the 19th century, the idea that monastery complexes adjacent to city walls played an important role in strengthening selected medieval city fortifications has become firmly established in professional literature and, under its influence, in general understanding. In fact, many of the city monasteries, especially those of the two most numerous mendicant orders, the Dominicans and the Minorites, were deliberately located on the periphery of the city district in contact with the line of walls precisely to reinforce this protective zone."

In Czech professional literature, the widely accepted idea is that sacred buildings significantly contributed to the defense of cities, whether due to their deliberately chosen strategic location within the urban layout, their integration into the fortification belt, or through special defensive arrangements [16].

Although the literature supports this idea, it is not the only reason or explanation for the location of Christian sacral buildings near city walls. For clarity, these churches and monasteries can be divided into two categories – inside and outside the city walls (intro and extra muros). Churches and monasteries built outside the walls were often surrounded by cemeteries, as burials within the walls were not permitted [17]. Some sacred areas were also surrounded by walls, which also served the symbolic function of separating the sacred from the profane (e.g., the Vatican). Another reason for locating churches along the walls was to allow for prayer before traveling or at the entrance to the city. Monasteries located extra muros were the heart of later suburbs and had an agricultural purpose [18].

In Milan, notable examples of the intertwining of sacral architecture and fortifications include the Basilica di Sant'Ambrogio (Figure 6, A) and the Basilica di San Lorenzo Maggiore (Figure 7, B). The location of the San Lorenzo complex outside the original city walls indicates its use for funerary purposes, which is related to the prohibition of burials within the city walls [17]. Both ancient basilicas were originally built extra muros. The original name of the Basilica di Sant'Ambrogio, Basilica Martyrum, directly refers to the burial of Christian martyrs persecuted during the Roman era. Another notable church is Santa Maria delle Grazie (Figure 8, C), home to Da Vinci's Last Supper, which was built as part of a Dominican monastery in an extra muros position [19]. Archaeological finds in the Piazza del Duomo area have shown that there was already an episcopal church here in Roman times. This early Christian Basilica in the intra muros position was located on the site of today's Piazza del Duomo.



Fig. 6.: Photograph of Basilica di Sant'Ambrogio – Early Christian atrium basilica from the 4th century AD, now in its Romanesque form (Author: Lenka Volná)



Fig. 7.: Photograph of Basilica San Lorenzo Maggiore – Early Christian church from the 4th century AD, with a Baroque façade and form (Author: Lenka Volná)



Fig. 8.: Photograph of Chiesa di Santa Maria delle Grazie (Author: Lenka Volná)

CONCLUSIONS

The paper studied the stratification of Milan in the context of city walls and their influence on the current urban structure, architectural identity, and symbolic values. By analyzing the development of gradually constructed wall circuits (chronologically Roman, medieval, and bastion) and their transformation into boulevards and important landmarks, we demonstrate that fortifications are not mere remnants, but that they played a key role in the development and shaping of the urban form of the city and its memory. The complexity and stratification of Milan are supported by its urban form. We are still capable of finding traces of fortifications in the street network of today's Milan.

Our field research and literary research support the statement that the radial growth of the city was derived from the original Roman castrum. Based on our research, it can be stated that the original layout of Milan influenced its current urban network. We would like to emphasize the relationship between sacral architecture and fortifications. Their connection is both spatial and symbolic. The paper addresses the reasons for the placement of Christian sacral buildings in the vicinity of the walls (whether intra or extra muros). The most remarkable motif appears to be the spiritual protective value that sacral buildings in the proximity of the walls could bring.

The contemporary approach to the sites of former city walls is represented by the Porta Volta master plan designed by architects Herzog & de Meuron. The project reflects the urban and spatial memory of the place, with the elongated building designed to trace the footprint of the bastion of the Spanish walls, following the Porta Volta customs gate. This urban-architectural intervention in the context of the city walls brings practical value to the city of Milan in the form of an interpretation of the geometry of the site and demonstrates a way to preserve the genius loci while offering new layers in the locations of the former city walls.

A key outcome of this research is a focus on an urban and architectural approach that incorporates geographical, historical, and morphological context in the design of former city fortification sites. Milan represents a compelling example of integrating contemporary structures into the historical layers of significant heritage areas. By exploring and documenting these urban traces and patterns, architects and urban planners can design sustainably in historic locations and respect history while moving forward.

SOURCES/REFERENCES

- [1] Hrůza, J. (2014). Svět měst. Praha: Academia.
- [2] Pomierny-Wąsińska, A., (2019). „Measuring and Shaping the Late Medieval City: Mathematical Descriptions of City Walls in Florence and Milan”, *Kwartalnik Historyczny*, 126(3), s. 5–42. doi: 10.12775/KH.2019.126.SI.1.01.
- [3] Lecco, A. and Foot, J. (1999). Milan | History, Population, Climate, Map, & Facts. [online] Encyclopedia Britannica. Available at: <http://www.britannica.com/place/Milan-Italy/History> [Accessed 30 Aug. 2025].
- [4] Tucci, M., Giordano, A. and Ronza, R.W. (2010). Using Spatial Analysis and Geovisualization to Reveal Urban Changes: Milan, Italy, 1737–2005. *Cartographica: The International Journal for Geographic Information and Geovisualization*, 45(1), pp.47–63. doi:<https://doi.org/10.3138/carto.45.1.47>.
- [5] Ossola, I., Migliarini, G. and Giambone, V. (2011). *Ciclo Urbis, Un parco lineare sui Bastioni milanesi*. [Master's thesis] p.166. Available at: <https://hdl.handle.net/10589/20141> [Accessed 30 Aug. 2025].
- [6] Bahník, P., Bašta, J., Dvořák, A. and Vlnas, V. (2021). *Prolitá krev zavazuje*. Praha: Česká citadela s.r.o., p.256.
- [7] Banfi, F., Bolognesi, C.M., Bonini, J.A. and Mandelli, A. (2021). THE VIRTUAL HISTORICAL RECONSTRUCTION OF THE CERCHIA DEI NAVIGLI OF MILAN: FROM HISTORICAL ARCHIVES, 3D SURVEY AND HBIM TO THE VIRTUAL VISUAL STORYTELLING. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLVI-M-1-2021, pp.39–46. doi:<https://doi.org/10.5194/isprs-archives-xlvi-m-1-2021-39-2021>.
- [8] Zucoli, L. (1820). *Pianta della città di Milano*. Faculty of Science (Map collection). Available at: <https://kramerius.cuni.cz/uk/view/uuid:c1631404-5151-11ec-937b-fa163e4ea95f?page=uuid:c1fcf92a-5151-11ec-937b-fa163e4ea95f> Extent: 1 mapa : mědiryt, čb., podlepena plátnem ; 30,5 x 41,5 cm na listu 31,5 x 42 cm, složeno na 16 x 10,5 cm v papírovém pozdrě 16 x 11 cm.
- [9] Tenenti, T. (1846). *Nuova pianta della città di Milano*. Faculty of Science (Map collection). Available at: <https://kramerius.cuni.cz/uk/view/uuid:a821e704-5151-11ec-b2dc-fa163e4ea95f?page=uuid:a8e46464-5151-11ec-b2dc-fa163e4ea95f> Extent: 1 mapa : lito-

grafie, čb., podlepena plátnem ; 26,5 x 40 cm na listu 27,5 x 41 cm, složeno na 14 x 10,5 cm v papírových deskách 14,5 x 11 cm.

[10] Milano a colpo d'occhio guida indispensabile al visitatore. (1885). Faculty of Science (Map collection). Available at: <https://kramerus.cuni.cz/uk/uuid/uuid:d01472f8-9423-11ec-abc7-fa163e4ea95f> Extent: 1 mapa : barev. litografie ; 24,5 x 37 cm na listu 29,5 x 38,5 cm.

[11] Herzog & de Meuron (2016). 327 Porta Volta Fondazione Feltrinelli. [online] Herzog & de Meuron. Available at: <https://www.herzogdemeuron.com/projects/327-porta-volta-fondazione-feltrinelli/>.

[12] Banfi, F. and Mandelli, A. (2010). Computer Vision Meets Image Processing and UAS PhotoGrammetric Data Integration: From HBIM to the eXtended Reality Project of Arco della Pace in Milan and Its Decorative Complexity. *Journal of Imaging*, [online] 25(7(7)), p.-. doi:<https://doi.org/>.

[13] Rossari, A. (1970). MILANO CHE SI COSTRUISCE: I PIANI REGOLATORI. *Incontri di studio*. doi:<https://doi.org/10.4081/incontri.2016.263>.

[14] Renzo Piano Building Workshop, architects in collaboration with Architecture Project (Valletta) (2021). Valletta City Gate. [online] Fondazione Renzo Piano. Available at: <https://www.fondazionerenzopiano.org/en/project/valletta-city-gate/>.

[15] Kolář, F., Antonín, R. and Kaniová, P. (2013). Opavské hradby. Opavská kulturní organizace.

[16] Razím, V. (1996). Sakrální stavby v systému obrany středověkých měst. *Archaeologia historica*, [online] 21([1]), pp.151–167. Available at: <https://hdl.handle.net/11222.digilib/140191> [Accessed 27 Aug. 2025].

[17] Kinley, D. (n.d.). Italy, Milan, San Lorenzo | Briefing | Professor Dale Kinney | Medieval Architecture. [online] projects.mcah.columbia.edu. Available at: http://projects.mcah.columbia.edu/medieval-architecture/htm/kd/ma_kd_discuss_sanl.htm.

[18] Štajnochr, V. (2019). Jaké jsou podstatné jevy a atributy odrážející urbánní hodnoty historických jader měst? [online] Available at: <https://www.youtube.com/watch?v=B9t5RALbDF0> [Accessed 27 Aug. 2025].

[19] Bolognesi, C.M. and Aiello, D. (2019). THE SECRETS OF S. MARIA DELLE GRAZIE: VIRTUAL FRUITION OF AN ICONIC MILANESE ARCHITECTURE. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLII-2/W15, pp.185–192. doi:<https://doi.org/10.5194/isprs-archives-xlii-2-w15-185-2019>.

ACKNOWLEDGEMENTS

The research was supported by Research Project No. SP2022/41, SP2023/040. The conference fee was supported by the Department of Architecture, Faculty of Civil Engineering, VSB-TU Ostrava.

3/ Court architecture of housing, civil equipment and construction engineering

„THE GOLDEN AGE“ OF ZAGREB’S COLLECTIVE HOUSING BLOCK: THE „MARKET“ DESIGN AND CONSTRUCTION BETWEEN 1955-1974

Kahle Darko

DARKO KAHLE, Research Associate Professor (Republic of Croatia, Ministry of Science, Education and Youth/Scientists), PhD in Architecture and Urban Planning, Architect/Chartered (ARB/RIBA), Architekt (AKNW), Ovlašteni Arhitekt/Urbanist (HKA), dipl. ing. arhitekture

Independent Scholar
Independent Scholar
Goebenstrasse 11, 45139 Essen,
Nordrhein Westfalen/North Rhine
Westphalia, Germany

darko-kahle@t-online.de
darko.kahle@gmail.com

ORCID iD: 0000-0002-8004-3881

Darko Kahle [1966-2001: Kalle], ARB/RIBA: Architect/Chartered, AKNW: Architekt, HKA: Ovlašteni arhitekt/urbanist; AIA, ASHRAE, SAH; MSEY Croatia: Viši znanstveni suradnik [Research Associate Professor]; PhD [Dr.-Ing.] in Architecture and Urban Planning [University of Zagreb]; service in scientific committees; scientific articles and reviews; presentations at scientific conferences; architectural design: 7 executed renovation projects & 3 rewarded projects at competitions [1 as apprentice].

¹ I want to cordially thank the reviewers of this article for making it more pleasant to read. Additionally I want to express my gratitude to the “National and University Library in Zagreb” [Croatian “Nacionalna i Sveučilišna Knjižnica u Zagrebu”], where I was provided with all the possible help in researching the topic.

² In the early 1960s, when the seminal housing estates of “New Zagreb” were near completion (“Savski Gaj”, “Trnsko”), the Croatian architectural community started extensive reviewing and analysis of completed, built and designed Collective housing blocks in emerging housing estates throughout the city, until the fall of “Croatian Spring” in the late 1971.

³ Udo Kultermann praised the prefabricated structural and construction system of „Zaprude“ housing estate, while Peter Blake criticized the appearance of “New Zagreb” as an “ideal city” yet permanently absent of social life.

⁴ Eve Blau and Ivan Rupnik analyzed the architectural construction and aesthetic of “cooperative housing”, while they avoided tackling either the economy foundations of such enterprise or analyzing the correspondent legal frame, like contemporary Building Codes.

⁵ Representing the shanty houses serving for the accommodation of workforce

ABSTRACT: From the Khrushchev’s visit to Belgrade in 1955 to the issuance of both Yugoslav and Croatian Socialist Constitutions in 1974 and beyond, the star-architects practicing in “private” architectural design offices designed the majority of Collective housing blocks (CHBs). The official rejection of Zagreb’s Regulation Plan in 1953 moved construction of housing estates to the southern bank of river Sava, where a new city was built until mid-1970s, immediately nicknamed “New Zagreb” and consecutively criticized in Peter Blake’s “Form Follows Fiasco” in 1977. Due to the nationalization of apartment houses in 1958, Collective housing blocks remained entirely approved form of collective residence. The standardization of building design and construction industry materialized between 1964-1971. By interpolating Collective housing blocks and housing estates into the city quarters built in period 1880-1945, architects demonstrated exceptional skills in embedding the new structures in old urban fabric. The analyzed period represents a high achievement in the history of Zagreb’s residence construction, consequently referred “the golden age”.

KEYWORDS: Late Modern architecture; Housing; Collective housing block; Zagreb; Yugoslavia; 1955-1974

INTRODUCTION

This paper represents the sequel of the 9th Architecture in Perspective Conference proceeding: “COLLECTIVE HOUSING BLOCKS (CHBs) IN ZAGREB BETWEEN 1945 AND 1955: FROM THE COLLECTIVIZATION TO THE RE-PRIVATIZATION OF ARCHITECTURAL OFFICES” (Kahle, 2017, pp. 188-191) and the prequel of the 16th Conference proceeding: “POST-MODERN TENDENCIES IN SOCIALIST HOUSING CONSTRUCTION: THE COLLECTIVE HOUSING BLOCK IN ZAGREB BETWEEN 1974-1991” (Kahle, 2024, pp. 40-44).¹ It analyzes the typology of Zagreb Collective housing blocks (CHBs) built and occupied between 1955 and 1974, based on reviews in Croatian architectural periodicals serving as primary and secondary sources, namely “Architecture” [Croatian: “Arhitektura”], “Man and Environment” [Croatian: “Čovjek i prostor”] and “Zagreb’s Panorama” [Croatian: “Zagrebačka Panorama”].² The topic was not extensively covered in English, except for a few analyses used as arguments in corresponding books (Kultermann, 1965, p. 178; Blake, 1977, pp. 85-87)³, further in the extended narrative (Blau and Rupnik, 2007, pp. 203-281)⁴ and recently at the MOMA Yugoslav exhibition in 2018-2019 (Stierli and Kulić, 2018, p. 1). The prequel article defined the term “Collective housing block” to distinguish the socialist residential construction after 1945 from the capitalist residential construction before 1945 (Kahle, 2017, p. 178). Besides, the recent meaning of “cooperative housing” is remotely different from the one used in Blau & Rupnik’s book. The timeframe is carefully chosen regarding the important political events. Firstly, in 1956 Yugoslavia did not condemn Soviet intervention in Hungary in the UN Security Council mutually being aligned with Khrushchev after his summit with Tito in Belgrade in 1955. Finally, the promulgation of the new Yugoslav Constitution in 1974 legally ended simulated market economy through introducing so-called delegate system, which devastated Yugoslav economy and consequently brought the country to disintegration in 1991-1992. The period of residential construction in Zagreb between 1955 and 1974 was one of most fruitful in the city history. The economy of Yugoslavia flourished, although not at rates from the first years of socialist rule. New industrial facilities in Zagreb area were still built, although some desired industries were absent. Yet the volume of workforce in Zagreb industrial area still demanded high rates of housing construction, which was achieved by two Yugoslav brainchild inventions of simulated market economy: the so-called “banking credit” economy from roughly

1955 to roughly 1965 and the so-called “market economy” from roughly 1965 to roughly 1975.

THE SOCIAL TYPOLOGY

The city of Zagreb was incorporated in 1850 by an imperial decree to serve as the capital city of crownland Croatia-Slavonia. The hidden purpose of the incorporation was to operate as the one of approximately fourteen imperial military commanding posts, emboldened with the coming of railway to the city in 1862 and further developed into an important Austrian railway node. The seminal apartment building in the city is a three-story pavilion building flanked easterly of the first railway station, today’s Westerly Railway Station, to accommodate the railway personnel coming from outside Croatia. The seminal Building Code from 1857 prescribed two building typologies: a pitch-roofed attached building inclined on both sides to its neighbors like terraced houses in England to form predominantly rectangular closed blocks, and a pavilion-like hip-roofed detached building, which could be placed more freely on a given plot. After the dissolution of Croatian and Slavonian Military Frontier in 1881 all its military infrastructure was relocated to Zagreb. During the rapid construction after the earthquake in 1880 Zagreb was crowded with barracks complexes, implying accommodation of significant number of officers who rented apartments in the newly built attached apartment houses in Lower Town. In the late 1880s the city was enriched with third building typology, roughly irregular compounds of residential buildings erected without building permits in the “Worker’s Dorm” [Croatian: “Radnički Dol”].⁵ At the turn of the century the city approved construction of so-called villa buildings, usually a two-story high semi-detached pavilion residences. Soon the construction of first tenement houses started around the locomotive shop of Hungarian State Railways. These residential typologies were transferred to the period between the World Wars, although with certain exceptions. The railway and military infrastructure from defuncted Austria-Hungary, which survived without substantial damages, was incorporated into the armed forces of the new state, who substantially constructed only the “Borongaj” airfield with detached civil and military halves in the 1930s. The general conscription packed former Habsburg military installations in Zagreb with the mass of fluctuating inhabitants, in continuance during the fascist Independent State of Croatia and further during the socialist Yugoslavia. The growing needs of industry and commerce accelerated the construction of all res-

idential building types: apartment houses, tenement houses, villa quarters with tendency to pack the constantly growing number of dwellings into one building, additionally the blooming of self-construction of shanty houses and estates between the railway line Ljubljana-Zagreb-Belgrade and river Sava. Consequently, Zagreb was preponderantly built with one-story residential buildings, yet in the regulated closed blocks of Lower Town and its extensions, a three- to four-story building with two double-room apartments per staircase was the standard.⁶ The proponents of the fascist regime during the Second World War confiscated almost all Jewish and Serbian apartment houses and villas, further resided in abducted dwellings until being forced to retreat with Wehrmacht troops in the first week of May 1945. Being outside the law between the World Wars, the revolutionary activists of the Communist Party of Yugoslavia undertook their secret meetings in rented apartments of Lower Town, which consequently made them keen to adopt similar ground plan solutions after they took the power in 1945. The Yugoslav partisans, a genuine Resistance movement although convinced followers of Soviet type of Communism, preponderantly nationalized companies and institutions in 1946, while apartment houses were not nationalized until 1958. They tolerated the plurality of ownership of dwellings and residences, which had at least threefold type: A. the "private ownership" of an apartment, officially called the "floor/story ownership" [Croatian: "etažno vlasništvo", seminally French: "étage" (literally: floor)] to conceal the odious term "private"; B. the "social ownership" of an apartment connected with so-called "tenant's right" [Croatian: "stanarsko pravo"] to live in designated apartment indefinitely and leave it as an inheritance to children and/or grandchildren, where firms and institutions acted as the investors and the landlords of CHBs while their employees were granted with tenant's right; and finally C. the "state ownership" provided for the workforce of Federal Ministry of Defense or Republic (Croatian) Ministry of Interior.

THE LEGISLATION

The first Zagreb's Building Code was enacted in 1857 by the imperial lieutenantcy, while the second was appointed in 1940 by the architectural legal jurisdiction of federal Banovina of Croatia. During the second Yugoslav state building codes were superseded by the so-called "implementing provisions" [Croatian: "provedbene odredbe"] of correspondent General regulation plan. The first Building Code basically stipulated only two kind of buildings, i.e. attached "terraced-like" houses and detached "pavilion-like" houses. Later appeared irregularly shaped houses without building permits, called "illegal houses" [Croatian: "divlje kuće"].⁷ An edifice had to have bearing walls from layered bricks with vaulted ceilings only where fire regulations demanded it, while roofs had to be tiled or metal sheathed. The "holzzement" flat roof, in German lands known from 1840s, was preponderantly allowed in 1892 for industrial facilities. The titles of "civil architect" and "civil engineer" were promulgated in 1877 and enforced in 1911 with introduction of a licensing exam ("Rigoros"). The architectural and engineering chambers were introduced in 1924. The first ordinance for reinforced concrete was promulgated in 1910, further amended many times until 1935, when the new Swiss reinforced concrete regulation was literary translated and enforced. The regulation ordinances from 1857 stipulated privately owned lots organized in closed blocks, which was enhanced with regulations for villa estates from 1889 and 1911. The organization of industrial lots was not prescribed, i.e. factories could have been built irregularly-shaped, unless in closed blocks. In 1946 the Parliament of Federative People's Republic of Yugoslavia annulled the legislation after April 6th, 1941, further suspended the legislation before that date and prescribed that sus-

pended legislation is actually valid "until the amending of new, socialist legislation", consequently making chaos in the legal system, e.g. certain provisions of the Law on Building from 1931 and Building Code from 1940 remained valid in Zagreb until 1974. In 1946 the Engineering Chambers in Croatia were abolished too, further the dictatorial Planning Commissions of Yugoslavia and Croatia enforced, and finally all the private companies nationalized or confiscated. In 1948 the so-called "social planning" [Croatian: "društveno planiranje"] was adopted in the administrative process of issuing construction permits, consequently enabling anonymous never-ending allegations which terminated many good projects, while luckier ones were put through due to constant lobbying inside the party. After Tito's break with Stalin in the same year, the economy system was slightly changed to appease the new Yugoslav Western allies, including Greece and Turkey. Between 1952 and 1955, the banking system emerged as the regulator of "self-managed" Yugoslav construction system, consequently enforced the significance of the bank establishment. In the middle of 1960s the "economic subjects" became fully independent, additionally the citizens were allowed to buy an apartment, defined as a "floor ownership" [Croatian: "etažno vlasništvo"]. In the other hand, the construction firms were never re-privatized, while in the early 1950s around 20 architectural offices were given to deserved architects, to be again unofficially re-nationalized in middle 1960s and finally corporatized according to the 1974 Constitution. The principals-namesakes of "privatized" offices were left without real power, because the "workers' councils" [Croatian: "radnički savjeti"] were empowered to make crucial decisions, where the non-professionals possessed the right to vote even in strict professional matters. After the death of Stalin Tito went close to Khrushchev, initially failed to condemn the Soviet intervention in Hungary in 1956 and further bought the Soviet jet fighters in 1962. As a consequence, the apartment houses were nationalized in Yugoslavia in 1958 together with all the building land below (a former owner could retain his own apartment and additionally one more for a family member), although the rent amounts were strictly prescribed and ruthlessly empowered from 1945 onwards. Thus emerged the "social ownership" in existing residential buildings, while the buyers (the investors and later the landlords of apartments) of newly constructed Collective housing blocks were companies and institutions. The administrator of every CHB, called the "House Council" [Croatian: "kućni savjet", probably from Russian: "Zhilischnii soviet"] had the powers e.g. to expel the tenant from the apartment if the public order was violated. The army was exempted and owned apartments or CHBs for accommodation of their officer and petty officer corps. From 1974 the social system was legally engulfed with the so-called "contract economy" [Croatian: "dogovorna ekonomija"], where in the construction field an additional layer, the so-called "self-governing interest community" [Croatian: "samoupravna interesna zajednica"] was added, which basically decided in all important arguments, guided by verified party operatives.

THE ECONOMY

During the Habsburg rule the seminal levers of Zagreb's economy were the railway and the military. The railway was initially conceived as the unique mean of transportation of military. Later, Zagreb became a transportation nod of Hungarian State Railways with the well designed and built locomotive shop. Consequently the foreign and domestic workforce was attracted, where the first ones were resided in pavilion apartment houses in Trnjanska St, afterwards a blueprint for the majority of city residential buildings preponderantly constructed in 1920s, while the other ones were accommodated in tenement houses in Paromlinska St with flat roofs, a distant cousin of a New

for the factory placed on today's Britanina Sq. [Croatian Britanski Trg], itself being dismantled before 1888.

⁶ Zweiräumiges Zweispänner in German.

⁷ For a prize of eliminating the Croatian (Savka Dabčević Kučar), Slovenian (Stane Kavčič) and Serbian (Latinka Perović) liberal party leaderships.

York tenement house. The officer corps of Habsburg armed forces, known of frequent change of garrisons, were compelled to rent an apartment, usually with female servants from across Croatia-Slavonia. Only the dominion officials or general officers could afford to live in a villa, whether in a whole residence or in the comparted apartment. As the Croatian-Slavonian dominion capital, Zagreb attracted the consumer-oriented industry, while heavy industry products could easily be accessible from the whole Austria-Hungary via the railway. Thus the city was economically well-developed in comparison with other Croatian cities, even with Belgrade or Ljubljana. Consequently being the most industrialized center of the new Yugoslav state, Zagreb also became its greatest emporium for the import-export trade, due to the economic orientation of Yugoslavia mostly to Germany, Austria and Czechoslovakia, albeit the whole economy was based on a *laissez-faire* principle. The economic ties with Czechoslovakia were especially important, while two countries shared their liberation experiences from Austria-Hungary. Yugoslav-French ties were concentrated in Belgrade due to the Serbia's alliance with France in the First World War.⁸ Zagreb maintained its industrial power and tried to enlarge it by a new consumption industries, yet after the World Crisis in 1929 the financial gains and export-import businesses were slowly but conclusively transferred to Belgrade. After enactment of Banovina of Croatia in 1939 as an economically and financially independent entity with fixed duties to the central government in Belgrade, its economy began to corporatize industrial facilities on Croatian level, accelerated after the German proclamation of fascist Independent State of Croatia, where practically all industry served as a supplier of German war efforts. The companies were confiscated from their former Jewish or Serb owners and incorporated into the state-owned holding. After the end of the Second World War in 1945, all the still private-owned industrial and trade companies were either nationalized from previous, also foreign owners or confiscated from persons accused of being the collaborators with former enemies or their quislings, consequently converting into the "state property" [Croatian: "državno vlasništvo"]. The federal planning commission occurred solely responsible for the economic progress, in pushing the development of heavy industry because the existing consumer industry was sufficient for Yugoslav provision needs in the sparse post-Second World War days, further the development of railway as the backbone of transportation of goods and passengers.⁹ After the break with Stalin, the "self-government" was incorporated in 1950 in the shape of "workers' councils", obliged in every Yugoslav company or institution, like the party cells. Through these two layers of governing the Party controlled the economy and the society. The thaw with Khrushchev in 1955 and consequent estrangement from the Western allies¹⁰ resulted in the economic decentralization of Yugoslavia, further in the opening of national borders in the middle 1960s for sending the Gastarbeiters to Federal Republic of Germany, while German citizens started having holidays at the Adriatic coast.¹¹ After the Soviet invasion of Czechoslovakia in 1968 and the suppression of the Croatian Spring in 1971, the new economic system verified in 1974 brought Yugoslavia to a collapse in 1991, due to the substantial halt of foreign credit lines after Tito's death in 1980.

THE ARCHITECTURAL TYPOLOGY

Attached Collective Housing Blocks (CHBs) in the old urban fabric

The old urban fabric, built before the end of First World War and comprising attached apartment buildings enclosed in blocks, was preponderant in the Lower Town, yet present in some areas westerly or easterly. The area gradually filled in between the World Wars, yet plenty of unbuilt lots were left at the end of Second World War. These empty lots were gradually built from

1946 with CHBs, where various companies and institutions including the Yugoslav Army, from 1952 Yugoslav People's Army and Ministry of the Interior acted as investors. Initially these CHBs were placed in the manner of old apartment houses, yet soon they started to soften and disappear, by placing the new CHB slabs freely onto the lot, while taking insulation, landscape and assurance of natural ventilation of particular apartments in consideration as much as possible. Thus the standard scheme of two double-room apartments per staircase has been usually repeated, further its derivatives or gallery apartments, known from "Plaslaanflaat" or "Bergpolderflat" gallery apartment houses built in 1930s in Rotterdam, Netherlands. All these "interpolations" were designed in Modern Movement manner until the middle 1970s (Fig. 1).



Fig. 1.: Construction of residential towers in Savska St. (Source: [2], p. 37)

Collective Housing Blocks (CHBs) in new dwelling estates, including CHBs owned by the Yugoslav People's Army and the Ministry of the Interior

The policy of infilling empty plots in Lower Town could not suffice the growing demand for accommodation of workforce caused by constant expansion of industry facilities. A natural solution would be to tear down vast estates of illegal houses in Trnje and Trešnjevka, being self-built between the World Wars and legally foreseen for removal after December 31st, 1948. Yet this was not possible for political reasons, so the authorities chose to build CHBs or micro estates at remaining free land of the area, starting with nine horizontal slabs of five to seven story high in 1945-1946. This method of punctual fulfilment of empty land was favorable in enabling the "red gentrification", a settlement of chosen inhabitants, usually army or police officers or verified party operatives into the existing area inhabited with "class enemy" in order to control them or to overvote them at every future communal or state elections (Fig. 2). In the early 1950s the Mayor of Zagreb Većeslav Holjevac decided to push the residential construction to the southern bank of river Sava, a practically unbuilt area, and organize it to the micro rayon principles (Fig. 3).¹² The idea of Zagreb central axis was born, soon the "Freedom Bridge" [Croatian: "Most Slobode"] was constructed in connecting the both banks of river Sava. The area of the future "New Zagreb" [Croatian: "Novi Zagreb"] was formulated as the loosely connected self-sufficient micro rayon estates, equipped with kindergartens, schools, automobile garages and playgrounds, while the particular collective housing blocks were organized either as the five to ten story horizontal slabs with standard scheme

⁸ Croatian and Serbian words for transportation means like truck (kamion, камион) or airplane (avion, авион) came from French (un camion, un avion).

⁹ The famous [Half-m]otorway of Brotherhood and Unity Belgrade-Zagreb was built to bind the two most populous (and antagonistic) peoples of the new federation, and according to some, with its enlargement from Zagreb to Kumrovec, to serve Tito's trips with car from the capital to his hometown.

¹⁰ Yugoslavia recognized the German Democratic Republic in 1957.

¹¹ The formal relationships between the Federal Republic of Germany and Yugoslavia were reestablished in 1968.

¹² The plan was authored by the Architect Bruno Milić from the "Urban Planning Institute of the City of Zagreb" [Croatian: "Urbanistički Zavod Grada Zagreba", local acronym: UZGZ], later Professor Emeritus of History of Urban Planning at the School of Architecture of the University of Zagreb. In 1957 the Architect Branko Petrović emphasized the need of a new urban axis of city development in the north-south direction with consequent construction of housing estates at the area southerly of river Sava, being a member of work group from the "Urban Planning Institute of the People's Republic of Croatia" [Croatian: "Urbanistički Institut Narodne Republike Hrvatske", local acronym: UI NRH] together with colleagues Architects Nenad Korica, Mirko Maretić, Radovan Mišević and Fedor Wenzler (Petrović, 1957, pp. 2-3). Probably in 1961-1962 the "Urban Planning Institute of the City of Zagreb" produced and in 1962 immediately published the urban planning study of so called "South Zagreb" [Croatian: "Južni Zagreb"], provided with solution of existing ("Savski Gaj", "Trnsko") and future residential estates in the large scale, practically the construction solution for contained residential buildings (Fig. 2).



Fig. 2.: Residential slabs in Vukovarska Ave. (Source: [1], p. 16)

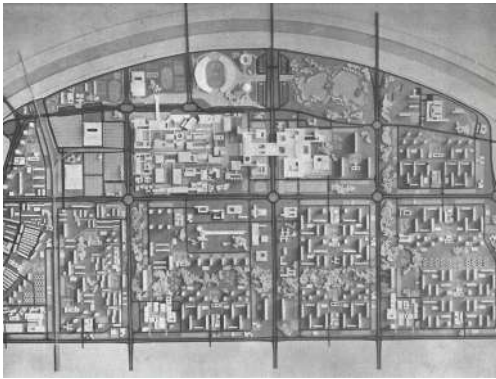


Fig. 3.: The model of the proposed master plan of Novi Zagreb (Source: [2], p. 32)



Fig. 4.: The construction of a residential estate (Source: [1], p. 27)

of two apartments per staircase with sufficient number of individual staircases regarding the given length of the particular slab (Fig. 4), or as the skyscraper-like slabs with the height of fifteen with central core including elevators and four to eight apartments per floor organized around the core (Fig. 5). The land around the slabs was landscaped and organized as a park, while the cars were usually backed to estate's edges. In the New Zagreb area were initially constructed institutional facilities,¹³ additionally in the late 1950s and early 1960s estates "Savski Gaj" (Fig. 6) and "Trnsko" (Fig. 7), further in the 1960s "Sopot", "Siget" (Fig. 8) and "Zaprude" (Fig. 9), following by "Utrina" at the beginning of the 1970s and finally "Travno" in the mid-1970s. At the opposite bank were constructed estates of "Folnegovićevo" in Trnje (Fig. 10), "Ravnice" in Maksimir, "Knežija" and "Srednjaci" in Trešnjevka, "Gornja Dubrava" easterly and "Prečko" and "Gajnice" westerly from the city center. All these estates comprised exclusively Late Modern Movement architecture with exclusively flat roofs (Fig.11).

The permitted construction of private homes

In the period from easing the centralist economy in early 1950s until the proclamation of the new Yugoslav Constitution in 1974, private investors were predominantly allowed to build their own house, although without additional apartment/s for rent. Simultaneously existed a lot of craftsmen and tradesmen whom the Party officially allowed but internally hated as the remnants of the old system, comprised of people who

found their luck at the corners of socialist economy, although too unwilling to go to Germany and become the "Gastarbeiters". The last ones frequently sent the majority of their salaries in Deutsch Marks to the homeland, where their private houses were growing, supervised by their remaining family members. Yet the house construction of another kind existed, for the socialist elite of high-ranking party cadre, members of intelligentsia and directors elite from the wealthy firms or banks, although the last ones couldn't be safe from falling into the Party's disgrace. The architectural design of these homes was provided and supervised by the "Designers of objects for citizens and civil legal persons [Croatian: "građanske pravne osobe"]", who were not allowed to design CHBs, not even as the "external coworkers" of just re-socialized former private architectural offices. However, these offices soon flooded the market for private homes with catalogues of standardized homes projects.

The construction of private homes without building permit, the so-called "Wild Houses"

The development of the newly planned easterly industrial zone at Žitnjak in the late 1950s and early 1960s attracted huge numbers of workforce, who could not be accommodated in CHBs in vicinity, although the



Fig. 5.: Residential tower in Vukovarska St. (Source: [1], p. 24)

¹³ The "[Yugoslav] Naval Institute" [Croatian: "Brodarski Institut"] and "Zagreb Fair" [Croatian: "Zagrebački Velesajam"].



Fig. 6.: The "Februarskih žrtava" [Savski Gaj] estate in Novi Zagreb (Source: [1], p. 28)



Fig. 7.: The "Trnsko" estate in Novi Zagreb (Source: [1], p. 21)



Fig. 8.: Residential towers in the "Siget" estate in Novi Zagreb (Source: [8], p. 51)



Fig. 9.: Residential towers in the "Zaprude" estate in Novi Zagreb (Source: [8], p. 52)

tram line through Vukovar Avenue contemporarily ended in distance of 700 m to the future favela "Kozari Bok". The local owners of agricultural land exploited the opportunity to repeat the process of building illegal houses at Trnje almost forty years ago (i.e. in the 1930s), by chopping their vast agriculture parcels into a myriad irregular lots and illegally sold every of them to the immigrating workforce from Croatia and Bosnia. These new self-builders, being equipped with credits for non-housing purposes, built "wild homes" for themselves and their families, usually a simple rectangular bricked house with hipped roof. At the airborne images of Zagreb from 1968 one can see two irregularly elliptical settlements in the appearance close to "favelas", every of them roughly 500 m long and 300 m wide, called "Kozari Bok" and "Kozari Put", erected without water, sewer or electricity. Both settlements exist today, in the meantime fully sanitized and legalized. The construction of private "wild houses" with-

out building permit was quietly tolerated, not to upset the members of workforce through eviction of their only home and consequently to avoid frictions in the classless society.



Fig. 10.: The "Folnegovićevo" estate in Zagreb (Source: [1], p. 17)

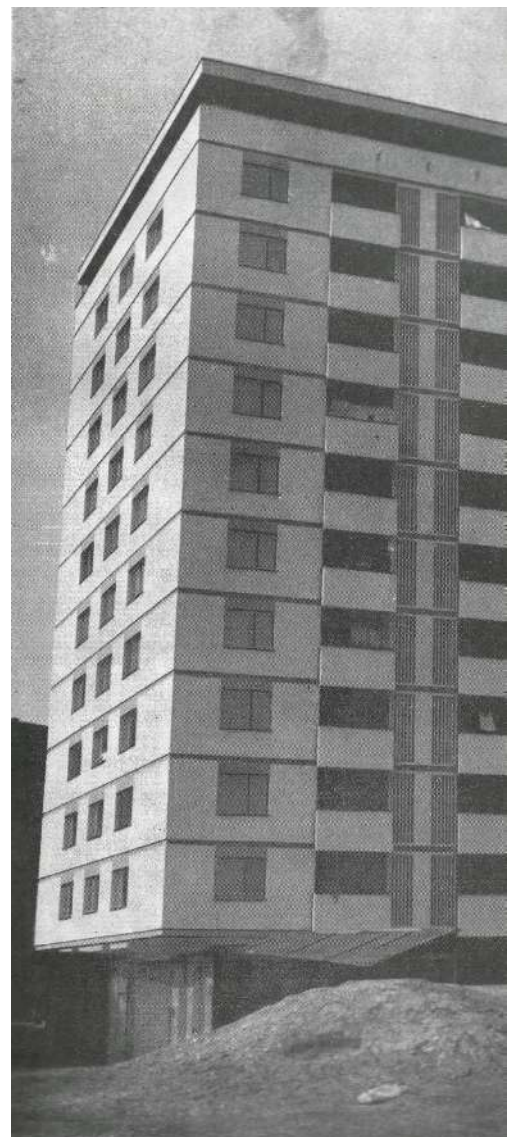


Fig. 11.: Residential tower in Rapska St. (Source: [1], p. 25)

DISCUSSION AND CONCLUSION

The unbuilt lots in the old urban fabric, preponderant in the Lower Town but present in other areas, were gradually built with CHBs after 1945, initially by mimicking the old apartment houses. Soon the fabric started to soften and disappear by placing the new CHB slabs freely onto the lot or group of lots, by considering insulation, landscape and assurance of natural ventilation of apartments as much as possible. The standard scheme of two double-room apartments per staircase has been repeated, including the gallery flats typology. All these “interpolations” were designed in the Modern Movement manner, consequently making the Lower Town a vivid kaleidoscope of Historicist and Modern styles. Yet the policy of fulfillment of empty plots in the Lower Town could not suffice growing demands for the accommodation of workforce. The disassembling of vast illegal houses estates in Trnje and Trešnjevka was not socially possible, therefore the authorities chose to construct CHBs at the remaining free land. In the early to mid-1950s the Mayor of Zagreb Većeslav Holjevac decided to push residential construction to the southern banks of river Sava and organize it to the micro rayon principles. The idea of Zagreb central axis was born, soon the “Freedom Bridge” was constructed in connecting both banks of river Sava. The future New Zagreb (Fig. 3) was formulated as an area of loosely connected self-sufficient micro rayon estates, equipped with kindergartens, schools, automobile

garages and playgrounds, while CHBs were organized either as a five to ten story horizontal slabs with standard scheme of two apartments per staircase, or as a skyscraper-like slabs with height of fifteen to twenty stories with central core including elevators and apartments organized around the core. The space around these slabs was landscaped and organized as a park, while cars were backed to the edges of an estate. All these estates comprise exclusively Late Modern Movement architecture with entirely flat roofs. The residential production in the period 1955-1974, whether as Collective housing blocks or as private homes either allowed or remained illegal, was maintained regarding the need of the society as a whole. The Sovietization of society in the period 1945-1948 was reverted through gradual decentralization until 1974, enabled through introduction of self-management in 1950, “banking credit” economy in the middle 1950s and “market economy” in the middle 1960s, thus ended the society with varieties of residential property and housing typology. Additionally, the decentralization brought the conditional re-privatization of roughly 20 architectural offices between 1953 and late 1960s. These achievements were endowed through the simulated market economy, yet they enabled Late Modern Architecture residences of prominent aesthetical values. The architects used the decade of 1950s well, when Croatian architectural periodicals completely covered architectural movements from the Western World, i.e. the Late Modern (Fig. 12), Brutalism, Team Ten and the “Hochschule für Gestaltung” Ulm, to learn from good architectural examples and to successfully implement these architectural fluctuations to their architectural creativity, finally achieving the Modern Movement look of residential buildings, designed as slab-like prisms with flat roofs, placed freely in space, which would finally become a park. Today’s appearance of the New Zagreb, despite Blake’s criticism which could emerge from a view onto the raw finished buildings and estates, makes that vast area of Modern Architecture the attractive place for living.



Fig. 12.: Residential tower in Ružmarinka St. (Source: [1], p. 31)

SOURCES

- [1] AAZZ (1963a). Po izgrađenom gradskom području – Zagreb najveći Jugoslavenski grad. In: zagrebačka panorama, Vol. 3, No. 5 (November 1963.), p. 13-31.
- [2] AAZZ (1963b). Južni Zagreb – “noga preko Save” i korak u budućnost!. In: zagrebačka panorama, Vol. 3, No. 5 (November 1963.), p. 32-41.
- [3] BLAKE, Peter (1977). Form Follows Fiasco: Why Modern Architecture Hasn’t Worked. Boston : Little, Brown and Company. ISBN 0- 316-09939-2, p. 85-87.
- [4] BLAU, Eve; RUPNIK, Ivan (2007). Project Zagreb: Transition as Condition, Strategy, Practice. Barcelona : Actar. ISBN 978-84-96540-57-6, p. 203-281.
- [5] KAHLE, Darko (2017). Collective Housing Blocks (CHBs) in Zagreb between 1945 and 1955: from the Collectivization to the Re-privatization of Architectural Offices. In: 9th Architecture in Perspective, Proceedings of the International Conference, Ostrava : VŠB Technical University Ostrava, p. 188-191. ISBN 978-80-248-4058-1.
- [6] KAHLE, Darko (2024). Post-Modern Tendencies in Socialist Housing Construction: The Collective Housing Block in Zagreb between 1974-1991. In: Multilingual Proceedings of the 16th International Conference Architecture in Perspective 2024, Ostrava : VŠB Technical University Ostrava, p. 40-44. ISBN 978-80-248-4784-9.
- [7] KULTERMANN, Udo (1965). Neues Bauen in der Welt., Tübingen : Wasmuth, p. XXIII, 178.
- [8] MARETIĆ, Mirko (1970). Izgradnja stambenih

naselja u Zagrebu. In: Arhitektura, Vol. 24, No. 107-108, p. 48-59.

[9] PETROVIĆ, Branko (1957). Osvrt na urbanistički razvoj Zagreba [English: A review of the urban development of Zagreb; text in Croatian]. Čovjek i prostor [Man and Environment], Vol. IV, No. 58, Zagreb, p. 2-3.

[10] STIERLI, Marino; KULIĆ, Vladimir (2018). Toward a Concrete Utopia: Architecture in Yugoslavia, 1948-1980. New York : MoMA. ISBN 978-1633450516.

CHILDREN'S WARDS – REQUIREMENTS VS. REALITY: A COMPARATIVE FRAMEWORK FOR ASSESING SPATIAL QUALITY

Molnárová Anna Wanda

ABSTRACT: This paper introduces a comparative framework for evaluating spatial qualities in pediatric hospitals, with a focus on the best practice currently available. Modern healthcare design emphasizes adaptability and patient-centered care, pediatric wards can often be planned using a generalized ward design, especially in smaller local hospitals, which are often ill-suited to be transformed into a ward for children with specific needs. This study defines a set of expected criteria for flexible pediatric hospital design, such as room adaptability, support for family presence – and compares them with situations currently found in Czech hospitals. Using spatial analysis tools and each wards layout, the method assesses key parameters and compares them to the best practice currently known. The findings reveal significant gaps and various shortcomings of the wards, particularly due to the high occupancy in smaller hospital's pediatric units, where little flexibility and accommodations for family can be made. The study shows usefulness of a structured comparison method for identifying design and special shortcomings and can be used for informing future planning. It offers a tool that can be used as a basis for discussion about the actuality of the current guidelines for children wards reconstructions and new builds.

KEYWORDS: hospitals; pediatric wards; children; children's hospitals; inpatient unit planning; family-centred care; spatial flexibility; healthcare; healthcare architecture

INTRODUCTION

The article presents the concept of a comparative framework for evaluating the spatial qualities of pediatric wards that fundamentally shape the experience of hospitalization. Across hospitals in the Czech Republic, pediatric wards are being renovated and rebuilt. However, the resulting layouts often fail to adequately consider all actors—children, their caregivers, and staff—and run up against the lack of a defined minimum spatial requirement for the hospitalization of a child with a caregiver. The mode of pediatric hospitalization predetermines that more space is needed per child than in adult wards. The consequences are improvised accommodation for caregivers, a lack of quiet zones, and limited ability to quickly change the configuration of space according to the patient's age and diagnosis. Under conditions of persistently high occupancy, spaces reach the limits of their capacity and adaptability is lost.

This article responds to the absence of clear spatial standards for admitting a child with a caregiver and to the need to transfer international best practice into the Czech context in a comprehensible, reproducible way. It presents a comparative framework for assessing the spatial flexibility of pediatric wards that connects requirements drawn from literature and practice with verification on selected existing wards.

The evaluation framework is based on the contrast between expected standards and real practice. Its aim is to reveal gaps between expectation and reality, and to identify which environmental properties most influence the quality and usability of the inpatient ward. The hypothesis assumes insufficient flexibility in most facilities, particularly due to spatial constraints and persistently high occupancy in general pediatric wards. The aim is to present a comparative framework based on expected criteria of the modern pediatric environment, which will be generally applicable in local conditions and provide a basis for design decisions in both renovations and new builds.

THEORETICAL BASIS

Currently, the design of pediatric inpatient wards in the international context is shifting from a purely functional, illness-oriented model toward a holistic and

responsive environment that supports clinical care as well as the individual needs of the child and family. This shift is grounded in the principles of family-centered care (FCC) (Kuo et al. 2012) [1], derived from patient-centered care, and in evidence-based design (EBD) (Lenton & Ehrich 2015) [2]—design based on evidence and the use of technologies enabling individualized bedside care.

Abroad, single- to double-bed rooms with full caregiver accommodation directly in the room (rooming-in) prevail (Sunder et al. 2020) [3]. Layouts are typically zoned into a clinical part, a patient-bed area, and a family area, with sufficient space for relaxation, privacy, and spending time together. Fundamental spatial features that demonstrably improve the experience of hospitalization include the presence of daylight (Shepley et al. 2012) [4], acoustic comfort, visual contact with greenery (Ulrich 1984) [5], and opportunities for personalization (displaying personal items) (Verschoren et al. 2015) [6]. In many countries, play therapists already work with children and prepare them and their families for procedures they will face in hospital, which reduces anxiety and stress for the child and family (Matějček 2001) [7]. In the Czech Republic, this practice faces a shortage of staff and suitable spaces. The contribution of the proposed framework lies in its operationalization into an evaluation framework and in spatial, computer-assisted verification directly on the floor plans of specific facilities. We test the framework on selected Czech pediatric wards of various types (regional and university), which makes it possible to compare the expected standard with the results actually achieved in different operational and building contexts.

Technological advances and developments in medicine enable a model of care delivered directly at the bedside, termed “vertical patient care,” in which staff can care for the patient at a single bed across all levels of hospitalization (from intensive through intermediate to standard care), without moving the patient from one room to another. This led to the concept of the “acuity-adaptable” room (Hendrich et al. 2004) [8]. The architectural solution must interlink building and operational strategies.

In pediatric wards, flexibility and age-appropriate environments are crucial (Clensy 2022) [9]. Rooms and the overall configuration of the ward must respond to and

ANNA WANDA MOLNÁROVÁ, ING.
ARCH.

Department of Building Science
Faculty of Architecture CTU
Thákurova 9, 166 34, Prague,
Czech Republic

wanda.molnarova@gmail.com

ORCID iD: 0009-0001-9609-0754

The author has been conducting research on children in hospitals at the Faculty of Architecture, Czech Technical University in Prague, since 2021. The research focuses on pediatric wards in general hospitals and their flexibility. After beginning career at the studio *Mimosa architekti*, where she co-authored projects and entries that placed in architectural competitions, she joined the studio *Domy*, which has specialized in the typology of healthcare buildings for more than 30 years.

encompass the differing needs of all age groups, from toddlers to nearly adults. In practice this should mean the possibility of using flexible furniture and enabling simple reconfiguration of the room without building work, while also providing adequate equipment across the ward for caregivers of younger hospitalized children.

The presence of a caregiver is a declared right of the child (EACH 2006) [10]. In practice, however, some wards lack the spatial and operational preconditions—for a full caregiver stay one needs a bed for the caregiver, storage capacity, caregiver facilities outside the room, and ward rooms for private discussion of the child's health status (Ehrich et al. 2017) [11]. This creates a discrepancy between expectation and reality.

As a conceptual basis for the methodology we use the work of W. Sunder et al. (The Patient Room, 2020), which describes qualitative-typological evaluation of double rooms based on floor-plan arrangements and key structural elements with the aim of estimating their user qualities. The method combines expert interviews, operational observation, and more, synthesizing these into six categories (Sunder et al. 2020) [3]. The framework therefore does not offer a universal ideal room; it serves to compare typologies and understand operational links to user quality. The proposed methodology builds on international trends that connect environmental properties with the subjective quality of stay of the child and caregiver and then translates them into criteria verifiable on the layout of specific wards (Lambert et al. 2013) [12]. This theoretical foundation underpins the comparison of best practice with the situation in Czech hospitals.

From these trends it follows why we evaluate exactly seven categories—flexibility, multifunctionality, intelligibility, privacy and zoning, child adaptation, indoor environment, and family involvement (Verschoren et al. 2015) [6]. Each corresponds to repeatedly described determinants of the quality of the child's and family's stay in the literature and together they cover both clinical needs and psychosocial aspects of the stay.

METHODOLOGY

The aim of the methodological procedure is to translate the requirements of family-centered care into observable and measurable criteria and to verify these by comparison with existing pediatric inpatient wards. The study is a comparative mixed-methods design (Lucas 2016) [13] and is based on the principle of "expectation vs. reality," in which we verify the fulfillment of criteria in concrete realizations. The sample consists of selected pediatric inpatient wards with different capacities and building-operational configurations. The analysis includes layout documentation and semi-structured interviews with staff, capturing the

current operational state of the wards. The research has elements of post-occupancy evaluation (Groat & Wang 2013) [14], but is not a full application of the POE method. Cases include smaller general hospitals and university facilities to observe the roles not only of design but also of occupancy and structural module. The starting point is a synthesis of international guidelines and cross-disciplinary studies, from which a set of evaluation criteria is derived that reflect the key needs of the child, family, and operations. The selected criteria are: spatial flexibility (ability to adapt quickly without building work), multifunctionality (one place serving clinical and non-clinical functions), spatial intelligibility (wayfinding, readability of flows, intuitiveness), privacy and zoning (acoustic and visual protection, zoning of rooms and ward spaces), adaptation to children (scale, ergonomics, safety, age appropriateness), indoor environment (daylight, acoustics, temperature, window views), family involvement (accommodation for caregivers, spaces for caregivers). In parallel, three types of empirical inputs are collected—status of the bed stock (layout and technical documentation), semi-structured interviews, and statistical information—which serve to iteratively refine the evaluated criteria.

Each criterion is operationalized into quantitative and qualitative indicators. Quantitative indicators include m² per patient, the proportion of rooms with their own bathroom facilities, and the presence and size of support spaces (Sunder et al. 2020) [3].

The qualitative part evaluates the existence and quality of the family zone, the degree of privacy, the possibilities for adapting the equipment, and the clarity of wayfinding. Everything is graphically verified using CAD, modeling on the layout the placement of different types of beds, caregiver equipment, ward zoning, and checking the ergonomics of the entire operation. Adaptability is assessed using predefined hospitalization scenarios that cover different age groups and their needs, as well as specific spatial and equipment requirements. The selected scenarios are 0–2, 2–6, 6–10 years (always with a caregiver), 10–15 and 15+ (without a caregiver), and psychiatric hospitalization. For each scenario it is assessed whether it allows a comfortable stay for most of the tested scenarios. In CAD we systematically verify passages, access to bathroom facilities, sight lines, and collisions when a caregiver bed is added. Evaluation is conducted on a three-point scale with a brief note. We convert verbal levels into points and triangulate indicator – category – scenario – ward. To ensure reliability we use a unified definition of indicators and control readings in problematic cases.

Evaluation is conducted on a three-point scale adapted to the individual categories; for comparison we convert verbal levels into equivalent points and supplement each evaluation with a brief comment on the

	Haviřov	Kladno	MNUL	Ustí nad Orlicí	FN Motol
Patient allocation	diag	x	age	age	age + diag
Beds per unit (patients)	13	24	18	16	21
Patient age range	0-18	0-18	6-18	6-18	6-18
Caregiver beds	13	12	4	8	2
Parental amenities	x	✓	✓	x	21
Playroom	✓	✓	✓	✓	✓
Dining hall	✓	x	o	x	x
Room size	3-4L	1-4L	2L	2L	1-2L
Bathroom in standard room	x	x	o	o**	o**
Patient-room area per child	11,15 m ²	15,7 m ²	11,7 m ²	15 m ²	11,9 m ²
Patient-room area incl. Bathrooms	145 m ²	379 m ²	212 m ²	241 m ²	251 m ²
Support area per child	1,46	3,56	4,89	9,50	3,43
Total support area	19 m ²	85,4 m ² *	88 m ²	152 m ²	72 m ²
Parent support area	x	13,8 m ²	31,1 m ²	x	21 m ²
Child support area	51 m ²	66,8 m ²	33,3 m ²	27 m ²	15,4 m ²

* separate wing with storage ** one bath per 4bed unit

Tab. 1.: Overview of the examined wards and basic data, author (Source: author's own processing, data collection)

Kritérium	Definition	Indicators	Rating - scale	
Spatial flexibility	Ability to change spaces over time and adapt to needs	Modular layouts, sliding partitions, shared zones	low	Multiple spaces designed for alternate use or transformation
			mid	Some rooms adaptable but inconsistently
			high	Layout fixed, almost no modifiable spaces
Multifunctionality	Use of one space in multiple ways	Transformable or overlapping zones	present	Clear, diverse use possibilities
			limited	Some spaces allow, mainly passively
			absent	Spaces are single-purpose only
Spatial clarity	Clear and comprehensible, easily readable for all involved	Landmarks, wayfinding system, hierarchy and logical spatial sequence	high	Wayfinding is intuitive, with clear signage and spatial zones
			mid	Partly hierarchical arrangement, some areas confusing
			low	Unclear orientation, users become disoriented
Privacy and zoning	Separation of public/non-public, exam/rest/play areas, noisy/quiet – comfort	Clear layout, acoustic comfort, transition zones, clear zoning	clear	Distinct zones, clear transitions
			partial	Zones partially overlap, zoning not always respected
			unclear	No evident division of zones
Adaptation to children	Decor, play elements, adaptation/personalization of space	Play elements, colours, design, space for play therapy	high	Well-designed spaces with interactive elements and room for play therapy
			mid	Some interactive elements used, child-adapted design
			low	Minimal adaptation to children, only hints
Environment	Daylight, ventilation, user-controllable indoor environment (lighting, temperature...)	Windows, ward orientation, quality of artificial lighting	pleasant	Well controllable, views to greenery, diverse lighting options
			neutral	View into hospital grounds, partly controllable, adequate lighting
			unpleasant	View into technical areas, no control possible, only basic lighting
Family involvement	Provision of facilities for caregiver and family	Quality of sleep arrangement, day room, family education, play therapy	good	Family spaces integrated in design, room for play therapy
			partial	Some family spaces (e.g., mothers' room), adequate space
			minimal	No dedicated family spaces

Tab. 2.: Proposed evaluation framework including criteria, author (Source: author's own processing)

main constraint or advantage. The output is a fulfillment matrix and corresponding visualizations that clearly show the gaps between expectation and reality. Cases are purposefully selected to represent both smaller regional hospitals and university facilities.

The method does not replace long-term post-occupancy evaluations, and results may be temporarily influenced by high occupancy or the quality of documentation. Its strength, however, is transparency, repeatability, and straightforward application in the early phases of planning renovations and new builds.

RESULTS

Applying the evaluation framework to selected pedi-

atric inpatient wards revealed a gap between expectation and reality. In most cases the wards are not very flexible and caregiver accommodation is often improvised. Three systemic variables are key—area, current occupancy, and the structural system—which most constrain the flexibility of individual rooms. CAD verification repeatedly confirmed that simply adding a full caregiver bed blocks service passages, complicates access to bathroom facilities, and dissolves the family zone into the clinical area. Without spatial reserve, the ward's intelligibility and operational flows are lost. Flexibility draws on low levels of occupancy. Wards with low occupancy or larger area per bed therefore achieve the best results. In wards where rooms are small and occupancy is persistently high, adaptability is reduced to a minimum.

	Havířov	Kladno	MNUL	Ústí nad Orlicí	FN Motol
Spatial flexibility	mid	low	low	mid	low
Multifunctionality	absent	absent	limited	limited	limited
Spatial clarity	mid	mid	low	high	mid
Privacy and zoning	unclear	partial	unclear	partial	clear
Adaptation to children	low	mid	mid	high	mid
Environment	neutral	neutral	neutral	pleasant	neutral
Family involvement	minimal	partial	partial	partial	partial

Tab. 3.: Heatmap of assessments of selected wards (Source: author's own processing)

The examples show that Havířov benefits from lower occupancy and the deliberate non-use of full capacity, which enables operational changes in room occupancy and combinations, and the rooms appear flexible. This characteristic would not be present at full occupancy. A disadvantage in Havířov, however, is the under-dimensioned facilities for both staff and caregivers and the lack of in-room bathroom facilities.

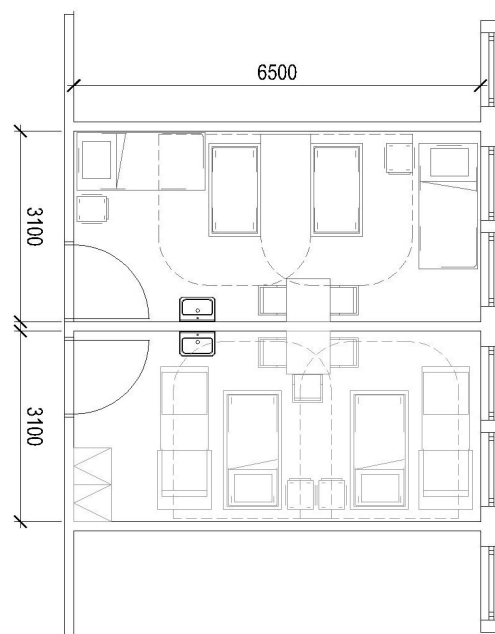


Fig. 1.: Room options in Havířov under lower occupancy, author (Source: Hospital Havířov, 2024)

Kladno Hospital is a ward with fixed division of individual rooms, which are pre-assigned by children's age. In practice, this means that if the hospital needed to admit more children from one group, the spatial setup would be limiting.



Fig. 2.: Typology of rooms at Kladno Hospital, author (Source: DOMEY archive, 2023)

Ústí nad Orlicí Hospital, as an example of a cellular typology (two rooms with shared bathroom), is characterized by good nurse overview, clear zoning, and ample space for children, but facilities for caregivers are limited. Two caregivers are accommodated per cell, so at full occupancy it is not always possible to house caregivers comfortably directly in the room.

In the scenario analysis, the most critical are 6–10 years with a caregiver, where the child often already needs a large bed, and the hospitalization of more older children with a demand for privacy. In smaller general hospitals, rooms are difficult to enlarge because



Fig. 3.: Cellular typology at Ústí nad Orlicí Hospital, author (Source: DOMEY archive, 2023)

the building's structure does not allow it. Older buildings have a load-bearing system with a smaller module designed for a time when caregivers were hardly allowed on wards and rooms held more patient beds. The unchanging structural system and placement of service cores now limit the possibilities of building alterations for further development—the space cannot be sensibly re-zoned nor can a full caregiver bed be comfortably added. The pressure for maximum capacity then directly translates into a lack of privacy and limited options to change the layout. The hypothesis of insufficient flexibility is therefore confirmed.

CONCLUSION

In the present study we compared a set of expected criteria for a flexible pediatric environment with the current situation at selected facilities in the Czech Republic. Through a combination of spatial analysis and layout review, key parameters were assessed and the main limitations of real wards in relation to the requirements of family-centered care were identified. The results meet expectations—at smaller wards with high occupancy, the scope for adaptation is minimal, caregiver accommodation tends to be improvised, privacy and zoning often fail to reach the required level, and adaptability is difficult without building interventions. In practice, flexibility rests on three variables that reinforce or weaken each other: area per bed, current occupancy, and the building's structural system. Without a combination of more area, lower occupancy, and a more favorable structural logic, both family integration and real spatial adaptation will remain improvisation rather than standard.

The matrix clearly maps the gap between expectation and reality across hospitalization scenarios and makes it possible to decide where a layout adjustment will help and where it is necessary to work with capacity and operational parameters. For renovations and new builds, the implications are clear: work with a minimum area standard and capacity reserve, prefer one to two beds per room with a separate family zone and

a full bed for the caregiver, strengthen storage and consultation facilities, and use flexible furniture and solutions that do not require building interventions. In buildings with a wall-bearing module it makes sense to target smart, simpler interventions with the highest impact, especially in zoning and acoustics.

Further research should validate the framework on a broader sample, supplement it with post-occupancy evaluations and basic economic analysis, so that its conclusions can be systematically embedded in procurement conditions and standards. The study thus confirms that a methodological approach based on spatial analysis and comparison with clearly defined criteria is a suitable tool for informed decision-making about future modifications to pediatric wards. The evaluation framework can be used directly in procurement for renovations and new builds as a checklist of room requirements and a set of scenarios that the design must handle without building interventions. Early use of the framework reduces the risk of later compromises in privacy and family involvement.

SOURCES

[1] Kuo, D. et al., 2012. Family-Centered Care: Current Applications and Future Directions in Pediatric Health Care. *Maternal and Child Health Journal*, vol. 16(issue 2), pp.297-305. <http://link.springer.com/10.1007/s10995-011-0751-7> [Accessed 2025-05-27].

[2] Lenton, S. & Ehrich, J., 2015. Approach to Child-Friendly Health Care; The Council of Europe. *The Journal of Pediatrics*, 167(1), pp.216-218. <https://doi.org/10.1016/j.jpeds.2015.04.001>.

[3] Sunder, W. et al., 2020. *The Patient Room: Planning, Design, Layout 1.*, Braunschweig: Birkhauser.

[4] Shepley, M. et al., 2012. The Impact of Daylight and Views on ICU Patients and Staff. , vol. 5(issue 2), pp.46-60. <http://journals.sagepub.com/doi/10.1177/193758671200500205>.

[5] Ulrich, R., 1984. View Through a Window May Influence Recovery from Surgery. *Science*, vol. 224(issue 4647), pp.420-421. <https://www.science.org/doi/10.1126/science.6143402>.

[6] Verschoren, L. et al., 2015. Designing child-sized hospital architecture: Beyond preferences for colours and themes. *Proceedings of the 20th International Conference on Engineering Design (ICED15)*, 20(n), p.10.

[7] Matějček, Z., 2001. *Psychologie nemocných a zdravotně postižených dětí 3. přeprac. vyd.*, Jinočany.

[8] Hendrich, A., Fay, J. & Sorrells, A., 2004. Effects of Acuity-Adaptable Rooms on Flow of Patients and Delivery of Care. *American Journal of Critical Care*, vol. 13(issue 1), pp.35-45. <https://aacnjournals.org/ajc-online/article/13/1/35/265/Effects-of-AcuityAdaptable-Rooms-on-Flow-of> [Accessed 2024-11-18].

[9] Clensy, D., 2022. The future of hospital design – delivering adaptability. In Buro Happold. <https://www.burohappold.com/articles/the-future-of-hospital-design-delivering-adaptability/> [Accessed 2025-05-27].

[10] EACH, 2006. *EACH Charter: Annotations*.

[11] Ehrich, J., Molloy, E. & Pettoello-Mantovani, M., 2017. Conceptual Design of Future Children's Hospitals in Europe: Planning, Building, Merging, and Closing Hospitals: Planning, Building, Merging, and Closing Hospitals. *The Journal of Pediatrics*, 182, pp.411-412. <https://doi.org/10.1016/j.jpeds.2016.11.068>.

[12] Lambert, V. et al., 2013. Young children's perspectives of ideal physical design features for hospital-built environments. *Journal of Child Health Care*, 18(1), pp.57-71. <https://doi.org/10.1177/1367493512473852>.

[13] Lucas, R., 2016. *Research methods for architecture* 1 ed., London: Laurence King Publishing.

[14] Groat, L. & Wang, D., 2013. *Architectural research methods* Second edition., Hoboken: Wiley.

4/ Monument care, renovation and conversion of buildings and architectural complexes

PARADOXES OF HERITAGE CONSERVATION IN THE COAL BASINS OF NORTHWESTERN BOHEMIA I – EXTINCT SETTLEMENT STRUCTURES IN THE MOST DISTRICT VS. THE BUCKET WHEEL EXCAVATOR RK5000

Barra Mario - Efler Tomáš

MARIO BARRA, ING. ARCH.

Fakulta architektury ČVUT v Praze |
Czech Technical University in Prague,
Faculty of Architecture, Thákurova
2700/9, 166 34 Praha 6 – Dejvice

mario.barra@fa.cvut.cz

ORCID ID: 0000 – 0002 – 9655 – 1717

Mario Barra completed his master's degree in the Heritage Conservation module at the FA CTU in Prague in June 2024 under the supervision of Prof. Ing. arch. Akad. arch. Václav Girsá, focusing on the restoration of the lignite mining area in the under the Jezeří Castle. He is currently a PhD. student under the supervision of Assoc. Prof. Tomáš Efler and Dr. Martin Ebel, with a focus on heritage conservation in the mining landscape of northwestern Bohemia (Ústí n. Labem and Karlovy Vary Regions).

MARIO BARRA, ING. ARCH.

Fakulta architektury ČVUT v Praze |
Czech Technical University in Prague,
Faculty of Architecture, Thákurova
2700/9, 166 34 Praha 6 – Dejvice

tomas.efler@fa.cvut.cz

ORCID ID: 0009 – 0002 – 8480 – 1085

Tomáš Efler (*1979) is an architect, heritage specialist, and lecturer at the FA CTU in Prague, where he leads a design studio and the Department of Heritage Conservation. He studied under Prof. Václav Girsá at FA CTU and in 2001–02 at EAPLV Paris La Villette under Prof. Hervé Filipetti. His focus is on historic architecture and restoration. In collaboration with GIRSÁ AT, he contributed to the conservation of the south façade of Český Krumlov Castle, awarded the Europa Nostra Prize in 2008.

ABSTRACT: Dozens of defunct settlement units located in areas of historically active or still – operating surface lignite mines in the Most District – including the large – scale ČSA mine and the Bílina, Vršany, Jan Šverma, Most – Ležáky, and Julius III mines – are today commemorated thanks to often very detailed documentation, frequently carried out in cooperation with state heritage preservation authorities. Only a small percentage of various types of structures (noble residences, religious buildings, residential houses, etc.) were officially designated as state – protected monuments during the second half of the 20th century. On the other hand, a new layer of legally protected heritage is gradually emerging, representing the most recent industrial phase in the region's history. One potential representative of this layer in the coming years could be the bucket – wheel excavator RK5000, the last of its kind in the Czechia, whose preservation and possible heritage protection is currently under discussion.

KEYWORDS: Post – industrial landscape; Surface mining; Defunct settlements; State – protected monuments; Industrial heritage; Bucket – wheel excavator; Landscape memory; Relationship to the past; Stratification

INTRODUCTION

Heritage conservation in the region of northwestern Bohemia, in the territory of the Ústí and Karlovy Vary regions—an area associated over the past approximately 70 years primarily with surface brown coal mining, which has significantly transformed the local cultural landscape – remains a rather neglected chapter even more than 30 years after the disappearance of the last settlement, the village of Libkovic u Mostu. While the most well – known example, the liquidation of the historic royal town of Most – whose architectural value, according to various opinions, was comparable to Czech towns now listed as UNESCO World Heritage Sites [1] – has already been the subject of numerous articles, publications, and exhibitions, the protection of heritage – worthy buildings in locally or regionally significant settlements has remained overlooked. Interest in this area has only begun to grow in recent years in connection with the gradual decline of surface mining, subsequent land reclamation, and the planning of new land uses, including commemorations of its lost form.

Many of the settlements that gradually disappeared between the 1950s and 1990s due to the expansion of surface mines contained exceptional architectural structures, of which only a tiny fraction received – even retrospectively and only temporarily – heritage protection. For this reason, it is more appropriate to speak not of “monuments” but rather of “heritage – worthy structures,” which allows for the inclusion in analyses of, for example, monuments of folk architecture from the Ore Mountains region, certain industrial buildings, or numerous small sacral structures that, despite their heritage value, never received official legal protection and can now only be admired thanks to extensive documentation.

An important factor influencing not only the number of officially registered monuments but also the types of structures considered for listing was the political and social perception of the time. Some groups of heritage – worthy buildings that would today undoubtedly be classified as cultural monuments remained within the

awareness of only the professional public, not the relevant institutions responsible for submitting or deciding on proposals for cultural monument status. For a long time, for example, folk architecture – characteristic of the entire studied area of the Ore Mountains and Sudetenland – remained outside the scope of state – protected monuments, even though its presence is well documented in audiovisual, drawn, and photographic records of now – vanished settlements. The same applies to smaller sacral monuments, not only larger ones (churches, chapels, etc.) but also smaller ones – various wayside shrines, crosses, memorials, and others. These smaller “heritage – worthy structures” sometimes had a better fate – in some cases, they were relocated to new sites, either by decision of local authorities or responsible heritage conservation institutions. In other cases, residents themselves took on the role of “monument saviors,” attempting to respond to the apparent disinterest of official bodies and to preserve “monuments” from their own villages, to which they had developed a strong attachment, perhaps since childhood. One example of relocated monuments in the Most district is a Gothic – style wayside shrine created around 1700 [2], originally located in the now – vanished village of Holešice (in the area of the now – inactive Jan Šverma mine) and now visible in the cemetery grounds in Most, or a cross from a vanished village in the area of the still – active Vršany mine, also now located there [3].

The aim of this article is to present to readers the existence of registered and thus state – protected monuments in the district of Most during the second half of the 20th century, including their fates and to highlight the often – sad story in which many of those officially listed retained their legal protection status for only about 20 years, exceptionally 25. A separate group included in the analysis were post – revolution registered monuments from the industrial period. Monuments listed in the Central List of Cultural Monuments as “complexes” were counted as a single item in the analysis; individual components were only counted separately in exceptional cases – such as when a significant part was delisted and subsequently disappeared. One example is the Jezeří castle park/arboretum, whose lower and middle parts lost heritage protection



Fig. 1: Development of the number of registered cultural monuments in the settlements of the Most District, author: Mario Barra (Source: <https://public.flourish.studio/visualisation/24596959/>, 2025)

in two consecutive years, and whose remnants, the so – called Jezeří Arboretum, were re – registered only after 1990. The conclusion of the article focuses on the fate of a significant technical work, the RK5000 bucket – wheel excavator, which is now the last of its kind and has been the subject of ongoing expert discussions in recent years regarding its potential designation as a cultural monument.

AREA OF THE ČSA OPEN – PIT MINE

Mining activities in the area of the ČSA open – pit mine – spanning the districts of Most and Chomutov – began as early as the early 20th century with the Hedvika mine, a branch of the Julius V mine [4]. Until then, the land had primarily been used for agricultural purposes. The local settlement structure began to be affected by mining operations in the 1970s (though earlier decades had already seen road and railway relocations). After 1976, the first village – Dřínov u Komořan – was evacuated and erased from the map. Most of the settlements within the ČSA mine area that would today fall under the Most district disappeared in the first half of the 1980s [5], along with numerous heritage structures – or more precisely, structures of heritage value. The use of this term is more appropriate in this context, as only a handful of monuments received protection under the legal regulations of the time. For example, in settlements (now preserved in cadas-

tral names) such as Albrechtice u Mostu, Ervěnice, Komořany, Dřínov u Komořan, or Dolní Jiřetín, only a few cultural monuments were registered from 1958 until the villages' demise. Of those, only a small fraction was saved from destruction through relocation to nearby settlements [6, 7, 8, 9].

In the villages of Dřínov u Komořan and Albrechtice u Mostu, the situation was marginally better. In each of these settlements (excluding a few monuments relocated outside the mining area before their destruction), one entry can be found in the Heritage Catalogue. In Albrechtice, it was the Church of All Saints, listed as a cultural monument between 1958 and 1982 [10]; in Dřínov, it was the Chapel of St. John of Nepomuk, protected between 1958 and 1987 [11].

The town of Dolní Jiřetín ranks second in terms of heritage protection, with three cultural monuments registered from 1958: the town hall, the Church of St. Nicholas, and a group of six workers' colony buildings from 1890. Their legal protection was revoked in 1982. Additionally, the statue group of St. George was relocated from there to Horní Jiřetín. Nineteen years later, the Centrum Mine complex was newly registered in this cadastral area, consisting of buildings from the 1880s (when mining began) and the 1950s. This status remained until August 2024, when the Ministry of Culture of the Czech Republic revoked protection for most of the complex¹. Only the shaft building and hoisting tower C1, along with the engine room C1, retained their cultural monument status [12].

From a heritage protection perspective, the Jezeří area historically had the strongest status. After the first heritage law was enacted, eight cultural monuments were declared here, including individual buildings and larger complexes – primarily the state chateau complex with its associated structures such as farm buildings and sculptures. This began to change in the early 1980s: in 1983, protection was removed from the lower part of the chateau park, followed by the middle part in 1985, and in 1987, the forest lodge complex near the chateau (now the parking area). By 1987, the number of protected monuments or complexes had stabilized at five. In the early 1990s, a protective zone was declared around the Jezeří complex, the Jezeří Arboretum was re – registered, and in 1996, a medieval ore adit from the 14th–16th century was added to the list of protected sites. For completeness, it should be noted that

¹ The reason was: "Given the fact that it is currently entirely impossible to restore and present a fully functional structure of all six heritage – protected buildings and two technological components (which was the main reason for their designation as a cultural monument and subsequent inclusion in the Central List of Cultural Monuments), we hereby submit this request for the revocation of the heritage status of the upper part of the Centrum mine." [12]



Fig. 2: Old Komořany around the year 1900, author unknown – private collection (Source: https://commons.wikimedia.org/wiki/File:Star%C3%A9_Komořany.jpg, public domain)

INTRODUCTION

Heritage conservation in the region of northwestern Bohemia, in the territory of the Ústí and Karlovy Vary regions—an area associated over the past approximately 70 years primarily with surface brown coal mining, which has significantly transformed the local cultural landscape – remains a rather neglected chapter even more than 30 years after the disappearance of the last settlement, the village of Libkovice u Mostu. While the most well – known example, the liquidation of the historic royal town of Most – whose architectural value, according to various opinions, was comparable to Czech towns now listed as UNESCO World Heritage Sites [1] – has already been the subject of numerous articles, publications, and exhibitions, the protection of heritage – worthy buildings in locally or regionally significant settlements has remained overlooked. Interest in this area has only begun to grow in recent years in connection with the gradual decline of surface mining, subsequent land reclamation, and the planning of new land uses, including commemorations of its lost form.



Fig. 3: Remains of the only surviving building of the Ervěnice Power Plant, photo by Petr Kinšt, 2014 (Source: https://commons.wikimedia.org/wiki/File:Ervice4%9Bnick%C3%A1_elektr%C3%A1rna_2024_-_11_-_16_Budova_1.jpg, used under CC BY 4.0 license)

Many of the settlements that gradually disappeared between the 1950s and 1990s due to the expansion of surface mines contained exceptional architectural structures, of which only a tiny fraction received – even retrospectively and only temporarily – heritage protection. For this reason, it is more appropriate to speak not of “monuments” but rather of “heritage – worthy structures,” which allows for the inclusion in analyses of, for example, monuments of folk architecture from the Ore Mountains region, certain industrial buildings, or numerous small sacral structures that, despite their heritage value, never received official legal protection and can now only be admired thanks to extensive documentation.

An important factor influencing not only the number of officially registered monuments but also the types of structures considered for listing was the political and social perception of the time. Some groups of heritage – worthy buildings that would today undoubtedly be classified as cultural monuments remained within the awareness of only the professional public, not the relevant institutions responsible for submitting or deciding on proposals for cultural monument status. For a long time, for example, folk architecture – characteristic of the entire studied area of the Ore Mountains and Sudetenland – remained outside the scope of state – protected monuments, even though its presence is well documented in audiovisual, drawn, and photographic records of now – vanished settlements. The same applies to smaller sacral monuments, not only larger ones (churches, chapels, etc.) but also smaller ones – various wayside shrines, crosses, memorials, and others. These smaller “heritage – worthy structures” sometimes had a better fate – in some cases,



Fig. 4: Church of St. Michael in Libkovice in 1998, photo by Nadkachna (Source: https://commons.wikimedia.org/wiki/File:Libkovice_1998.jpg, used under CC BY 3.0 license)

they were relocated to new sites, either by decision of local authorities or responsible heritage conservation institutions. In other cases, residents themselves took on the role of “monument saviors,” attempting to respond to the apparent disinterest of official bodies and to preserve “monuments” from their own villages, to which they had developed a strong attachment, perhaps since childhood. One example of relocated monuments in the Most district is a Gothic – style wayside shrine created around 1700 [2], originally located in the now – vanished village of Holešice (in the area of the now – inactive Jan Šverma mine) and now visible in the cemetery grounds in Most, or a cross from a vanished village in the area of the still – active Vršany mine, also now located there [3].



Fig. 5: Village of Vršany around 1910, author unknown – private collection (Source: <https://commons.wikimedia.org/wiki/File:Vr%C5%A1any.jpg>, public domain)

The aim of this article is to present to readers the existence of registered and thus state – protected monuments in the district of Most during the second half of the 20th century, including their fates and to highlight the often – sad story in which many of those officially listed retained their legal protection status for only about 20 years, exceptionally 25. A separate group included in the analysis were post – revolution registered monuments from the industrial period. Monuments listed in the Central List of Cultural Monuments as “complexes” were counted as a single item in the analysis; individual components were only counted separately in exceptional cases – such as when a significant part was delisted and subsequently disappeared.

One example is the Jezeří castle park/arboretum, whose lower and middle parts lost heritage protection in two consecutive years, and whose remnants, the so – called Jezeří Arboretum, were re – registered only after 1990. The conclusion of the article focuses on the fate of a significant technical work, the RK5000 bucket – wheel excavator, which is now the last of its kind and has been the subject of ongoing expert discussions in recent years regarding its potential designation as a cultural monument.

AREA OF THE ČSA OPEN – PIT MINE

Mining activities in the area of the ČSA open – pit mine – spanning the districts of Most and Chomutov – began as early as the early 20th century with the Hedvika mine, a branch of the Julius V mine [4]. Until then, the land had primarily been used for agricultural purposes. The local settlement structure began to be affected by mining operations in the 1970s (though earlier decades had already seen road and railway relocations). After 1976, the first village – Dřínov u Komořan – was evacuated and erased from the map. Most of the settlements within the ČSA mine area that would today fall under the Most district disappeared in the first half of the 1980s [5], along with numerous heritage structures – or more precisely, structures of heritage value. The use of this term is more appropriate in this context, as only a handful of monuments received protection under the legal regulations of the time. For example, in settlements (now preserved in cadastral names) such as Albrechtice u Mostu, Ervěnice, Komořany, Dřínov u Komořan, or Dolní Jiřetín, only a few cultural monuments were registered from 1958 until the villages' demise. Of those, only a small fraction was saved from destruction through relocation to nearby settlements [6, 7, 8, 9].



Fig. 6: Holešice near Most around 1910, author unknown – private collection (Source: https://commons.wikimedia.org/wiki/File:Hole%C5%A1ice_u_Mostu.jpg, public domain)

In the villages of Dřínov u Komořan and Albrechtice u Mostu, the situation was marginally better. In each of these settlements (excluding a few monuments relocated outside the mining area before their destruction), one entry can be found in the Heritage Catalogue. In Albrechtice, it was the Church of All Saints, listed as a cultural monument between 1958 and 1982 [10]; in Dřínov, it was the Chapel of St. John of Nepomuk, protected between 1958 and 1987 [11].

The town of Dolní Jiřetín ranks second in terms of heritage protection, with three cultural monuments registered from 1958: the town hall, the Church of St. Nicholas, and a group of six workers' colony buildings from 1890. Their legal protection was revoked in 1982. Additionally, the statue group of St. George was relocated from there to Horní Jiřetín. Nineteen years later, the Centrum Mine complex was newly registered in this cadastral area, consisting of buildings from the 1880s (when mining began) and the 1950s. This status remained until August 2024, when the Ministry of Culture of the Czech Republic revoked protection for most of the complex¹. Only the shaft building and hoisting

tower C1, along with the engine room C1, retained their cultural monument status [12].

From a heritage protection perspective, the Jezeří area historically had the strongest status. After the first heritage law was enacted, eight cultural monuments were declared here, including individual buildings and larger complexes – primarily the state chateau complex with its associated structures such as farm buildings and sculptures. This began to change in the early 1980s: in 1983, protection was removed from the lower part of the chateau park, followed by the middle part in 1985, and in 1987, the forest lodge complex near the chateau (now the parking area). By 1987, the number of protected monuments or complexes had stabilized at five. In the early 1990s, a protective zone was declared around the Jezeří complex, the Jezeří Arboretum was re – registered, and in 1996, a medieval ore adit from the 14th–16th century was added to the list of protected sites. For completeness, it should be noted that the chateau and arboretum complex was declared a national cultural monument in 2023 [13].

None of the examples of traditional Ore Mountain folk architecture – including remnants of Sudeten settlements from the interwar period – were ever included among the legally protected monuments in any of the vanished settlements in the Most region, nor were they even considered for such status. From today's perspective, several technical structures could be considered heritage – worthy, in addition to the bucket – wheel excavator discussed in the final chapter. These include the state thermal power plant in Ervěnice (cadastral area Komořany u Mostu), which supplied electricity to Prague using brown coal from local small – scale mines. Until recently, this also included remnants of the first 110 kV high – voltage line connecting the Ervěnice plant with the substation in Prague – Holešovice. Only fragments of this line remain today, gradually being replaced by modern pylons better suited to the current transmission network. The Register of Cultural Monuments also lists the Komořany thermal power plant and the Fortuna brown coal mine complex from the late 19th century, including its service power station [14].

BÍLINA MINE AREA

Mining activity in the Bílina mine area began in 1971, originally under the name Maxim Gorky Mine [15]. Unlike the ČSA open – pit mine, where mining has already ceased, Bílina remains an active mining site, with extraction expected to continue at least until the mid – 2030s. This is due to the lifting of mining limits by the Bohuslav Sobotka government in 2015, and there are even considerations of extending operations until 2055, should permission be granted to expand the mine closer to existing towns and villages [16].

Historically, five settlements once stood within the current mine area, now remembered through the names of cadastral territories: Břežánky (disappeared in 1972), Břešťany (1972), Jenišův Újezd (1972–74),



Fig. 8: Chapel in the village of Lipětín before demolition, year unknown, photo by Hadonos (Source: https://commons.wikimedia.org/wiki/File:Lip%C4%B9t%C3%ADn_kapli%C4%8Dka.jpg, used under CC BY – SA 4.0 license)

² This decision was replaced by “document No. 18681/2009, a proposal to annul the declaration – a decision by a materially incompetent authority regarding a non – existent matter (mass submission).” [23]

³ “The dimensions of the excavator are: height 35.6 m, width 33 m, length 156.5 m. It weighs 5,500 tons and moves using a walking crawler undercarriage.” [28]

⁴ “Despite requiring demanding maintenance, only three general overhauls were carried out during its operational life. During regular maintenance work, worn – out structural parts were replaced, and the control and hydraulic systems were modernized. In 2020, safety – related work was carried out to make the machine accessible to the public.” [29]

notable as the last settlement in Czechoslovakia – and later the Czech Republic – to be evacuated and demolished due to surface brown coal mining, between 1991 and 1993. A deeper look into the heritage records reveals that, since 1958, only one cultural monument was ever registered in this 33 km² area (excluding the Holy Trinity Column, which was relocated to Horní Litvínov): the Church of St. Michael the Archangel in Libkovice u Mostu. Its designation as a cultural monument can be seen as a symbolic gesture – the decision was issued on October 29, 1993, and came into effect on November 18. However, the monument status was revoked just 17 days later, on December 5, 1993. Despite this, the church remained standing until 2001/2, when it was demolished as the last structure in Libkovice, a village that had been almost entirely razed nearly a decade earlier [17].

VRŠANY MINE AREA

The Vršany mine was opened in 1978 with the start of the first overburden removal, followed four years later by direct brown coal extraction, reaching an annual output of 6 million tons over the next four years. Until 1994, overburden from the active mine was deposited in the former Šmeral mine and the external Březno spoil heap. Today, it is still deposited in the Šmeral mine and the internal spoil heap within the Vršany mine area [18]. During the second half of the 20th century, two settlements disappeared within the mine area: the villages of Vršany and Třebušice.



Fig. 9: RK5000/R10 bucket – wheel excavator at its current location, photo by Mario Barra, 2023 (Source: Author's archive)

Of the six settlements mentioned above, only half have records of heritage – worthy structures protected under applicable legislation (some of which disappeared after 1950). In Hořany, this was the castle complex, protected between 1958 and 1981, consisting of four components: the early Baroque castle later rebuilt in the Empire style, a farm building, the chapel of St. Blaise, and a gate [19]. In nearby Slatinice, the Baroque single – nave Church of Saints Simon and Jude from the 1630s was protected between 1958 and 1969. The vanished village of Souš – and the reason for its disappearance, surface coal mining – is still commemorated by the cultural monument of the “JULIUS V/NEJEDLÝ I. coal mine,” a complex of three buildings: the engine house, the former bathhouse and locker room building, and the administrative building, constructed in the late 19th and early 20th centuries. These were declared a cultural monument in 2000, making it one of the first registered monuments related to the region's most recent historical chapter – surface brown coal mining. Two additional historically relocated monuments are the statues of St. John of Nepomuk and St. Procopius, now located in the village of Bečov and the centre of the new town of Most [20].

JAN ŠVERMA MINE AREA

Mining in the area of the later Jan Šverma mine began in the 1860s with the establishment of the Robert I deep mine, where coal extraction continued until

World War II. Mining was temporarily halted in 1942, while surface mining at the Robert II mine – founded in 1918 – continued. After the war, in 1945, the surface mine was renamed “Jan Šverma Mines,” followed by a mining boom in the 1950s and subsequent decades. As mining progressed and gradually approached the Vršany mine, operations began to wind down in 1995, with mining activities shifting to the Vršany site and overburden from its excavator being deposited in the Jan Šverma spoil heap [21].

Historically, one settlement existed within the mine area: the village of Holešice. According to the first heritage law, three sites in Holešice were protected from May 3, 1958: the homestead complex No. 22, consisting of six components; the rectory complex with four components and the early Gothic Church of St. Nicholas, also with four components. Additional structures (two wayside shrines, statues of St. Lawrence, St. Felix, and St. John of Nepomuk) were relocated to Mariánské Radčice and Most. While the demolition of the village occurred in 1976, all registered monuments in the Holešice cadastral area were officially delisted three years later, on May 11, 1979 [22].

MOST – LEŽÁKY MINE AREA

This area, now partially covered by Lake Most, was largely occupied by the historic royal town of the same name. Its fate – including the world – famous relocation of the Church of the Assumption of the Virgin Mary – has been widely presented to both expert and general audiences through exhibitions and publications. As such, it is the best – documented area in terms of the fate of individual “heritage – worthy structures” in the North Bohemian brown coal basin. In addition to the royal town of Most, four smaller settlements once stood within the area of the later Most – Ležáky mine: Konobřez, Střimice, Pařidla, and Kopisty.

While no registered cultural monuments can be found in the Heritage Catalogue or Register for the now – vanished villages of Konobřez and Střimice (except for a relocated statue pedestal from Konobřez, now in Vtelno), the situation is different for Pařidla and Kopisty. In Pařidla, a castle complex from the first half of the 19th century – consisting of two buildings – was registered as a cultural monument after the first Czechoslovak heritage law came into effect [23]. Although the entire village was demolished between 1967 and 1969 due to surface coal mining, the castle complex (declared protected on May 3, 1958, like many other monuments in the Most coal basin) retained its heritage status until February 11, 2009 – nearly 40 years after the village was razed. The reason was the absence of a formal decision to revoke protection at the time of the village's destruction² [23]. In Kopisty, five monuments were registered in 1958: House No. 63, a fortress complex (including the fortress itself, an annex, and a house), the Church of the Body of Christ, the 1920 memorial to the victims of the so – called December Strike, the group of six houses in the Julius miners' colony. Only the statue of St. Florian was relocated from the demolished village to Vtelno [24].

JULIUS III MINE AREA

This area represents the last major surface brown coal mining site in the Most District where information can still be found about historically registered cultural monuments – or rather, several other “heritage – worthy structures” that, for historical, political, and various other reasons, mostly never received legal protection. The Julius III mine was established in the early 1880s. The Austro – Hungarian monarchy was the main investor, issuing an order in 1881 to begin construction of operational buildings and prepare for mining. Extraction began in the second half of 1884 after all preparatory work was completed. The mining area was closed after 1990 due to the depletion of accessible coal reserves [25]. Near the Julius III mine complex, three cadastral areas

ACKNOWLEDGEMENTS

This article, including its presentation and participation in the conference “Architecture in Perspective 2025” in Ostrava, was supported by the Czech Technical University in Prague's Student Grant Competition, grant no. SGS25/176/OHK1/3T/15.

can still be identified on maps: Růžodol, Lipětín, and Dolní Litvínov. All three settlements were destroyed during the expansion of surface mining in the late 1950s (specifically between 1957 and 1959). While no records of registered cultural monuments or even heritage – worthy structures (from the perspective of the heritage register) exist for Lipětín and Dolní Litvínov, the cadastral area of Růžodol contains one entry: partial heritage protection of the “Julius III Mine Complex,” effective from August 14, 2001 [26]. Today, the partially protected industrial site houses the “Sub-Ore Mountain” Technical Museum, which plays a significant role in preserving the industrial heritage of the surface brown coal mining era in the region

RK5000 BUCKET – WHEEL EXCAVATOR

Unfortunately, only limited information is available about the history of the RK5000 bucket – wheel excavator, which still stands in the mining area of the ČSA open – pit mine. This monumental machine³ – designated as unit no. 2 – began assembly directly at the site in 1980. Trial operation started in 1983, and full – scale brown coal extraction began the following year. The excavator remained in operation for over 30 years until it was decommissioned in 2016 [27]. Since then, it has been preserved and awaits a final decision regarding its future, which has not yet been officially resolved. Although it was the second RK5000 excavator built (the first operated in what is now Lake Milada near Chabařovice, Ústí nad Labem, and was dismantled and scrapped after mining ended), it is now the last surviving machine of its kind in the former Czechoslovakia [28].

This rarity has sparked discussions – especially considering the winding down of surface mining at ČSA – about preserving the machine, repurposing it for tourism, and recognizing its exceptional technical value by registering it as a cultural monument. Supportive statements from the National Heritage Institute include arguments such as: “The walking bucket – wheel excavator RK5000/R10 represents a technical work of extraordinary scale and quality, demonstrating the technological sophistication of Czechoslovak engineering and production.” [29] These statements highlight the preservation of most of the original structures⁴ from the time of the machine’s construction and its significant technical heritage value.

The ongoing debate over whether the RK5000 excavator should be declared a cultural monument stems from several factors. One is its location, which lies within the area of the future restored Komořany Lake. Another is the financial and logistical challenge of relocating the massive machine – by walking it – to a new site, likely near the edge of the proposed ČSA National Natural Monument. However, a deeper question arises: Can a machine that actively contributed to the erasure of former settlements and the transformation of the cultural landscape be granted heritage protection? On the other hand, proponents argue that preserving the excavator would ensure that the industrial layer of this region’s complex history is not forgotten – especially as most of the area will be reclaimed and few traces of its pre – industrial or industrial past will remain.

CONCLUSION

Across the Most District, only a handful of legally protected cultural monuments were ever registered in the now – vanished settlements. Most of these lost their protected status within just 20–25 years and were subsequently destroyed due to expanding surface mining. In the 1990s and early 2000s, a new wave of monument registrations emerged, reflecting a growing interest in preserving the industrial heritage of the region—now viewed with historical distance from the peak of brown coal mining. A small number of transferred monuments – mostly statues, shrines, or other small structures—were relocated by unknown individuals or institutions before the settlements were demolished. Still, many struc-

tures that would today be considered heritage – worthy have been irretrievably lost, surviving only in archival records, photographs, or film.

The older historical layers of the landscape have been nearly erased – both physically and from collective memory – by decades of intensive surface mining. Without interpretive trails, information panels, or other forms of public education, today’s visitors often cannot imagine how many settlements, with numerous heritage – worthy buildings, vanished over just 40–50 years. The phrase “out of sight, out of mind” seems particularly apt. At the same time, a new layer of heritage is slowly emerging – one that includes industrial structures and mining – related sites. These are still underrepresented in the national heritage register, often only partially protected. Whether this trend will shift in the coming decades – and whether the RK5000 excavator will become its icon – remains an open question.

SOURCES/REFERENCES

- [1] Plus. (2018). Rok 1964: Co takhle zbourat město? Osudy starého Mostu, ze kterého se zachoval jen kostel. [online] Available at: <https://plus.rozhlas.cz/rok-1964-co-takhle-zbourat-mesto-osudy-stareho-mostu-ze-ktereho-se-zachoval-jen-7643958> [Accessed 16 Aug. 2025].
- [2] Národní památkový ústav (2025a). Boží muka – Památkový Katalog. [online] Available at: <https://pamatkovykatalog.cz/bozi-muka-13980669> [Accessed 16 Aug. 2025].
- [3] Národní památkový ústav (2025b). Kříž – Památkový Katalog. [online] Available at: <https://pamatkovykatalog.cz/kriz-13980498> [Accessed 16 Aug. 2025].
- [4] Kounovský, I. and Jarošová, I. (n.d.). Strana 1 (celkem 10) SANACE A REKULTIVACE LOMU ČSA. [online] Available at: https://slon.diamo.cz/hpvt/2011/_Zahlaz/Z%2007.pdf [Accessed 17 Aug. 2025].
- [5] Zdeňka Binterová (1996). Zaniklé obce Chomutovska. Okresní muzeum v Chomutově.
- [6] Národní památkový ústav (2025). Památkový Katalog – vyhledávání Dřínov. [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&h=D%C5%99%C3%ADnov&hlObj=1&fulltext> [Accessed 17 Aug. 2025].
- [7] Národní památkový ústav (2025). Památkový Katalog – vyhledávání Komořany. [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&h=Komo%C5%99any&hlObj=1&fulltext> [Accessed 17 Aug. 2025].
- [8] Národní památkový ústav (2025). Památkový Katalog – vyhledávání Ervěnice [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&h=Erv%C4%9Bnice&hlObj=1&fulltext> [Accessed 17 Aug. 2025].
- [9] Národní památkový ústav (2025). Památkový Katalog – vyhledávání Albrechtice [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&h=Erv%C4%9Bnice&chranenoTed=1&hlObj=1&fulltext> [Accessed 17 Aug. 2025].
- [10] Národní památkový ústav (2025). Památkový Katalog – kostel Věch svatých [online] Available at: <https://pamatkovykatalog.cz/kostel-vsech-svatych-2171042t> [Accessed 17 Aug. 2025].

VISUAL CHARACTER OF BUILDING CONVERSIONS

Slivka Filip - Riedlová Kateřina - Volná Lenka

FILIP SLIVKA, ING. ARCH., PH.D.

Department of Architecture Faculty of
Civil Engineering VŠB – TUO
Ludvíka Poděštil 1875/17, 708 33
Ostrava - Poruba, Czech Republic

filip.slivka@vsb.cz

ORCID ID: 0000-0003-1880-6988

The author works as a general secretary and professional assistant at the Technical University of Ostrava, Department of Architecture, with a research focus on industrial buildings and ancient building techniques. The author works as an architect in Ostrava.

KATEŘINA RIEDLOVÁ, ING. ARCH.,
PH.D.

Department of Architecture Faculty of
Civil Engineering VŠB – TUO
Ludvíka Poděštil 1875/17, 708 33
Ostrava - Poruba, Czech Republic

katerina.riedlova@vsb.cz

ORCID ID: 0000-0002-7853-5908

The author works as a deputy head and professional assistant at the Department of Architecture, Faculty of Civil Engineering, VŠB-TUO.

LENKA VOLNÁ, ING. ARCH.

Department of Architecture Faculty of
Civil Engineering VŠB – TUO
Ludvíka Poděštil 1875/17, 708 33
Ostrava - Poruba, Czech Republic

lenka.volna@vsb.cz

ORCID ID: 0000-0002-2448-8608

The author is a doctoral student at the Technical University of Ostrava, Department of Architecture, with a research focus on fortifications and trends in the proposals for the construction and utilization of the area of former city fortifications. The author

ABSTRACT: Building conversions represent a specific type of architectural intervention in which the original purpose of a building is changed. These interventions raise a number of questions, including the extent to which the original appearance of the building should be respected. This work focuses primarily on the visual character of these conversions. The aim is to generally evaluate the approach to the transformation of building exteriors – whether and how architects work with the original building openings, rhythm, and division of the facade. The evaluation method is a visual analysis of a selected set of buildings supplemented by other parameters identified during a field inspection, which allow for the creation of clear graphic summaries. The results can help identify different approaches to conversions and provide a basis for reflection on the relationship between historical architecture and contemporary interventions. The study also draws attention to the importance of a sensitive approach when working with existing structures in an urban environment.

KEYWORDS: Architecture; composition; conversion;

INTRODUCTION

The development of human society is integrally linked to the formation and refinement of space, from the first settlements of the Neolithic era to the present day. A recurring problem throughout history has been the issue of repurposing abandoned buildings, often due to changes in political, cultural, and economic structures. In the past, interventions in buildings were mostly simple, often motivated by the attempt to effectively use the affordable materials. The importance of the addressed topic has significantly grown in the industrialization period, when economic factors and the efficiency of production processes became involved.

From the architectural perspective, aside from space and location, time is also an important factor, not only in terms of the physical durability of the building itself, but also its moral value. As Edmund Vale (Beran, 2008) points out, even a ruin bears irreplaceable traces of time and the changing effects of the surrounding environment. Currently, financial considerations, both investment and operational costs, play a key role in decisions about new construction, reconstruction, or conversion. Many conversions, therefore, aim to preserve the original atmosphere and expressive elements (form, façade rhythm, proportion), while meeting the energy efficiency requirements and principles of sustainability. The subject of the research is to observe how specific typological categories of buildings change during conversion. The study addresses the relationship between the original composition of the façade and its new interpretation, intending to create an evaluation system that will contribute to improving the aesthetic qualities of these buildings.

Industrial building structures have been a motor of economic and urban development for two centuries. However, over the last 30 years, many areas have become disused due to the shift from industry to services. They are often situated in the proximity of the city centers and are a burden in terms of hygiene, transport, and ecology. The conversion of brownfields thus offers an opportunity for regeneration of the city structure, while demanding the interdisciplinary cooperation (decontamination, legislation, economics) and integration into urban planning.

When deciding whether to preserve or demolish a building, it is necessary to assess its value in a cultural, technical, and economic context. The conversion should be based on the potential of the building structure and consider its flexibility, suitability for new usage, and the adaptation possibilities. Technical requirements (energetics, accessibility, acoustics) must be addressed with care to avoid compromising the original architectural expression. A recurring solution is inserting new volumes into the original structures,

which are not physically attached, and utilizing transparent materials.

The topic is elaborated based on statistical data, urban planning documents, and a comparison of realized conversions in urban and rural contexts. The research aims to identify effective approaches to conversions and evaluate their benefits, not only from the standpoint of the condition of a specific building, but also in terms of broader relationships within the urban structure. The objective is to find correlations between the quality of the conversion, the amount of the investment, and urban impact.

INDUSTRIAL ARCHITECTURE AS CULTURAL HERITAGE

The short period since the industrial buildings were constructed often leads to their underestimation. At the same time, these buildings reflect significant historical and social changes. From the late Baroque manufactures to the monumental ironworks of the 19th century, and Functionalist factory complexes of the First Republic period, the industrial architecture is a unique testimony to the development of technology, urbanism, and aesthetic preferences.

According to Czumała (1992), three vertical landmarks dominated the cityscape – the tower of the castle, the church, and the town hall, possibly the fortification system, and, over time, vertical factory chimneys. They determine the dynamics and prosperity, becoming new points of reference. It is therefore preferable to approach the conversions with respect for this memory layer. Architectural value can lie in the choice of materials (brick, cast iron, steel, concrete), in the rhythm and proportion of the façades, in the details, or in the relation to the landscape surrounding buildings. Preservation of these qualities is not in opposition to repurposing – on the contrary, it can be the foundation of the identity of the site.

Principles of composition in industrial architecture

Industrial buildings, although primarily used for functional and production purposes, often display surprisingly sophisticated architectural composition. Despite their utilitarian character, many of them were designed with an emphasis on order, proportion, and visual balance, thus becoming significant representatives of the aesthetic perception of the time.

In the industrial architecture, symmetry was often used, especially in administrative or main production buildings with a representative character. The symmetrical composition of the façades with a dominant entrance and axial articulation reflected the rational and systematic approach to production and the social

status of companies of the era. In the floor plans, symmetry was evident in the symmetrically arranged halls, storage rooms, and service routes.

An example of the application of symmetry is the Löw-Beer textile factory situated in Brno, now a part of the Vlněna area. The main production building is composed of an axial entrance, periodically spaced window openings, and a balanced mass composition. Similarly, the old Štvanice power station in Prague, designed by František Josef Thomayer, displays a symmetrical façade with a central entrance part, reflecting its public importance.

Asymmetry prevailed, where a symmetrical solution was not possible or necessary – especially in vast production areas, where the individual operations differed in terms of the technological requirements and dimensions. Asymmetrical composition became a tool to express the variety of functions and technological processes. It was often accentuated by height differences, the form of roofs, or the placement of the technological features (e.g., chimneys, silo, crane tracks, etc.).

A beautiful example of a thoughtful asymmetry is the area of Dolní oblast Vítkovice in Ostrava. Individual parts – blast furnaces, coking plant, gasometer, compressor room – are situated according to the production logic, without any attempt at formal symmetry. The result is an organic structure with a unique industrial aesthetics. Another instance is the gasometer in Berlin-Schöneberg, where the asymmetrical arrangement of the structural elements and different height levels reflect the technological function of the structure.

The rhythm, as a regular repetition of elements, is a typical feature of industrial architecture. It is primarily used in façades – for example, in rows of window openings, pillars, skylights, or construction modules. The rhythmization not only simplifies the production of building elements and assembly but also contributes to the aesthetic clarity and unification of large-scale façade surfaces. In the interior, rhythm is defined by the repetition of load-bearing elements (columns, trusses), while defining the spatial modules of the production.

A distinctive rhythm can be found on the façade of the Baťa factory in Zlín, especially the typical reinforced concrete construction of a skeleton structure creates a regular repetition of columns, infills, and windows. This rhythm flows from the façade into the interior, creating a clear spatial logic. A similar solution can be found in Fagus-Werk in Alfeld, designed by Walter Gropius, where the rhythmic composition of windows and columns supports the modernist form.

Gradation – the gradual enlargement, reduction, or change of the intensity of a particular element – is applied mainly in the massing and vertical articulation of buildings. In some cases, the façades are composed in such a way that individual parts of the building structure gradually increase in size towards the main operation, machine hall, or administrative center. An impressive visual effect is created, for example, by stepped volumes or gradation of the windows according to the number of floors.

An example of the usage of gradation is offered by Battersea Power Station in London, where four iconic chimneys form a dominant feature, while the height and complexity of façades gradually increase towards the central part. In the Czech Republic, one can mention the Zbrojovka factory in Brno, whose gradually linked masses, depending on the number of floors, create an effect of increasing gradation from the perimeter to the central part of the area.

The above-mentioned principles of composition are not merely an aesthetic tool in industrial architecture, but often derive directly from the logic of the operation, the structural system, and technological requirements. It is their connection with the functionality that gives these buildings the architectural value, which is often the rationale for their preservation and adapta-

tion in conversions.

These examples not only illustrate the application of compositional principles but also demonstrate that the industrial architecture moves between practicality and artistic expression. Knowledge and recognition of these principles is important, especially in the design of conversions, where it is necessary to preserve or interpret the original architectural quality of the building structure.

The current state and consequences of abandoned industrial areas

The conversion of industrial buildings is a pressing challenge today, which combines economic, urban, cultural, and ecological aspects. After industrial buildings cease to be used, often due to economic transformations, changes in production technologies, or environmental restrictions, these buildings remain vacant and in a state of disrepair. The result is brownfields (Zemánková, 2003), i.e., neglected and unused areas, that create barriers in the city structure and negatively affect its cohesion and the quality of life of its inhabitants.

These areas are often located strategically near city centers, and their disuse represents an urban planning loss. They create traffic and hygienic burdens, hinder the development of residential housing, and contribute to the depopulation of city districts. In many cases, these areas are unique in terms of their extent, location, and historical significance.

Typology and structural assets

When assessing the potential for conversion, the typological classification of the industrial buildings is essential. This determines the extent to which the building can be utilised for new functions – administrative, cultural, educational, or residential. The structural system plays a key role, in particular the spans, floor height, type of load-bearing construction, and the possibility of altering the disposition.

Hall structures with a regular modular system (e.g., reinforced concrete skeleton) allow for a greater degree of customization than operational buildings with a complicated internal structure. It is the structural flexibility that determines the extent of necessary construction modifications and thus the economic efficiency of the conversion.

The evaluation should also include operational and spatial possibilities, such as orientation to the cardinal points, height of entrances, possibility of accessibility, or technical condition of the building envelope in relation to energy efficiency requirements.

CONVERSION

Conversion, or „creative-use“ (Vorlík a Sigmundová, 2014), means repurposing a building to revitalize it and integrate it into the urban structure. Cultural monuments present a specific challenge, as valuable technologies and architectural elements must be preserved. An example of a successful conversion is the Dolní oblast Vítkovice and the adjacent Trojhalí Karolina. Outside Ostrava, another example is the revitalization of a former coal storage and boiler room in the courtyard of Building A of the UCT in Prague.

The present issue of converting industrial buildings is based on several interrelated factors that influence the decision-making process regarding their future use. The causes of abandoned sites vary – from economic changes and industrial decline to environmental burdens and moral obsolescence of buildings.

These areas disrupt the continuity of the urban tissue, contribute to its fragmentation, and can increase the level of social exclusion. At the same time, they offer potential for increasing building density and regenerating inner-city structures, making them a key tool for sustainable urban development.

The approach to conversions until now has often depended on an economic comparison of the value of brownfields and vacant plots, taking into account the technical condition, degree of contamination, and heritage value of the properties. Ownership structure also plays an important role here, as it can significantly slow down or block the entire process.

For a successful conversion, it is vital to evaluate the typology of the original building—its functional and spatial prerequisites—and, above all, its structural system and its variability. The spans, load-bearing features, and overall spatial logic of the building determine the extent of possible adaptation. The flexibility of the structure is therefore key to its effective use in its new function (see Figure 1).

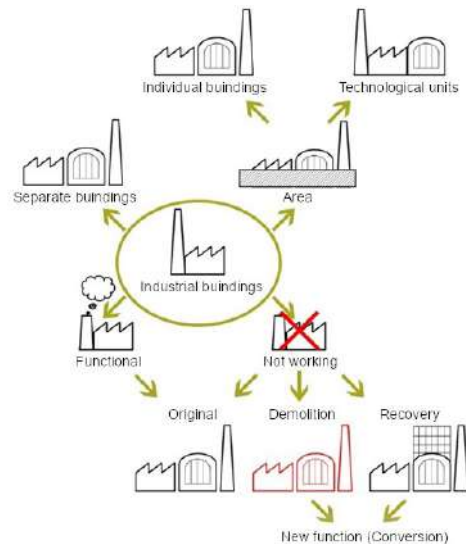


Figure 1: Decision-making process diagram for an industrial building (Source: Filip Slivka)

Industrial buildings are often perceived as of limited value due to their relative recentness and utilitarian character. However, it is important to acknowledge that these building structures also bear cultural memory value—they are witnesses to their time and part of architectural evolution. Neglecting their meaning may result in the disappearance of precious elements that testify to the history and identity of a site.

For this reason, not only is technical and economic analysis in order, but also cultural-historical reflection and conceptual anchoring of the entire issue.

International approach to conversions

Foreign approaches are inspiring in this regard, where working with industrial heritage is often a systematic part of municipal policies. For example, the Zeche Zollverein project in Essen, Germany, represents the transformation of a former coal mine into a cultural and research center. The key was to preserve the iconic structure and add new functions in a contrasting architectural language (Studio OMA).

Another example is the Tate Modern in London, where a former power station was transformed into an exhibition space for a modern art gallery. The project by the studio Herzog & de Meuron showed that a conversion of a massive industrial building can contribute to the development of an entire city district.

In France, one can mention the example of Halles Alstom in Nantes, where former industrial halls were adapted into a creative campus (École de design). A common feature of these projects is respect for the original structure, preservation of the materiality, and emphasis on the authenticity of the place.

The conversion of industrial buildings is a multidisciplinary challenge combining technical, cultural, economic, and ecological aspects. The conditions for

successful transformation rely on a proper comprehension of the building's potential—structural, typological, and historical. At the same time, it is necessary to pursue new concepts of utilization that are in accordance with the requirements of present-day society. Foreign examples show that even radical transformations can be sensitive if they respect the original architectural qualities. The Czech approach to conversions should be supported not only by knowledge of local conditions, but also by a broader understanding of the significance of industrial heritage.

Types of conversions and approaches to abandoned buildings

A variety of factors influence the suitability of a conversion. The key factors are urban (location in a city, a village, or the countryside), architectural (quality of construction, composition, significance for the cityscape), political (level of support and financing), and functional (possibilities for new use of the site from a technical and economic standpoint) (Pavlík, 1998). In the case of historical buildings (especially before 1940), reconstruction can restore their original aesthetic values. It is important to balance a qualitative (architectural value) and quantitative (extent of building volume) approach.

Technical monuments include manufacturing, storage, and energy buildings, as well as transport-related structures. Their value is determined by technical principles, historical significance, and structural solution (Valchářová, 2005).

Originally situated on the outskirts of urban areas, industrial buildings are now often absorbed into central urban zones (Brotan, 2013). Their potential thus lies not only in their architectural quality, but also in their adaptability to new urban contexts.

The research identifies three main approaches to conversions, as shown in Figure 2:

1. Non-intervention restoration

Most commonly used for buildings with preserved technology and heritage protection. Preserves the genius loci with minimal costs and building modifications. Prevents the creation of nonhomogeneous spaces.

2. Low-cost utilization

Suitable for buildings with adaptation potential. There are minor construction interventions, additions to structures, alterations to disposition, and the introduction of new functions (residential, cultural, workspaces), while preserving the original massing.

3. Complete reconstruction

For buildings without heritage protection. Includes major building alterations – dismantling, extensions, vertical extensions, or complete built-in structures ("house within a house"). Often involves irreversible interventions into the original structure.

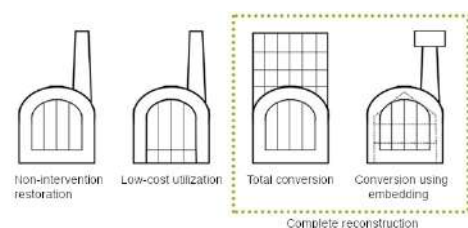


Figure 2: Principles of utilization and restoration (Source: Filip Slivka)

THE RESEARCH

The scope of the research is to apply the above-mentioned findings of the investigated issue to evaluate the research questions and hypotheses. The research itself was conducted in several time phases. At the be-

ginning, suitable buildings were selected for a broader overview, and then sorted based on the criteria under investigation. It is very important to compare the resulting samples (subsets) with the initial number (set). The research was divided into three phases according to the procedure. Based on this, it was possible to employ a variety of statistical and scientific methods.

The theoretical part is followed by research that aimed to provide answers to research questions. The implementation of the findings from the theoretical part was related to the definition of hypotheses and the creation of evaluation criteria.

First phase

At the initial stage, it was important to clearly define the problem. Subsequently, it was necessary to pose a question: "Why could this problem have arisen?"

In the first phase of the research, a basic research hypothesis was formulated based on the information obtained, namely: The conversion of buildings responds to the original composition of the building.

Second phase

In the second phase of the research, the collection of basic statistical data was carried out using a quantitative method.

The quantitative method was used due to its clarity and the possibility of rapid processing of large amounts of data. A table was created for the research. The results from the theoretical part of the research were used for the basic definition of categories. The number of selected samples examined reached 32, which, from a statistical standpoint, can better indicate more objective results.

The research area was defined concerning its location in the Czech Republic, specifically based on post-industrial trends in the Moravian-Silesian, Olomouc, and Zlín regions. These regions have a certain concentration of industrial buildings and brownfields, see Graph 1.



Graph 1: Distribution of surveyed buildings by region (Source: Authors)

INDUSTRIAL BUILDINGS																							
Č.	Building	Original function	Period of the construction	Location	Industrial production sector	Original building					Type of settlement situation	Type of conversion	Intervention in the mass and structure				Basic principles of composition				Conversion on author	New building function	Year of conversion
						Geometry	Basic principles of composition						Type of conversion	Built-in	Vertical extension	Extension	Symmetry	Asymmetry	Rhythm	Gradation			
							Symmetry	Asymmetry	Rhythm	Gradation													
1	Trojhavl - emergency centre	Electrical control room	1907/1920	Olomouc	Energy	Rectangular	Yes	No	Yes	Yes	City	Low-cost utilization	Yes	No	Yes	Yes	No	Yes	Yes	Josef Prošek	Social use	2014	
2	Supera	Warehouse	x	Olomouc	Processing	Rectangular	No	Yes	No	Yes	City	Complete reconstruction	No	No	No	No	Yes	Yes	Yes	Ladislav Šemša	Administration	2008	
3	DOV - stone quarrying technology	Bedroom	1899/1925	Olomouc	Mining	Rectangular	Yes	No	Yes	Yes	City	Complete reconstruction	Yes	No	No	Yes	No	Yes	Yes	Josef Prošek	Museum	2017	
4	DOV - now quarrying technology	Payment hall	1960s	Olomouc	Mining	Polygon	No	Yes	Yes	Yes	City	Low-cost utilization	Yes	No	No	No	Yes	Yes	Yes	Josef Prošek	Social use	2015	
5	Obelisk - pharmacy	Warehouse	1950s	Olomouc	Processing	Rectangular	Yes	No	No	No	City	Complete reconstruction	Yes	No	No	Yes	No	Yes	No	Radikální a Ladislav Šemša	Administration	2009	
6	Jasna	Cold storage room	1899/1909/1927	Olomouc	Food processing	Rectangular	No	Yes	No	Yes	City	Low-cost utilization	No	No	No	No	Yes	Yes	Yes	Robert Konečný	Social use	2022	
7	Babylon	Decomposition station	1935	Olomouc	Water management	Polygon	Yes	No	Yes	No	City	Low-cost utilization	No	No	No	Yes	No	Yes	No	Milan Škorpík	Museum	2017	
8	Aula Gong	Cashier	1924	Olomouc	Metallurgy	Circle	Yes	No	Yes	Yes	City	Complete reconstruction	Yes	No	No	Yes	No	Yes	Yes	Josef Prošek	Social use	2011	
9	Maliňák - textile	Petty room	1930-1940	Olomouc	Metallurgy	Rectangular	Yes	No	Yes	Yes	City	Low-cost utilization	Yes	No	No	No	Yes	Yes	No	Zdeňka Fránka	Museum	2012	
10	Baltoven	Blatt furnace	1988	Olomouc	Metallurgy	Polygon	No	Yes	No	Yes	City	Complete reconstruction	No	Yes	No	No	Yes	Yes	Yes	Josef Prošek	Museum	2014	
11	Krausova akademie	Wind pit building	1960s	Olomouc	Mining	Rectangular	Yes	No	Yes	No	City	Complete reconstruction	Yes	No	Yes	No	Yes	No	No	Kamil Mlýnský	Science and education	2020	
12	Zámecký skanzen	Vermorel Mines, Copper Smelters Warehouse	1926	Olomouc	Metallurgy	Rectangular	Yes	No	Yes	Yes	City	Complete reconstruction	Yes	Yes	No	No	Yes	Yes	Yes	Josef Prošek a Ladislav Šemša	Museum	2020	
13	Old Jan Maria	Mine	1908	Olomouc	Mining	Rectangular	No	Yes	Yes	No	City	Complete reconstruction	Yes	No	No	No	Yes	Yes	No	Alb. Šubert	Recreation	2008	
14	Pospíšek Delivery	Cloakroom	1950s	Olomouc	Food processing	Rectangular	Yes	No	Yes	Yes	City	Complete reconstruction	No	No	No	Yes	No	Yes	Yes	PROJEKTUJÍCÍ ÚDOK EUCC s.r.o.	Administration	2019	
15	Městská police	Bleach room	1988	Frydek - Místek	Textile Production	Rectangular	Yes	No	Yes	No	City	Low-cost utilization	No	No	No	Yes	No	Yes	No	UDIG EUCC s.r.o.	Administration	2020	
16	RUPE	Water Tower	1992	Olomouc	Water management	Rectangular	No	Yes	No	Yes	City	Complete reconstruction	No	No	Yes	No	Yes	Yes	Yes	arch. studio Casa spol. s r. o.	Social use	2016	
17	Museum nahraděních automobilů Tatra	Roundry	1931	Kaplovice	Metallurgy	Rectangular	No	Yes	No	Yes	City	Low-cost utilization	No	No	No	No	Yes	Yes	Yes	Kamil Mlýnský Architects s.r.o.	Museum	2021	
18	Radousova Věsta	Water Tower	1928	Kaňovice	Water management	Circle	Yes	No	Yes	No	City	Complete reconstruction	Yes	No	No	Yes	No	Yes	No	Roman Šabala	Housing	2017	
19	Stěpánský národní centrum	Mill	mid-19th century, 1923	Kaňovice	Food processing	Rectangular	No	Yes	Yes	Yes	City	Complete reconstruction	Yes	No	No	No	Yes	Yes	Yes	x	Science and education	2019	
20	Komerční objekt	Garage	2nd half of the 20th century	Trojanovice	Transport	Rectangular	Yes	No	Yes	No	Village	Tastatní přestavba	No	No	No	Yes	No	Yes	Yes	Kamil Mlýnský Architects	Commerce	2019	
21	Centrum VICE	Mill	1930s	Karlovice	Food processing	Rectangular	Yes	No	Yes	Yes	Village	Low-cost utilization	No	No	No	Yes	No	Yes	Yes	Adrian Walter - RMBA	Science and education	2021	
22	Kaučuková dílna	Forge	beginning of the 20th century	Čeládko	Metallurgy	Rectangular	Yes	No	Yes	No	Village	Complete reconstruction	No	No	Yes	No	Yes	Yes	Yes	Architekti s.r.o.	Commerce	2020	
23	"TAD"	Paper Mill	19th century	Český Těšín	Processing	Rectangular	Yes	No	Yes	Yes	City	Complete reconstruction	No	No	Yes	Yes	No	Yes	Yes	HAZ Architects s.r.o.	Commerce	2015	
24	Restaurace Nemlýn	Mill	18th century	Křovice	Food processing	Rectangular	No	Yes	No	Yes	City	Complete reconstruction	Yes	Yes	No	No	Yes	No	Yes	Ing. David Kopal a spol.	Commerce	2018	
25	Enilova	Textiles	1898/1909/1920	Radousova Věsta	Textile Production	Rectangular	Yes	No	Yes	No	City	Low-cost utilization	No	Yes	No	No	Yes	Yes	Yes	x	Commerce	2018	
26	HOUSE 64	Research Center	1930s	Zlín	Textile Production	Rectangular	Yes	No	Yes	No	City	Low-cost utilization	No	No	No	Yes	No	Yes	No	x	Polyfunction	2019	
27	Park Tower	Factory	1930s	Zlín	Textile Production	Rectangular	Yes	No	Yes	No	City	Complete reconstruction	No	Yes	No	Yes	No	No	Yes	Semina Škorpík	Housing	2023	
28	141 15 Budyšovice	Production building	1949	Zlín	Textile Production	Rectangular	Yes	No	Yes	Yes	City	Low-cost utilization	Yes	No	Yes	Yes	No	Yes	Yes	ADRS Architects	Social use	2013	
29	Centrum strategických služeb	Silo	1988	Zlín	Food processing	Rectangular	No	Yes	No	Yes	City	Low-cost utilization	No	No	No	No	Yes	Yes	Yes	Ladislav Šemša	Administration	2014	
30	Silo Tower	Silo	1938	Olomouc	Food processing	Rectangular	Yes	No	No	Yes	City	Complete reconstruction	No	Yes	No	Yes	No	Yes	Yes	Blanka Janáková	Administration	2014	
31	Telegraph	Telegraph Factory	1929	Olomouc	Metallurgy	Rectangular	No	Yes	Yes	Yes	City	Complete reconstruction	No	Yes	No	No	Yes	Yes	Yes	Jiříman Tomáš	Social use	2021	
32	Vila na síle	Mill	1918	Olomouc	Food processing	Polygon	No	Yes	No	Yes	City	Complete reconstruction	No	No	No	No	Yes	No	Yes	Pavla a spol.	Housing	2016	

Table 1: Table for the quantitative method (Source: Authors)

As part of the quantitative conversion survey, field research was conducted before each evaluation. The collected data was divided into specific sections. For the research, data were evaluated and categorized using criteria important for evaluating a wide range of characteristics defined on the basis of theoretical research on the issue. In particular, these are the following categories listed in Table 1.

The research focused mainly on comparing individual criteria of original buildings and conversions. Using features of the comparative method, comparisons were also made between individual categories that had a certain relationship with each other based on theoretical research, in order to confirm or refute this relationship. Subsequently, individual data from the table of industrial buildings were analyzed for the purposes of objectivity, the extent of statistical analysis necessary, and the evaluation of categories and their criteria. The examined parameters of each industrial building were classified based on the criteria of each category and then compared using a comparative method. This method was chosen based on the possibility of comparing typologically identical buildings with various nuances. From this phase, partial data was defined for the third phase of the research and work with the comparative method.

Third phase

In the third phase of the research, the data evaluation of the quantitative method was carried out using comparative analysis. This enables data processing for the creation of a specific typology and comparison of individual subjects based on their proximity to the desired standard. This method is a deductive research method. Based on the hypotheses, basic parameters related to the subject under investigation were defined.

The conversion of buildings responds to the original composition of the building.

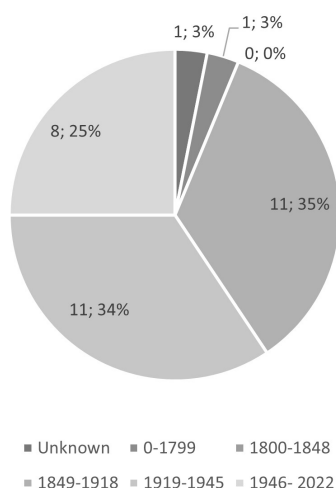
The examination of the above-mentioned hypothesis was conducted by defining the basic problems based on analysis. It mainly involves data evaluation.

ANALYSIS AND RESULTS

The primary objective of the research was to confirm the initial hypothesis of the relationship between the original composition of industrial buildings and the compositional solution of their conversion. The secondary objective was to identify recurring characteristics and develop model patterns that can be used in deciding on the restoration of abandoned buildings.

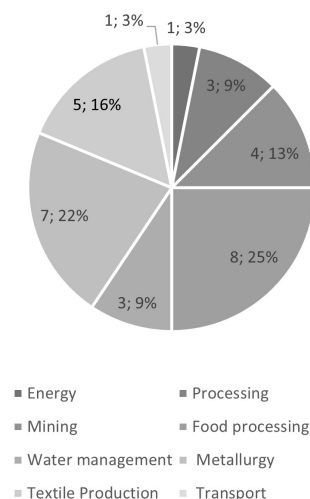
Characteristics of the original buildings

The analysis revealed that most of the surveyed buildings date from the periods 1849–1918 and 1919–1945, each representing 34.5 % (see Graph 2), which



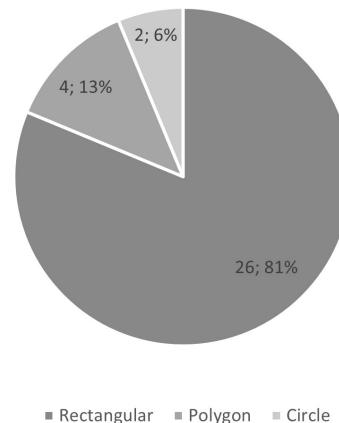
Graph 2 Period of the construction of the industrial buildings (Source: Authors)

corresponds to the historical industrial development of the region. In terms of original use, food processing industry buildings predominated (25 %), while heavy industry (mining 13 %, metallurgy 22 %) was less represented (see Graph 3).

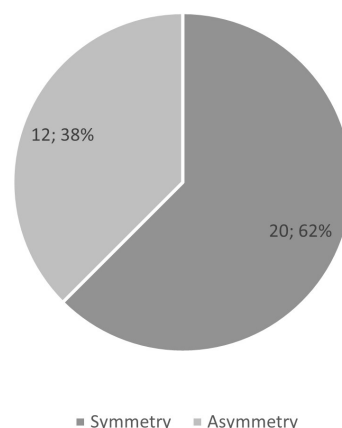


Graph 3 Original industrial construction sectors (Source: Authors)

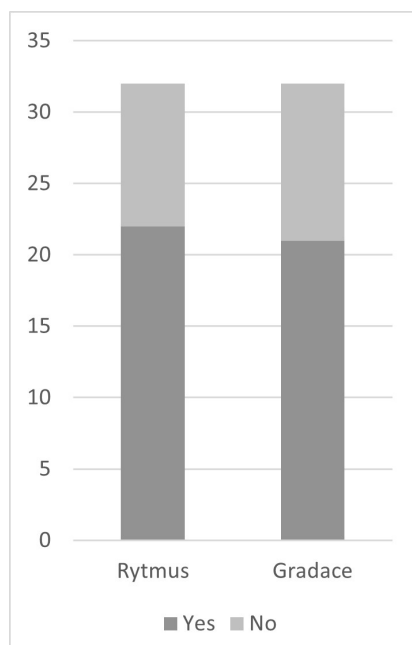
In terms of composition, 81 % of the buildings were derived from a rectangular floor base (see Graph 4). Approximately two-thirds (64 %) exhibited a symmetrical mass composition (see Graph 5), and around 60 % of the facades employed the rhythm and gradation (see Graph 6). The most common combinations were symmetry–rhythm–gradation and symmetry–rhythm, each representing 28 % (see Graph 7), with these solutions related to the period-appropriate requirements for the efficient arrangement of production operations and the prevalence of an urban location in 91 % of cases (see Graph 8).



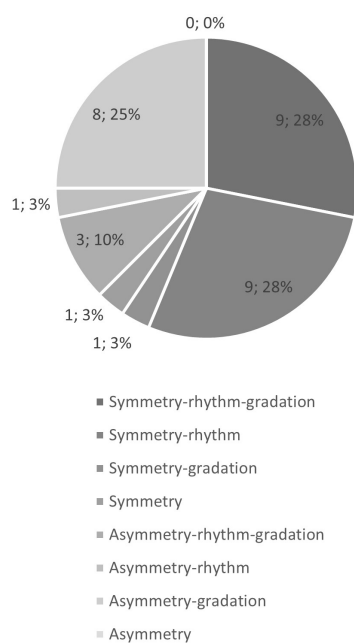
Graph 4 Geometry of the original buildings (Source: Authors)



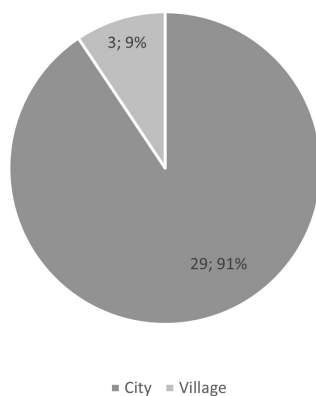
Graph 5 Basic principles of the building mass composition (Source: Authors)



Graph 6 Basic principles of composition (Source: Authors)



Graph 7 Combination of basic principles of composition (Source: Authors)

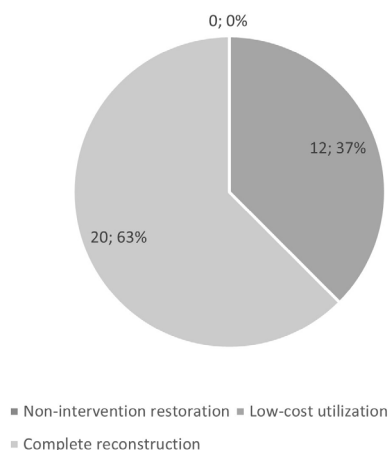


Graph 8 Type of settlement situation of the original buildings (Source: Authors)

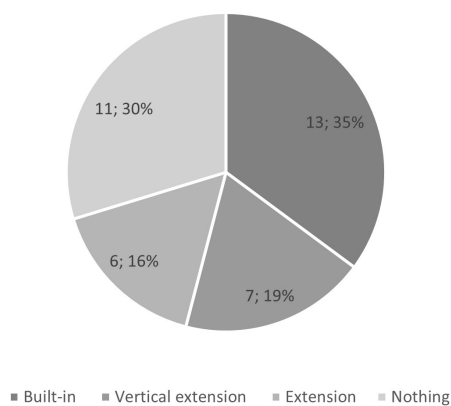
Characteristics of the conversions

The "complete reconstruction" strategy prevailed in 63 % of the analyzed conversions, while "non-intervention restoration" was not represented (see Graph

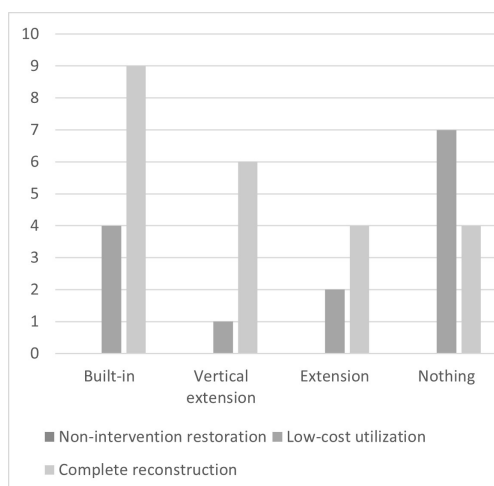
9), reflecting the sample's focus on cases involving significant intervention in the mass. The most common were built-in structures into the original disposition, accounting for 35 %, and less common were vertical extensions or extensions, see Graphs 10 and 11.



Graph 9 Type of conversion (Source: Authors)

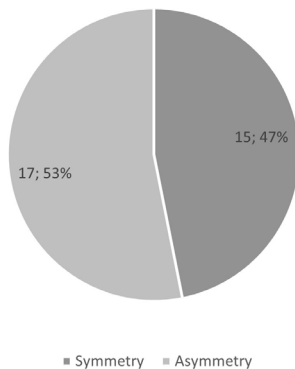


Graph 10 Intervention in the mass and structure of the building (Source: Authors)

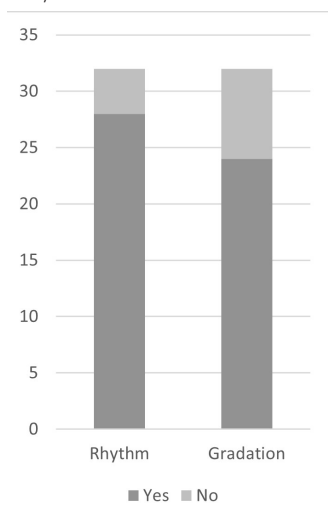


Graph 11 Relationship between conversion type and work with the mass of buildings (Source: Authors)

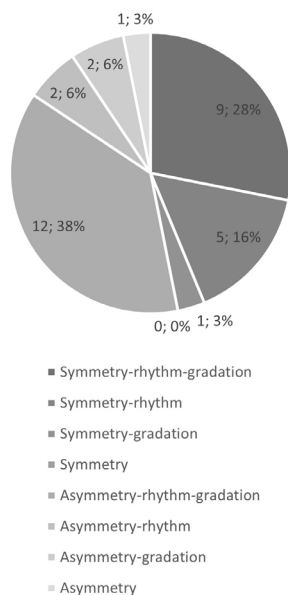
From a compositional standpoint, asymmetrical masses predominated after conversion, accounting for 53 % according to Graph 12, yet more than half of the façades employed rhythm and gradation, as shown in Graph 13. The most common combination was asymmetry-rhythm-gradation, accounting for 38 % according to Graph 14, which represents a significant departure from the original state.



Graph 12 Basic principles of building mass composition after conversion (Source: Authors)



Graph 13 Basic principles of composition after conversion (Source: Authors)



Graph 14 Combination of basic principles of composition after conversion (Source: Authors)

The comparison of the former and proposed solutions

A comparison of the compositional principles before and after conversion (Table 1) revealed two main tendencies. Preservation of the same compositional combination (e.g., symmetry–rhythm–gradation before and after conversion, 7 cases). Adding rhythm to the new layer of initially less structured (asymmetrical) masses (6 cases of asymmetry–gradation → asymmetry–rhythm–gradation). This trend suggests that architects often use rhythm as a unifying element for compositionally unbalanced facades.

The evaluation of the hypothesis

Based on the conducted analysis, the hypothesis of a relationship between original and new layers of the building can rather be confirmed. The data indicate that conversions involve conscious work with the original composition, with interventions often aiming to unify and harmonize the visual character of the building structure through rhythmic features and gradation.

CONCLUSION

The primary objective of the research was to provide answers to the hypothesis formulated during the theoretical exploration of the issue under investigation. The individual chapters present specific criteria for a proper understanding of the issue and its complexity over time. From them, individual research methods and their phases were derived. Research proved that the compositional principles of original industrial buildings have a direct influence on the form of their conversions. An analysis of 32 selected buildings revealed that, despite frequent interventions into the mass and changes in function, in many cases the basic visual elements remain preserved, especially the rhythm and gradation of the façades, which contribute to the unification of the original and new layers of the building. The most frequent consistency between the original and converted forms was a combination of the principles of symmetry, rhythm, and gradation, while in buildings with asymmetrical composition, the new layer was often complemented by rhythm to achieve greater visual cohesion. These findings confirm the hypothesis that conversions respond to the original composition and demonstrate the importance of a sensitive approach to architectural heritage. The study thus provides a practical framework for deciding on suitable approaches to the adaptation of industrial buildings that respect their historical identity while reflecting the requirements of the present-day use.

SOURCES/REFERENCES

- [1] BERAN, Lukáš, 2008. Průmyslové dědictví: [sborník příspěvků z mezinárodního bienále Industriální stopy] = Industrial heritage : [conference proceedings from the international biennial "Vestiges of Industry". Praha: Výzkumné centrum průmyslového dědictví Českého vysokého učení technického v Praze ve spolupráci s Kolem pro technické památky ČSSI & ČKAIT. ISBN 978-80-01-04067-6.
- [2] BROTON, Aleš, 2013. Nový život opuštěných staveb: průmyslové dědictví : stavební kniha 2013. Praha: Informační centrum ČKAIT. ISBN 978-80-87438-36-7.
- [3] CZUMALA, V. (1992). Průmyslová architektura v obrazu města. In: Sborník přednášek celostátního semináře se zahraniční účastí, Ostrava '92. Ostrava: Památkový ústav, s. 28-32.
- [3] PAVLÍK, Milan, 1998. Regenerace historických budov, sídel a krajiny, ochrana památek. Praha: Vydavatelství ČVUT. ISBN 80-01-01797-4. Dostupné také z: <http://krameriusndk.nkp.cz/search/handle/uuid:b8465610-9196-11e9-8fdf-005056827e52>.
- [4] VALCHÁŘOVÁ, Vladislava (ed.), 2005. Meziválečná průmyslová architektura. Stavební kniha. Brno: EXPO DATA. ISBN 80-7293-137-7. Dostupné také z: <http://kramerius4.nkp.cz/search/handle/uuid:597cc6a0-1874-11e4-8f64-005056827e52>.
- [5] VORLÍK, Petr a SIGMUNDOVÁ, Anna, 2014. Železobeton a fénix modernismu – konverze průmyslové architektury. Zlatý řez. Roč. 37, č. Zima, s. 34-45. ISSN 1210-4760.
- [6] ZEMÁNKOVÁ, Helena, 2003. Tvořit ve vytvořeném: nové funkční využívání uvolněných objektů. Brno: Vysoké učení technické. ISBN 80-7204-281-5. Dostupné také z: <http://krameriusndk.nkp.cz/search/handle/uuid:48b6f480-07ba-11e6-a5b6-005056827e52>.

CONTEMPORARY ADDITIONS TO HISTORIC BUILDINGS IN THE CONTEXT OF THE HISTORIC ENVIRONMENT OF THE CITY

Schwarz Veronika - Kantorová Michaela - Večeřová Jana - Peřinková Martina

ABSTRACT: Contemporary architectural work created in close proximity to historic buildings is an increasingly used form of adaptation of unused and dilapidated historic buildings. However, additions, extensions, extensions and reconstructions of listed buildings must preserve the historic value while meeting the contemporary needs of today. The issue of the appropriateness of additions to listed buildings is a challenging one that requires detailed planning and careful implementation. This research seeks to analyse methods of adaptive access and specify the suitability of the solutions implemented. The analysis was carried out on selected buildings from historic city centres in Europe.

KEYWORDS: Historical environment, modern additions, reconstruction, composition, Europe

INTRODUCTION

Architecture has a very rich history, reflecting the stages of human life. Every building is a reflection of its time and mirrors the spirit of the past for present and future generations. Historic buildings often fall into disrepair, most commonly due to economic factors and the associated lack of maintenance, neglect and abandonment, as well as social and cultural factors, technological and environmental factors, and, last but not least, legal and administrative obstacles. Preserving the historical value of buildings is essential for maintaining the spirit of the past, which is why it is necessary to work with them even when they have lost their functionality and beauty. Most European capitals have historic centers that are systematically protected and maintained as important parts of the city's cultural identity. However, there are cases within these areas where contemporary architecture is being implemented. These interventions often provoke a significant social response, both at the design stage and during the construction itself. The high level of emotional and intellectual engagement of the public in these cases highlights the importance of historical context and sensitivity to interventions in culturally valuable environments.[1]

The reconstruction and completion of dilapidated historic buildings require a sensitive and comprehensive approach by construction experts. This raises the question of how to integrate a modern extension into the historical and urban context in such a way that it does not degrade the historical value. When adapting a historic building for reuse, many issues must be resolved with various construction experts and also with heritage conservation organizations. Current interventions in historic buildings present opportunities for innovation in the field of ecology and sustainable design. "The challenge for architects when designing exterior additions is therefore to create and develop an approach that does not damage or disrupt the historical character of both the existing building and its surroundings, while at the same time creating an identity that is representative of the current period." [2] Modern construction systems and materials can be very helpful in the renovation of historic buildings, but also in the construction of new buildings in close proximity to historic structures.

This article focuses on examining various approaches to extensions in historic environments. The examination consists of creating an overview of buildings and comparing and evaluating the suitability of the intervention. In order for the evaluation to be objective, the evaluation factors are taken from the recommendations and requirements of international charters and agreements on architecture and heritage conservation.

ANALYSIS OF THE ISSUE

The issue of contemporary additions to historic buildings in the context of the historic environment of a city has been the subject of intense interest among experts and the public for several decades. Since the second half of the 19th century, there has been a growing awareness of the historical and cultural value of older buildings and urban structures. Listed buildings began to be perceived not only as architectural artifacts, but also as bearers of identity, which plays a fundamental role in shaping the relationship of individuals and communities to a given place. [3] Current architectural practice in the field of additions to historic buildings oscillates between two basic poles: conservation and innovation. Every intervention in a historic environment has an ethical and aesthetic dimension that must be balanced between respect for the original substance and the need to respond to current social, economic, and technical conditions.

Currently, in the Czech Republic and abroad, historic buildings are increasingly being extended and renovated to adapt them to modern needs. The protection of historic buildings through conservation measures is a preventive measure against their degradation or destruction. In many cases, however, it is necessary to add new architectural elements that respond to the current demands of users in order to maintain their functionality. [4] However, these additions to historic buildings come into contact with organizations involved in monument preservation, which often have very restrictive conditions.

The issue of modern extension design is a challenging task that requires careful planning and execution. "Historical monuments and sites are complex artifacts whose significance and value depend on the legibility and authenticity of their components. Considering these components to be less important, replaceable elements only diminishes the historical significance of the whole." [5] Historic buildings bear traces of times past and reveal the ancient history of a place. Architects should find a balance between preserving the authenticity of a monument and adding new functional parts for the future existence of the building. Due to the high demands on time and finances, the conservation process is usually only applied to buildings of exceptional historical value. An alternative approach is adaptive reuse, which allows selected authentic elements of the building to be preserved while functionally adapting it to current requirements. [6] In a broader context, the issue of additions to historic buildings touches on the question of sustainability. The fundamental problem with historic buildings is their many years of wear and tear and the resulting need for maintenance. However, in order to preserve historic buildings economically, their continued use must be ensured. Adaptive reuse of buildings is not

VERONIKA SCHWARZ, ING. ARCH.

Department of Architecture Faculty of Civil Engineering VŠB – TUO
Ludvíka Poděště 1875/17, 708 33 Ostrava - Poruba, Czech Republic

veronika.schwarz@vsb.cz
ORCID iD: 0009-0006-7877-1069

I am Ing. arch. Veronika Schwarz and I am a PhD student at VSB - Technical University of Ostrava. I am researching modern additions to historic buildings and I am applying this research to the topic of my dissertation Research into the possibilities of using modern construction systems in combination with traditional historic structures in the field of contemporary architectural design in historic environments.

MICHAELA KANTOROVÁ, ING. ARCH.

Department of Architecture Faculty of Civil Engineering VŠB – TUO
Ludvíka Poděště 1875/17, 708 33 Ostrava - Poruba, Czech Republic

michaela.kantorova@vsb.cz
ORCID iD: 0009-0006-8578-8387

Jsem studentkou doktorského studia na Vysoké škole báňské – Technické univerzitě v Ostravě. Zabývám se výzkumem drobných staveb při stavbě měst a krajiny moravskoslezského kraje. Dále se zabývám návrhem novostaveb pro občanskou či bytovou výstavbu. Návrhem interiéru či rekonstrukcí bytů.

JANA VEČEŘOVÁ, ING. ARCH.

Department of Architecture Faculty of Civil Engineering VŠB – TUO
Ludvíka Poděště 1875/17, 708 33 Ostrava - Poruba, Czech Republic

jana.vecerova@vsb.cz
ORCID iD: 0009-0009-8537-7264

My name is Ing. arch. Jana Večeřová and I am a PhD student at the VSB – Technical university of Ostrava. My study deals with the topic - Urban role of artefacts versus urban furniture in the structure of public space of municipalities and cities.

MARTINA PEŘINKOVÁ, PROF. ING., PH.D.

Department of Architecture Faculty of Civil Engineering VŠB – TUO
Ludvíka Poděště 1875/17, 708 33 Ostrava - Poruba, Czech Republic

martina.perinkova@vsb.cz
ORCID iD: 0000-0002-1005-899X

only an economically efficient solution, but also an environmentally responsible approach that minimizes the need for new construction. Preserving historic buildings and integrating them into contemporary city life contributes to the long-term stability of the urban structure and strengthens the identity of the local community. New additions can breathe new life into historic city centers, which currently serve mainly as backdrops for tourists. Principles respecting best practices in the field of interventions in historic environments emphasize that new architecture should coexist harmoniously with the historical context without imitating it. The apparent contradiction between the requirements of compatibility and distinctiveness is in fact complementary and allows for the creation of a high-quality dialogue between the past and the present. [7] The goal of modern architectural design in a historic environment should therefore not be to replace the past, but to interpret and develop it through the contemporary language of architecture. The question is how to approach additions so that they are both compatible and distinct? Overall, this is a complex issue that requires a multidisciplinary approach and careful consideration of all relevant factors. The literature shows a wide range of opinions and approaches, reflecting the diversity of historical and cultural contexts in which these issues are addressed.

METHODS OF INVESTIGATION

The research includes initial data collection and site selection. It is important to select different types of historical environments from different periods of origin and with different levels of protection. At the same time, the site must include the integration of contemporary structural elements of extensions. This narrow selection allows for direct observation and analysis of the success and impact of these interventions. The research itself consists of personal visits to selected sites. Field surveys are an irreplaceable tool for a comprehensive assessment of the static stability and structural integrity of a building. At the same time, they allow the identification of potential technical or material deficiencies that must be reflected in the subsequent architectural design and reconstruction or extension process. [6] During personal visits to various locations, visual materials were created for the analysis of the compositions of both new and historic facades. The historic facade reflects the cultural features of the period in which it was built, just as the facade of a modern extension will reflect the present day. The facade consists of a set of architectural and structural elements, including, in particular, roof structures, window and door openings and fillings, plastic or ornamental details, and other expressive components. These elements differ in their morphology, material solution, and color, thus contributing to the overall aesthetic and compositional character of the building. The analysis focuses on compositional principles and the surface material used, as the material and color of the extension are important in terms of its high visibility and should be determined with regard to the structure and color of the historic building. The research method is based on assessing the compatibility of modern extensions with historic traditional buildings. This suitability is evaluated in accordance with the principles of international charters and agreements. A comparative analysis of selected case studies was used. The requirements and findings of the Athens Charter (1933), the Venice Charter (1964), the ICOMOS Charter (2003), the Valletta Principles (2011), and the NPÚ methodology were used for the research. Selected interventions in historic buildings are assessed and evaluated separately.

WORLD HERITAGE INSTRUMENTS AND AGREEMENTS

The principles set out in charters and international documents emphasize respect for the original character of historic buildings. The Athens Charter (1933) requires that architectural values be preserved and under no circumstances supports the use of past architectural styles in the construction of new buildings in historic environments. It also encourages the use of modern technology to enrich the art of building. The Venice Charter (1964) emphasizes that additions are permissible if they respect all parts of the building, its traditional environment, the balance of the composition, and its relationship with its surroundings. Replacements for missing parts of a historic building must be harmoniously integrated, but new parts must be clearly distinguishable from the original without imitating it. The layout and decoration of a historic building must not be altered. New buildings that would change the ratio of mass and color must not be constructed. [9] The ICOMOS Charter (2003) emphasizes the integrity of all parts of a historic building and does not recognize the removal of internal structures with the mere preservation of facades. Any intervention in the building should be kept to a minimum so as not to damage its heritage value. It gives priority to repairs over replacements, but techniques must be considered and a less invasive method compatible with historical values must be chosen. [10] Similarly, the Valletta Principles (2011) respect historical values. According to these principles, new buildings should not be formally imitative, excessively contrasting, or appear fragmented. The mutual composition of the new and historical parts should be fluid and form a coherent whole, while respecting the scale of the site. [11]

The Czech approach, formulated in the methodologies of the National Heritage Institute (NPÚ), is based on the principle of preserving the authenticity and continuity of the historical environment while respecting its natural development. The assessment of new buildings in protected areas must be based on professional criteria derived from the urban, architectural, and historical context of the site. It is essential to respect the scale, height, mass composition, and material character of the buildings. New buildings should be recognizable as contemporary, but designed with a view to harmonious integration into the environment without imitating historical forms. The National Heritage Institute distinguishes between different approaches – from copies and paraphrases of defunct buildings to new original creations – all of which require an individual approach and sensitive consideration of the context. The methodologies also promote dialogue between conservationists, architects, and investors and strive for a balanced relationship between cultural heritage protection and contemporary architecture, thus building on the principles of international charters. [12] All these documents encourage sensitive interventions and respect for the historical value of the building and its surroundings.

CASE STUDY

Louvre Pyramid, Paris

The pyramid at the Louvre, designed by architect I. M. Pei, is one of the most famous examples of a modern addition to a historic building. The entrance area of the original historic building was insufficient in terms of capacity, so a new, larger entrance had to be created. This type of addition is located on the same plot as the original building, but is not structurally connected to it above ground level. This new part respects the original facade, which it does not physically interfere with. [13]

The pyramid, built in 1989, consists of a steel spatial truss structure and a glass shell made of triangular modules. The proportions of the pyramid respect the golden ratio, which also appears in the architecture of

the palace. The extension is located in an axially symmetrical composition in the center of the courtyard. This creates a subtle geometric dialogue between the historical symmetry of the Louvre and the modern transparent form. The historic Louvre is built of sandstone with a sculptural façade, rustication, and sculptural decoration. In contrast, the pyramid uses the minimalist language of modern architecture in a combination of steel and glass, without decorative elements. This contrast in materials is intentional in this case. Glass functions as a neutral material that does not aggressively reflect its surroundings, but rather mirrors and transmits the image. The clarity of the pyramid's glass supports the lightness of the object and does not overly compete with the historical part. The structure is independent, without direct contact with the historical building, thus respecting the principle of reversibility and independence of modern intervention in a historical context. The pyramid and its modern concept are clearly legible in the context of the entire space, and its form does not imitate historical styles. Its compatibility with existing values respects the hierarchy of the space and complements the functional and symbolic aspects of the complex.

The construction of the pyramid created a clear communication hub without the need for major interventions in the historical structures. At the same time, it acts as a transitional mass between the massive architecture of the palace and the open public space. Symbolically, the building has become a living symbol of Paris that attracts the public. However, the power of the extension also brought with it the risk of changing the perception of the monument, as current generations perceive the Louvre through the symbol of the pyramid, and thus the extension overshadows the original historical identity of the palace. The very location of the pyramid in the courtyard is dominant in relation to the main axis of the palace, creating the risk of visual dominance of the new building.



Fig. 1.: Louvre, Paris (Source: website, available from <https://www.isic.cz/clanek/kultura/nejslavnejsi-muzea-a-galerie-evropy/...>)

Museum of Military History, Dresden

The Military History Museum in Dresden underwent a radical reconstruction by American architect Daniel Libeskind in 2011. He cut through the original historic building with a massive wedge of concrete and steel as a reference to the cruel military history that cannot be confined within four walls. This structure creates a radical contrast in direct contact with the historic building. In this case, the extension is physically connected to and permeates the historic building, inevitably concealing part of the façade and changing the interior layout. In this case, the interventions are contrary to the recommended principles and requirements of international world heritage charters and agreements. From the point of view of the principle of reversibility, as defined by the Venice Charter (1964) and later theories of heritage conservation, Libeskind's intervention represents an irreversible intervention. The steel structure of the wedge penetrates the historic masonry and becomes a structurally and spatially inseparable part of the building. The understanding behind this extension lies in the values that needed to be emphasized by a decon-

structivist extension. Similar to Daniel Libeskind's other work in Toronto, it can be said that the bold and completely different architectural addition to the historic building does not detract from its value. On the contrary, the contrast between the new and original parts emphasizes the authenticity of the historic building and clearly distinguishes the extension from the original structure. [4] The insertion of the wedge-shaped extension into the axially symmetrical historic façade obscures one part of the building, but this can be compensated for by observing the other half. The preservation of historical value is made possible by the human ability to mentally mirror the second, shaded part. Distinctiveness is present to the maximum extent, the historical mass of the museum remains clearly legible thanks to the preservation of the original façades, in contrast to which the sharply defined wedge of steel and glass stands out as a diagonal form that disrupts the original calm symmetry. From the point of view of semantic compatibility, however, there is a deep integration, with the new architecture complementing and at the same time reshaping the historical function and transforming the museum from an instrument of militaristic representation into a platform for critical reflection and memory. Such strongly conceptual architecture carries the risk of being read only as a gesture, not as the bearer of a deeper architectural dialogue. The benefit of this intervention is new visitor comfort and improved functional and operational quality of the museum. The new architecture is not merely a form, but a medium of communication, as it symbolically shows the tip of the iceberg. The benefits of this intervention include new visitor comfort and improved functional and operational quality of the museum. The new architecture is not merely a form, but a medium of communication, as it symbolically points the tip of the wedge towards the site of the bombing of Dresden, thus linking historical fact with contemporary ethical interpretation.



Fig. 2.: Museum of Military History, Dresden, author: Veronika Schwarz

Greyfriars Charteris Centre, Edinburgh

The former church, built in 1912, was given a new function as a community center during its renovation. The transformation was prompted by the closure of the church and the announcement of an architectural competition. Konishi Gaffney Architects respected the original layout and distinguished all new additions from the original structure. The windows on the front of the church were extended, and the interior was divided into several levels. The extension between the church and the office building does not compete with the historic church or the office building, as it has a similar scale and proportions. The intervention is not fully reversible, but it respects the original structure to a large extent. The intervention primarily affected the interior of the church, and interconnected functional elements of the staircase, entrance area, and reception were added in the new extension between the buildings. The new and old parts are clearly separated both visually and structurally, but they function in mutual dialogue. In terms of value compatibility, the intervention expanded the original values of the build-

ing with new useful and socially significant functions without devaluing its historical character. The center serves the community, providing space for culture, education, meetings, and social activities. The issue of barrier-free access has been resolved. There was a risk of a certain loss of authenticity, as the adaptation to a new function could lead to the interior no longer being perceived as a historic church, but rather as a community space, which changed the original spirit of the place.



Fig. 3.: Greyfriars Charteris Center, Edinburgh, (Source: website, available from <https://www.archdaily.com/986204/greyfriars-charteris-center-konishi-gaffney-architects>)

Mercat de Santa Caterina, Barcelona

Mercat de Santa Caterina is located in the historic heart of Barcelona and is one of the most important and characteristic markets in the city. The historic part, dating from 1848, underwent extensive renovation led by the renowned architectural studio Enric Miralles and EMBT Arquitectes Associats and was reopened in 2005. The iconic undulating roof is the main feature of the renovation, its dynamic and lively appearance sympathizing with the hustle and bustle and energy of the market itself. The interior is open and bright thanks to a large number of glass surfaces. The modern extension has optimized the market's interior space, improved operational efficiency, and created a better environment for both vendors and visitors. The revitalization of the market responds to the current needs of users and has strengthened its social and cultural function within the city. The new intervention complements the historic building not only formally, but also sensually, culturally, and functionally. In this case, the market has become a symbol of the city, and the new roof has added to the attractiveness of the space. The combination of traditional and modern materials represents a harmonious dialogue. The facade of the building is not particularly shaded, and the new roofing respects and enriches the original structure. Original historical elements, such as stone walls and wooden beams, have been carefully restored and preserved. These historical components have been complemented with modern materials such as glass and steel.

The resulting solution creates a balanced contrast between historical continuity and contemporary architectural expression without losing the original character of the site. However, in terms of the distinctiveness of the individual historical layers, the new building section is clearly identifiable and distinctly separated from the original structure. The architecture of the new intervention expresses a contemporary character, while at the same time creating a visual and semantic connection with the older part through the adoption and reinterpretation of characteristic elements. In terms of the principle of reversibility, the intervention is not fully reversible—significant parts of the historical structure have been preserved and the new construction is to a certain extent independent, but due to changes in function, internal reorganization, and integration of underground parts, the intervention disrupts the lay-

out of the building. In its new form, the market better serves its purpose, has become more attractive, and has contributed to the cultural enhancement of the historic building. However, the intervention has resulted in the loss of part of the original structure, and the new parking and internal reconstruction have caused an irreplaceable loss of the original interior. The facade of the original building is visually suppressed by the dominant roof structure.



Fig. 4.: Mercat de Santa Caterina, Barcelona, author: Veronika Schwarz

Rectory at the Church of St. Gotthard, Prague

The renovation of the Baroque rectory in Prague's Bubeneč district has brought out the original Baroque building and cleansed it of unsightly 20th-century additions. Architect Jan Kazimour had the existing additions modified and newly clad in beige marble, which harmoniously matches the Baroque part. The additions are directly connected to the facade of the historic building, but their mass does not compete with it and blends in with it. The intervention was designed with an emphasis on minimizing interference with the main historical structure of the building. The intervention consisted primarily of cleaning the original structure and adding extensions that only "touch" the historical parts, thus ensuring a certain degree of technical reversibility. Although it is possible to remove some of the new elements in the future without causing significant damage to the original structure, the internal modifications and the method of anchoring the new parts to the existing building limit full reversibility. We can therefore speak of partial or restructured reversibility. Nevertheless, the new intervention is clearly distinguishable from the historical volume. In terms of the distinguishability of individual eras, the intervention is designed so that the newly inserted elements are formally and materially legible. The use of contemporary materials and construction methods has resulted in a clear distinction between the new interventions and the historical structure, without imitating or stylizing them into a historical expression. In terms of value compatibility, the intervention brings new functional, social, and architectural qualities to the building, thereby contributing to the enhancement of its heritage value. The choice of discreet materials and the preservation of an appropriate scale for the new additions respect the compositional hierarchy of the original building and support the harmonious coexistence of the historical and contemporary layers. The benefit of the project is the preservation of authenticity and integrity, which consists in preserving the original substance and layout structure while incorporating new elements that do not overwhelm the character of the historic building. A potential risk to this delicate continuity is the future limited legibility of the distinctiveness of the different eras.



Fig. 5.: Parsonage at the church of St. Gotharda, Prague (Source: website, available from <https://www.archiweb.cz/b/rekonstrukce-fary-u-kostela-sv-gotharda>)

Red Church, Olomouc

The original Lutheran Red Church was closed in 1959 and used as a book depository. A new building was constructed to store the book collection, freeing up the original building for a new function. The architectural studio atelier-r undertook the reconstruction of the building. The new use of the church for cultural purposes also required the necessary operational facilities, so a new structure was built between the main nave of the church and the library headquarters, connecting the two buildings. From the point of view of value compatibility, the intervention represents a significant contribution to the preservation and enhancement of the building's value. The historical and architectural value of the church has been preserved and is not overshadowed by the new interventions; on the contrary, its cultural, symbolic, social, and functional role has been strengthened. The project has thus transformed the monument from a mere static historical building into a living cultural center that actively serves contemporary society. The extension respects sufficient distance from the historical parts and connects only to the extent necessary for connecting entrances. The shape of the structure is based on the floor plan of the church and the headquarters. The Red Church achieves a high degree of distinguishability between eras – the new extension is clearly separated from the historical part and does not imitate its style; the materials and scale respect the historical building as a dominant feature. The reconstruction of the Red Church is partially reversible. Most of the new interventions have been carried out sensitively and with regard to preserving the main historical structure;



Fig. 6.: Red Church, Olomouc (Source: website, available from <https://www.earch.cz/architektura/clanek/z-kulturni-pamatky-moderni-kulturni-centrum-olomouce-cerveny-kostel-ziskal-po-rekonstrukci-odvaznou-pristavbu>)

however, some internal and structural modifications represent permanent changes that limit reversibility in practice.

The project has enabled the return of a long-abandoned monument to active public space. The reconstruction has extended the life of the building and expanded the city's cultural infrastructure. It thus fulfills the principle of cultural monument sustainability through a new function. There is a risk of the new entrance becoming visually dominant, as the new volume, when illuminated in the evening, may compete with the vertical composition of the original tower in certain views. The conversion from a church to a cultural facility has irrevocably changed the spiritual character of the place. Although the space has remained reverent, the change in function has affected its original sacred identity.

Corso Karlín, Prague

Similar to other European cities, this industrial hall from 1890 lost its purpose. Ricardo Bofill Taller de Arquitectura, Ricardo Bofill Levi, and Jean Pierre Carniaux were responsible for its transformation. The abandoned building has been converted into an office building. The original brick historical part has been complemented with an airy and light superstructure made of glass and steel. The gable of the hall has been preserved in its original state, but the side walls have been opened up as much as possible, significantly brightening the interior space. A four-story building with a basement has been built into the volume of the hall. Corso Karlín can be described as a partially reversible intervention. The interventions were designed with a high degree of sensitivity and respect for the original structure of the building. The new part is inserted as a separate, but visually and structurally connected mass, which remains in principle separable from the historic structure. However, some modifications to the openings and the methods of anchoring the new elements limit the full reversibility of the intervention, and therefore only partial reversibility can be claimed. In terms of the principle of distinguishability between eras, the new part is clearly separated from the original historical mass. The new section respects the layout and rhythm of the original hall with its simple mass. The architectural design deliberately avoids imitating the historical style, creating a conscious, contrasting, yet harmonious dialogue between the old and the new. This approach ensures the legibility of both layers and allows for mutual understanding without losing authenticity. In terms of value compatibility, Corso Karlín represents a balanced addition to the historic building in both functional and aesthetic terms. The new architecture does not disrupt the identity of the original building; on the contrary, it strengthens and develops it within the current urban and cultural context of the city. The project thus contributes significantly to restoring the viability of the historical structure and its meaningful integration into the contemporary urban environment. The new function has saved the historic industrial hall from oblivion.



Fig. 7.: Corso Karlín, Prague, author: Veronika Schwarz

The Corso Karlín project has benefited the entire neighborhood, as it has become an urban catalyst for the transformation of the entire district. Its success inspired subsequent brownfield revitalizations and transformed Karlín into one of the most sought-after locations in Prague. The risk remains that some of the authenticity will be lost and that there will be pressure for commercial use. The insertion of new horizontal structures and office modules has partially destroyed the spatial generosity of the original hall, thereby reducing the original industrial scale.

Headquarters Lasvit, Nový Bor

The architectural studio Ov-a supplemented two historically protected buildings with two new buildings based on the proportions and scale of the original buildings. The addition to the complex harmoniously unified the composition of the entire block. The principle of distinguishable eras is evident in the new building. In terms of materials and form, it differs from the historic houses, but at the same time respects the historical context in terms of proportions and urban planning. The simple form of the glass house with a hipped roof replaces the original connecting neck of the historic buildings and creates a new central space for the company. The second building is similar in terms of mass; it is a black building because it is covered with black cement tiles. Both new buildings use tiles in the shape of slate tiles typical of the locality for cladding. The historic buildings have been renovated, cleaned, and sensitively adapted for the company's operations. The Lasvit headquarters project shows a relatively high degree of reversibility, as the new buildings are largely independent and the interventions in the historic building are minor in nature. The project strongly communicates with the region's glassmaking tradition, and the design of the new parts is an expression of contemporary craftsmanship and innovation.

It houses production presentations and exhibition spaces, giving the public an insight into the glassmaking craft and thus linking craft and culture. This positively enhances the cultural value and identity of the place. The extension and renovation supported the sustainability of the monument through active use, which increased the chances of its preservation in the future. At the same time, the intervention increased the visual attractiveness and architectural standard of the public space.



Fig. 8.: Lasvit headquarters (Source: website, available from <https://www.archiweb.cz/b/nove-sidlo-spolecnosti-lasvit-v-novem-boru>)

DISCUSSION

The use of common compositional principles often leads to successful integration, but this is not always the case. There are also extensions that contrast sharply with the original historic building, yet do not negatively affect it. These integrations must meet other aesthetic and conservation requirements that do not degrade the historic value. Modern additions can significantly improve the functionality of historic buildings and their adaptation to current needs, such as increasing capacity or improving accessibility. Ethical considerations include respect for the history and cultural value of buildings, which is essential for their long-term sustainability.

CONCLUSION

Modern additions to historic buildings represent a unique way to harmoniously connect history with the present in a single architectural structure. "Many historic buildings that have lost their original functions relevant at the time of their construction are now undergoing a process of 'adaptation for reuse' with a new function or extension." [14] This approach gives new life to dilapidated historic buildings and also creates a symbolic link between the past and the present, thereby strengthening cultural heritage and enriching the architectural context of cities and towns. However, integrating contemporary design elements into historic buildings is an extremely challenging task that places high demands on the skills and sensitivity of architects and urban planners. This challenge requires a deep understanding of the historical value and context of the building, as well as the creative ability to design modern elements that do not detract from the aesthetics and authenticity of the original structure.

The results of our research show that successful approaches to integrating these elements are based on respect for the original architecture and compliance with the rules and principles set out in international agreements and charters such as the Athens Charter, the Venice Charter, and others. Overall, modern additions to historic buildings represent a complex but inspiring process that requires a sensitive and informed approach. The successful integration of contemporary elements can contribute significantly to the protection and revitalization of historic buildings, which is essential for preserving cultural heritage and passing it on to future generations. This process requires not only technical and aesthetic skills, but also a deep respect for history and its role in today's world. The key to successful integration is the use of common compositional principles that ensure harmony between the old and the new. Examples from various projects around the world demonstrate that such an approach can lead to excellent results, where modern additions do not detract from the historical value of buildings but, on the contrary, contribute to their revitalization and contemporary use.

SOURCES/REFERENCES

- [1] Taraszkiewicz, A., Grębowski, K., Taraszkiewicz, K., & Przewłócki, J. (2021). Contemporary Architectural Design in the Context of Historic Remains: The Case of the Old City of Gdańsk. *Heritage & Society*, 14(1), 1–19. <https://doi.org/10.1080/2159032X.2021.2016051>
- [2] Yüceer, H., & İpekoğlu, B. (2012). An architectural assessment method for new exterior additions to historic buildings. *Journal of Cultural Heritage*, 13(4), 419–425. doi:10.1016/j.culher.2011.12.002
- [3] Elsorady, D. A. (2014). Assessment of the compatibility of new uses for heritage buildings: The example of Alexandria National Museum, Alexandria, Egypt. *Journal of Cultural Heritage*, 15(5), 511–521. doi:10.1016/j.culher.2013.10.011
- [4] Letzter, J., & Neuman, E. (2022). Přístavba k historické budově: Hermeneutický výklad. *Cogent Arts & Humanities*, 9 (1). <https://doi.org/10.1080/23311983.2022.2079587>
- [5] Matero, F. G. (1993). The Conservation of Immovable Cultural Property: Ethical and Practical Dilemmas. *Journal of the American Institute for Conservation*, 32(1), 15. doi:10.2307/3179648
- [6] Michael F. Hein MS, PE & Katie D. Houck BS (2008) Construction Challenges of Adaptive Reuse of Historical Buildings in Europe, *International Journal of Construction Education and Research*, 4:2, 115-131, doi: 10.1080/15578770802229466

[7] Khalaf, R. W. (2016). Distinguishing new architecture from old. *The Historic Environment: Policy & Practice*, 7(4), 321–339. <https://doi.org/10.1080/17567505.2016.1252492>

[8] Congrès International d'Architecture Moderne (CIAM). (1933). The Athens Charter. Retrieved from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://portal.uur.cz/pdf/athenska-charta-2003.pdf

[9] International Council on Monuments and Sites (ICOMOS). (1964). The Venice Charter: International Charter for the Conservation and Restoration of Monuments and Sites. Retrieved from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.icomos.cz/images/dokumenty/benatska-charta.pdf

[10] International Council on Monuments and Sites (ICOMOS). (2003). ICOMOS Charter - Principles for the Analysis, Conservation and Structural Restoration of Architectural Heritage. Retrieved from <https://www.icomos.org/en/about-the-centre/179-articles-en-francais/ressources/charters-and-standards/165-icomos-charter-principles-for-the-analysis-conservation-and-structural-restoration-of-architectural-heritage>

[11] International Council on Monuments and Sites (ICOMOS). (2011). The Valletta Principles for the Safeguarding and Management of Historic Cities, Towns and Urban Areas. Retrieved from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://civvih.icomos.org/wp-content/uploads/2022/03/Valletta-Principles-GA-_EN_FR_28_11_2011.pdf

[12] KUČA, Karel; KIBIC, Karel a KUČOVÁ, Věra, 2004. Novostavby v památkově chráněných sídlech. Národní památkový ústav – ústřední pracoviště. ISBN 80-86234-54-1.

[13] Jonathan Letzter (2023) Additions to historic buildings: between parasite and prosthetic architecture, *Journal of Architectural Conservation*, 29:1, 63-83, DOI: 10.1080/13556207.2022.2095803

[14] Cenik, I., & Sirel, A. (2022). Importance of International Treaties and Declarations for Adaptive Reuse in Historical Buildings: Berlin Parliament Building and Santral Istanbul Examples. *Journal of Education, Society and Behavioural Science*, 35(8), 67–84. <https://doi.org/10.9734/jesbs/2022/v35i830449>

5/ Countryside and rural architecture

NEW CHALLENGES FOR SOCIALIST VILLAGES

Vicherková Veronika

VERONIKA VICKERKOVÁ, MGR., PH. D.

Faculty of Architecture, CTU, Prague,
Thákurova 9, Praha 6, Czech republic

vichever@cvut.cz

ORCID ID: 0009-0005-6329-1559

Veronika Vicherková works at the Faculty of Architecture of the Czech Technical University in Prague as a member of the post-war architecture group. She is currently co-investigator of the research project Stavoprojekt 1948–1953. Collectivization of design activities and its imprint on the memory of the Czech landscape and cities (NAKI DH23P03OVV004). Her long-term research interests include heritage conservation, fine arts in architecture, and ecology.

ABSTRACT: The following text deals with the concept of villages and rural areas in the work of architects in Czechoslovakia after World War II. The Soviet influence, and growing left-wing preferences led into Communist Party take-over in 1948. The nationalization progressed since 1945 also affected the construction industry and architectural practice after 1948, when construction companies and subsequently architectural studios were nationalized. However, a number of left-wing architects participated in the organization of the state through BAPS, a bloc of progressive architectural associations, and in the reorganization of architectural practice into the state design enterprise Stavoprojekt. At that time, construction and architecture became an important part of the national economy and its planning. The socialization of the countryside and the collectivization of agricultural work brought a number of new tasks for architecture. The text provides an overview of architectural thinking about the countryside and its modernization in Czechoslovakia in the inter-war period, and especially in the early 1950s, presenting significant phenomena of the time, such as regional planning, typification, and an emphasis on regional character.

KEYWORDS: Stavoprojekt; Collectivization; Rural urbanism; Architecture of the 1950s; Villages; Typification; Regional planning; Regional character

INTRODUCTION

This text was inspired by a research project focusing on Czechoslovak architecture in the early 1950s. The research project, entitled Stavoprojekt 1948–1953. Collectivization of Design Activities and Its Imprint on the Memory of the Czech Landscape and Cities (DH23P03OVV004) is being carried out at the Faculty of Architecture of the Czech Technical University in Prague in cooperation with the National Archives, which administers the archival fonds of the Stavoprojekt headquarters from 1948–1953 (NAD 1182 Československé stavební závody n. p. Stavoprojekt, Prague). This collection provides a wealth of remarkable information concerning the organization of state design activities during the pivotal and formative period of 1948–1953. However, the picture of the institution and its activities painted by the preserved archival documents in the aforementioned collection is quite fragmented and requires careful supplementation with published contemporary texts, the context of general history (political, economic, and cultural), and the findings of numerous researchers. In accordance with them, it must be stated that despite the obvious historical milestones (World War II, the restoration of the Czechoslovak state, and the political coup of 1948), the continuity of Stavoprojekt's work with the themes and developments of the interwar period is considerable and is confirmed by this contribution, which focuses on the issue of the countryside in post-war architectural practice.

STAVOPROJEKT AS AN INSTITUTION

Stavoprojekt¹ as an institution was established in September 1948 as the design department of Československé stavební závody (Czechoslovak Construction Works). This company was the result of the second wave of nationalization, when, after the largest companies, nationalization also affected much smaller firms.² The collective design organization largely represented the realization of the visions of left-wing architects, visions whose roots dated back to the 1930s. Through BAPS – the Block of Progressive Architectural Associations – architects had been significantly involved in the organization and management of the state since the beginning of the restored Czechoslovakia. With their expertise and technocracy, they intervened in many areas, especially in the sphere of national economic planning, and with their advisory voices they even intervened in the sphere of lawmaking.³ The main mission of Stavoprojekt was to secure the

demanding tasks of the economic plan in terms of design. Architectural work thus became one of the centrally planned items, which is why an organizational model inspired by factory production was adopted for it. The successful management of the Baťa company became the nominal model. Architect Jiří Voženílek, who had recently taken over from Vladimír Karfík as head of the nationalized Baťa design office in Zlín⁴, was appointed to lead the new organization. As in the Baťa concern, "production centers" were established in Stavoprojekt, which fulfilled production tasks according to plan and were subordinate to the central headquarters in Prague. The company operated nationwide, with regional centers—design studios and engineering offices—which could also work on contracts in other regions. In addition to the regional centers, specialized workplaces with nationwide coverage were also established, namely the Study and Standardization Institute in Prague and the Institute for Spatial Planning in Brno. Their task was to document and research, synthesize knowledge, and prepare materials for "production." The latter institution was of particular importance for rural and village issues within Stavoprojekt, as we shall see later. During its first years of existence, Stavoprojekt underwent partial organizational changes, eventually being transformed into decentralized enterprises in 1953. This led to the creation of regional centers, State Institutes for Urban and Rural Development, and other specialized project organizations.

Even from this very brief description of Stavoprojekt's organization, it is clear that there was a deep connection to previous developments and continuity in many areas, including personnel. Only gradually, due to political events, did further restructuring take place and new cadres come to power, often already fully forged in the new regime. But even they did not always stand completely outside the discourse of their predecessors and related to their work, albeit sometimes through negation and denial.

INTEREST IN THE COUNTRYSIDE

If we want to examine the development of the countryside after the Second World War, we must undoubtedly mention the period of the First Republic. It was then that the situation in the countryside first became a significant issue due to the land reform⁵, which had resulted in social transformation and technological progress. For a long time, the countryside was of little interest to architects, but the period of national awakening, with its folklore and ethnographic studies,

¹ The first researcher to explore the topic of Czechoslovak collectivized architectural practice was American historian Kimberly Elman Zarecor. Her dissertation was published under the title *Manufacturing the Socialist Modernity* (2011), in *Czech Utváření socialistické modernity: bydlení v Československu v letech 1945–1960* (Creating Socialist Modernity: Housing in Czechoslovakia, 1945–1960). 2015. Further information on the Stavoprojekt organization: TÓTHOVÁ Lucia M. – ULLMANNOVÁ Klára, *The Ambition for Centralized Control, Architecture and Urbanism* 59, 2025, no. 1–2, pp. 140–155.

² Act 121/1948 on Nationalization in Construction. The law affected companies that exceeded 50 employees at any time since 1946 (even temporarily). Kimberly Elman Zarecor (cited document) shows that the nationalization of design practice was initiated by the architects themselves.

³ BAPS was founded in 1934 as a "federation" of five architectural associations and quickly resumed its activities in 1945. For more on the cooperation of architects with central authorities, see: Starý Oldřich, *Spolupráce architektů na výstavbě státu* (Cooperation of Architects in the Construction of the State). *Architektura ČSR V*, 1945, no. 1, p. 2; sine, BAPS proposal for defining the scope of the Ministry of Technology and the organization of its individual departments. *Architektura ČSR VII*, no. 3, p. 67; Zarecor Kimberly Elman, *Manufacturing the Socialist Modernity: Housing in Czechoslovakia, 1945–1960*. 2015, pp. 45–53.

⁴ ULLMANNOVÁ Klára – BRŮHOVÁ Klára – TÓTHOVÁ Lucia, *Projekt jako obrobek, Stavoprojekt 1948–1953* / *Praxe*, 2025, p. 95 (manuscript in print); NOVÝ Otakar, *Nová organizace projektční práce, Architektura ČSR VIII*, no. 1, 1949, pp. 53–56.

⁵ "Klofáčova reforma" 1919–1935, initiated by the Land Acquisition Act No. 215/1919 Coll., aimed to expropriate large estates and redistribute land to small farmers, alleviate social inequalities, stabilize settlement, and strengthen the national character of the regions.

focused on national character, well embodied in traditional folk architecture. For many modern architects, the countryside represented an environment for transformation, albeit partly influenced by Howard's idea of garden cities⁶. However, land reform slowed down the exodus of the population to the cities and strengthened the awareness of rural identity, while also slightly improving the economic situation. Influenced by these movements, a number of beautification and enlightenment societies emerged, with the aim of improving the backward countryside.⁷

With the certainty of inevitable development in future, the countryside slowly began to become an architectural theme, or rather a theme of architecture, urban planning and engineering. As early as the late 1920s and 1930s, therefore, in connection with land reform, emerged the calls for the management of rural settlement development and the need to draw up regulatory plans for small villages, following the example of large cities. The complexity of this issue gradually became apparent for the first time, due the necessary broader view of the agricultural landscape and with reflection on the holistic theories of the time, as well as, for example, the idea of adjustments for more efficient land use (arondation). With inspiration from abroad, the answer was regional planning, i.e. the planning of larger territorial units, based on broad analysis (which are, in fact, the principles later formulated in the Athens Charter), whose agenda remained relevant throughout the 20th century.

CARE OF THE COUNTRYSIDE HEALTH AND THE REGIONALIST MOVEMENT

The first systematic attention to rural areas was paid by experts from the Masaryk Academy of Labour (MAP). It was established in 1920 as an expert advisory institution for the economic development of the republic with technical fields, but also economics and sociology, which complemented the activities of the Czech Academy of Sciences and Arts. From 1922, urban planner Vladimír Zákřejs⁸ worked at the Institute for Urban Planning, where he laid the initial foundations for regional planning. He was a pioneer of the idea of Greater Prague and the author of many successful regulatory plans. He made long-term, but futile, efforts to obtain spatial planning documents, the so-called 'national plan' for the entire state, and to include spatial planning in building legislation. His colleagues, such as Alois Mikuškovíc and Emanuel Hruška, continued to develop the discipline of spatial and regional planning⁹ at MAP. The academy's agile activity had a relatively significant impact in the young republic, which was further enhanced by the newly published magazine *Stavba měst a obcí venkovských* (Construction of Towns and Rural Communities) from 1927, which extensively promoted regionalist ideas. In 1932, the first comprehensive methodology for the creation of development plans was published, edited by Josef Karel Říha and Otakar Fierlinger¹⁰, with contributions from a number of experts in various fields, under the title *Město a úpravovací plán* (The City and the Development Plan), even though there was still no binding legislation obliging municipalities (except Prague and its surroundings) to draw up plans. It was Josef Karel Říha who devoted the most attention to rural issues, and we will mention his activities later.

Alois Mikuškovíc came to the issue of rural areas through urban planning, while searching for a regulatory plan for the capital city of Prague¹¹. He considered the problems of overpopulation and unhealthy urban environments and, like Zákřejs, explored the possibilities of de-urbanisation and a more even distribution of population, production and other functions. He thus came to the conclusion that the plan for each settlement should be addressed in a directive manner, but in the context of its wider surroundings, what we would today call an agglomeration, and based on a sound

analysis of its connections. He soon had the opportunity to put this concept of the city into practice as vice-chairman of the Protectorate Planning Commission for Prague and its surroundings, which viewed the city as a single entity with an extensive surrounding area. These principles are once again strongly emphasised today, for example in the integration of transport and other services in agglomeration zones.

The most prominent figure in Czech regionalism, however, was the architect Emanuel Hruška. He also worked at the MAP (Masaryk Academy of Work), but later also with Bohuslav Fuchs and Jiří Kumpošt at the Brno Provincial Planning Institute. Hruška's concept of spatial planning found inspiration not only in the theses of Le Corbusier and the Athens Charter, Miljutin's linear city, but also in the central place theory (Zentralorte) of Walter Christaller, and the "organic" landscape planning of Alwin Seifert. Seifert was famous as a nature conservationist and, among other things, advocated, just like Hruška, for the harmonious integration of human creations (infrastructure and settlements) into the landscape organism.¹² In his concept of regionalism, Hruška did not hesitate, for the benefit of a higher interest (the plan), to resort to quite totalitarian methods, such as large-scale expropriation, population transfers, or controlled land use, and in this, he anticipated the near future. In addition to promoting the central settlement system (which will be discussed later), he also believed in the necessity of a transition to cooperative agriculture and collective work, which, in his opinion, were the only things that could help overcome the crisis of the countryside.¹³ At the same time, however, he defended natural and historical monuments, the character of the landscape, and also demanded the picturesqueness of rural villages and allowed for the preservation of traditional building forms in cases where the ideal (function-derived) contemporary form had not yet been found. "Therefore, since the present age is not yet able to create a new form, only fragments and attempts—we protect our old village as a whole and in detail where it has remained a predominantly undisturbed whole."¹⁴ While the approaches just mentioned had the potential for development in the following years, the striking concept of the habitable landscape by Ladislav Žák (published in full only in 1947) was subjected to harsh criticism from his contemporaries due to its idealism. Although Žák also worked with a zoning method and advocated for collective housing, for example, and the ideal goal of society was to be a specific form of socialism (pannaturalist socialism), his vision of "well-being" was not based on ensuring abundance but on limiting consumption. His criticism of economism and pragmatic interventions into the landscape was therefore in direct conflict with the emerging ideology. Ladislav Žák, similar to Hruška and many others, also came to appreciate traditional forms of rural buildings and settlements that adapt to the landscape from which they originated through their urbanism, form, and the materials used. In doing so, they remain faithful to the appropriateness of their purpose, without being able to be surpassed in this respect by contemporary forms appropriate to current needs.

Moravian capitals also became important centres for regionalist thinking. In Brno, this was through the Municipal Building Office, Masaryk's Academy of Labour, the Brno University of Technology, and later the Provincial Study and Planning Institute. In connection with the creation of Greater Brno (1919), Jindřich Kumpošt and Bohuslav Fuchs explored the possibilities for modifying the Brno region. In 1933, they won a competition for the regulation of the city of Brno with a project that also included a landscape plan. They later summarised their ideas in the publication *Cesta k hospodářské obnově Československa* (The Path to Economic Revival of Czechoslovakia, 1935). They believed that high-quality planning, especially of transport networks and distribution centres, could lead to econom-

⁶ A document by British stenographer Ebenezer Howard from the turn of the century was first published in Czech in the 1920s (1924), although its principles were commonly known and applied long before that, for example by Jan Kotěra.

⁷ See, for example, RÝPAR Vít, *Východiska proměn hodnoty venkovského prostředí ve 20. století* [The Origins of Changes in the Value of the Rural Environment in the 20th Century], *Proměny hodnoty architektonického díla v čase*, Prague 2016, 64–86.

⁸ Vladimír Zákřejs (1880–1948), protector of monuments and nature, member of the domestic council of the Club for Old Prague. In 1922, he contributed significantly to the founding of the aforementioned MAP Institute and was a long-time promoter and creator of regulatory plans. He had been involved in regulatory plans since the beginning of the century, working in Czechia and Moravia, and also as a professor at the Brno University of Technology. On the national plan, see: Zákřejs Vladimír, *Vědecké základy stavby měst. Stavba, 1922*, vol. 1, pp. 6–11; Dostalík Jan, *Organic Modernity: Environmentally Friendly Trends in Czechoslovak Urbanism and Spatial Planning (1918–1968)*. Dissertation, Brno University of Technology 2016.

⁹ The ideas of regional planning as a tool of state interventionism developed significantly in the West and subsequently also in the Soviet Union. The formulation of the principle of broad spatial planning and preliminary analysis was already heard at the first CIAM congress in La Sarraz (1928) and later became part of the Athens Charter. More PRAŽANOVÁ Eva, *Czech Urban Planning 1938–1948: Regionalism and the Activities of the Provincial Study and Planning Institute in Brno*, dissertation, Brno VUT, 2015; MALINOVÁ Sandra, *Regional Planning in Czechoslovakia in the 1930s and 1940s*, diploma thesis, Prague KTF, 2013; ¹⁰ Otakar Fierlinger (1888–1941) worked in Moravia at the beginning of his career, and from 1919 at the Ministry of Public Works, where he was appointed head of the department for urban planning and construction in 1934. He was also a member of the International Federation for Housing and Urban Development in London, thanks to which he was able to convey information about foreign trends in urbanism and related fields to the Czech public. He devoted himself mainly to gardening and landscaping, and in 1938 he managed to publish the book *Zahrada a obydlí* (Garden and Dwelling), but unfortunately he died in 1941.

¹¹ In 1920, in connection with the creation of Greater Prague, the State Regulatory Commission was established with the mission of developing a unified regulatory plan for Greater Prague and its surroundings. This initiative was also the starting point for a number of other cities and had an impact on rural development. MIKUŠKOVIC Alois, *Od pražského plánu k plánování pražského území*, *Stavba*, XIII, 1934–35, vol. 13, pp. 155–156.

¹² DVORÁKOVÁ Dita, *Česká debata o regionálním plánování 1945–1948*. *Architecture & Urbanism LI*, 2017, no. 3–4, pp. 144–161.

¹³ E.g. HRUŠKA Emanuel (1944)

¹⁴ HRUŠKA Emanuel, (1945), p. 39.

¹⁵ PRAŽANOVÁ (2015).

¹⁶ MAŠLÁN Pavel, Agriculture of the Baťa Company, in: Čapka František et al. ed., *Economic History of Moravia and Silesia: Selected Chapters from the 20th Century*. Brno, 2016, pp. 36–48.

¹⁷ Active members included, for example, Professor Theodor Petřík of the Czech Technical University (head of the Institute of Agricultural Construction), Alois Mikuškovice, later vice-chairman of the Protectorate Planning Commission for Prague and its surroundings, Otto Fierlinger, a pioneer of urban planning in small municipalities, garden and landscape architect, and architect and urban planner Josef Karel Říha.

¹⁸ ŘÍHA Josef Karel, ed., *Vesnice, půda a plán* (Village, Land, and Plan). Prague: Library of Rural Health Care, 1937.

¹⁹ SINE, *Úprava vesnic* (Village Development): an excerpt from works honored with awards and purchased in a literary competition held by the Czech Technical Academy, Prague, 1941.

²⁰ 288/1941 Coll. Government Regulation of June 26, 1941 on the procurement of plans for the location (modification) of municipalities and on its financial support

²¹ MACHOŇ Ladislav – SUCHARDA Stanislav, Regionalism in the competition for regional building types, *Architecture III*, 1941, pp. 32–33.

²² HRUŠKA Emanuel, Competition entry from the competition for regional types of folk architecture, *Architecture: combined magazines Stavba, Stavitel, Styl III*, 1941, p. 32.

²³ More DVOŘÁKOVÁ Dita, Regional Planning as an Instrument of the Welfare State. In: Guzik Hubert et al. ed., *Architecture in Transition*, Prague 2019, 122–151.

²⁴ ŠUBRTOVÁ Anna, Ladislav Machoň's Regulatory Plan for Litomyšl (1946–1948), or A Collective Vision of a New City, *Zprávy památkové péče LCCVI*, 2016, pp. 603–609.

²⁵ MÜLLEROVÁ Augusta, Brigade of Architects for the Reconstruction of the Benešov Region, *Architektura ČSR V*, 1945/1946, p. 156; IDEM, Planning for the Reconstruction of the Benešov and Sedlčany Regions Complete, *Architektura ČSR VI*, 1947, no. 4, p. 101 ff.

²⁶ The Hradec Program contained nearly two dozen measures proposed in the spring of 1947 by the Communist Party for the Ministry of Agriculture. In addition to the legal right to own up to 50 hectares of agricultural land, it also included a uniform agricultural tax, insurance for independent farmers, agricultural credit, support for machine stations and cooperatives, etc. Act No. 46/1948 Coll., on new land reform (permanent adjustment of ownership of agricultural and forest land). The act brought about the completion of confiscations and redistribution of land among small farmers, with property transfers and immediate registration of new owners.

²⁷ The free sale of surpluses promised by the Hradec program was not permitted, but it proceeded steadily.

²⁸ Act No. 55/1947 Coll., On Assistance to Farmers in Implementing the Agricultural Production Plan, supplemented by Act No. 132/1948. Among other things, it imposed an obligation to cultivate land or make it available for agricultural purposes, as well as an obligation to provide/lend labor or mechanization for such work.

²⁹ Ministry of Information, Eduard Outrata, Progress in the Implementation of the Economic Plan for the First Quarter of 1948, pp. 65–74. Klement Gottwald, Forward, Not a Step Back! 1948, pp. 75–77. Karel Jech and Antonín Václavů, Some Problems of Czechoslovak Agriculture in 1944–1948, in: LACINA Vratislav (ed.), *The Czechoslovak Revolution in 1944–1948: Collection of Contributions from the Conference of Historians on the 20th Anniversary of the Liberation of Czechoslovakia*. Prague, Academia 1966, pp. 233–247. It is stated that agriculture lost up to 400,000 workers compared to the pre-war situation.

ic prosperity for the whole country and become the basis for combining economic and demographic needs with the natural and historical values of the territory. They applied the functionalist principle of preliminary analysis of the territory and used progressive visualization with cartodiagrams to capture the relationships between different elements. The presentation of their comprehensive synthetic method met with international success in 1947 at the first post-war CIAM conference in Bridgewater.¹⁵

The Zlín region was subjected to even more detailed research. Based on this, Fuchs, Kumpošt, and Karel Zapletal drew up a detailed regional plan. This study inspired the development of an economic planning concept for the entire Czechoslovak Republic, which Jan Antonín Baťa and a team of architects from the company's office published under the title "Building a State for 40,000,000 People" (1938). The authors proposed an extensive transport network, including a motorway from Cheb to Velký Bočkov, and emphasized the need for comprehensive technological progress and complex reforms, directed by the state administration. As a postscript to the Zlín case, it should be noted that after the nationalization of Baťa's companies, the technocratic management of the region continued. Jiří Voženílek took over as head of the former Baťa design office and continued to develop the program of decentralization of belt cities. Even in agriculture, a policy of massive technical rationalization, automation, and large-scale production was pursued, with the use of artificial fertilizers and massive interventions in the landscape.¹⁶

FOR PRACTICAL APPLICATION

The Society for Rural Revitalization¹⁷ was associated with Masaryk's Academy of Labor, primarily in the person of Josef Karel Říha, but also others. The goal set was comprehensive improvement of the rural situation in practice. Since its founding in 1928, the society has organized annual educational events (Rural Health Week, always with a specific theme), published educational and methodological brochures, and organized lectures and exhibitions. The most successful of these was the 1936 exhibition Village – Land – Plan, organized by Josef Karel Říha, among others, promoting the planned development of the territory and the modification of municipalities with the help of regulatory plans.¹⁸ The aim was to popularize and promote regional planning as a new urban planning technique that would guide the development of entire regions, based on natural landscape units and in accordance with the national economic plan. Another important aspect was the management of settlement and the designation of areas where construction was not permitted, and the resulting infrastructure development plan, which was summarized in key studies by Josef K. Říha, Village, Land, and Plan, and Alois Mikuškovice, The Influence of Cities on Rural Areas. The campaign culminated in the jubilee year of 1938 with a competition for the improvement of villages, sponsored by the Ministry of Education and the Ministry of Agriculture. The society's activities were terminated by the occupation, and the agenda under development was handed over to the Czech Provincial Headquarters of Municipalities, which promised to continue it.¹⁹ Despite all efforts, it was not possible to modernize building legislation during the existence of the free state, which changed to a certain extent only under the Protectorate administration, with the law on the acquisition of location plans/development plans.²⁰ Although the issue of planning was understood somewhat more narrowly in this law, it vindicated the long-term efforts, and the methodology of territorial research, which had been refined over many years, could be, and as we shall see, it was, only an advantage in the years to come.

REGIONAL BUILDING TYPES COMPETITION

Regionalism, both today and in the past, is often perceived in a narrower sense as the study of the form appearance of architecture (culture) in a given area. This understanding was also reflected in a widely publicized competition launched in 1940 by the Ministry of Education and Culture. The competition program, meticulously prepared by a committee of experts, aimed to obtain designs and ideas for a wide range of regional building types for the countryside. The goal was to create architectural designs that would respect the traditional rural character and prevent the introduction of ill-conceived urban elements into the landscape.

With a few exceptions, the competition did not produce the expected results. Despite the well-formulated building program, most of the competitors gave up on untested types (municipal buildings, village cinemas, etc.) and chose the seemingly easier path of farmhouses of various sizes. However, as Ladislav Machoň and Stanislav Sucharda²¹ summarized, many of the submitted designs focused only on formal appearance instead of engaging in a deeper analysis of the social and economic structures of the countryside. This is one of the reasons why the reviewers highlighted the contribution of Emanuel Hruška, who approached the competition as a comprehensive regionalist study. Using the example of villages in the Sázava River basin, he showed that urban planning solutions must be based on a detailed survey of the entire region, involving various experts (engineers, sociologists, historians, etc.). His methodology emphasized a "from the whole to the detail" approach, and according to the inscription, its goal was to "identify the actual construction needs" of the selected location.²²

POST-WAR DEVELOPMENT AND LANDSCAPE PLANNING

The year 1945 did not represent a fundamental turning point for regional planning in Czechoslovakia; the post-war situation brought new tasks and opportunities for its development.²³ The social and economic transformation, which included the transition to central economic planning, resonated with the long-term plans of architects. They perceived regional planning as an indispensable tool for the reconstruction of war-torn areas and their future social reform. Society's interest in the countryside was also strengthened by books that had not been published during the war, such as Karel Honzík's *Tvorba životního stylu* (The Creation of a Lifestyle), as well as nationally watched projects such as the reconstruction of Lidice and Ležáky.

Brno remained the center of further expert development, where the Provincial Study and Planning Institute (ZSPÚ) had been operating since 1945. Emanuel Hruška, who headed the newly established planning department, sought to create a long-term economic and territorial plan for Moravia and Silesia. This plan was to serve as a basis for nationwide planning, and Hruška tried to push through the creation of a unified state organization for regional planning, unfortunately unsuccessfully.

Similar efforts were made by the Prague Zemský národní výbor (State National Committee), or rather its department for spatial planning led by architect Ladislav Machoň. Machoň's vision was based on the comprehensive modernization of the affected regions. His specific approach was to apply democratic procedures. Using the method of "responsive planning," he wanted to involve local residents in the decision-making process through questionnaire surveys and other means.²⁴

Years of previous methodological work finally paid off after 1946. One of the first legislative measures, the Building Restoration Act (86/1946), made subsidies to

municipalities conditional on the existence of adjustment plans, which led to increased demand for the work of urban planners. Thanks in part to Machoň's work at the ZNV, the central authority provided a special subsidy for the acquisition of planning documents for the extensive area of Benešov and Sedlčany, a displaced and devastated former SS training area. Under the leadership of Augusta Müllerová, a group of architects from BAPS took on this collective task, and architects thus became involved in the restoration of the state on a large scale for the first time. Within a single year, a comprehensive set of analytical studies and master plans for nearly two hundred municipalities and settlements was created, which also contributed significantly to the formulation of legislation and methodology for spatial planning (legal anchoring and content of master plans).²⁵ In the vast majority of cases, however, the architects took a very radical approach in their elaborations, with a large proportion of demolition and replacement construction, which was difficult to implement in the post-war shortage. The large volume of proposed new buildings was probably never realized anywhere, and in some cases, such as in the village of Zvírotice, the plans were soon redone, this time under the direction of Stavoprojekt.

INTERMEZZO: COLLECTIVIZATION

In 1948, the ongoing agricultural reforms gave no indication of further developments. The Hradec program²⁶ of Agriculture Minister Julius Ďuriš outlined the agricultural policy for the coming years and apparently counted on the continued preservation of small-scale farming. The new land reform limited land ownership to a maximum of 50 hectares; land above this area was purchased by the state and distributed among other farmers through the Land Fund or allocated to state farms. In agriculture, the wartime system of compulsory levies remained in place for two years²⁷, with the state supporting mechanization and mechanization cooperatives²⁸ and establishing state machine and tractor stations (STS). As in other sectors, the goal in agriculture was to maximize the mobilization of labor and the use of all available resources. Despite all efforts, however, the results were unsatisfactory and lagged behind pre-war performance. Shortcomings in crop production also limited livestock production in the long term, the level of mechanization remained low, and this was compounded by devastating droughts in the 1946 and 1947 seasons. Agriculture also suffered from a long-term shortage of labor, which had largely been transferred to heavy industry and construction.²⁹ According to Jiří Pernes³⁰, the transformation of the Czech countryside, which had in fact begun during the First Republic, generated a new class of rural proletariat in the post-war period and a peculiar state of agricultural socialism, which the leaders of the Communist Party of Czechoslovakia considered a good basis for the "specific path of Czechoslovakia to socialism." It was only further political developments, primarily the rift between Tito and Stalin, that ended Stalin's tolerance for "national deviations," and Soviet-style socialization began to be harshly enforced in most countries of the Soviet bloc. In Czechoslovakia, this meant the declaration of the collectivization of agriculture, for which the Communist Party chose the form of unified agricultural cooperatives, precisely because of the long-standing (dating back to the 1870s) historical tradition.³¹ Collectivization was supposed to kick-start the transition to large-scale production. In the first step, the JZD was to absorb all existing agricultural cooperatives, including their property and membership base, and at the same time, a campaign was launched to recruit all farmers who had been farming independently until then, who, by joining the cooperative, would hand over their property – land, livestock, and machinery – to a common fund. Neither the law on agricultural cooperatives³² nor the model statutes stipulated that these should be production cooperatives based on the

Soviet model, with complete collective management and production. In the early years in Czechoslovakia, cooperatives of the so-called 1st and 2nd types prevailed, where a large degree of private ownership and work was retained, with shared machinery and peak seasonal work.³³ From 1951, however, the lower types of cooperatives were no longer tolerated, and only the two higher types, with consolidated land and joint production, prevailed. The process of collectivization, despite the initial ideas of the KSČ leadership, proceeded very unevenly. After initial success, especially in the border regions, and the establishment of almost 4,000 agricultural cooperatives during the first year, further development met with indifference and resistance. The harsh enforcement of socialization, with many violent practices, was aimed mainly at family farmers. They were labeled as the seed of capitalist elements in the countryside and were to be suppressed as a class.³⁴ The violent phase of collectivization from 1951 to 1953 took place against the backdrop of an intensified atmosphere of political trials, a shortage of basic foodstuffs and goods on both the regulated and free markets, caused by an outflow of investment and workers to heavy industry.³⁵ The crisis affecting the whole of society culminated in the final year of the first Czechoslovak five-year plan with the deaths of J. V. Stalin and Klement Gottwald, which was topped off by monetary reform. The campaign against the wealthy kulaks in the villages resulted in the eviction of 4,000 families³⁶ and was only stopped by the intervention of President Zápotocký in August 1953.³⁷ The improvement of the situation in agriculture in the socialist sector became the topic of the autumn meetings of the Central Committee of the Communist Party of Czechoslovakia, where, among other things, it was decided to provide immediate subsidies for the purchase of machinery, seeds, and fertilizers, as well as to slow down the process of collectivization and provide overall long-term support for agriculture in the coming period.

NEW CHALLENGES OF THE SOCIALIST VILLAGE AND AGRICULTURAL LANDSCAPE

The gradual structural transformation of the countryside and the transition to socialist large-scale production naturally created a need for new building solutions, whether for the production sector or for providing social amenities in villages, in line with the doctrine of eliminating the differences between the countryside and the city. The technical aspects of individual production facilities were a long-term focus of specialized architectural studios, the Ministry of Agriculture's development department (Agroprojekt), and the Study and Standardization Institute of Stavoprojekt (STÚP)³⁸. However, a new issue was the operational organization and developmental perspectives of large agricultural complexes and their integration into the existing rural settlements. These specific aspects of rural spatial planning and village urbanism had long been overlooked by professional circles, and were only marginally touched upon by the works of Josef Karel Říha and Emanuel Hruška. However, Hruška moved to Slovakia in 1948, and the Provincial Study and Planning Institute in Brno was abolished in 1950. Its agenda was to a certain extent taken over by the Institute of Architecture and Spatial Planning of Stavoprojekt (ÚAÚP).³⁹

„THE GREEN BOOKS“⁴⁰

The newly established Stavoprojekt workplace, located in Brno "due to a long-standing urban planning tradition," was tasked with solving complex urban problems and synthesizing them for the needs of the design centers on the front line of plan fulfillment. –Handbooks,

³⁰ PERNES Jiří, *Specifická cesta KSČ k socialismu* (The Specific Path of the Communist Party of Czechoslovakia to Socialism), Soudobé dějiny (Contemporary History), 2016, 1–2, pp. 12–52. Pernes demonstrates that the idea of a specific Czechoslovak path to socialism did indeed guide domestic development at the highest levels of the Communist Party of Czechoslovakia for a short period in 1946–1947. However, the deterioration of the international political situation quickly put an end to this development and replaced it with the sharp enforcement of a transformation to a Soviet-style socialist system.

³¹ Although the JZD were established with reference to §157 of the May Constitution on people's cooperatives, they did not meet the basic parameters of cooperativism formulated therein, i.e. legal subjectivity, voluntariness, and shareholding.

³² Act No. 69/1949 Coll., on Unified Agricultural Cooperatives. And Implementing Act No. 75/1949 Coll.

³³ In cooperatives of the second type, crop production was shared, and land was often consolidated; in types III and IV, crop and livestock production were shared, with remuneration varying according to the size of the share invested (ad III), or regardless of the initial investment, only for the work performed (ad IV). Václav Průcha et al., *Economic and Social History of Czechoslovakia 1918–1992*, Part II, 2009, pp. 358–359.

³⁴ JECH Karel, *The Twilight of the Peasantry 1945–1960*, 2001. Common repressive measures against the so-called village rich included disproportionate increases in levies, forced sale of machinery, relocation to less fertile land... and finally criminal penalties and forced labor, displacement of entire families or family members of the affected farmer.

³⁵ The loss of labor from agriculture during the five-year plan is reported to be up to 34%. Kopejtková Drahomíra, *The Beginnings of Socialist Cooperatives in Czechoslovakia 1948–1953*, 1987. p. 37 ff.

³⁶ PERNES Jiří, *Kolektivizace zemědělství v Československu v letech 1948–1960* (The Collectivization of Agriculture in Czechoslovakia in 1948–1960), *Fórum Historiae*, 2016, vol. 10, no. 1, pp. 5–34.

³⁷ Zápotocký's speech at the opening of the Kličov Dam also touched on the disintegration of some collective farms, which was probably caused by both the pressure during their creation and the burden caused by the currency reform. Kopejtková writes about the disintegration of 7% of collective farms between June 1953 and June 1954, and a reduction in the number of participating farms by almost 25%. KOPEJTKOVÁ, Drahomíra, (1987). *Počátky socialistického zemědělského družstevnictví v Československu, 1948–1953: studie o budování JZD se zvláštním zřetelem na situaci v pražských příměstských okresech* (Vol. 6). Academia.

³⁸ The article *Agricultural Buildings* by Jan Zikmund in the publication *Stavoprojekt 1948–53/Praxe*, Prague 2025 (in print) describes the vicissitudes of the standardization of agricultural buildings, which after 1948 suffered from drastic restrictions on prescribed budgets and material composition. Such restrictions, hand in hand with indiscipline in implementation and use, ultimately led to the significant degradation of agricultural buildings and the emergence of bleak and unhealthy large-scale livestock farming complexes, which in many places remain an ecological burden to this day, awaiting recultivation.

³⁹ For more on the Institute of Spatial Planning (later VUVA) and its history, see ŽÁČKOVÁ Markéta, *History and Activities of the Urban Planning Department of the Research Institute of Construction and Architecture in Brno*, dissertation, Brno University of Technology, 2014.

⁴⁰ According to Markéta Žáčková, this term was an internal designation for a series of methodological aids, which will be discussed further below.

⁴¹ Ing. Arch. Věra Vyšínková-Sládečková, Ing. Arch. Jiří Krčál, Dagmar Matoušková, Josef Melenovský, are only mentioned in the imprint of one of the publications; Evžen Škarda held the position of head of the entire spatial planning group, and external consultations within the framework of the task were provided by Prof. Jaroslav Vaněček from the Czech Technical University in Prague, Ing. Bedřich Košatka from the Ministry of Agriculture, and specialists from other Stavoprojekt centers.

⁴² VIKLICKÝ Aleš, *Urbanistické problémy vesnice a zemědělské krajiny* (Urban Planning Problems of Villages and Agricultural Landscapes), Brno 1952, preface.

⁴³ VIKLICKÝ Aleš, et al. *Urbanistické směrnice pro venkovské sídliště* (Urban Planning Guidelines for Rural Settlements), preliminary draft for comment, Brno, 1951.

⁴⁴ VIKLICKÝ Aleš, *Urbanistické problémy vesnice a zemědělské krajiny*, Doplněk, díl II, Brno 1954.

⁴⁵ See, for example, the failure of the Slovak HUKO construction project.

⁴⁶ Act No. 84/1958 Coll. on Spatial Planning, §5.

urban guidelines, and methodologies were published in the book series of internal publications, "Collection of Original Works by Scientific Workers of ÚAÚP," and distributed to the reference libraries of workplaces in all regions. The institute covered a wide range of fundamental topics, from the economics of city construction, through the amenities of settlements, principles of zoning and function distribution, communication networks, urban compositions, settlement structures, to issues of ecology and history. Thanks to the prescribed study of foreign sources, many of these topics and proposed solutions appeared in the Czech environment for the very first time, and often well in advance of practical application.

VILLAGE SETTLEMENTS AND PRODUCTION UNITS

A study task for the "preparation of the socialist reconstruction and development of the countryside" was to be based on the study of Soviet sources and was entrusted to Aleš Viklický and his team⁴¹ within the aforementioned institute. Although the research method is not described in detail, the authors apparently drew from extensive research of domestic and foreign texts, as well as from consultations with practitioners, users, and experts from other institutes (technical and agricultural) and fields (e.g., sociology, medicine and hygiene, animal husbandry and agronomy, transport specialists, historians, conservationists, ethnographers, etc.). A methodological guide⁴² for widespread practical use was to be formulated by applying Soviet methods to specific domestic conditions. The initial survey of the technical condition and amenities of our rural settlements reached conclusions that differed little from the findings obtained in the 1930s during J. K. Říha's survey. Up to 30% of the buildings showed significant dilapidation and other defects preventing proper use. Overcrowding of rural dwellings was a common phenomenon, while on the other hand, it was rather rare for villages to have a water supply or a covered communal sewage system. Serious hygienic deficiencies accompanied both dwellings and agricultural buildings, and a higher level of village amenities (sports fields, community centers, distribution points) were mostly yet to be established. The team estimated the necessary cost to improve the worst deficiencies in housing alone at 8.5 billion per region. To obtain funds for the sanitation of villages, the introduction of a socialist economy, and thus an increase in production, was expected to be very helpful in the long term (as Hruška had already proposed).

The transformed method of farming was seen as the first step towards raising the standard of living in the countryside. The introduction of socialist production changed the traditional distribution of functions in the village. Previously, farming was directly connected to the dwelling. By relocating it, a spatial reserve was created within the homestead for adapting, adding to, or otherwise modifying the dwelling, and with it, an opportunity to improve the living standard, for example by installing a bathroom. From the perspective of the entire village, this brought a demand for a qualitative transformation of shared space and infrastructure. The collective farm was then located in a suitable position within the village's cadastre, which allowed for a significantly better hygienic solution and enough space for all necessary functions, handling areas, and the possibility of future development. In this way, zoning was applied within the village. A production sphere and a social-residential sphere were created, which could thus develop in connection with each other without causing too much mutual disturbance. The authors meticulously prepared tables⁴³ of the required civic amenities and production area capacities for various agricultural operations (stables, runs, machine garages, feed preparation areas, warehouses, etc.). They addressed the composition of the settlement, its

silhouette and placement in the landscape, aspects of water and energy supply, transport, and the economics of the spatial arrangement of the village. Due to great interest, the authors dedicated a special supplementary part of their handbook to production units⁴⁴, their assemblies, and examples of their connection to village settlements. In this section, they formulated principles for connecting production complexes to villages, their economic transport links, the ergonomic layout of individual operations within the complex, and suitable sizes of managed areas, necessary melioration or hygienic measures, and so on.

By far the most significant contribution of this work, however, is the application of the method of district planning and the system of municipal centers (although the names of some possible predecessors in these considerations were not mentioned anywhere). Full-fledged municipal planning in terms of production and amenities must be based on broader territorial considerations and research. The economic situation will undoubtedly not allow for the distribution of all necessary services to the smallest municipalities, so it is necessary to categorize settlements in each territorial unit and select a center for the concentration of services and higher amenities from the given group of municipalities, which will also be available to associated municipalities. A broader territorial balance can also be extremely advantageous in the distribution of the socialist production sector, as individual cooperatives can share some higher-level operations according to local conditions or advantageously link their production in the production chain (linking plant and animal production, etc.).

The process of forward planning for larger territorial units was not fundamentally new in our country, but its implementation in practice had long been neglected, resulting in considerable economic losses.⁴⁵ After widespread criticism of the lack of district plans at the first conference of the Union of Architects in 1953, a specialized institute for district planning, Terplan, was established at the State Planning Commission the following year. However, district plans were not confirmed as part of the hierarchy of planning documents until the Spatial Planning Act was passed in the late 1950s.⁴⁶ The system of municipal centers, proposed by Brno urban planners as an alternative to the Soviet Agrorods, was only established by Act No. 283/1971. However, the principle of natural catchment areas and high settlement density had largely replaced this system in the previous period.

REGIONAL CHARACTER

In an effort to comprehensively address the issue of rural settlements, the authors of the methodology did not neglect the aesthetic level of settlements. As the main principles for their formation, they emphasized above all a clear center with a gathering function (including the calculation of the necessary area per inhabitant), a backbone communication system, and the silhouette of the settlement, always composed with regard to harmonious integration into the landscape. They did not shy away from the possible redevelopment of so-called secondary buildings, which disrupt the structure or operation of the settlement due to their location, or buildings that are too dilapidated to be repaired for economic reasons. In such cases, when applying replacement construction, they emphasized the importance of preserving the characteristic structure of the village's buildings – the street network, as well as the grouping of buildings and their orientation. This also affected the use of standardized buildings, specifically the so-called JZD houses.

JZD houses, or standard houses for agricultural residents, were designed by the State Standardization Institute and included in the STÚ standardization compendium under the designation T72/52. The existence of a single type of agricultural house therefore pro-

voked criticism, as this type with a clearly prescribed orientation could not be adapted to the diverse characteristic regional variations in the layouts of villages, some of which require gable orientation of buildings, others longitudinal orientation, etc. "Housing estates, which are characterized by longitudinal continuous development in relation to the streets, would be spatially disrupted by the use of this type," Aleš Viklický summarized the whole problem.⁴⁷

Out of the need to preserve the characteristic regional features of rural settlements and individual buildings, an ambitious research project of regional studies was gradually developed at the Brno office of urban planners VÚVA, with the aim of documenting and categorizing the types of spatial formation and traditional artistic composition of villages in all regions, including capturing the types of individual houses and characteristic decorative elements. "A detailed and complete documentary picture of the structure and character of our villages in each area in terms of spatial and traditional artistic composition and individual folk buildings will enable the definition of detailed principles for the typification of folk buildings from an urban and compositional point of view, and the derivation of principles for the composition and architectural design of complexes and individual buildings in villages in individual areas." Although this ambitious program apparently remained unfinished, even the introductory study *Basic Issues of the Urban Structure of Villages in Bohemia and Moravia*⁴⁸ represents a remarkable collection of documentation of vernacular architecture, and the established taxonomy of spatial types of rural settlements remains valid to this day. In the discourse of the time, the somewhat outdated idealization of folk architecture in socialist realism takes on factual content here, and the authors made no secret of their belief that their work would serve as a basis and aid for urban planners and the typification institute. They themselves attempted to propose some "regional modifications" to the standard buildings, or suitable ways of integrating them into the organism of the traditional village. "It is only a matter of handling the type sensitively and with flexibility. The entire space of the village must be taken into account, respecting the spaces and existing buildings. It is not possible to use the type mechanically, stereotypically, and without changes. From the whole movement to create a type of folk house (both here and abroad), we can clearly see that the failure resulted precisely from the rigidity of the composition and the rigidity of the formal essence."⁴⁹

TIPIFICATION SUPPLEMENT

Just for the sake of interest, it should be noted that Viklický's criticism captured only a momentary state of affairs. A more nuanced perception of regional specifics was apparently more common in society in the early 1950s, perhaps thanks to the "national aspect" of socialist realism,⁵⁰ and at the end of 1951, the State Typification Institute developed a whole range of regional variants of farmhouses, specifically T 73/52 South Bohemian, type T 74ab/52 Moravian-Slavonian longitudinal/gabled, and T75/52 Pojizerský, as well as types for central and eastern Slovakia. After several years, architect Augusta Müllerová returned to rural issues at the STÚ, enriching the collection of functional types with designs that were easy to implement in practice, such as decorations for gables corresponding to the types for the South Bohemian variant.⁵¹

CONCLUSION

Probably the only complete example of a newly built village from the 1950s in Czechia is the village of Zvírotice by Hana Pešková, Jiří Kándl, and Jiří Stašek, which proves that the urbanism of (small) villages is key to their character, a lesson that still holds true today,

when villages are once again facing an invasion of secondary (standardized) construction.

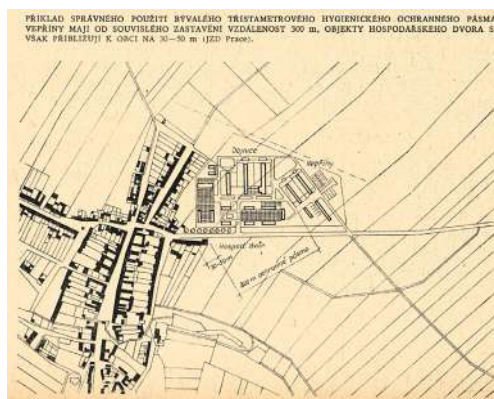


Fig. 1.: Proper location of production units in relation to existing settlements, Aleš Viklický, 1953, The 300-meter protective zone around settlements initially led to the construction of agricultural facilities too far from villages, resulting in unnecessary costs. VOŽENÍLEK Jiří, VÚVA (1957), *Stavba měst a vesnic: urbanistická příručka*, s. 521

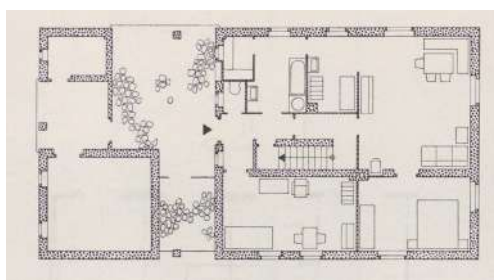
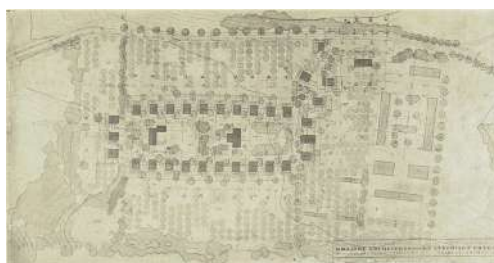


Fig. 2. – 4: Zvírotice. An example of a replacement village. Hana Pešková, Jaroslav Kándl, in collaboration with Jiří Stašek, 1951–1954 Architects first dealt with the settlement of Zvírotice in the central Vltava River basin as part of a planning brigade in 1947 (Richard Ferdinand Podzemný, Václav Hilský, Antonín Tenzer, and Bohumil Holý), when they planned to establish a new village due to the rising water level of the Slap Dam. However, the new construction was carried out according to completely new plans. An interesting attempt at innovation in the layout of apartments with utility rooms did not prove entirely successful in practice, and the rigid urban planning was also criticized. On the other hand, the picturesque appearance of the houses received positive feedback. *Architecture of Czechoslovakia VIII*, 1954, no. 1, p. 8; VOŽENÍLEK Jiří (1958), *Bydlení v Československu: přehled bytové výstavby od roku 1945*, s. 84

⁴⁷ VIKLICKÝ Aleš et al. (1953), p. 217 ff.

⁴⁸ MÁČEL Otakar et al., *Základní problematika urbanismu vesnice*, Brno 1954.

⁴⁹ Ibid., p. 211.

⁵⁰ For example, criticism of the transfer of foreign regional characteristics across the country, such as the South Bohemian Renaissance style used in buildings in the Ostrava region.

⁵¹ *Typizační sborník 1952, doplňky a opravy* (Typification Compendium 1952: additions and corrections), 1953. Augusta Müllerová's contribution was not limited to the decoration, however. The Moravian-Slavonian type was designed by a Brno-based studio, probably Ing. Zdeněk Láznicka; no details have yet been found for the other variants.

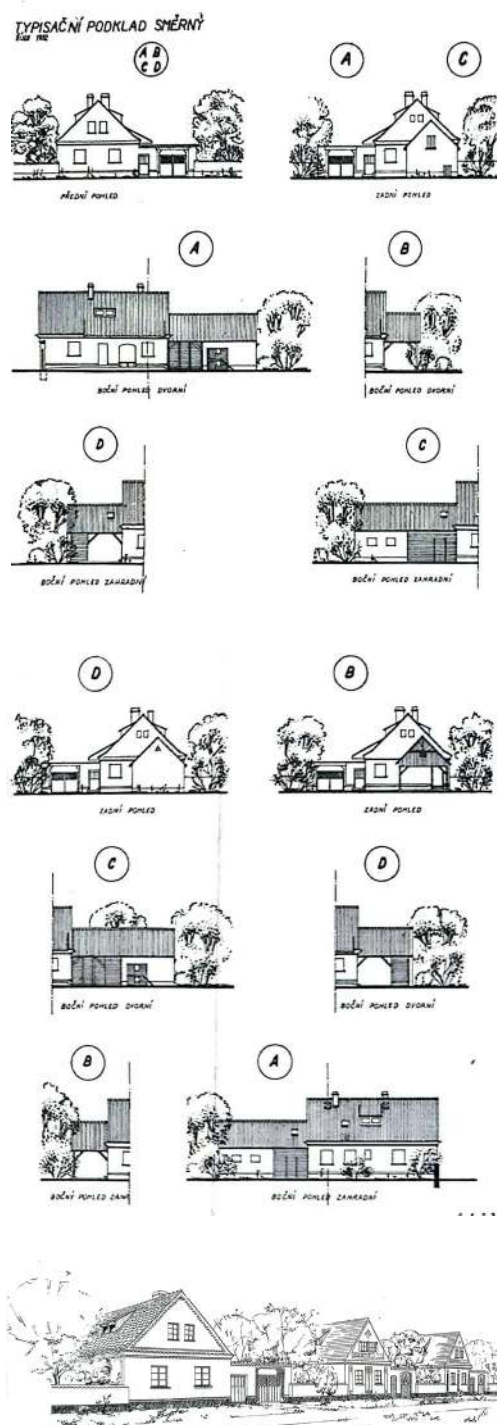
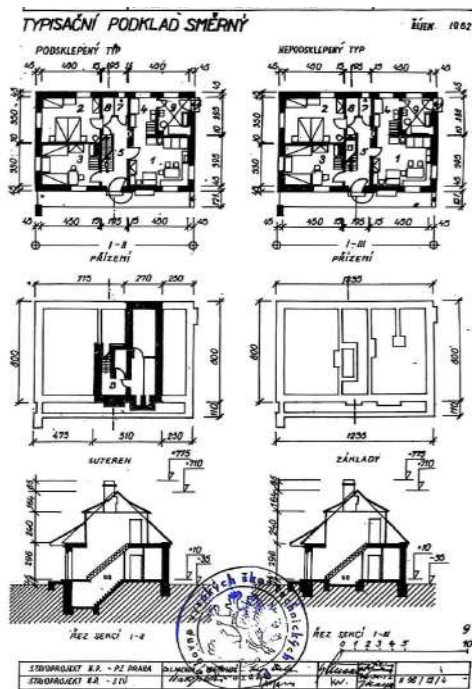
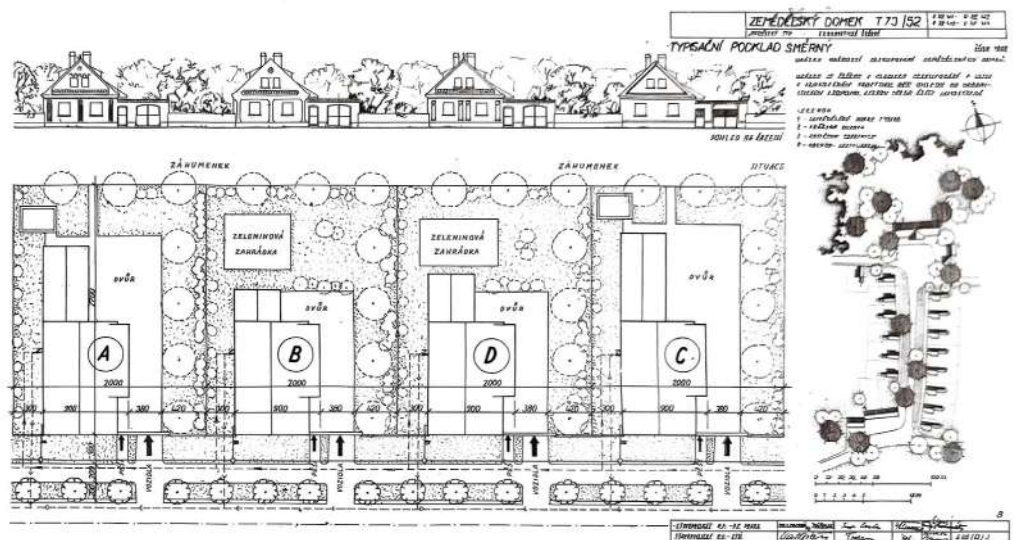


Fig. 5. – 8.: Typizační podklady pro výstavbu vesnic. Farmers house (JZD-house) T 73/52, Jihočeský typ. Typizační sborník 1952: doplňky a opravy. Praha: Státní nakladatelství technické literatury, 1953.



čís. místnosti	SESTAVA	ÚČEL MÍSTNOSTI	POČET LŮŽEK	PLOCHA M ²		JINÉ POUŽITÍ
				POVRCHOVÁ MĚŘENÍ	POVRCHOVÁ MĚŘENÍ	
1	A B C D	OBÝTNÍ POKOJ	1	17,51		
2	A B C D	LOŽNICE	1	20,75		
3	A B C D	LOŽNICE - TÝMNER	1	14,57		
4	A B C D	KUCHYŇSKÝ KOT	1		5,97	
5	A B C D	PŘEDSÍN	1		7,79	
6	A B C D	SCHODY	1		2,82	
7	A B C D	ZÁCHOD	1		1,85	
8	A B C D	SPÍŽ	1		1,33	
9	A B C D	HOSPODÁŘSKÁ KUCHYŇ-KOUPELNA	1		6,51	
10	A - - -	KŮLNA SERCE V	1			9,78
10	- B - -	KŮLNA SERCE V	1			16,60
11	A - C -	HOSPODÁŘSKÉ PŘÍSLUŠENSTVÍ-SERCEVI	2			16,49
12	- - C -	ROZ. SOŠENÍ KŮLNA SERCE VI	1			21,84
12	- - - D	ROZKŘÍŽ KŮLNA SERCEVI	1			22,14
	A			47,63	25,58	31,27
	B			47,63	25,58	16,60
	C			47,63	25,58	36,03
	D			47,63	25,58	22,4

míst. čís.	SESTAVA	VÝZNĚM	POVRCHOVÁ MĚŘENÍ	POZNAMKA
1	A B C D	POKOJOVÁ KUCHA	1	KLUB. NEBO
2	A B C D	LIT.	1	KLUB.
3,4	A B C D	SPORÁK UMÝVACÍ	2	
4	A B C D	OMÍČ OVODNĚNÍ	1	
5	A B C D	PRÁHEVNÍ	1	
6	A B C D	KLOSETOVÁ MÍSA SE SPLACH. ZAŘÍZENÍM	1	
7	A B C D	POLICE DO SPÍŽE	1	
8	A B C D	VANA KŮLNA	1	
9	A B C D	UMÝVACÍ PLYNACOVÉ	1	
10	A B C D	KAMNA, ŽEUTIA P"	1	
11	A - C -	ŽAL. KAMENOVÝ	1	

6/ Ecological aspects in architecture

INTEGRATION OF SUSTAINABLE BUILDING PRINCIPLES INTO THE NEW STUDY PROGRAMME AT THE FACULTY OF CIVIL ENGINEERING, VSB – TECHNICAL UNIVERSITY OF OSTRAVA

IVETA SKOTNICOVÁ, DOC. ING., PH.D.

Faculty of Civil Engineering
VSB - Technical University of Ostrava
Ludvíka Podéště 1875/17, 708 00
Ostrava-Poruba

iveta.skotnicova@vsb.cz
ORCID ID: 0000-0001-8442-5791

Iveta Skotnicová serves as the Head of the Department of Building Environment and Building Services at the Faculty of Civil Engineering, VSB-TUO. In her teaching, she focuses on the indoor environment of buildings, particularly building thermal engineering, building energy performance, daylighting, and building acoustics. She has long-term collaboration with professional design practice, primarily in the field of specialized lighting engineering assessments.

PETRA TYMOVÁ, ING., PH.D.

Faculty of Civil Engineering
VSB - Technical University of Ostrava
Ludvíka Podéště 1875/17, 708 00
Ostrava-Poruba

petra.tymova@vsb.cz
ORCID ID: 0000-0003-2340-3630

Petra Tymová serves as a lecturer at the Department of Building Environment and Building Services at the Faculty of Civil Engineering, VSB-TUO. In her teaching, she focuses primarily on building services engineering, particularly sanitary installations, water management, building heating systems, and the use of renewable energy sources.

ZDENĚK GALDA, ING., PH.D.

Faculty of Civil Engineering
VSB - Technical University of Ostrava
Ludvíka Podéště 1875/17, 708 00
Ostrava-Poruba

zdenek.galda@vsb.cz
ORCID ID: 0000-0001-9561-6219

Zdeněk Galda works part-time as a lecturer at the Department of Building Environment and Building Services at the Faculty of Civil Engineering, VSB-TUO. In his teaching, he focuses primarily on building services engineering, particularly ventilation and air-conditioning, building heating systems, and the use of renewable energy sources. He also works at the State Energy Inspection in Ostrava.

Skotnicová Iveta - Tymová Petra - Galda Zdeněk

ABSTRACT: The construction industry has recently undergone dynamic changes requiring adaptation to new technologies, societal demands, and environmental challenges. Increasing emphasis is placed on the sustainability of buildings, including the use of environmentally friendly materials, improvement of energy efficiency, maximisation of renewable energy use and thus the reduction of carbon footprint, as well as the enhancement of indoor and outdoor environmental quality. National and European legislative requirements for buildings are growing, alongside the importance of international environmental building certification systems. These trends increase the demands on the professional competencies of civil engineering graduates. Companies are increasingly seeking designers, engineers, and architects with expertise in energy efficiency, circular economy, and green technologies.

In response to these significant developments in building design and construction, the Faculty of Civil Engineering at VSB – Technical University of Ostrava will launch a new three-year bachelor's degree programme, "Smart and Green Buildings in Circular Construction", in the 2025/26 academic year. The programme aims to educate professionals capable of developing architectural and structural designs for energy-efficient buildings, with an emphasis on the use of ecological and sustainable materials, environmental and smart technologies, green features, and the minimisation of the environmental impacts of construction. The paper presents an overview of innovations in the new study program, aimed at expanding graduates' professional knowledge and skills in the field of sustainable building construction.

KEYWORDS: Sustainable construction; energy efficiency; circular economy; green technologies; civil engineering education.

INTRODUCTION

Sustainable construction is today one of the key topics in the field of climate protection. Buildings in the European Union are responsible for 36% of greenhouse gas emissions and account for up to 40% of total energy consumption. Since the impacts of emissions persist for decades, it is also necessary to prepare for their consequences. As we spend most of our lives indoors, ensuring a healthy indoor environment and thermal comfort is of fundamental importance [1].

The approach to sustainable construction is based on the principles of efficient use of natural resources, reduction of greenhouse gas emissions, and thorough consideration of the entire life cycle of a building—from design and implementation to demolition or recycling. A key role in this context is played by the concept of the circular economy, which promotes the reuse of materials, minimization of waste, and the adoption of innovative low-impact technologies.

Concrete principles of sustainable construction include, for example: the design of energy-efficient and passive houses, the use of renewable energy sources (solar and geothermal), rainwater and greywater management, the selection of low-carbon materials, and the adaptation of buildings to climate change impacts such as urban heat stress.

Moving towards sustainable solutions requires not only technical innovation but also a shift in mindset and values, which must form part of the training of future professionals. One of the major current challenges is the low level of awareness of sustainability among construction professionals. Although awareness of the need for decarbonization is growing, practitioners often lack access to sufficient high-quality information on how to practically achieve sustainable construction solutions. Furthermore, there is a lack of lifelong learning systems to help architects, designers, and builders navigate rapidly changing standards and technologies [1].

It is therefore essential to systematically integrate sustainability principles into the education and training of civil engineers. Only in this way can we prepare a generation of professionals capable of designing and delivering buildings that are not only technically functional and economically efficient, but also environmentally responsible and responsive to the needs of society.

BASIC PRINCIPLES OF SUSTAINABLE DEVELOPMENT

Sustainable development is based on the balance of three pillars – environmental, economic, and social (as defined at the World Summit on Sustainable Development, Johannesburg, 2002). Sustainability is understood as balanced progress across these pillars, i.e., between the economy, the standard of living, and environmental impact. The goal is to ensure that development in one pillar does not occur at the expense of the others [2].

Sustainable construction can be defined as a set of technical practices and solutions that reduce the environmental impact of buildings throughout their entire life cycle – from design through construction and operation to demolition. It focuses particularly on optimizing the use of energy, water, and materials, while reducing the amount of waste generated [3]. The fundamental principles of sustainable construction include: sustainable design, durability, energy efficiency, waste reduction, indoor air quality, water conservation, and the use of sustainable building materials [4].

- 1) **Sustainable design** – also known as green design, involves designing buildings with the aim of minimizing or completely eliminating negative impacts on the environment.
- 2) **Durability** – emphasizes the use of materials resistant to weather conditions, corrosion, degradation, and long-term wear.

3) **Energy efficiency** – includes design strategies and techniques that minimize energy consumption during planning, construction, and ongoing maintenance of the building or project.

4) **Waste reduction** – involves processes and strategies that minimize waste throughout construction, promote recycling and the use of recycled materials, and follow the waste management hierarchy: reduce – reuse – recycle – dispose.

5) **Indoor air quality** – sustainable design and construction should improve indoor air quality and provide a healthy and comfortable environment for building users.

6) **Water conservation** – the construction sector is known for its high energy and water consumption. It is essential to minimize water use both during material production and construction itself.

7) **Sustainable building materials** – include products that are selected, manufactured, and integrated in ways that minimize their environmental impact.

NEED FOR INTEGRATING THE PRINCIPLES OF SUSTAINABLE CONSTRUCTION INTO EDUCATION

As shown by various studies and statistical surveys, the construction sector continues to lack thousands of qualified professionals, while interest in studying construction-related fields is not significantly increasing [5]. According to CEEC Research, the shortage of graduates is a problem for the majority of companies in the construction industry – specifically, 89% of respondents [6]. The main reasons include the low attractiveness of the sector, limited cooperation between companies and educational institutions, and insufficient motivation of students to enter the field. Compared with other disciplines such as IT, marketing, or finance, construction is not perceived by students as appealing. This is evidenced by a decline of more than 40% in the number of applicants for technical fields related to construction compared to 2010, despite an overall increase in the number of university students. Untapped potential for making the sector more attractive lies in promoting digitalization and Building Information Modeling (BIM), as well as advances in sustainability, as young people are particularly sensitive to these issues [5].

Traditional engineering education has long placed emphasis primarily on technical competencies, often at the expense of broader aspects of sustainability. However, today's engineers are increasingly expected to assess long-term environmental impacts, consider life-cycle costs, and collaborate with a wide range of stakeholders – skills that are still insufficiently represented in many academic programs [7].

Sustainability requires qualitative and interdisciplinary collaboration that enables the integration of diverse knowledge for more sustainable solutions. Nevertheless, engineering programs remain overly specialized and often fail to support broader cross-disciplinary cooperation [7].

Raising awareness of sustainable construction means embedding knowledge of environmental, social, and economic aspects into the education of future civil engineers. From the outset of their studies, it is essential to focus on creating solutions that address current technical and economic needs while also supporting long-term ecological balance and social well-being. Since engineering disciplines influence much of the built environment and industrial operations, integrating sustainability principles into curricula is key to preparing engineers capable of addressing global challenges such as climate change, resource depletion, and the ethics of development [7].

NEW BACHELOR'S PROGRAM AT THE FACULTY OF CIVIL ENGINEERING, VSB – TECHNICAL UNIVERSITY OF OSTRAVA

The reasons outlined above led to the proposal to expand the existing study programs at the Faculty of Civil Engineering, VSB – Technical University of Ostrava, with a new bachelor's program that responds to the dynamic development of the construction sector in recent years, takes into account the requirements of sustainable development, fosters greater interdisciplinary collaboration between faculties, and strengthens the direct connection to practice through professional student internships. We believe that the concept of the new program will be attractive to prospective students.

The preparation and accreditation of the new program have been successfully completed, and in the 2025/26 academic year, the Faculty of Civil Engineering at VSB – Technical University of Ostrava will launch the three-year bachelor's program "Smart and Green Buildings in Circular Construction." The implementation of the program was financially supported by the National Recovery Plan project for VSB-TUO, Specific Objective B: Academically Oriented Bachelor's Program "Smart and Green Buildings in Circular Construction," registration number NPO_VSB-TUO_MSMT-16605/2022. The project ran from 2022 to 2024. Its aim was to prepare and accredit a new full-time bachelor's program originally designed for four years of study. After careful consideration, however, it was decided to shorten the program to three years—a very prudent decision, as all four-year bachelor's programs in civil engineering at Czech universities are currently being transformed into three-year programs.

The Faculty of Civil Engineering at VSB – Technical University of Ostrava drew inspiration for the development of its new study programme from international experience [8, 9, 10] and from similar study programmes offered by universities in the Czech Republic and other European Union countries. For example, the Faculty of Civil Engineering at Brno University of Technology offers a four-year Bachelor's degree programme in Sustainable Building Design and a three-and-a-half-year Bachelor's degree programme in Environmental Engineering. The Faculty of Civil Engineering at the Czech Technical University in Prague offers a three-year Bachelor's degree programme in Buildings, Landscape and Environment. Likewise, technical universities across the European Union integrate the principles of sustainable construction into education through their study programmes – for instance, the University of Natural Resources and Life Sciences, Vienna (BOKU), offers a two-year Master's degree programme in Green Building Engineering.

The innovative contribution of the Smart and Green Buildings in Circular Construction study programme at the Faculty of Civil Engineering, VSB – Technical University of Ostrava, lies not only in its shortened duration of study, but above all in the expansion of the traditional range of construction-related courses to include disciplines reflecting current trends in the construction industry and the principles of sustainable development.

This required not only the innovation and creation of new courses within the Faculty of Civil Engineering but also the inclusion of courses from other faculties and institutions of VSB – Technical University of Ostrava. Another innovative feature is the introduction of one specialized course taught in English.

As mentioned, theoretical knowledge in sustainable construction is crucial for students, but practical skills are equally important. These are primarily acquired through solving specific project tasks in collaboration with industry partners. Therefore, the program includes the involvement of construction companies in teaching as well as mandatory professional internships of 160 hours for students. The cooperating companies

were selected from both design and construction sectors, focusing on building construction, technical building systems, BIM design, energy and environmental assessment of buildings, green facades and interior greenery, water treatment and purification, and rain-water management.

The development of students' practical skills will be further supported through the use of new interactive models, modern software equipment, and a newly renovated classroom

Graduate Profile

The study program is designed to prepare graduates for the design of energy-efficient and sustainable buildings with a healthy indoor environment. Graduates will be capable of developing architectural and construction concepts for energy-efficient buildings, taking into account the use of ecological and sustainable materials, environmental and smart technologies, green features, and the environmental impact of the building throughout its preparation, construction, operation, and eventual decommissioning.

The program also expands knowledge in areas such as digitalized design (BIM), and the use of virtual reality and artificial intelligence in building design and implementation. Emphasis is placed on developing soft skills, particularly language proficiency and fundamentals of behavioral economics. To enhance graduates' employability in practice, the program includes mandatory professional internships of 160 hours in construction companies.

Graduates of the three-year bachelor's program may continue their studies at the Faculty of Civil Engineering, VSB-TUO, either in the newly accredited two-year follow-up master's program Smart and Green Buildings in Circular Construction or in the follow-up master's program Civil Engineering – BIM Engineering. Other follow-up master's programs at the Faculty of Civil Engineering will be newly transformed and accredited next year, extending from the current 1.5-year format to the standard two-year study period.

Multidisciplinary Composition of Courses

As mentioned earlier, the new study program includes both fundamental "classical" theoretical and specialized construction courses, as well as modernized or newly created subjects. The program is designed to be multidisciplinary – in addition to the Faculty of Civil Engineering at VSB-TUO, teaching is also provided by the Faculty of Electrical Engineering and Computer Science, the Faculty of Materials Technology, the Faculty of Economics, the Faculty of Safety Engineering, and the Centre for Energy and Environmental Technologies.

The expanded course offerings focus primarily on sustainable construction, renewable energy sources, circular economy, smart and environmental technologies, ecological and sustainable materials, green architecture, water management within buildings, minimization of negative environmental impacts of construction projects, as well as digitalized design (BIM) and the use of virtual and augmented reality in building design and implementation. The curriculum also includes foundations of traditional, behavioral, and circular economics. Over the three-year program, students complete a total of 51 courses, of which 43 are mandatory and 8 are compulsory electives.

Support for Teaching

As previously mentioned, thanks to financial support for the preparation of the new bachelor's program from the NPO project, several investments were made to enhance teaching. The most significant of these was the renovation of an existing classroom into the "Smart Laboratory for Teaching the Use of Artificial Intelligence in Building Management." This is a modern

computer lab supplemented with interactive models for teaching specialized subjects. The renovation included not only structural modifications but also a complete replacement of electrical installations and data networks, installation of forced ventilation with heat recovery, and creation of a smart system for controlling lighting and ventilation, including monitoring of indoor environmental parameters – temperature, relative humidity, CO₂ concentration, and VOCs (volatile organic compounds).

All technologies used will serve as practical demonstrations for similar "smart" spaces in the context of teaching. Special attention was also given to selecting construction materials to create a healthy and comfortable environment for students – Heraklith panels were used for wall and ceiling cladding, which also contributed to improved acoustics in the classroom. The architectural study for the classroom renovation was designed by Ing. arch. Josef Řezníček (Fig. 1).



Fig. 1: Renovation and modernization of the classroom at the Faculty of Civil Engineering, VSB-TUO (Source: photo by author, architectural design: Ing. arch. Josef Řezníček)

Among the interactive models acquired for the new study program is the teaching measurement wall for building services (TZB) located in the newly renovated classroom. During exercises, students can, for example, practice the hydraulic balancing of a heating system, i.e., setting the correct flow of heating water to individual radiators. This ensures even heat distribution, the required thermal comfort in rooms, and simultaneously reduces energy consumption and operational costs (Fig. 2).



Fig. 2: Teaching interactive model – Building services measurement wall (Source: photo by author)

Other teaching models include a rainwater retention tank and a green facade. The tank was constructed next to a passive-standard timber building on the Faculty of Civil Engineering campus and is primarily used for irrigating the newly implemented green wall on the building's north facade. The facade system is modular ("grid" or "basket") and consists of special basalt wool placed in modular baskets, into which plants are installed. The plants can be pre-grown and then easily placed into the system. Irrigation is provided by an automated drip system connected to a pump in the re-

tention tank. Students can learn the principles of the system, participate in its maintenance, and monitor the consumption of rainwater as well as supplementary potable water. Key operational challenges include dry periods, when the tank must be manually replenished, and winter, when the system must be shut down due to low temperatures (Fig. 3). One of the main objectives of the new study program is to develop skills in 3D digital design (BIM), visualization, and the use of virtual reality and artificial intelligence in building design and implementation. These competencies are supported by new computer equipment and software acquired through the NPO project. Practical applications of virtual and augmented reality in specialized courses are also integrated into the curriculum.



Fig. 3: Teaching interactive model – green facade and rainwater retention tank (Source: photo by author)

CONCLUSION

In recent years, the construction sector has undergone dynamic changes, requiring adaptation to new technologies, societal demands, and environmental challenges. Raising awareness of the fundamental principles of sustainable construction is therefore important not only among industry professionals but especially among future civil engineers through education and study programs. Today, graduates of construction-related fields are increasingly expected to design and implement buildings that are not only technically functional and economically efficient, but also environmentally responsible and responsive to societal needs.

The Faculty of Civil Engineering at VSB – Technical University of Ostrava responds to this challenge with a new three-year bachelor's program, Smart and Green Buildings in Circular Construction, which complements traditional civil engineering disciplines with courses focused on current industry trends and the principles of sustainable development. The Faculty of Civil Engineering at VSB – Technical University of Ostrava anticipates that the new study programme will lead to a higher level of student interest as well as increased demand from industry for its future graduates.

SOURCES/REFERENCES

- [1] DUŠKOVÁ, Markéta (2024). Budoucnost stavebnictví: Jak řešit výzvy udržitelnosti? [online] Ekolist. cz. Available at: https://ekolist.cz/cz/publicistika/civilizace/budoucnost-stavebnictvi-jak-resit-vyzvy-udrzitelnosti#google_vignette [Accessed 31 Aug. 2025].
- [2] [online] Available at: <https://mmr.gov.cz/cs/ministerstvo/regionalni-rozvoj/informace,-aktuality,-seminare,-pracovni-skupiny/psur/uvodni-informace-o-udrzitelnem-rozvoji/zakladni-pojeti-konceptu-udrzitelneho-rozvoje>.
- [3] AIBLOVÁ, Sára (2024). Udržitelná výstavba: Jaké jsou principy a životní cyklus. [online] CzechTechnology. Available at: <https://czechtechnology.cz/stavebnictvi/udrzitelna-vystavba-jake-jsou-principy-a-zivotni-cyklus/> [Accessed 31 Aug. 2025].

gy. Available at: <https://czechtechnology.cz/stavebnictvi/udrzitelna-vystavba-jake-jsou-principy-a-zivotni-cyklus/> [Accessed 31 Aug. 2025].

[4] Theaccessgroup.com. (2025). Complete Guide To Sustainability in Construction | Access Coins. [online] Available at: <https://www.theaccessgroup.com/en-gb/construction/resources/sustainability-in-construction-industry/#heading5> [Accessed 31 Aug. 2025].

[5] BARIČ, Karolína. Jaké bude české stavebnictví v roce 2030? Zelené nebo žádné. [online] RETHINK ARCHITECTURE. Available at: <https://www.rethinkarchitecture.cz/publikace>.

[6] CEEC Research - (2025). Kvartální analýza českého stavebnictví Q1/2025 - CEEC Research. [online] Available at: <https://ceec.eu/analyzy/kvartalni-analyza-ceskeho-stavebnictvi-q1-2025/> [Accessed 31 Aug. 2025].

[7] SABRI, Omar K. (2025). Rethinking sustainability in engineering education: a call for systemic change. *Frontiers in Education*, 10. doi: <https://doi.org/10.3389/feduc.2025.1587430>.

[8] OPOKU, Alex, GUTHRIE, Peter (2017). Education for sustainable development in the built environment. *International Journal of Construction Education and Research*, 14(1), 1–3. <https://doi.org/10.1080/15578771.2018.1418614>.

[9] LEE, Sanghyo, LEE, Joosung, AHN, Yonghan. Sustainable BIM-Based Construction Engineering Education Curriculum for Practice-Oriented Training. *Sustainability* 2019, 11, 6120. <https://doi.org/10.3390/su11216120>.

[10] OPOKU, Alex (2016). SDG2030: A sustainable built environment's role in achieving the post-2015 United Nations Sustainable Development Goals. In P. W. Chan & C. J. Neilson (Eds.), *Proceedings of the 32nd Annual ARCOM Conference* (Vol. 2, pp. 1149–1158). Manchester, UK: Association of Researchers in Construction Management. 2016, September 5-7.

Part of the Proceedings in Original Languages
/ Část sborníku v původních jazycích

1/ Teorie a filozofie architektonického navrhování

HODNOTIACE KRITÉRIÁ ARCHITEKTONICKÝCH SÚŤAŽNÝCH PREHLIADOK – DVE PRÍPADOVÉ ŠTÚDIE EURÓPSKÝCH OCENENÍ

Hybský Michal

MICHAL HYBSKÝ, ING. ARCH.

Fakulta architektury ČVUT
Thákurova 9, 166 34, Praha,
Česká republika

michal.hybsky@fa.cvut.cz

ORCID iD: 0009-0008-9256-6242

Postgraduálny študent zaoberajúci sa kvalitatívnou analýzou architektonických súťažných prehliadok a ich vplyvom na diskurz v architektúre. Pedagogický asistent prof. Ing. arch. P. Melkovej, PhD. na Ústave nauky o budovách FA ČVUT. Okrem výskumnej činnosti sa venuje architektonickej praxi.

ABSTRAKT: Celoeurópske súťažné prehliadky predstavujú vplyvné platformy hodnotenia architektonickej kvality. Kľúčovým prvkom pri evaluácii takého ocenenia je jeho porota. Tá svojím úsudkom o hodnotách v architektúre ovplyvňuje nielen laureátov prisúdením prestíže, ale aj architektonický diskurz v širšom meradle. Dá sa povedať, že udeľovanie ocenení v architektúre má transformačný charakter. Kvalitatívnou analýzou verdiktov poroty sa v našej práci pokúšame odhaliť súčasné hodnotiace kritériá európskych architektonických súťažných prehliadok na dvoch prípadových štúdiách. Našími prípadovými štúdiami sú Mies van der Rohe Award – Európska cena za súčasnú architektúru a European Prize for Urban Public Space – Európska cena za mestský verejný priestor. Naše analýzy zameriavame na písomné výstupy týchto platforiem: verdikty, vyjadrenia a eseje porotcov k predmetným edíciám cien. Tieto dáta predstavujú ucelený súbor informácií k použitým edíciám prehliadok. Nakoľko jedna edícia z každej prehliadky by predstavovala málo reprezentatívnu vzorku, analyzujeme tri edície v rámci každej. Jedna súťažná prehliadka, predstavujúca jednu prípadovú štúdiu, je teda zastúpená tromi edíciami. Metodologicky, na kvalitatívne analýzy používame jeden zo skupiny tzv. výskumných dizajnov, tj. ustálenú kombináciu metodologických postupov. V našom prípade hovoríme o výskumnom dizajne Kvalitatívna analýza obsahu. Základným postupom tohto výskumného dizajnu je metóda s názvom Segmentácia a kódovanie textu. Naše doterajšie výsledky opísanej výskumnej práce hovoria, že hodnotiace kritériá je možné zistiť a popísať. Výsledky ďalej naznačujú, že rozdielne zamerané architektonické súťažné prehliadky majú rozdielne sady hodnotiacich kritérií.

KLÍČOVÁ SLOVA: architektonické ocenenie; kvalitatívna analýza; Mies van der Rohe Award; European Prize for Urban Public Space

ÚVOD

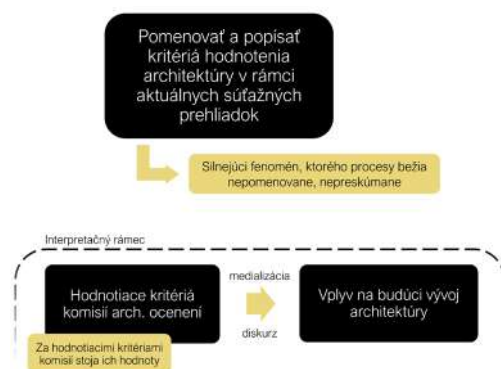
O súťažných prehliadkach za architektúru sa toho každoročne napíše veľa. Od tlačových správ, cez popularizačné články až po kritické state. Tento fenomén generuje odborný i laický diskurz, ktorý je jeho najväčšou hybnou silou, má transformačný potenciál pre vývoj architektúry. Čo je prvým dôvodom, pre ktorý sa venujeme predstaveniu téme, druhým je, že je vedecky málo prebádaná (Chupin et al., 2022). Pri skúmaní evaluácie architektúry v oceneniach sa zameriavame na rozhodovanie poroty. Je to práve porota, ktorá rozhoduje o nomináciách a laureátoch, pričom používa vlastné kritériá hodnotenia – a práve kritériá hodnotenia architektúry v súťažných prehliadkach sa pokúsime preskúmať. Nakoľko sa budeme venovať analýze jednania ľudí, pohybujeme sa v oblasti architektonicko-humanitného výskumu, ktorý nám implikuje využitie určitých metódik blízkyh spoločenským vedám (Lucas, 2016). Najucelenejším výstupom architektonických cien sú zborníky jednotlivých edícií obsahujúce verdikty komisií, prepisy zasadania alebo eseje členov poroty. Budeme teda skúmať písomné mediálne výstupy platforiem udeľujúcich ocenenia. K tomu použijeme kvalitatívne analýzy textu. Naším cieľom bude zistiť kritériá hodnotenia architektúry v predmetnom diskurze, a obecnšie porozumieť javu a interpretovať ho. Jav budeme skúmať na dvoch

prípadových štúdiách, čím sa pokúsime induktívne odvodiť niveau hodnotenia architektúry v súčasných európskych architektonických oceneniach.

METODIKA

Pri popise metodiky budeme hovoriť o tzv. výskumnom dizajne, čím rozumieme ustálenú kombináciu metodologických postupov. Konkrétne využijeme kvalitatívnu analýzu obsahu (KAO), a to z nasledujúcich dôvodov: zameriava sa na vlastnosti jazyka ako komunikačného nástroja so zameraním na obsah textu alebo jeho kontextuálny význam. Jeho cieľom je zisk poznatkov o skúmanom jave a hlavne porozumenie tomuto javu. Ku analýze obsahu M. Heřmanský dodáva, že sa vzťahuje ku dátam tak, ako by boli „oknom do skúsenosti aktérov“. Čo znamená, že text nám sprostredkováva náhľad do obsahu analyzovaných dát s cieľom porozumieť významom, ktoré sprostredkovávajú (Novotná et al., 2019). Tieto predispozície sa hodia na náš cieľ – identifikácia a popis hodnotiacich kritérií v evaluácii súťažnej prehliadky, porozumenie tomuto javu a jeho interpretácia. KAO existuje v trojici prístupov (konvenčný, riadený a sumatívny), z ktorých vyberáme prístup konvenčný. Ten sa používa vo výskumoch, ktorých účelom je popis fenoménu. Je vhodný v prípadoch, keď je teória k téme limitovaná. Pri kódovaní nevyužíva prevzaté kategórie, tie vznikajú z dát (Hsieh a Shannon, 2005). Schéma kódovania vychádza zo štandardizovaného postupu popísaného Milesom & Hubermanom (Miles a Huberman, 1994). Menované pozície konvenčného prístupu KAO nám vyhovujú, nakoľko sa snažíme o základný výskum a popis určitého fenoménu, ku ktorému existuje len limitovaný teoretický fundament.

Na začiatok je potrebné si zadať stratégiu tvorby výskumnej vzorky. Keďže pracujeme na prípadových štúdiách založených na písomných údajoch, zvolili sme cieľový výber vzorky. Pri ňom sa vyberajú prípady, na ktorých je vhodné sledovať vybraný jav (napríklad typický prípad). Analyzované dáta vznikli mimo nášho výskumu, jedná sa o neobtrusívny prístup. (Novotná et al., 2019)



Obr. 1.: Grafické vyjadrenie náplne výskumu (Zdroj: autor)

V rámci stratégie výberu sme si určili vlastné kritériá

pre vzorku – spĺňajúcu určité predpoklady a parametre. Základným predpokladom je existencia výstupov z jednania poroty: prepis stretnutia / verdikt / esej člena poroty ku predmetnej edícii ocenenia. Ďalším predpokladom je, aby požadovaný text dosahoval dostatočný rozsah. Tieto textové súbory sa stávajú zdrojovými údajmi (dátami). Požadované parametre sú: 1. Hodnotenie prehliadky medzinárodnou porotou; 2. Európska scéna (architektonické prostredie); 3. Zastúpenie typologicky určitej aj neurčitej prehliadky; 4. Aktuálnosť, ocenenie udeľované v intervale do 10 rokov. Naším cieľom bolo nájsť dve vhodné prehliadky = dve prípadové štúdie. Prieskumom súťažných prehliadok sa nám podarilo zostaviť vzorku, ktorá zodpovedá požiadavkám a spracujeme ju v prípadových štúdiách. Jedná sa o tieto prehliadky: Európska cena za súčasnú architektúru – Mies van der Rohe Award a Európska cena za mestský verejný priestor – European Prize for Urban Public Space. Z početných ročníkov týchto prehliadok sme vybrali po troch edíciách z každej. Vyberali sme najnovšie dostupné edície (vzorka zostavovaná počas roka 2022 a 2023), druhú a tretiu edíciu potom chronologicky späť v čase. Ako zdroje údajov v oboch prípadoch poslúžili verdikty porôt uverejnené v katalógoch, Mies Award uvádza navyše eseje členov poroty ku daným edíciám a Prize for Urban Space poskytuje aj „Jury minutes“, t.j. stručný výber z výrokov poroty.

ický softvér QDA Miner Lite. V rámci každej štúdie sú zahrnuté tri edície danej prehliadky, čiže tri sady údajov. Obe štúdie prinášame v separátnej podkapitole. Na úvod podkapitoly uvádzame krátky medailón k edíciám a nasledujú výstupy – interpretatívna správa a kategórie s priradenými vzápornými kódmi (kritériami hodnotenia). Pre svoj značný rozsah neuvádzame kódovacie knihy.

PRÍPADOVÁ ŠTÚDIA 1 – MIES VAN DER ROHE AWARD

AnalYZovali sme edície: 2017, 2019, 2022. Pri všetkých troch edíciách sme ako textové údaje použili verdikty poroty a eseje porotcov k danej edícii.

Medailóny edícií:

Edícia 2017 – Zloženie poroty: Predseda poroty architekt Stephen Bates (UK), architekt Gonçalo Byrne (PT), kurátor Peter Cachola Schmal (DE), historička architektúry Pelin Derviş (TR), architektka Dominique Jakob (FR), sociologička Juulia Kauste (FI) a historička architektúry Małgorzata Omilanowska (PL). Laureátom sa stal DeFlat Kleiburg v Amsterdame, Holandsko. Autormi realizácie sú ateliéry NL Architects a XVW Architectuur. Hodnotiace zasadanie prebehlo v máji 2017 (Blasi a Sala Giralt, 2017).

Súťažná prehliadka - P.Š.	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
EU Mies van der Rohe Award	/	X	/	X	/	X	/	X	/	/	X
European Prize for Urban Public Space	X	/	X	/	X	/	X	/	/	/	X

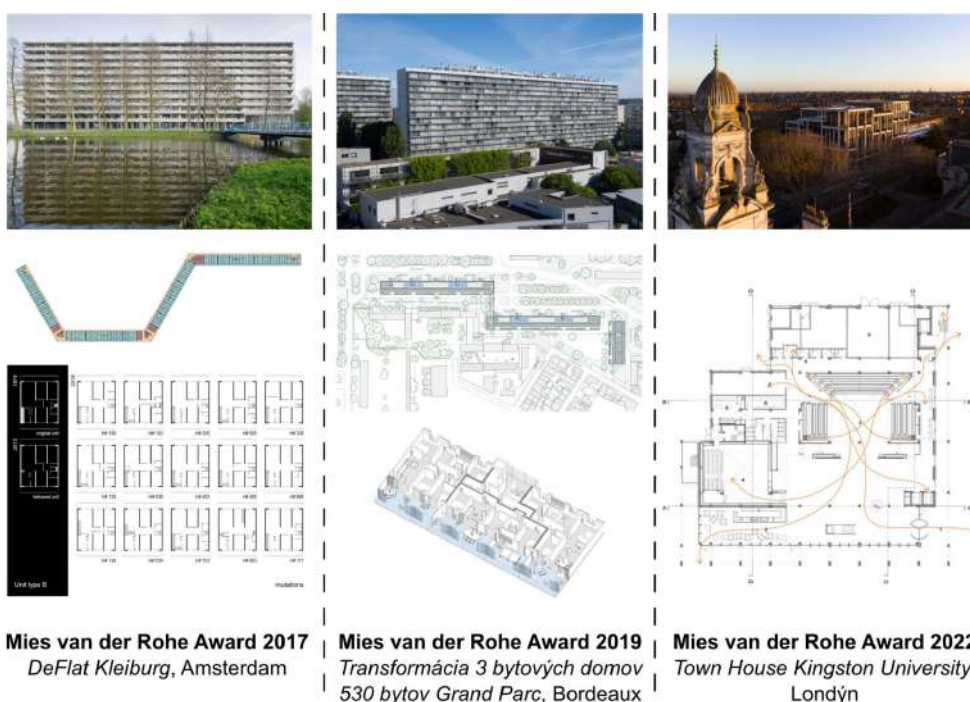
Legenda	
/	dáta neexistujú alebo neboli nájdené
X	dáta existujú pre danú edíciu
X	dáta existujú, boli získané a použité v štúdii

Tab. 1.: Prípadové štúdie - použité edície súťažných prehliadok (Zdroj: autor)

VÝSLEDKY

Pomocou KAO v konvenčnom prístupe sme spracovali dve prípadové štúdie, jedna štúdia = jedna súťažná prehliadka. Naším pracovným nástrojom bol analy-

Edícia 2019 – Zloženie poroty: Predsedkyňa poroty architektka Dorte Mandrup (DK), architekt George Arbid (LB), kurátorka Angelika Fitz (AT), publicista Ștefan Ghenciulescu (RO), architekt Kamiel Klaasse (NL), architektka María Langarita (ES) a žurnalista Frank



Obr. 2.: Laureáti Európskej ceny za architektúru – Mies van der Rohe Award 2017, 2019, 2022 (Zdroj: foto – Marcel van der Burg, Philippe Ruault, Ed Reeve; schémy – NL Architects, Lacaton & Vassal Architects, Grafton Architects)

McDonald (IE). Laureátom sa stala Transformácia 3 panelových domov, 530 bytov Grand Parc v Bordeaux, Francúzsko. Autormi realizácie sú ateliéry Lacaton & Vassal Architects, Frédéric Druot Architecture a Christophe Hutin Architecture. Hodnotiace zasadanie prebehlo v apríli 2019 (Blasi a Sala Giral, 2019).

Edícia 2022 – Zloženie poroty: Predsedkyňa poroty architektka Tatiana Bilbao (MX), žurnalistka Francesca Ferguson (UK), architektka Mia Hägg (SE), kritička architektúry Triin Ojari (EE), architekt Georg Pendl (AT), kultúrny manažér Spiros Pengas (GR) a architekt Marcel Smets (BE). Laureátom sa stal Town House – Kingston University v Londýne, Spojené Kráľovstvo. Autorom realizácie je ateliér Grafton Architects. Hodnotiace zasadanie prebehlo v apríli 2022 (Blasi a Sala Giral, 2022).

Interpretatívna správa:

Podarilo sa nám odhaliť radu fenoménov, ktoré v diskurze zaznamenávali, ako sa poroty stavali k hodnoteniu architektúry v skúmaných prehliadkach. Zásadné javy evaluácie, abstrahované do kritérií hodnotenia, dostali svoje kódy. V diskurze sa objavujú kľúčové kritériá, ktorým sa budeme venovať v jednotlivých podkapitolách. Na začiatok prinášame pár postrehov k analyzovaným dátam. Verdikty ocenení, čoby najbežnejší výstup z hodnotenia poroty, sú povahou textu výrazne popisné, obsažnosť deskriptívnych kódov prevažuje. Esey porotcov, písané k predmetným ediciám, sú interpretatívnejšie, umožňujú väčšie spektrum výkladov obsahu. Keď analýzu zobecníme, čím viac dát z evaluačných procesov sme mali, tým lepšiu saturáciu kategórií a „vybrúsenie“ objavených javov sme dosiahli. Ďalej budeme postupovať podľa vytvorených kategórií. Poznámka: všetky citáty z katalógov cien sú prekladom z anglického originálu.

Presah hodnotenia: Kategória predstavuje introspektívne úvahy a názory smerujúce na samotné udeľovanie cien, jeho spoločenskú úlohu, odkaz a zastúpené hodnoty. V zmysle vlastností samotnej architektúry je skôr „pomocnou barlou“, no pre svoj výrazný vplyv na výber laureátov sa jedná o svojbytné kritérium. Najvýraznejším javom tejto kategórie sú diskusie porotcov nad zmyslom a významom oceňovania architektúry v súčasnosti. Často pritom vyvodzujú závery, ktoré môžeme vyložiť ako aplikáciu hermeneutického cyklu (Fay, 2002) na tento spoločenský jav. Pri tejto aplikácii porotcovia reagujú na uplynulé ocenenia za architektúru, na realizované súťaže, na vlastnosti a hodnoty už existujúcej architektúry – čím potvrdzujú vlastné ovplyvnenie aktuálnym diskurzom. To môžeme doložiť napríklad úryvkom z textu predsedu poroty edície 2017 Stephena Batesa: „Cenu EÚ Mies Award doteraz nezískal žiadny projekt z oblasti bývania – až doteraz. Tiež ju nezískal žiadny projekt z oblasti re-use – až doteraz.“ (Blasi a Sala Giral, 2017) Čím narážal na vtedajšieho laureáta ceny DeFlat Kleiburg, ktorého ako porota vybrali.

Abstraktné kvality architektúry: Prvá kategória predstavujúca priamo kvality alebo hodnoty evaluovanej architektúry. Odkazuje na vlastnosti, ktoré nie sú bezprostredne patriace postavenej matérii, ale na vlastnosti, ktoré môžeme označiť za „meta-kritériá“, čiže kritériá, ktoré zastupujú spoločenské hodnoty, zhmotnené v konkrétnych prejavoch architektúry. Veľmi častým javom pri Mies Award je pozitívna kritika reinterpretácie alebo nadväzovania na architektonickú kultúru regiónu, tento jav sme nazvali referenčnosťou. Referencie však zahŕňajú aj asociácie na obecné fenomény, ako napríklad archetypálnosť. Ďalej je v hodnotení citelný záujem o prácu s existujúcou stavebnou substanciou. To dokladuje výrok Angeliky Fitz z eseje ku ročníku 2019: „Šetrenie zdrojmi a kreatívny prístup k existujúcej výstavbe je možný jednak v prípade chátrajúcich tehlových budov, zároveň aj v prípade modernistických betónových panelových

domov, ako deklarujú tohtoročné projekty EU Mies Award.“ (Blasi a Sala Giral, 2019) Inými slovami, zachovať a transformovať je vhodnejšie ako búrať a stavať nanovo – jedna z nosných ideí udržateľnosti v stavebníctve, sa medzi architektmi šíri vďaka práci ateliérov ako napríklad Lacaton & Vassal, ktorí v danom ročníku zvíťazili s realizáciou Transformácia 3 bytových domov Grand Parc v Bordeaux. Obecne môžeme povedať, že mnohé evaluované vlastnosti v tejto kategórii spadajú pod rastúci fenomén spoločenskej relevantnosti v architektúre.

Fyzické kvality architektúry: Predchádzajúca abstraktná kategória implikuje existenciu fyzických kvalít architektúry, tie sa skutočne v diskurze objavujú. Jedná sa o fyzické kvality, ktoré sú explicitnými vlastnosťami postavenej matérie. Porotcovia hodnotia tieto konkrétne prejavy na základe osobných preferencií, skúseností, i širšie prijímaných priestorových predpokladov. Stretávame sa napríklad s chválou všestrannosti stavieb, ich fyzickej adaptability na zmeny, ale i schopnosti zohľadniť rozličné potreby života. K tejto téme píše porotkyňa edície 2022 Mia Hägg: „Keď architekti nemajú možnosť pracovať priamo s budúciimi obyvateľmi budovy, môžu vytvoriť priestory, ktoré sa dajú prispôbiť rôznym užívateľom.“ (Blasi a Sala Giral, 2022) Stať sa venuje finalistovi ceny, bytovému domu 85 housing units in Cornella od ateliéru Peris + Toral. Túto vlastnosť môžeme zaradiť do širšej skupiny priestorových kvalít, ktorú poroty hodnotia veľmi často. Priestorové kvality zahŕňajú dispozičné, objemové i proporčné vzťahy priestorov a hmôt v najrozličnejších situáciách. Evaluácia proporcií a kompozície je jedným z najklasickejších spôsobov nahliadania na architektúru. Napriek stáročnému vývoju architektúry je tento odveký štandard stále živý.

Kritika: Hoci by bolo možné považovať celé hodnotenie architektúry za konštruktívnu kritiku, pre náš účel používame kategóriu kritika v užšom zmysle – na zaradenie negatívne hodnotených fenoménov, pokiaľ sa vyskytnú. Tu stojí za zmienku často zastúpené kritérium módnosť, ako negatívne hodnotenú konfektnosť, podriadenosť štýlu. Téma sa venuje v rámci ročníka 2019 Ștefan Ghenculescu: „Štýl ako súbor pevne stanovených charakteristík a noriem je pre architektonickú diskusiu čoraz menej relevantný a v rozhodovaní poroty určite nehrá žiadnu úlohu.“ (Blasi a Sala Giral, 2019) Evaluácia reaguje na súčasný digitálny mainstream, prvoplánovú „instagramovosť“ architektúry v zmysle podriadenia sa súčasným vizuálnym trendom.

Urbanistické kvality: Vzťahuje sa na kritériá hodnotenia mierkou presahujúce samotnú budovu a jej rozhranie. Pokiaľ budeme sledovať logiku predchádzajúcich kategórií, zameriava sa na fyzické vzťahy budov a priestorov ale aj abstraktné hodnoty premietnuté do urbánneho riešenia. Nakolko Mies Award je ocenením primárne architektonickým, nie urbanistickým, na urbanistické riešenie je často nahliadané cez prizmu hodnotenej budovy alebo obecné rozšírených tém mestského plánovania. Pri nahliadaní na urbánne riešenie prizmou hodnotenej budovy sme objavili kritérium akupunktúra miesta. Tá metaforicky označuje iniciáciu pozitívnej zmeny novou stavbou s efektom na celú lokalitu. Lokalitu s nízkou kvalitou zástavby, či v minulosti nejak poškodenú. Kritérium dobre opisuje v edícii 2022 Marcel Smets: „Bližší pohľad na túto panorámu nominovaných projektov jasne ukazuje, že zmysluplné budovy nikdy nestoja osamote. Vďaka svojmu komunitnému zameraniu, významu pre verejnosť alebo inšpiratívnej urbanistickej aure sa im darí skvalitňovať celú štvrť.“ (Blasi a Sala Giral, 2022) Obecno urbánnou témou, leitmotívom, sa viackrát stala kontextuálnosť, nepriamo naznačená aj v citáte.

Procesné, programatické kvality: Ich náplňou nie je samotné hmotné prevedenie architektúry ani priemet abstraktného princípu do návrhu. Pri procesných a

programatických kvalitách hovoríme o dejoch prítomných a minulých, uvedomelej činnosti ľudí a tiež náplni predmetnej architektúry. Tieto deje sú hodnotiacim kritériom, pokiaľ ich výsledkom je predmetná realizácia alebo naopak, pokiaľ realizácia vďaka nim môže ďalej existovať, prípadne je funkčne dobre naplnená a živá. Priazni porotcov sa často tešili projekty, ktoré boli výsledkom úspešnej spolupráce. To dobre dokladuje myšlienka Kamiela Klaasseho zo zborníka 2019: „Úloha klienta v tomto projekte je kľúčová. Na tango treba dvoch, samozrejme. Tento odvážny zadávateľ však dokázal otočiť typický strach z rizika na chuť riskovať. Aká radosť!“ (Blasi a Sala Giral, 2019) Takto ohodnotil Congress Centre Plasencia od ateliéru SelgasCano. Kooperácia architekta, investora, samosprávy a miestnych obyvateľov zjavne prináša kvalitné výsledky. Do tejto množiny, ktorú sme nazvali sila spolupráce, nám tematicky zapadlo aj kladné hodnotenie schopnosti dohodnúť sa alebo spraviť kompromis.

PRÍPAĐOVÁ ŠTÚDIA 2 – EUROPEAN PRIZE FOR URBAN PUBLIC SPACE

Analyzovali sme edície: 2016, 2018, 2022. Pri všetkých

Hans Ibelings (NL), sociologička Juulia Kauste (FI), kritička architektúry Ewa P. Porebska (PL), kurátor Francis Rambert (FR), pedagóg Dietmar Steiner (AT) a kritik architektúry Ellis Woodman (UK). Laureáti sa stali ex aequo: 1. Obnova zavlažovacieho systému ovocných sádov v Caldes de Montbui, Španielsko. Autormi realizácie sú ateliéry Cíclica a CAVAA. 2. Centrum dialógu „Przełomy“ na námestí Solidarność v Štetíne, Poľsko. Autorom realizácie je ateliér KWK Promes. Hodnotiace zasadanie prebehlo v apríli 2016 (CCCB, 2016).

Edícia 2018 – Zloženie poroty: Predsedkyňa poroty architektka Olga Tarrasó (ES), kurátor Peter Cachola Schmal (DE), architekt Matevž Čelik (SI), historik architektúry Hans Ibelings (NL), kurátorka Katharina Ritter (AT), kritička architektúry Ewa P. Porebska (PL), kurátor Francis Rambert (FR) a kritik architektúry Ellis Woodman (UK). Laureátom sa stala Revitalizácia Skanderbegovho námestia v Tirane, Albánsko. Autorom realizácie sú ateliéry 51N4E, Anri Sala, Plant en Houtgoed a iRI. Hodnotiace zasadanie prebehlo v apríli 2018 (CCCB, 2018).

Presah hodnotenia	Abstraktné kvality architektúry	Fyzické kvality architektúry	Kritika	Urbanistické kvality	Procesné, programatické kvality
Úroveň scenérie	Reflexivita	Všetevnosť - popisy kúd	Môcnosť	Kontinuitas	Stia spolupráce - popisy kúd
Dejová odovzdanosť	Prostredie	Invenencia, prekonosť - popisy kúd	Generosita	Komunitas	Časťnosť
Odovzdanosť problémov	Kvalita života	Komunitas		Nárat života do mesta	Zúčastňovanie v diaľu programu
Spektrálna	Spoločenské nasadenosť - popisy kúd	Kúda		"Nepokojné miesto" - interpretatívny kúd	Akcelerátor zmeny
Populárna kultúra architektúry	Starostlivosť o architektúru - popisy kúd	Prírodnosť kvality			Kritika pohľadníkom
	"Nekonec, vlnosť"	Architektonický kultúrny projekt			Stia spolupráce - interpretatívny kúd
	"Hmelná masť"	Rozumnosť, racionalita			
	Environmentálna udržiavosť	Funkcionálnosť hodnotenia			
	Sociálna udržiavosť	Trdnosť			
	Inteligencia	Všetevnosť - interpretatívny kúd			
	Transformácia kúda	Invenencia, prekonosť - interpretatívny kúd			
	Spoločenské nasadenosť - interpretatívny kúd				
	Vizualizácia				
	Stia konceptu - interpretatívny kúd				
	Demokratickosť				
	Starostlivosť o architektúru - interpretatívny kúd				
	Časťnosť kúda				
	Autenticita - interpretatívny kúd				

Tab. 2.: Kategórie prípadovej štúdie 1: Mies van der Rohe Award (Zdroj: autor)

troch edíciách sme ako textové údaje použili verdikty poroty a výber z komentárov poroty „Jury minutes“.

Medailóny edícií:

Edícia 2016 – Zloženie poroty: Predseda poroty architekt Enric Batlle (ES), kurátor Peter Cachola Schmal (DE), architekt Matevž Čelik (SI), historik architektúry

Edícia 2022 – Zloženie poroty: Predsedkyňa poroty krajinná architektka Teresa Galí-Izard (CH), historik architektúry Hans Ibelings (NL), antropologička Eleni Myrivilis (GR), kritik Andreas Ruby (CH), kultúrna manažérka Paloma Strelitz (UK) a architektka Špela Videčnik (SI). Laureátom sa stala Obnova kanála Catharijnesingel v Utrechte, Holandsko. Autorom realizácie je ateliér OKRA Landschapsarchitecten. Hodnotiace



Obr. 3.: Laureáti Európskej ceny za mestský verejný priestor 2016, 2018, 2022 (Zdroj: foto – Adrià Goula, Juliusz Sokolowski, Filip Dujardin, Stijn Poelstra; schémy – Cíclica a CAVAA, KWK Promes, 51N4E, OKRA Landschapsarchitecten)

zasadenie prebehlo v júli 2022, verejná prezentácia finalistov a výber laureáta v novembri 2022 (CCCB, 2022).

Interpretatívna správa:

Aj pri druhej prípadovej štúdii sa nám podarilo identifikovať fenomény v diskurze napriek mierne odlišným vstupným údajom. Verdikty ocenení, zastúpené aj v tejto štúdii, potvrdili svoj písomný štýl ako popisný. Krátke výbery z citátov poroty („jury minutes“ resp. „jury deliberations“), sú rôznorodé, deskriptívne aj výkladové – ich obsahový prienik s verdiktmi je však pomerne veľký. Kategórie, ktoré sme začali tvoriť pri prvej štúdii, bolo možné s určitými zmenami adaptovať i na typologicky určitú cenu za mestský verejný priestor. Začali sa rovnako objavovať kľúčové kritériá spracovávanej štúdie, a zároveň kľúčové kritériá celkovo, významné pre celú vzorku.

Presah hodnotenia: To, že poroty pamätajú na vplyv, význam a dosah udeľovania cien sa opäť potvrdilo, i keď v menšej miere. Morálny rozmer samotnej evaluácie bol však silne citeľný. Poroty vedome pracovali s odkazom, posolstvom a prestížou udeľovanej ceny. Nepriamo tak potvrdili účasť architektonických ocenení v ekonomike prestíže podľa teórií J. F. Englisha (English, 2011). Presadzovanie hodnôt v odkaze ceny je zreteľné v úvodníku Teresy Galí-Izard, predsedkyne poroty z roku 2022: „Vzdali sme sa individuálnych pozícií v prospech spoločného dobra, pretože veríme, že je dôležité vyslať odkaz jednoty.“ (CCCB, 2022) V diskurze sa taktiež objavuje odkrývanie súčasných problémov, či už v polohe popisu problému, alebo v polohe snahy ponúknuť riešenie. Menované problémy pochádzajú zo širokého spektra oblastí, čo značí, že by sa dali kódovaním široko vetviť. Tu by však vznikla veľká diverzifikácia obsahu odkláňajúca sa od nášho výskumného problému, preto tému združujeme pod jeden kód. Obecné však po analýze dvoch štúdií vieme povedať, že diskusie nad úlohou ocenení, odkaz oceňovaných diel a odkrývanie súčasných problémov hrajú dôležitú úlohu pri hodnotení architektúry v európskych súťažných prehliadkach.

Abstraktné kvality priestoru: Typologickou úpravou (architektúra → priestor) vieme zaraďovať hodnotiace kritériá do analogickej kategórie. Kritériá odkazujúce na „fyzicky neprítomné“ spoločenské hodnoty mali v evaluácii silný vplyv. Tieto kritériá sa objavili v menšom spektre, čo však nevykladáme tak, že by boli nedôležité. Práve naopak, menší rozptyl kritérií interpretujeme ako väčšiu konzistentnosť poroty pri hodnotení. Environmentálna udržateľnosť mala dôležitú úlohu pri evaluácii ceny vo všetkých edíciách, rovnako tak sociálna udržateľnosť. Porota to jednoznačne deklaruje vo svojom vyhlásení k edícii 2022: „Videli sme projekty, ktoré novým spôsobom kombinujú ekologickú a sociálnu hodnotu, a osobitne sme uvítali iniciatívy, ktoré podporujú biodiverzitu, od mestského pestovania po kultiváciu divokej prírody vo verejnom priestore.“ (CCCB, 2022) Môžeme povedať, že tieto dve kritériá hrali v štúdii prím. Výraznou podtémou sociálnej udržateľnosti sa ukázala byť inkluzivita, a to v prejavoch spoločenských, zdravotných aj genderových. Na druhú stranu, objavilo sa aj výrazné kultúrne kritérium

zaoberajúce sa reinterpretovaním príbehu miesta, odkrývaním časových vrstiev. Nazvali sme ho pamäť miesta.

Fyzické kvality priestoru: Rovnakou úpravou kategórie vieme pracovať s fyzickými aspektmi priestoru. Evaluačné kritériá lokalít pre verejný život sa ukázali byť podnetné – vyskytli sa prejavy, aké neboli pri prvej štúdii bežné. Prekvapivo často poroty hodnotili kladne surovosť, v zmysle neopracovanosti a hrubosti. Tak to zaznieva vo verdikte z roku 2018: „[Projekt] spája výnimočnosť miesta medzinárodného významu s každodenným využitím, bez toho, aby sa stratil divoký charakter miesta, ktoré bolo roky uzavreté. Celkovo sa podarilo úspešne skombinovať surovosť priemyselnej infraštruktúry s pomerne divokou vegetáciou.“ (CCCB, 2018) Takto porota hodnotí Zollverein Park v Essene. Interpretujeme to tak, že toto kritérium je protipólom prvoplánovej efektčnosti, zväčša negatívne hodnotenej. Surovosť tiež môže byť pozitívne vnímaná vďaka jej spojitosti s nízkorozpočtovými projektami financovanými aktivistami. Obecné však fyzicko v druhej štúdii sekunde preneseným kritériám z predchádzajúcej podkapitoly.

Urbanistické kvality: Ako integrálna súčasť evaluácie verejného priestoru bola táto kategória silnejšia oproti tej predchádzajúcej. Tento jav je možné vylúčiť tak, že samotná fyzická substancia materiálov a malej architektúry verejného priestoru je potláčaná urbánym významom a pôsobením hodnotených realizácií. Silným javom pri hodnotení bola dobre známa komunítosť, hlavne v zmysle vytvárania predpokladov pre spolužitie miestnych pomocou návrhu. Tento názor zaznieva vo verdikte ročníka 2018, pri hodnotení Superbloku Poblenou v Barcelone: „[Projekt] je založený na myšlienke, že ulica nie je len infraštruktúrou pre mobilitu, ale aj miestom sociálnej interakcie.“ (CCCB, 2018) Ďalej sa ako významné kritérium prejavil návrat života do mesta, komplexný fenomén riešiaci problém vyprázdňovania miest a rastu suburbií. K nemu sme zaradili aj návrat priestranstiev ľuďom na úkor individuálnej dopravy. Spája ich snaha o intenzifikáciu mestského života a spomalenie exploatacie miest do voľnej krajiny. Tento jav teda spája environmentálne a sociálne parametre hodnotenia.

Procesné, programatické kvality: Mali špecifické miesto pri hodnotení ocenenia za mestský verejný priestor. Je zjavné, že poroty mali osobitý zreteľ na okolnosti vzniku diela, príbeh jeho stavebníkov a nasadenie prevádzkovateľov. Pri prvej štúdii sa tento zreteľ miestami objavoval, no pri druhej bol prítomný prakticky v každej edícii. Na základe dôležitosti kritéria sila spolupráce v rámci analyzovanej ceny považujeme za dôležité sa k nemu vrátiť. Napríklad vo verdikte k víťazovi edície 2016, ktorým sa stala Obnova zavlažovacieho systému ovocných sádov v Caldes de Montbui: „Sedemdesiat miestnych farmárov, súkromných vlastníkov pôdy, spolupracovalo v prostredí, kde sa prelínali verejné a súkromné záujmy. Dôraz sa kládol viac na pochopenie procesov komunitného zavlažovania než na otázky týkajúce sa dizajnu.“ (CCCB, 2016) Prízvukovanie dôležitosti spájania sa prechádza evaluáciou ceny ako chrbtica. Toto kritérium môžeme jednoznačne zaradiť

Presah hodnotenia	Abstraktné kvality priestoru	Fyzické kvality priestoru	Urbanistické kvality	Procesné, programatické kvality
Diela dajú odraziposolstvo	Environmentálna udržateľnosť	Rozumnosť, racionálnosť	Permeabilita	Sila spolupráce - popisný kód
Spokojnosť užívateľov/stavebníka	Sociálna udržateľnosť	Invenčia, prekvapivosť - popisný kód	Komunítosť	Recykliácia, reorganizácia
Odkrývanie súčasných problémov	"Pamäť miesta"	Všestranosť - popisný kód	Návrat života do mesta	Životaschopnosť vďaka programu
	Vstúpanie tém	Surovosť	Kontextualnosť	Akcelerator zmien
	Inkluzivita	Adaptácia a mitigácia	"Akupunktúrna miesta" - interpretatívny kód	Kreativita poháňaná etnosperiami
	Kvalita života	Teatralnosť		Altruizmus
	Celostné dielo	Neformálnosť		
	Sila konceptu - interpretatívny kód	Klíma		
	Transformačná hĺbka	Detalnosť		
	Spoločenská relevantnosť - interpretatívny kód	Komunikatívnosť		
	Visionárstvo	Post-pandemický náhľad		
		Fenomenologická hodnotenie		
		Ekvilibrium		

Tab. 3.: Kategórie prípadovej štúdie 2: European Prize for Urban Public Space (Zdroj: autor)

medzi kľúčové naprieč celou vzorkou. Porota viac krát vzdala hold autorom a stavebníkom za ich nasadenie v náročných podmienkach. V prípadoch, keď sa limity stali pohonom pre vznik architektonickej kvality, bol tento jav vysoko vyzdvihovaný, preto sme ho zaradili do výberu a pomenovali kreativita poháňaná obmedzeniami. Celovo vzaté, procesné a programatické kvality plnili v ocenení významnejšiu úlohu, ako by sa mohlo pri architektonickom ocenení zdať.

ZÁVER

Na základe vykonaného výskumu usudzujeme, že množinu hodnotiacich kritérií architektonických súťažných prehliadok je možné popísať pomocou kvalitatívnej analýzy obsahu. Pričom pri typologicky rozdielnych cenách – Mies van der Rohe Award (typologicky neurčitá) a European Prize for Urban Public Space (typologicky určitá) – sú tieto kritériá hodnotenia rozdielne. Otázkou pre ďalší výskum zostáva, či je možné aplikovať tézu o rozdielnosti kritérií aj pri geografickom delení cien – lokálne/národné/medzinárodné ceny. Ďalej sa domnievame, že jednotlivé kódy, pomenúvajúce kritériá hodnotenia, môžu existovať v popisej a interpretatívnej podobe pre každé popísané kritérium (kódovanie podľa Milesa & Hubermana). Počet fenoménov identifikovaných v našich prípadových štúdiách je však konečný. Odhladiac od dvoch skúmaných prípadov, hypoteticky, pri rozsiahom rozšírení vzoriek by bolo možné zostaviť celistvú množinu hodnotiacich kritérií. Tento rozsah je pravdepodobne ťažko dosiahnuteľný, každopádne máme v pláne pokračovať vo výskumnej činnosti v tejto oblasti. Konkrétne spracovaním ďalších dvoch prípadových štúdií, zameraných na kontext celoštátnych súťažných prehliadok v Českej a Slovenskej republike.

POUŽITÉ ZDROJE

- [1] BLASI, Ivan a SALA GIRALT, Anna (ed.), 2017. European Union Prize for Contemporary Architecture – Mies van der Rohe Award 2017. Barcelona: Fundació Mies van der Rohe. ISBN 978-84-941836-6-9.
- [2] BLASI, Ivan a SALA GIRALT, Anna (ed.), 2019. European Union Prize for Contemporary Architecture – Mies van der Rohe Award 2019. Barcelona: Fundació Mies van der Rohe. ISBN 978-84-9488-201-2.
- [3] BLASI, Ivan a SALA GIRALT, Anna (ed.), 2022. European Union Prize for Contemporary Architecture – Mies van der Rohe Awards 2022. Barcelona: Fundació Mies van der Rohe. ISBN 978-84-123670-3-4.
- [4] CENTRE DE CULTURA CONTEMPORÀNIA DE BARCELONA [CCCC], 2016. European Prize for Urban Public Space 2016 Results. Online. Dostupné z: https://www.publicspace.org/documents/220568/1852804/Premisa_Premi+016_ENG.pdf/237d6aa6-5f9b-871e-7e5e-48838169d10e. [cit. 2025-03-18].
- [5] CENTRE DE CULTURA CONTEMPORÀNIA DE BARCELONA [CCCC], 2018. European Prize for Urban Public Space Results 2018. Online. Dostupné z: https://www.cccb.org/rcs_gene/Public_Space_2018_Results_Press_Release_COMPR.pdf?_gl=1*owljdv*_ga*ODc4NjlyOTk2LjE3NDIzMDUzODY.*_ga_6PE54HGENN*MTc0MjMwNTM5MC4xLjEuMTc0MjMwNjlyMi41My4wLjA.. [cit. 2025-03-18].
- [6] CENTRE DE CULTURA CONTEMPORÀNIA DE BARCELONA [CCCC], 2022. European Prize for Urban Public Space 2022. Online. Dostupné z: https://www.cccb.org/rcs_gene/2022_European_Prize_for_Urban_Public_Space_book.pdf?_gl=1*rc6feb*_ga*ODc4NjlyOTk2LjE3NDIzMDUzODY.*_ga_6PE54HGENN*MTc0MjMwNTM5MC4xLjEuMTc0MjMwNjlyYwNC40My4wLjA.. [cit. 2025-03-18].

[7] ENGLISH, James F., 2011. *Ekonomie prestíže: ceny, vyznamenání a oběh kulturních hodnot*. Teoretická knihovna. Brno: Host. ISBN 978-80-7294-492-7.

[8] FAY, Brian, 2002. *Současná filosofie sociálních věd: multikulturní přístup*. Studijní texty (Sociologické nakladatelství). Praha: Sociologické nakladatelství. ISBN 80-86429-10-5.

[9] HSIEH, Hsiu-Fang a SHANNON, Sarah E., 2005. Three Approaches to Qualitative Content Analysis. Qualitative health research. Roč. 15, č. 9, s. 1277-1288. ISSN 1049-7323. Dostupné z: <https://doi.org/10.1177/1049732305276687>.

[10] CHUPIN, Jean-Pierre; CUCUZZELLA, Carmela a ADAMCZYK, Georges (ed.), 2022. *The Rise of Awards in Architecture*. Wilmington, USA: Vernon Press. ISBN 978-1-64889-429-9.

[11] LUCAS, Ray, 2016. *Research methods for architecture*. London: Laurence King Publishing. ISBN 978-1-78067-753-8.

[12] MILES, Matthew B. a HUBERMAN, A. Michael, 1994. *Qualitative data analysis: An expanded sourcebook*. 2nd ed. Thousand Oaks, Calif.; London: Sage. ISBN 0-8039-5540-5.

[13] NOVOTNÁ, Hedvika; ŠPAČEK, Ondřej a ŠTOVÍČKOVÁ, Magdaléna (ed.), 2019. *Metody výskumu ve společenských vědách*. Praha: FHS UK. ISBN 978-80-7571-025-3.

VHODNÉ ÚPRAVY VEŘEJNÉHO PROSTORU PRO OSOBY S PAS

ANNA JANOŠOVÁ, ING. ARCH.

Katedra architektury
Fakulta stavební
VŠB - Technická univerzita Ostrava
Ludvíka Podéště 1875/17
708 00 Ostrava, Česká republika

anna.janosova@vsb.cz

ORCID ID: 0000-0002-5042-8182

Ing. arch. Anna Janošová působí jako doktorandka na Katedře architektury Fakulty stavební VŠB - Technické univerzity Ostrava. Odborně se zaměřuje na problematiku bydlení pro osoby s poruchou autistického spektra a architektonickým prostorem přizpůsobeným jejich potřebám. Ve své praxi se věnuje především navrhování interiérů a rezidenčních staveb.

PETR HRŮŠA, PROF. ING. ARCH.

Katedra architektury
Fakulta stavební
VŠB - Technická univerzita Ostrava
Ludvíka Podéště 1875/17
708 00 Ostrava, Česká republika

petr.hrusa@vsb.cz

ORCID ID: 0000-0003-3019-7329

Prof. Ing. arch. Petr Hruša působí jako akademik, výzkumník a vedoucí Katedry architektury na Fakultě stavební, VŠB - Technické univerzity Ostrava. Odborně se zaměřuje na teorii architektonické tvorby, kulturní a sociální souvislosti architektury a rozvoj městské a obytné struktury. Aktivně se věnuje také architektonické praxi, kde má zkušenosti s návrhy významných veřejných, obytných a kulturních staveb.

Janošová Anna - Hruša Petr

ABSTRAKT: Text se zabývá tvorbou veřejného prostoru pro osoby s poruchou autistického spektra (PAS) s důrazem na filozofický a fenomenologický přístup k architektuře. Východiskem je Kantova triáda percepce, recepcce a apercepce a koncept prostoru jako kulturně-duchovní struktury. Na rozdíl od přístupu zaměřeného pouze na funkci a technické parametry článek akcentuje potřebu prostorové čitelnosti, rytmu, sensorické stability a neverbální komunikace prostředím. Uvádí konkrétní návrhové principy, které podporují sensorickou integraci, kontrolu nad prostředím, předvídatelnost, klidné únikové zóny, previewing a respekt k individuální senzitivitě. Studie upozorňuje na široký společenský přínos těchto úprav a poukazuje na možnost jejich využití nejen pro osoby s PAS, ale i pro širší veřejnost. Architektonický prostor je zde prezentován jako terapeutický, inkluzivní a existenciálně podpůrný rámec, který umožňuje důstojné zakotvení člověka ve světě.

KLÍČOVÁ SLOVA: architektura a autismus; PAS; veřejný prostor; sensorická integrace; percepce a apercepce; filozofie prostoru; inkluzivní design; prostorová čitelnost; previewing; terapeutický prostor

ÚVOD

Tvorba architektonického prostoru pro osoby s poruchou autistického spektra (PAS) vyžaduje hlubší než pouze technický nebo funkční přístup. Osoby s PAS vnímají prostředí nejen skrze smyslové podněty, ale i skrze jeho rytmus, uspořádání, čitelnost a duchovní kvality. Tento článek představuje filozoficko-teoretický rámec, který vzešel z odborné diskuse mezi prof. Ing. arch. Petrem Hrušou a Ing. arch. Annou Janošovou a který se opírá o Kantovu koncepci percepce, recepcce a apercepce. Předkládá prostor jako kulturně a duchovně formovaný celek, který má schopnost ovlivnit psychický stav uživatele a podpořit jeho důstojnost, stabilitu a smyslovou integritu. V kontextu autismu se ukazuje, že prostor může být nejen funkčním rámcem každodenního života, ale i nástrojem terapie, orientace a sebeporozumění toto tvrzení pochází z průzkumu stávajících a praktikovaných terapií na území ČR. Cílem tohoto textu je ukázat, že integrace filozofických a fenomenologických principů do navrhování může přinést nový přístup k architektuře jako takové, která reaguje na hlubší existenciální potřeby lidí s neurodiverzní zkušeností.

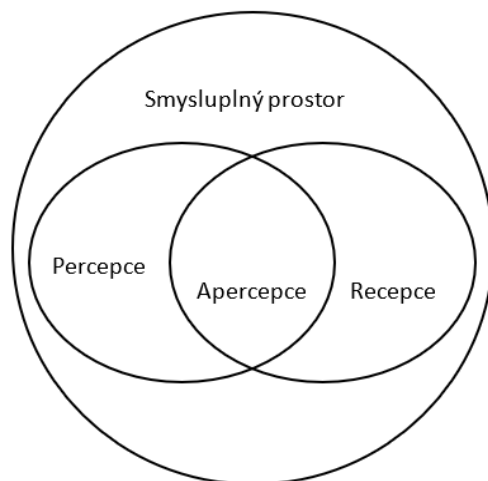
FILOZOFICKÝ ZÁKLAD PRO TVORBU ARCHITEKTONICKÉHO PROSTORU PRO OSOBY S PAS

Tvorba prostoru pro osoby s poruchou autistického spektra (PAS) vyžaduje specifický přístup, který přesahuje čistě funkční hledisko. Teoreticko-filozofický rámec navrhování prostoru pro osoby s PAS, vycházející z trojice percepce, recepcce a apercepce. [1] Zatímco většina odborné literatury se zaměřuje na fyziologické vnímání prostoru (např. světlo, zvuk, hmota), autisté rovněž citlivě reagují i na metafyzické kvality prostoru – např. duchovní atmosféru v sakrálních stavbách.

Recepce je zde chápána jako vnímání měřitelnosti v prostoru např. času měřitelného a opakujícího se (chrónos) versus tělesnost časoprostoru (tempos). Autisté jsou obzvláště vnímaví na tempo prostoru např. neklid koridoru nádraží může vyvolávat stres, zatímco klidné prostředí knihovny navozuje pocit bezpečí. Apercepce pak představuje sjednocení všech úrovní vnímání, a to jejich harmonizací ve smysluplný celek. To neplatí pouze pro osoby s PAS, ale pro celou neurotypickou populaci. A s tím souvisí čtvrtý pojem koncepce prostoru, kultivace. Tím dostáváme podnět pro smysluplný prostor.

Moderní, tím spíše postmoderní architektura často opomíjí stabilitu a čitelnost prostoru. Přitom osoby s PAS vyžadují prostor pravidelný, čitelný a předvídatelný. Pravidelný má zde širší význam, tedy ovšem

neznamená vždy symetrický nebo pobírající stejné míry rozestupů. Pravidelnost se může projevat vyvážeností prostorů v harmonické kombinaci více



Obr. 1.: Vennův diagram znázorňující smysluplný prostor (Zdroj: Anna Janošová – vlastní schéma, březen 2025, VŠB-TUO)

kompozičních prvků. Pravidelnost se naopak více než stejně vzdálenými prvky fyzicky může projevat svým čitelně tělesným vzdálením při použití smyslu pro „taktum“, jako je např. to, co dává smysl rytmu kroků. V čitelnosti přitom nejde o použití značek typu piktoqramů, ale jde při ní hlavně o to nevysílat smíšené signály účastníkům dění či spíše uživatelům prostoru. Materiály, tvarové řešení, práce se světlem a mnoho dalšího v podstatě receptivně architektonického dává prostoru určité neverbální signály, které by se neměly navzájem popírat. Např. vhodným členěním prostoru volbou struktury či i umístěním barvy je možné vytvořit hranici, která má říct tady je pozornost soustředěná na nekolizní a čitelný jeden či druhý prostor. Dalším typickým příkladem je v tomto smyslu jasně navržený vstup. Předvídatelnost prostoru se dá zajistit průhledem nebo tvarovým řešením.

To vše může být inspirací k novému architektonickému paradigmatu – vnímat prostor nejen jako psychicky neuchopitelné místo, ale jako kulturně fyzicky i duchovně utvářenou strukturu. Inspiraci lze nalézt i ve fenomenologii (Husserl, Brentano), která prostor chápe jako existenciálně zakořeněný. [2]

HYPOTÉZA ČTYŘ PARADIGMAT PRO NÁVRH PROSTORU: [3]

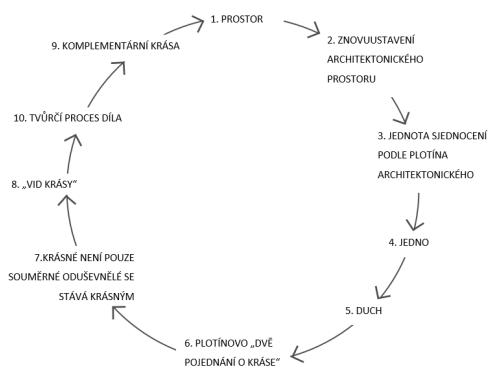
1. Ontologické paradigma paradigma bytostně věčné

– **realistické**) klade důraz na stálost a neměnnost věcí, které existují nezávisle na okolnostech a jsou vnímány percepčně. V rámci přístupu inspirovaného PAS lze jako metodu poznání (noesis) zvolit hypotézu, která se ptá: „Co znamená, že něco stálého existuje?“ Tento přístup sdílí myslitelé, představitelé klasické filozofie jako Platón, Aristoteles, ale i moderní fenomenologie jako Heidegger, pro něž je společné hledání trvale platného bytí. Stálost se neprojevuje v architektuře neměnností funkcí, ale např. stálým uspořádáním vlivem použití kvalitních materiálů nebo udržitelným rytmem kompozičních prvků.

2. Konstruktivistické paradigma chápe poznání jako výsledek receptivního vědomí, kde to, co je věčné, je vytvářeno v rámci poznávacích podmínek (jako jsou logická pravidla či logicky konstruované či až laboratorní podmínky). Základní otázka zní: „Co mohu poznat?“ Tento přístup reprezentují zejména René Descartes a Karl R. Popper, a je spojen s vývojem noetiky jako receptivního směru poznání. Typickým příkladem je tektonika prostoru, která nepopírá své základní principy.

3. Komunikativní paradigma (paradigma logicky fenomenologické) vychází z vědomí, že hranice poznání jsou omezeny možnostmi výrazu a staví na apercpci – tedy na odstupu od běžné percepcce. Základní otázka zní: „Čemu mohu porozumět?“ Tento přístup je spojen s hermeneutikou a zastávají jej myslitelé jako Brentano, Ingarden, Husserl, Patočka, Wittgenstein, Rezek a Gadamer.

4. Komplementární paradigma na základě Plotínovy filozofie [4]; v ní jde o dobro a krásu, kde je pravá krása spojena s jednotou (Jedno), rozumem (Logos), ideou a duší. Architektonický prostor má být výsledkem inteligentní tvorby – syntézou duchovního a smyslového poznání. Cílem tvorby na základě Plotínova odkazu z jeho filozofie není samoúčelná estetika, ale dosažení harmonického celku, který podporuje důstojnost, klid a duševní integritu uživatele – zejména těch, kteří jsou citlivější na okolní podněty.



Obr. 2.: Diagram znázorňující tvorbu prostoru pro osoby s PAS (Zdroj: Anna Janošová – vlastní schéma, březen 2025, VŠB-TUO)

Filozofický přístup k tvorbě prostoru pro osoby PAS se tak paradoxně nemusí orientovat na osoby PAS, ba naopak – překvapivě i širší odborné, ale i laické uživatelské veřejnosti může pomoci odhalit hlubší smysl architektury jako právě prostor spíše než obecné prostředí, to znamená prostor pro lidské bytí. Prostor navržený podle těchto principů se stává nejen funkčním, ale i terapeutickým.

Ve výše uvedené tabulce je znázorněno procentní zastoupení fyzických a psychických potíží. Pokud víme, že má smysl upravovat prostor pro osoby s fyzickým (16%) nebo zrakovým (3%) handicapem, proč neupravíme prostor pro autisty (1,4%) nebo osoby s psychickými potížemi (30%)? Prostor takto upravený je vhodný nejen pro osoby s PAS, ale celkově snižuje psychologický dopad na nás všechny.

Kategorie	Četnost na území Evropy
Autismus	0,8–1 % (max. ~1,4 %) [5]
Těžké zrakové postižení	1 z 30 Evropanů (cca 3 %) nějakou ztrátu zraku, zahrnuje těžké i mírné případy [6]
Vážné pohybové postižení	7–10 %; až 16 % zahrne i jiné potíže [7]
Psychické potíže (prevalence)	~30 % (z toho 16 % denní, 10–15 % roční) [8]

Tab. 1.: Četnost zdravotních problémů v populaci. (Zdroj dat: citován jednotlivě, sestavila Anna Janošová, 2025, VŠB-TUO)

DĚLENÍ PROSTORU PODLE FUNKCÍ

Autobiografické zprávy Temple Grandin, Donny Williams, Gunilly Gerland nebo Ida Kedara ukazují, že fyzický prostor představuje pro osoby s autismem stabilní oporu v proměnlivém světě. Toto je odkazem na Ontologické paradigma, které klade důraz na stálost a neměnnost věcí. Stabilita, předvídatelnost a senzorická přívětivost prostředí právě jako dobře koncipovaného prostoru (viz. Plotínos) jsou pro ně zásadnější než mezilidské vztahy. Jak uvádí Ruud Hendriks, „nelidské (ne?) předvídatelné chování a železná pravidelnost“ představují právě to, co autistům přináší bezpečí. [9]

Výzkumy prostorového vnímání potvrzují existenci tzv. „prostorové logiky“ preference rituálních tras, vizuální čitelnosti a dotykových interakcí. Vhodné prostředí by mělo splňovat tři dimenze: senzorickou kvalitu, prostorovou čitelnost a přehlednou navigaci. Temple Grandin popisuje, že vizuální a haptická zkušenost (např. stavění z písku) jí pomáhala pochopit svět. [10] Naopak případ Erika Langra ukazuje, že senzorická destabilizace (např. náhlá ztráta zraku) může vést k hluboké regresi, somatickým potížím i ztrátě motorických dovedností, přičemž návrat funkce se odvíjí od smyslové rovnováhy.

Architektonický prostor je proto třeba, vycházíme-li z těchto poznatků, třídit podle míry proměnlivosti a kontroly: veřejný (náměstí, ulice), poloveřejný (školy, terapeutická centra) a soukromý (bydlení, stacionáře). Zatímco veřejný prostor chápán jen jako prostředí, je těžko předvídatelný, poloveřejné a soukromé prostory v prostředí by měly být navrženy tak, aby byly srozumitelné, členité a klidné.

Prostor	Příklady	Hlavní funkce	Vedlejší funkce
Veřejný prostor	Náměstí, ulice, parky, nákupní centra	Nelze zjednodušeně definovat funkce	
Poloveřejný prostor	Školy, rehabilitační ústavy, terapeutické poradny	Soustředění, léčba	Odpočinek
Soukromý prostor	Bydlení, chráněné bydlení, stacionáře	Odpočinek, klid	Soustředění

Tab. 2.: Tabulka shrnující vnímání prostoru (Zdroj: Anna Janošová, září 2022, VŠB-TUO)



Obr. 3.: Příklad vhodného řešení veřejného prostoru pro autisty (Zdroj: Anna Janošová – vlastní fotografie, květen 2022, VŠB-TUO) – jasně definované rozdělení prostoru a jeho funkcí prostřednictvím vhodného použití povrchů a materiálů.



Obr. 4.: Příklad nevhodného řešení veřejného prostoru pro autisty (Zdroj: Anna Janošová – vlastní fotografie, květen 2022, VŠB-TUO) – široká a frekventovaná křižovatka, bez klidných zón (např. lze zlepšit pomocí zeleně nebo změnou dlažby) je typickým problémovým místem pro lidi s autismem.

POŽADAVKY NA ÚPRAVU VEŘEJNÉHO PROSTORU OSOB S PAS

Při návrhu veřejného prostoru je nutné brát v potaz, že tento prostor slouží všem nejen autistům, a proto je samozřejmé, že není možné upravit všechna místa a navrhovat architekturu pouze pro autisty. Dále je nutné připomenout samotnou individualitu autismu. Pojem „autistické spektrum“ vznikl za účelem vystihnout rozmanitost projevů autismu, avšak často bývá vnímán jen jako specifikum, to znamená příliš lineární – jako škála od „mírného“ po „těžký“ autismus. Ve skutečnosti se jednotlivé projevy autismu vzájemně nepřekrývají v jediné ose, ale fungují spíše jako „souhvězdí“ různorodých, a to i pro nás poučných charakteristik. [11] Proto má smysl dělat co nejvíce právě ty úpravy, které mají největší vliv na osoby s autismem, ale je nutno poznamenat, že ne na každého autistu působí stejně. Celkově koncipovaný smysluplný prostor je vytvářen skrze apercpci, která ovlivní stresové zatížení těchto osob.

TERITORIALITA A POTŘEBA KONTROLY NAD PROSTŘEDÍM

Lidé s PAS mají zvýšenou potřebu kontroly nad svým prostředím. To znamená, že jen vhodný harmonizovaný prostor umožňuje předvídatelnost a jasné hranice mezi soukromou, poloveřejnou a veřejnou zónou. Pomáhá také možnost úniku do bezpečné zóny. [12] K získání větší jistoty v prostoru z hlediska teritoriality může být nápomocné vytváření materiálových hranic, tam, kde je vhodné dodržovat odstup, širší průchody z prostoru do prostoru nebo zřetelné přechodové zóny. Teritorialita a potřeba kontroly nad prostředím jsou příklady komunikativního paradigmatu (paradigma logicky fenomenologické) vychází z vědomí, že hranice poznání jsou omezeny porozuměti výrazu. Základní otázka zní: „Čemu mohu porozumět?“ Neverbální komunikace prostorem více než jen prostředím – až prostor může komunikovat i beze slov pomocí textur, světla, ticha, členění či symboliky. Umožňuje autoregulaci, předvídání situací a podporuje emoční stabilitu. [13]

S tím souvisí transparentnost prostoru a previewing, které vychází také z komunikativního paradigmatu. Možnost dopředu vizuálně nahlédnout do prostoru (tzv. „previewing“) umožňuje osobám s PAS lépe se připravit na změnu prostředí a snižuje úzkost. Transparentní materiály, výhledové osy a logická návaznost prostor podporují orientaci. [14]

ORGANIZACE PROSTORU A SNÍŽENÍ CHAOSU

Veřejné prostředí, u něhož často chybí onen pojem „prostor“, musí být alespoň srozumitelně členěné, aby se předešlo pocitu zahlcení. Důležité je eliminovat vizuální šum, nadbytečné prvky a zvolit jednoduchý, uspořádaný charakter prostředí, který často odporuje

módnímu designu. [15] Toto souvisí s výše zmiňovaným konstruktivistickým paradigmatem, které je vytvářeno v rámci poznávacích podmínek předpokládající logická pravidla či logicky konstruované podmínky.

Jasná logika uspořádání pomáhá osobám s PAS orientovat se. Prostor je tedy to, co právě souvisí s architektonickým přístupem k osobám PAS, tedy musí mít čitelné zóny, hierarchii a konzistentní navigaci. V právě takto uspořádaném prostředí do „prostoru“ by neměly být vysílány smíšené signály jako např. spěch na nádraží, když musí čekat na vlak. To pomůže navrhovat například klidné čekárny.

INKLUZE A SOCIÁLNÍ DIMENZE PROSTŘEDÍ, ROVNOVÁHA MEZI SOUKROMÍM A INTERAKCÍ

Veřejný prostor je to, co má poskytovat příležitost k nenucenému sociálnímu kontaktu bez tlaku na interakci. Vhodné jsou místa pro pozorovanou účast např. komunitní zahrady, klidné kouty, lavičky s výhledem. [16]

I samo prostředí, přestože ne ještě onen výše popsáný prostor, by mělo nabízet jak útočiště pro samotu a zklidnění, tak i možnost bezpečné, nenásilné interakce. Důležité jsou přechodové zóny – např. lavice u stěny, průhledy do dění. [17] Dobrou volbou je vytvářet i polosoukromé dvorky, pro relaxaci bez velkého davu. Vhodně navržené veřejné prostory (např. vnitrobloky, ohniště, poloveřejné dvory) usnadňují komunitní život.



Obr. 5.: Vizualizace moderního bytového domu s obytným dvorkem (Vizualizace: Loomn, neuvedeno [online] [cit. 2025 07 02]. Dostupné z: <https://www.loomn.de/start>)

SOUSEDSTVÍ A KOMUNITA

Okolní širší prostředí kolem osob PAS významně ovlivňuje duševní pohodu. Podpůrná, bezpečná a inkluzivní čtvrť s přístupem k přírodě, službám a možností klidného soužití podporuje nejen osobu s PAS, ale celou rodinu. Nevhodně řešené prostředí (např. hlučné, neudržované, neosvětlené lokality) zvyšuje míru stresu, snižuje pocit bezpečí a vede k sociální izolaci. Blízkost přírody, služeb a komunitní infrastruktury je také klíčová.

Příkladem může být současný stav (před rekonstrukcí) podchodu náměstí Republiky v Ostravě. Podchod má

kromě špatného technického stavu mnoho senzorického působení nejen na osoby s PAS. Šero, špatná větratelnost, pach moči a rozbíjející se hluk dopravy je velmi náročný nejen pro autisty. V nočních hodinách se přidává snížení pocit bezpečí.

Navrhované řešení působí z hlediska přirozeného světla a větrání nadějně. Dle vizualizace není poznat, jak budou plochy ochráněny proti znečištění sprejery a bezdomovci. Možným rizikem tohoto prostoru je kovová zrcadlicí plocha nad nástupištěm.



Obr. 6.: Podchod na náměstí Republiky v Ostravě, současný a navrhovaný stav. (Fotografie: Vladimír Pryček, ČTK, Novinky.cz, 2020 [online] [cit. 2025 07 02]. Dostupné z: <https://www.novinky.cz/clanek/bydleni-ostuda-ostavy-konecne-zmizi-mesto-opravi-dopravni-uzel-v-centru-kam-se-lide-boji-chodit-40501539>)

PRVKY V ARCHITEKTUŘE

PRŮCHODY, TICHÉ KOUTKY (KLIDNÉ MÍSTO) A PODPORA SMYSLOVÉ REGULACE

Bylo by vhodné navrhovat veřejných prostor pro osoby s PAS se zřetelně vyčleněnými přechodovými zónami („transition zones“) hlavními tras, které slouží jako mediátory mezi rušným veřejným prostředím a prostorem a klidovými zónami. Tyto tiché koutky, vybavené ergonomicky navrženým sezením, tlumeným osvětlením a například haptické povrchy, umožňují osobám s PAS rychle se uklidnit a autoregulovat emoce po vystavení silně stimulujícímu prostředí. [18] Je také vhodné umísťovat speciální sensory design zones – např. magnetické stěny, interaktivní panely, textilie či měkké dotykové plochy – mohou pomoci osobám s PAS regulovat senzorickou aktivitu. Takové prvky umožňují bezpečný kontakt se stimulujícími materiály a dávkované podněty podle individuální potřeby. [19] Toto je vhodné umístit do míst, kde není předpokládán spěch, ale spíše relaxace např. parky.

STRUKTURA, POVRCHY A BAREVNOST

Hypersenzitivita se u osob s PAS projevuje citlivostí na tvrdé, chladné, lepkavé nebo ostré povrchy. Takové materiály mohou vyvolat diskomfort až paniku, proto by veřejná infrastruktura měla využívat textury jemné, přirozené či měkké např. filc, měkký laminát, dokonce ale s ohledem na udržitelnost textilie či přírodní dřevo a minimalizovat kontakt s nevhodnými povrchy. [20] Naopak hypersenzitivita je nutí vyhledávat intenzivní senzorické podněty, jako jsou výrazné struktury, vibrující nebo drsné povrchy. Architektura může nabídnout například textury či vibrační plochy, které slouží jako stimulace a pomáhají udržet pozornost nebo senzorické chodníky. [21] Možnosti využití

povrchových struktur v architektuře podporuje navigaci a zónování, ale také umožňuje senzorickou regulaci. Textury mohou vizuálně i hapticky signalizovat přechod mezi aktivitami (např. oddělení zóny klidu a aktivity), což usnadňuje orientaci a reguluje stimuly. [22]

Použití zrcadel a lesklých ploch je doporučováno v omezeném množství. U některých osob s PAS mohou zrcadlové a lesklé povrchy vyvolat stres, dezorientaci nebo paniku, zejména v krizových situacích. U jiných autistů zase působí jako lákadlo, mají tendenci se v nich příliš prohlížet a nebudou ochotni pokračovat v chůzi. Pokud jsou přítomny ve veřejném prostoru, měly by být umístěny mimo hlavní pohybové trasy a použity matné povrchy s nízkým odrazem. [23]

Dokonce i samotná textura má vliv na emocionální pohodu. Jemné vizuální vzory (např. pastelové gradienty, měkké přechody) realistické imitace cihel nebo dřeva, jsou obecně méně rušivé než lesklé kontrastní vzory, které mohou působit matoucím dojmem a zvyšovat kognitivní zátěž. [24] Stejným způsobem působí billboardy, typografie a fotografie v prostředí okolí nevážící se harmonicky k prostoru. Při velkém množství anebo dokonce reklamní vyzývavosti mohou způsobit přetížení.

Barvy významně ovlivňují emoční a behaviorální reakce. Tlumené odstíny jako modrá, zelená, béžová a šedá působí stabilizačně a uklidňují, zatímco syté červené nebo žluté barvy mohou zejména u osob PAS vyvolávat stres, úzkost či agresí. Vhodné je individuální testování a použití barev pouze jako funkční hranice. Studie potvrzují preferenci jemných přechodů a omezení kontrastu.

STIMMING V PROSTORU

Stimming jako opakující se prvky pro chování, které mají sloužit k harmonické regulaci emocí a smyslových podnětů je přirozenou součástí autoregulace osob s PAS. Není vhodné jej potlačovat, ale podpořit jeho bezpečné provádění. Stimming zóny musí být jasně odděleny od výukových a terapeutických prostor. Vhodné jsou vizuální signály a volný pohyb. [25] Může se jednat o umístění struktur v prostoru, otočných prvků nebo houpacích prvků. Není nutné všude dávat doslovně velké houpačky, ale je možné tyto terapeutické předměty začlenit do interaktivního designového řešení.

Stimming v prostoru je také voda. Voda ve veřejném prostoru je vhodná pro ochlazení v horkých dnech. Vzhledem k fascinaci vodou u některých autistů může být toto překážka. U těžkých forem autismu to např. znamená, že autista si do vodní plochy sedne a začne s vodou cákat. Toto může trvat i více než hodinu, pokud nechcete autistovi vyvolat záchvatový stav. Proto by bylo lepší neumísťovat vodní plochy před střešní místa jako je např.: před nemocnice (autista se nenechá vyšetřit).

VELIKOST PROSTORU, BEZBARIÉROVOST A PROSTOROVÁ PŘÍSTUPNOST

Osoby s PAS často potřebují více prostoru kvůli regulaci stimulační zátěže, predikovatelnosti a možností zónování (např. stimmová vs relaxační zóna). Doporučuje se nevytvářet úzké průchody, aby umožnily kvalitní manipulační prostor. Velikost by měla být přiměřená, aby nedocházelo k pocitu klaustrofobie či „agorafobie“.

U osob s PAS se často vyskytují jsou poruchy pohybu i zraku. Nutná je jasná navigace, kontrast a dostatek prostoru. Vyhláška 398/2009 Sb. upravuje přístupnost staveb a zařízení. Výtahem přístupné podlaží, nebo alternativní řešení (plošina), široké vstupy, dostatek manipulačního prostoru. Minimální šířky dveří, ramp, výšky vypínačů a umyvadel musí být dodrženy. Stejně jako u vozíčkářů je nutné řešit prostor pro otáčení,

podjetí a pohyb. Bariéry jako takové mohou být psychickou překážkou, například příliš velký schod nemusí být autista schopen překonat. Stejnou bariérou může být příliš kontrastní barva.

SENZORICKÁ INTEGRACE

Osoby s PAS často vykazují hypersenzitivitu nebo hypersenzitivitu vůči sensorickým podnětům (např. světlo, hluk, vůně, dotek). Veřejný prostor by měl minimalizovat náhlé, nepředvídatelné nebo silné podněty a umožnit sensorickou autoregulaci, například pomocí texturovaných povrchů, zvukově tlumených zón či přírodních materiálů.

Typickým problémem je pro osoby s PAS akustika. U osob s PAS je vysoký výskyt hyperakusie, fonofobie a misophonie. [26] Tyto poruchy zvukové filtrace jako sensorické přetížení jsou objektivně potvrzeny neurofyzilogickými studiemi. Proto je nutné při návrhu omezovat infrazvuk a nevhodný typ vibrací. Reakce autistů na vibrace se liší. Pozitivně bývají vnímány vibrace pravidelné, naopak náhlé vibrace mohou výrazně rozrušit. Pokud je v nějakém místě více hluku např. frekventovaná křižovatka, která mimo jiných podnětů má vlivem dopravy mnoho hluku a vibrací je nutné v blízkosti vytvořit prostor, který bude klidný. Dále je vhodné se vyvarovat se hladkým a tvrdým povrchům, které akustiku mohou nevhodně odrážet.

Návrh osvětlení je taktéž důležitým aspektem. Pro osoby s PAS je nutné navrhovat prostory s dostatkem přirozeného světla. To se týká převážně interiérů veřejných staveb, proto je nutné vhodně používat světlíky, ateliérová okna, transparentní materiály. Lépe autisté reagují na LED světla nebo difuzní osvětlení. Důležité je se vyvarovat blikání světel. Možným relaxačním prvkem může být barevné světlo, ale je nutné ho používat v místě, kde nemusí autista rychle projít nebo se soustředit, protože barevné světlo může upoutat jeho pozornost a on nebude chtít odejít. Možnost regulace intenzity je vhodným prvkem především během dne v interiérech, pokud osoba s PAS vychází ze slunečného dne do tmavého prostoru, může nastat problém nebo naopak. [27]



Obr. 7.: Ilustrativní fotografie veřejného prostoru (Zdroj: Architect. Spring has arrived! Here are 10 fresh examples. [online]. 2023 [cit. 2024-06-30]. Dostupné z: <https://www.architect.com/news/article/150343160/spring-has-arrived-here-are-10-fresh-examples>)

Na fotografiích lze vidět dvě zdánlivě podobné řešení sezení veřejného prostoru. Proč je jedno z nich správně koncipované a druhé má několik nedostatků? Nalevo je vidět lepší z variant. Místo k sezení je vytvořeno v zálivu, je jako objímající náruč, která dodává uklidnění, protože naznačuje prostor. Návrh je umírněný, funkčně a řemeslně dobře proveden. Takový prostor by poskytl autistovi krátkodobé útočiště před přetížením.

Designově vytvořené „příjemně zajímavé“ prostředí



Obr. 8.: Ilustrativní fotografie veřejného prostoru. HOME X FASHION HUB. (Zdroj: Modern Oasis: Illuminated Urban Garden Seating. [online]. 2023 [cit. 2024-06-30]. Dostupné z: <https://www.pinterest.com/pin/modern-oasis-illuminated-urban-garden-seating/>)

napravo má nižší kvality, a to právě kvůli přehlcení podněty: mnoho světel, různé křivky, tvarové řešení nesouvisí s členěním materiálu. Pokud by zde sedělo více cizích osob porušují svůj přirozený osobní prostor. Zároveň ambientní osvětlení v místě nohou může být sice pro autisty příjemné, ale dává smysl jen v poloveřejných prostorech, kde nesvítí příliš ostře veřejné osvětlení. Ve veřejném prostoru by mohlo být osvětlované smeti, jako jsou dokonce i zdánlivě podružně pozorované odhozené nedopalky, což např. autistu s fobií z nepořádku vyvede z míry.

V městském prostředí je vhodnou volbou vytvářet nebo kultivovat stávající vnitrobloky. Pokud je to možné, je třeba nevytvářet pouze obecně chápané parkování ale blíže nespecifikované plochy, a už vůbec ne parkovací plochy, ale je třeba pracovat s materiálovým řešením a s vhodnou a z hlediska provozu a údržby profesionálně navrženou volbou vegetace, v obecných parkových úpravách tedy nestačí se spokojovat s pouhým označením ploch jako „zeleně“.

Ve veřejném prostoru se často nachází fenomén „altán ne-altán“. Malá stavba bez architektonického smyslu a s tím často i bez účelu, která jen „minimalisticky“ připomíná svůj původní smysl, ale nemající účel, ve skutečnosti ho neplní.

Obr. 9. prostor pro kuřáky, nejen autista tento prostor



Obr. 9.: Střeška autobusové stanice Nivy, Bratislava, Slovensko (Zdroj: Anna Janošová – vlastní fotografie, srpen 2022, VŠB-TUO)



Obr. 10.: Střecha autobusové stanice Nivy, Bratislava, Slovensko (Zdroj: Anna Janošová – vlastní fotografie, srpen 2022, VŠB-TUO)

nepochopí. Proč by měl jít kuřák kouřit do něčeho, co připomíná klec? Jak toto pseudořešení vůbec zadrží kouř?

Obr. 10. stínění funguje jen při určitém směru svitu slunce a vzhledem k perforaci plechu neochrání ani proti dešti, což měl být asi původní vtip antiarchitektonického designérského záměru. Kostky pro sezení jsou pro autisty nevhodné, vzhledem ke vědomému až velmi citlivému vnímání polohy vlastního těla – kinestezii autistů je pravděpodobné, že by nutily autistu k houpání – tím pádem jsou až nebezpečné. Tak je třeba nenavrhnout atrakci typu oněch kostek, protože dochází často k tomu, že může způsobit motorické bloky a neshodu s chápáním propriocepce a podráždění receptce.

ZÁVĚR

Volba vhodného prostředí vychází ze smyslu tvorby architektonického prostoru pro osoby s poruchou autistického spektra (PAS) a nesmí být redukována na pouhé splnění technických parametrů nebo funkčních požadavků. Pokud dokážeme prostor navrhovat aspoň částečně dle výše zmíněných prvků, bude prostor vycházet z Komplementárního paradigmatu na základě Plotínovy filozofie [28], kde je pravá krása spojena s jednotou (Jedno), rozumem (Logos), ideou a duší. Architektonický prostor se potom stane syntézou duchovního a smyslového poznání. Důvod zde zmiňovaného Plotínova odkazu, je že jeho filozofie nepopisuje jen samoúčelná estetika, ale snahu o dosažení harmonického celku, který podporuje důstojnost, klid a duševní integraci uživatele.

Jak ukazuje tento výzkum vycházející z několika studií a z vlastního výzkumu jako podkladů pro tento text, skutečně inkluzivní a terapeutické prostředí vzniká až tehdy, když je navrhování vedeno hlubším filozofickým a fenomenologickým porozuměním nejen „příjemného prostředí“, ale přímo architektonického prostoru jako nositele smyslu, bezpečí a kontinuity harmonického bytí. Pro osoby s PAS je prostor zásadním médiem autoregulace, orientace a vztahování se ke světu. Vnímání přesahuje fyziologické smysly – zahrnuje rytmus, předvídatelnost, logiku uspořádání i neverbální komunikaci skrze materiály, světlo, strukturu a čas. To vše jsou poukazy na platnost výše zmíněné hypotézy čtyř paradigmat: Ontologické paradigma, Konstruktivistické paradigma, Komunikativní paradig-

ma a Komplementární paradigma.

Na základě interdisciplinárního přístupu – propojujícího poznatky z filozofie, psychologie, architektury i neurovědy – lze formulovat konkrétní návrhové principy, které respektují senzitivitu, potřebu kontroly, potřebu úniku i touhu po srozumitelném světě. Dělení prostoru podle míry soukromí, aplikace principů pre-viewingu, senzorické zónování, výběr materiálů a světelných podmínek, stejně jako důraz na kulturně utvářený smysl pro širší prostředí – to vše přispívá k vyšší kvalitě života nejen osob s PAS, ale i celé společnosti.

Architektonický prostor se tak stává nástrojem inkluze, terapie i porozumění. V dialogu mezi uživatelem a architektem může vzniknout prostor, který je zároveň funkční, estetický i existenciálně podpůrný. Výzvou pro současnou architekturu je přijmout tuto komplexitu a hledat nové paradigmatické rámce, které umožní tvořit prostředí citlivá ke všem formám lidského prožívání.

POUŽITÉ ZDROJE

[1] KANT, Immanuel. (n.d.). Philosophy Research Guide. Online. University of Kentucky. [online] Dostupné z: <https://libguides.uky.edu/philosophy/kant>. [cit 2024-06-25].

[2], [3] HRŮŠA, Petr (2025). Vyjádření k diskusi na téma filozofie architektonického prostoru pro osoby s PAS, v rámci přednášek k předmětu Teorie a estetika architektury, VŠB-TU Ostrava, Osobní komunikace, Duben 2025.

[4], [28] PLOTINOS (1994). Dvě pojednání o kráse = ΠΛΩΤΙΝΟΥ ΔΙΑ ΛΟΓΟΥ ΠΕΡΙ ΚΑΛΩΝ. Řecký text a český překlad. Přeložil Petr Rezek. 1. vyd. Praha: Petr Rezek. 96 s. ISBN 80-901796-2-2.

[5] MASTERMIND BEHAVIOR (n.d.). Autism in Europe. [online]. Mastermind Behavior. Dostupné z: <https://www.mastermindbehavior.com/post/autism-in-europe>. [cit 2025-06-25].

[6], [7] EUROSTAT (2022). Mental well being and social support statistics. Statistics Explained: European Commission. [online]. Článek „Prevalence of chronic depression“. Dostupné z: https://ec.europa.eu/eurostat/statistics_explained/index.php/Mental_well_being_and_social_support_statistics. [cit 2023-06-25].

[8] WORLD HEALTH ORGANIZATION (WHO) (2017). Depression and other common mental disorders: global health estimates. [online] Geneva: WHO. Dostupné z: <https://apps.who.int/iris/handle/10665/254610>. [cit 2023-06-25].

[9] HENDRIKS, Ruud (1998). Egg Timers, Human Values, and the Care of Autistic Youths. Science, Technology & Human Values, 23 (4), 399–424.

[10] GRANDIN, Temple (2006). Thinking in Pictures: And Other Reports from My Life with Autism. Expanded ed. New York: Vintage Books. ISBN 978-0-307-27565-3.

[11] WING, Lorna (1981). Asperger's Syndrome: A Clinical Account. Psychological Medicine, vol. 11. 115–129.

[12] HENDRIKS, Ruud (1998). Autism in a Socio-Cultural Context. Rotterdam: Erasmus University.

[13] HALL, Edward T. (1966). The Hidden Dimension. Garden City: Doubleday. ISBN 978-0-385-05566-3.

[14] SCOTT, Ian (2009). Design for Autism Spectrum Disorders. New York: Routledge. ISBN 978-1-138-13263-6.

- [15] KAPLAN, Rachel a KAPLAN, Stephen (1989). *The Experience of Nature*. Cambridge: Cambridge University Press. ISBN 978-0-521-34139-3.
- [16] SCHON, Donald A. (1983). *The Reflective Practitioner*. New York: Basic Books. ISBN 978-0-465-06878-4.
- [17] BRAWN, Gabrielle (2015). *Architecture for Autism*. London: RIBA Publishing. ISBN 978-1-85946-603-0.
- [18] CREATIVE ACTIVITY (bez data). *Sensory for ASD | Multi Sensory Environments*. [online]. Dostupné z: <https://www.creative-activity.com/multisensory-environments/sensory-for-asd.html>. [cit 2025-07-27].
- [19], [24] MANGMANG, Joshua O. a BUSTILLO, Nurvin Zary E. (2025). *Sensory Design Towards the Built Environment for Autism: An Assessment of the Physical Environment of the Selected Shopping Centers in Davao City Through Autism ASPECTSS Design Index*. *Journal of Design and Built Environment*, 25 (1), 1–16. [online]. E-ISSN 2232-1500. Dostupné z: <https://ejournal.um.edu.my/index.php/jdbe/article/view/51145> [cit 2025-07-27].
- [20], [23] TOLA, Giulia, TALU, Valentina, CONGIU, Tanja, BAIN, Paul a LINDERT, Jutta (2021). *Built environment design and people with autism spectrum disorder (ASD): a scoping review*. *International Journal of Environmental Research and Public Health*, 8 (6), 3203. [online]. DOI 10.3390/ijerph18063203. ISSN 1660-4601. Dostupné z: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8003767/>. [cit 2025-07-27].
- [21] PAPADOPOULOU, Athina (2025). *The Rise of Sensory Rooms*. *Architectural Digest*, 30. 4. 2025. [online]. Bez číslování stránek. Dostupné z: <https://www.architecturaldigest.com/story/the-rise-of-sensory-rooms>. [cit 2025-07-27].
- [22] MULLINS, Lauren (2022). *Intern Research – Sensory Design*. *Design Collaborative*, 20. 6. 2022. [online]. Dostupné z: <https://designcollaborative.com/intern-research-sensory-design/>. [cit 2025-07-27].
- [25] MERRIAM-WEBSTER. *Stimming*. Merriam-Webster.com Dictionary [online]. Merriam-Webster, Incorporated, Dostupné z: <https://www.merriam-webster.com/dictionary/stimming> [cit. 2025-06-26].
- [26] WILLIAMS, Zachary J. *Decreased sound tolerance in autism: understanding and distinguishing between hyperacusis, misophonia, and phonophobia*. *ENT & Audiology News* [online], 3 May 2022. Dostupné z: <https://www.entandaudiologynews.com/features/audiology-features/post/decreased-sound-tolerance-in-autism-understanding-and-distinguishing-between-hyperacusis-misophonia-and-phonophobia> [cit. 2025-06-26].
- [27] JALALI, Mansoureh Sadat; JONES, James R.; TURAL, Elif; GIBBONS, Ronald B. *Human Centric Lighting Design: A Framework for Supporting Healthy Circadian Rhythm Grounded in Established Knowledge in Interior Spaces*. *Buildings*. Basel: MDPI, 2024, 14 (4), 1125. [online]. DOI: 10.3390/buildings14041125. Dostupné z: <https://www.mdpi.com/2075-5309/14/4/1125> [cit. 2025-06-26].

TYPOLOGIE BYDLENÍ PRO OSOBY S PORUCHOU AUTISTICKÉHO SPEKTRA

Janošová Anna - Svatoš Jindřich

ABSTRAKT: Článek Typologie bydlení pro osoby s poruchou autistického spektra (PAS) se zaměřuje na stále nedostatečně řešenou oblast dostupného a vhodného bydlení pro osoby s PAS, přičemž poukazuje na závažný nedostatek kapacit i na omezené typologické rozlišení tohoto bydlení v odborné praxi. V České republice i v zahraničí je problematika velmi málo prozkoumána, což vede k obecným návrhům, které nereflktují specifické potřeby osob na spektru. Článek rozebírá klíčové limity bydlení – od senzorických podnětů, přes míru samostatnosti, potřebu podpůrných služeb až po otázky bezpečnosti a soukromí. Představena jsou ideová opatření, která mohou sloužit jako základ pro tvorbu funkčního a důstojného prostředí, a to jak v samostatném, tak chráněném bydlení. Dále je navržena typologie, která rozlišuje návrh prostředí podle typu autismu a míry podpory – od plně samostatného bydlení s asistencí na dálku až po intenzivně podporovaná zařízení s vysokou mírou struktury a personální přítomnosti.

KLÍČOVÁ SLOVA: autismus; PAS; typologie bydlení; chráněné bydlení; samostatnost; architektonický návrh; podpora v bydlení; senzitivita; sociální služby; inkluze; individuální potřeby; prostorové uspořádání; funkční prostředí; design pro neurodiverzitu

ÚVOD

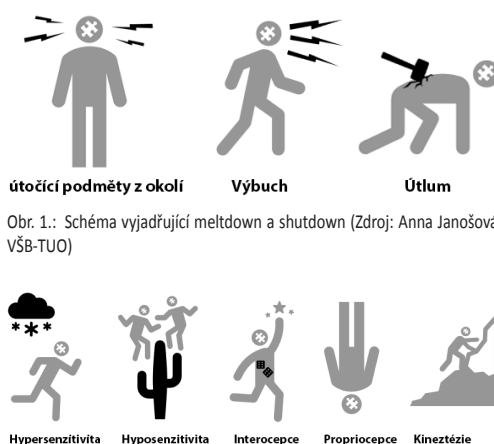
Bydlení pro osoby s poruchou autistického spektra (PAS) je významně opomíjené jak z hlediska dostupnosti, tak kvality. Ačkoliv právo na bydlení je deklarováno v základních lidskoprávních dokumentech [1], v praxi zůstává pro mnoho osob s PAS nenaplněno. V důsledku nedostatku bydlení i v dospělosti tyto lidé často zůstávají u svých rodin, dokud mají dost sil. V případě, že již rodina není schopna se dále starat, tímto nedostatkem dochází u těžkých a někdy i středně těžkých forem autismu k umísťování do psychiatrických léčeben (někdy až celoživotně).

Současná podpora výstavby bydlení pro osoby s PAS je v Evropě převážně doménou neziskového sektoru. V ČR obce čerpají státní prostředky, které však nejsou specificky určeny pro autisty a často nestačí. Navíc chybí odborníci na prostorové řešení pro PAS a dostupná odborná literatura zabývající se návrhem bydlení pro osoby s PAS. Přestože PAS je stejně časté jako jiné zdravotní postižení, regulace v oblasti architektury pro tuto skupinu zatím zcela chybí.

AUTISMUS Z HLEDISKA NAVRHOVÁNÍ

Prevalence PAS je v evropské a severoamerické populaci odhadována na 1–2 %, přičemž u chlapců se porucha vyskytuje až čtyřikrát častěji než u dívek. [2] Porucha autistického spektra (PAS) představuje heterogenní spektrum stavů s proměnlivými potřebami v čase, a že jednotlivé formy PAS vyžadují odlišný přístup v oblasti podpory, terapie i prostředí. Diagnostická klasifikace DSM-5 rozlišuje tři úrovně podpory – od mírné (úroveň 1), přes středně těžkou (úroveň 2), až po velmi těžkou formu (úroveň 3), přičemž každá z nich vyžaduje specifické terapeutické a prostorové intervence. [3] Významnou roli v návrhu bydlení hraje i rozmanitost projevů PAS, včetně hypersenzitivity a hyposenzitivity. Osoby s PAS mohou zažívat smyslové přetížení meltdown (výbuch) či shutdown (útlum), pokud nejsou schopni unikat z nesrozumitelného prostředí. Pro návrh prostoru je důležité zohlednění různých typů vnímání (propriocepce, interocepce, kinestézie).

Dalším aspektem chování osob s PAS je tzv. triádou symptomů. Tyto symptomy také výrazně ovlivňují potřeby osob s PAS v oblasti bydlení: narušená sociální interakce, poruchy komunikace a rigidní chování [4]. Sociální interakce znamená, že osoba s PAS vyžaduje zajištění soukromí, jasně vymezeného prostoru, a minimalizaci kontaktu. Vhodné jsou malé domácnosti nebo samostatné jednotky s možností



Obr. 2.: Schéma vnímání u osob s PAS (Zdroj: Anna Janošová, VŠB-TUO)

kontroly sociálních interakcí. Z hlediska komunikace se doporučuje prostředí s vizuální podporou (piktogramy, harmonogramy), jednoduchým jazykem personálu a alternativními způsoby komunikace (AAC). Rigidita a představitost lze podpořit vyšší stabilitou, předvídatelností a strukturou. [5] Nábytek by měl být neměnný, denní režim vizuálně znázorněn. Důležitý je prostor pro zklidnění a tolerance stereotypních činností.

Typ PAS	Charakteristika	Doporučení pro bydlení
Dětský autismus	Silně narušené chování, často mentální retardace [6]	Jednoduché prostředí, vysoká míra podpory, bezpečnostní opatření [7]
Atypický autismus	Mírnější symptomy, často opožděná diagnóza [8]	Flexibilní a individuálně upravitelné prostředí [9]
Aspergerův syndrom	Vysoké intelektuální schopnosti, narušená sociální intuice [10]	Autonomní bydlení, logicky uspořádané, klidné prostředí [11]
Rettův syndrom	Dívky s těžkým fyzickým a mentálním postižením [12]	Bezbariérové bydlení s nepřetržitou péčí [13]
Dezintegrační porucha	Regrese vývoje po 2.–4. roce života [14]	Přizpůsobené, adaptabilní prostředí s komplexní podporou [15]
PDD-NOS	Nejasné rysy, dítě nelze přesně zařadit [16]	Vysoká míra flexibility, individualizovaný přístup [17]

Tab. 1.: Shrnutí typů autismu a doporučení pro bydlení (Zdroj dat: Anna Janošová, 2025, VŠB-TUO)

TYPOLOGIE BYDLENÍ PRO OSOBY S PORUCHOU AUTISTICKÉHO SPEKTRA

Typologie bydlení pro osoby s PAS je a bude komplikovanou disciplínou už především z důvodu individuality nejen jednotlivých typů postižení a vzhledem k individualitě každého jedince s autismem. Proto nedává přímý smysl zkreslovat přesné rozměry místností či

ANNA JANOŠOVÁ, ING. ARCH.

Katedra architektury
Fakulta stavební
VŠB - Technická univerzita Ostrava
Ludvíka Poděště 1875/17
708 00 Ostrava, Česká republika

anna.janosova@vsb.cz

ORCID iD: 0000-0002-5042-8182

Ing. arch. Anna Janošová působí jako doktorandka na Katedře architektury Fakulty stavební VŠB - Technické univerzity Ostrava. Odborně se zaměřuje na problematiku bydlení pro osoby s poruchou autistického spektra a architektonickým prostorem přizpůsobený jejich potřebám. Ve své praxi se věnuje především navrhování interiérů a rezidenčních staveb.

JINDŘICH SVATOŠ, PROF. ING. ARCH.

Katedra architektury
Fakulta stavební
VŠB - Technická univerzita Ostrava
Ludvíka Poděště 1875/17
708 00 Ostrava, Česká republika

jindrich.svatos@vsb.cz

ORCID iD: 0000-0003-3019-7329

Prof. Ing. arch. Jindřich Svatoš působí jako akademický pracovník na Katedře architektury Fakulty stavební VŠB TU Ostrava a zároveň vyučuje na Katedře architektury Fakulty stavební ČVUT v Praze. Ve své architektonické praxi vede vlastní ateliér od roku 1992 a zabývá se návrhy staveb včetně interiérů od skici po realizaci. Je autorem výukových publikací jako „FAQ studentů architektury“ (2016) a „Grafická prezentace architektury“ (2019), garantuje výuku mnoha předmetů a vede doktorandy na obou univerzitách.

Fenomén / Vlastnost	Charakteristika	Dopad na chování	Požadavky na návrh bydlení
1. Hypersenzitivita [18]	Přecitlivělost na zvuky, světlo, doteky apod.	Úzkost, panika, meltdowny	Tlumené osvětlení, zvuková izolace, přírodní materiály, měkké povrchy
2. Hyposenzitivita [19]	Nízká reakce na podněty (bolest, hluk apod.)	Vyhledávání intenzivních podnětů (autostimulace)	Možnost bezpečné stimulace (houpací křesla, taktilní stěny, strukturované podlahy)
3. Odlišnosti ve všech smyslech [20]	Může se týkat zraku, sluchu, čichu, chuti i hmatu	Reakce na běžné podněty bývají nepředvídatelné	Možnost individuální úpravy prostředí (regulace světla, ventilace, vůně, textur povrchů)
4. Detailní vnímání [21]	Zaměření na detaily, potíže s chápáním celků	Zmatenost, dezorientace v prostoru	Přehledné, logicky členěné prostředí; vizuálně čitelná struktura místností
5. Doslovné vnímání [22]	Slabá schopnost abstrakce, obtíže s generalizací	Nepochopení funkce prostoru, očekávání rigidní logiky	Piktogramy, značení funkcí, stále umístění předmětů a vybavení
6. Emoční přetížení [23]	Emoce jsou těžko pochopitelné, stresující	Úzkost, stažení se, afektivní reakce	Klidová zóna, prostor pro stažení, minimalizace vizuálního a zvukového chaosu
7. Reakce na stres a změny [24]	Nečekané situace a podněty vedou k narušení psychické rovnováhy	Meltdown, úzkost, únikové chování	Předvídatelné uspořádání, neměnné rituály, jasné daný denní režim v prostoru
8. Neurofyziologický základ [25]	Odlišná činnost mozkových oblastí pro percepci a emoce	Senzorické přetížení nebo deficit	Návrh prostředí s ohledem na neurodiverzitu – vyrovnaná stimulace, možnost volby intenzity podnětů

Tab. 2.: Shrnující tabulka fenoménu projevů a jejich dopadu na bydlení pro osoby s PAS, způsob ovlivnění bydlení a doporučení úprav [Zdroj] dat: Anna Janošová, 2025, VŠB-TUO)

přesná pravidla návrhu. Pro úspěšný návrh je nutné pochopit jaké specifika může mít celé spektrum autismu a následně celý návrh uzpůsobit danému jedinci, skupině případně rodinnému bydlení. Pro typologii v tomto výzkumu je tedy specifikováno několik kritérií a při návrhu je nutné zjistit, zda se tato problematika týká osob, pro které to je navrhováno či nikoliv. Pokud totiž navrhujete bydlení jako místo pro život nikoliv místo pro přežívání či řešení akutního stavu (např. nemocnice či ústavy) mělo by toto místo vyhovovat tomu, kdo v něm bydlí. A to hlavně proto, že prostor na osoby s PAS má velký vliv na jejich emocionální pohodu, která může v extrémních případech vést k shutdown (až k dlouhodobému zhoršení kognitivních funkcí).

Před začátkem navrhování bydlení pro tyto osoby je nutné udělat důkladnou analýzu v rodinné situaci (nebo současném bydlení) a také v budoucím bydlení. Při návrhu je taktéž nutné pracovat se svobodnou vůlí osob s PAS. V rámci výzkumu Anna Janošová provedla experiment svobodného výběru, kterého se zúčastnilo 15 autistů a jejich rodiče, si většina účastníků vybrala jiný předmět, než předpokládali rodiče. Komunikující autisté ocenili možnost volby a vyjádřili, že o jejich názor nebývá běžně zájem. Výsledky potvrzují důležitost přímého zapojení osob s PAS do rozhodování o prostředí, ve kterém žijí, namísto spoléhání výhradně na úsudek pečovatelů.

Z níže uvedené problematiky pro návrh volíme pouze vhodné prvky pro danou skupinu nebo jedince. Analýza by měla vycházet z těchto bodů:

- Typu autismu a jeho projevů
- Věk autisty
- Analýza požadavků dané cílové skupiny nebo jedince
- Zjištění senzorických potřeb, úrovně autonomie, schopností orientace
- Typické chování, fobie a krizové scénáře
- Hygienické a destruktivní chování
- Analýza možného zhoršení stavu do budoucna
- Jasné definování typu bydlení a detailní nároky z hlediska objednatele
- Preferovaný typ bydlení
- Požadavky na prostor (velikost, počet místností)
- Nutná podpora (personální zajištění, monitoring,

asistence)

- Specifické vybavení nebo prvky

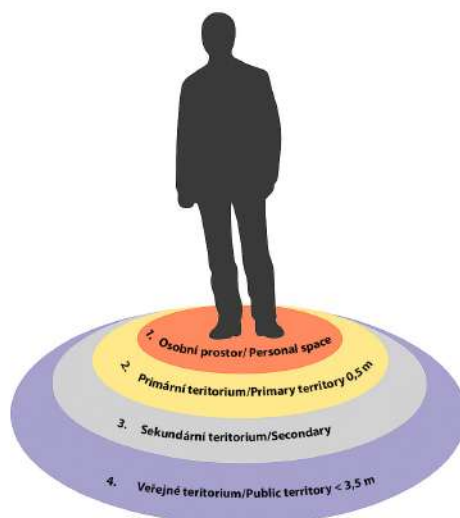
Z výsledků analýzy je nutné rozhodnout, které z těchto níže vysvětlených prvků je vhodných pro danou osobu s PAS: flexibilita a individualizace, prostředí pro osoby s PAS, organizace prostoru, požadavky na bydlení z hlediska psychologie osob s PAS, limity bydlení pro osoby s PAS – vizuální komunikace a orientace, terapeutické prvky bydlení, senzorická integrace, velikost místností, bezbariérovost a prostorová přístupnost, chytré technologie, ideové opatření pro osoby s PAS.

Tuto analýzu je vhodné provádět řízeným rozhovorem s autisty a jejich pečujícími. Výsledek analýzy může vypadat takto: „Návrh bude prováděn pro autistu s nízkofunkčním autismem, přesněji dětským autismem s mentální retardací a s poruchami zraku. Autista je ve věku 18 let. Autista má silnou fascinaci vodou, potřebu se přejídat, časté jsou u něj nekontrolovatelné útoky. Má velký problém s ozvěnou, s příliš velkým osluněním místnosti, nesnese zrcadla a tapety. Má tendenci požídat chemikálie, při záchvatech si ubližuje, při záchvatech je nutný velký prostor. Při dlouhodobém přetížení ničí nábytek a znečišťuje stěny. Vzhledem k prožitému shutdown je pravděpodobné, že skončí na vozíku. Potřebuje bydlení v menší kolektivu s nepřetržitým dohledem. Potřebuje vlastní koupelnu, křeslo a houpáčku.“ Jiný výsledek analýzy může dát např. tyto odpovědi: „Dvacetiletý autista s Aspergerovým syndromem bez dalších přidružených zdravotních potíží potřebuje samostatné bydlení. Má pouze lehce snížený intelekt, není schopen pravidelně chodit do práce kvůli tlaku na disciplínu. Má problém s hlukem, který přichází zvenčí a zároveň jako sebe terapii poslouchá velmi hlasitou hudbu. Nemá rád světlo. Je schopen samostatně bydlet s nutností občasných kontroly a s dohledem nad financemi. Má silnou fobii z nepředvídatelných událostí a prostoru. Meltdown probíhá křikem. Nepředpokládá se výrazné zhoršení stavu do budoucna. Potřebuje malou, tmavou ložnici a provazy na stimming.“ Třetí analýza např. vysokofunkčního autisty by byla výrazně podobná běžnému bydlení neurotypické populace s tím rozdílem, že by požadoval jednu místnost výlučně pro sebe, kde by mohl být třeba i celý den sám.

POŽADAVKY NA BYDLENÍ OSOB S PAS

Flexibilita a individualizace prostředí

Bydlení pro autistické osoby musí zohledňovat velkou variabilitu potřeb. Podpora volby přímo od samotného autisty (např. výběr nábytku, možnost změny dispozice) posiluje autonomie a snižuje stres. Zároveň



Obr. 3.: Halova teorie proximity [Zdroj: GAINES, Kristi; BOURNE, Angela; PEARSON, Michelle; KLEBRINK, Meshia. Designing for Autism Spectrum Disorders. 1. vyd. London: Routledge, 2016, ISBN 978 0 367 03046 9]

je nutné pracovat s mírou flexibility. Někteří autisté potřebují stabilní uspořádání bez změn. Flexibilní nábytek a variabilní interiérové prvky mohou být přínosem, ale musí být robustní a bezpečné. Individuální řešení, jako např. jemná světla kolem postele nebo příjemné struktury, výrazně ovlivňují pocit bezpečí a komfortu.

U osob s PAS je důležité respektovat specifické vnímání osobního prostoru – často vyžadují větší odstup, mají potíže s dotekem a tělesnou blízkostí. [26] Rozlišujeme čtyři základní typy teritoria: osobní prostor, primární teritorium (0,5 m), sekundární teritorium (1,25 m), veřejné teritorium (3,5 m a více).

Prostředí pro osoby s PAS

Umístění nemovitosti má zásadní vliv na každodenní fungování. Lokalita by měla nabízet: dostupnost terapeutických a zdravotních služeb, propojení s komunitou (vyhýbat se ústavním areálům), dopravní dostupnost, klidné prostředí s nízkým hlukem a přítomností přírody. [27] Vhodná lokalita přispívá ke snižování smyslové zátěže, podporuje rutinu a stabilitu a usnadňuje integraci.

Návrh prostředí může aktivně přispět ke snižování sociální izolace. Důležité je: zapojení komunitních prvků (např. společné zahrady, sdílené místnosti), usnadnění interakcí bez tlaku (např. výhledy z oken, průhledy), podpora přístupnosti informací a orientace v prostoru. [28]

Fyzický prostor by měl reflektovat potřebu bezpečného sociálního začlenění a zároveň respektovat limity jedinců. Funkční prostředí by mělo podporovat rozvoj samostatnosti např. nácvik životních dovedností (vaření, úklid, komunikace) v reálných situacích, vizuální plány a piktogramy pro orientaci a samostatné rozhodování, modulární přístup k bydlení – přechodné fáze mezi asistovaným a samostatným bydlením.

Organizace prostoru

Lidé s PAS si často potřebují prostor před vstupem prohlédnout – tzv. previewing snižuje stres a podporuje orientaci. Lze jej podpořit [29]: průhledy, vnitřními okénky, částečně prosklenými dveřmi, otevřeným us-



Obr. 5.: Ilustrativní fotografie vhodného vybavení pracovního prostoru (Autor fotografie: neuveden. Dostupné z: <https://cz.pinterest.com/pin/211174977694259/>)

pořádáním interiéru, přehlednými průhledy z jedné části do druhé. Návrh by měl nabízet možnost sledování dění, ale i úkryt (princip prospekt-refuge).

Uspořádání interiéru významně ovlivňuje orientaci, chování i pocity bezpečí. U osob s PAS je vhodné volit přehledná a logicky členěná prostředí s jasně definovanými funkcemi místností. Otevřený prostor bez výrazného členění může být matoucí, zatímco strukturované zóny (např. pomocí nábytku, barev či osvětlení) usnadňují orientaci [30].

Minimalizace vizuálního a funkčního chaosu snižuje kognitivní zátěž. Organizace prostoru se týká [31]: jasné vymezení zón (např. pracovní, odpočinkové, stimulační), vestavěného úložného prostoru pro eliminaci přehlcení, využití neutrálních a klidných barev, minimalismu v dekoraci.

POŽADAVKY NA BYDLENÍ Z HLEDISKA PSYCHOLOGIE OSOB S PAS

Psychologie bydlení se zabývá vztahem mezi fyzickým prostředím a psychickým, sociálním a kulturním prožíváním jedince. U osob s poruchou autistického spektra (PAS) hraje prostředí mimořádně důležitou roli, ovlivňuje jejich duševní pohodu, chování, míru stresu i schopnost fungovat v běžném životě.

Důležitým aspektem při zvykání na nový domov. Pro osoby s PAS je důležitý pocit „hominess“ (domova), který evokuje známé, stabilní a bezpečné prostředí [32].

Bydlení by mělo umožňovat regulaci sociálních kontaktů. Osoby s PAS často potřebují větší míru soukromí a klidové zóny, které slouží k autoregulaci. Větší počet osob v jedné domácnosti bez možnosti úniku zvyšuje riziko konfliktních situací. Při nedostatku prostoru je vhodné využít například závěsy, zónování nábytkem nebo akustické bariéry.

LIMITY BYDLENÍ PRO OSOBY S PAS

Vizuální komunikace a orientace

Osoby s PAS častěji využívají vizuální systémy pro porozumění prostředí a komunikaci. Použití piktogramů, rozvrhů, schémat nebo vizuálně členěného prostoru napomáhá lepší orientaci, snižuje nejistotu a podporuje samostatnost. Vizuální značení a jasná struktura prostředí přispívají ke zvládnutí běžných aktivit a zvyšují účinnost podpory. [33]



Obr. 4.: Možný náhled do prostoru (Zdroj: GAINES, Miran Kambič (ArchDaily, 2023, Bohinj, Dostupné z: https://www.archdaily.com/1003278/bohinj-kindergarten-arrea-architecture-plus-kal-a/649dea08cb9c465929084c2f-bohinj-kindergarten-arrea-architecture-plus-kal-a-photo?next_project=no))

Barvy, materiály a prostorové členění komunikují význam bez slov. Pro osoby s PAS však mohou vysílat dvojznačné signály – ostré barvy, mozaiky nebo zóny s nejasným určením mohou vést k dezorientaci nebo dokonce k meltdownu. Návrh bydlení by měl být konzistentní, jednoduchý a předvídatelný, bez rušivých vizuálních jevů. Např. odlišení materiálu pro osobu s PAS rozděluje prostor, a to může znamenat: „tady pozor, tady nechod“. Což může pomoci, aby autista dodržoval jejich osobní prostor. [33]



Obr. 6.: Bistro s barevným odlišením podlahy (Zdroj: Alesya Kasianenko, dostupné z: <https://www.behance.net/gallery/142495921/-lotus-bistro->)

Optické klamy a prostorová iluze jsou pro autisty vnímány jinak. Autisté často nevnímají optické iluze stejným způsobem jako neurotypická populace. Jejich vnímání je detailnější, kontextově méně modulované. V interiérech je vhodné se vyhnout zkresleným perspektivám, diagonálním vzorům či zrcadlícím se povrchům. [34] Stabilní a vizuálně čitelné prostředí napomáhá orientaci a snižuje rizikové chování.

Terapeutické prvky bydlení

Navrhování interiéru musí respektovat individuální potřeby a typ terapie. Klíčové je vytvořit strukturo-



Obr. 7.: Ilustrativní fotografie klidného místa (Zdroj: Northwood Supply Co, Etsy, dostupné z: <https://www.etsy.com/listing/1731578407/scandinavian-home-paint-palette-sherwin>)

vané, bezpečné a senzoricky vhodné prostředí. Nábytek by měl umožnit jasnou orientaci, organizaci a zároveň poskytovat možnosti úkrytu či odstupu. [35] Mohou to být: police, regály, paravány, tiché koutky (klidné místo), hračky a pomůcky.

Prostředí pro terapii osob s PAS zahrnuje multisenzorické místnosti (např. snoezelen), ergoterapeutické a logopedické pomůcky i úpravy pro skupinovou terapii. Tyto prvky podporují relaxaci, motorickou a senzorickou integraci, rozvoj řeči a sociálních dovedností.



Obr. 8.: Snoezelen – relaxační multisenzorická místnost (Zdroj: Grandir avec Mino, dostupné z: <https://grandiravecmino.fr/montessori/education-positive/le-sommeil-chez-lenfant/snoezelen-sommeil-enfants/principes-seance-snoezelen/>)

Bezpečný pokoj slouží ke zvládnutí záchvatových stavů a afektivního přetížení. Minimalizuje riziko úrazu. Zahrnuje měkké stěny, podlahy (crash pads), kulatý nábytek, tlumené osvětlení, akustické panely a zvukovou izolaci. Design v tlumených barvách, bez parfémů, bez hladkých a lesklých povrchů, s eliminací ostrých světél. Bezpečný pokoj má být oddělený, označený a přízvučným.

Stimming je přirozenou součástí autoregulace. Není vhodné jej potlačovat, ale podpořit jeho bezpečné provádění. Stimming zóny musí být jasně odděleny od výukových a terapeutických prostor. Vhodné jsou vizuální signály a volný pohyb. [36]

Senzorická integrace

Struktura je specifickým aspektem. Reakce autistů na strukturu povrchů se projevují hypersenzitivitou (přecitlivělostí) nebo hypersenzitivitou (nízkou citlivostí). Hypersenzitivní jedinci reagují negativně na ostré, studené či lepkavé povrchy. Může jim dělat problém vnímat textury s nečekanými změnami (např. dlaždice s výraznými spárami) mohou vyvolávat diskomfort nebo snahu se jim vyhnout. Hyposenzivní jedinci vyhledávají výrazné textury a vibrující prvky. Tyto osoby mohou vyhledávat silnější hmatové podněty, např. opakované dotýkání se strukturálních povrchů (zdi, reliéfy) nebo je běžná obliba zřetelně tvarovaných ploch. [37] Struktury mohou napomáhat

v navigaci prostoru, zónování i senzorické regulaci. Rizikové jsou zrcadla a lesklé plochy. U některých autistů vyvolávají stres nebo nadměrné zaujetí, v krizových situacích mohou být nebezpečné. Vhodné je jejich omezení či zakrytí.



Obr. 9.: Ilustrativní fotografie znázorňující alarmující řešení interiéru s vysokou hrozbou přehlcení prostorem (Zdroj: Chatař & Chalupář, dostupné z: <https://www.chatař-chalupář.cz/stylova-i-moderni-koupelna/>)



Obr. 10.: Sensory Texture Wheel – senzorické texturové kolo pro děti (Zdroj: Extreme Kids World, dostupné z: <https://extremekidsworld.com/products/sensory-texture-wheel?variant=40376449302615>)

Textura např. tapety představující reálné hmatové podněty může být příjemná nebo odpudivá. Nutné je před použitím v interiéru zkoumat reakci daného jedince nebo cílové skupiny. [38] Na toto téma provedla Anna Janošová druhý experiment. Pokus s výmalbou a tapetou u dítěte s těžkým autismem prokázal význam textury na prostorové chování. Tapeta byla vnímána pozitivně či odmítavě v závislosti na vzoru.

Barvy ovlivňují chování a emoční stav. Studené a tlumené barvy (modrá, zelená, béžová, šedá) stabilizují a uklidňují. Syté a kontrastní tóny (červená, žlutá) vyvolávají úzkost a agresi. Doporučuje se individuální testování před použitím na stavby pro osoby s PAS.

Akustika U osob s PAS se ve vysoké míře vyskytuje citlivost na hluk, která se projevuje hyperakusí, fonofobií nebo misophoníí. [39]. Autisté také reagují na nízkofrekvenční podněty, které ovlivňují jejich chování. Výzkum tohoto fenoménu je zatím omezený. Poruchy zvukové filtrace a senzorické přetížení potvrzeny neurofyziologickými studiemi. [40] Při návrhu je nutné vyvarovat se hladkým a tvrdým povrchům s nízkou akustickou pohltivostí. Doporučuje se navrhovat zóny s odlišnou akustikou a monitorovat hladinu hluku v provozu.

Osvětlení pro osoby s PAS se doporučuje navrhovat LED světla bez blikání, difúzní osvětlení, barevné relaxační světlo a světla s možností regulace intenzity. [41] Cirkadiánní osvětlení ovlivňuje spánek, hormony i náladu. Simulace denního rytmu (ráno silné bílé světlo, večer tlumené teplé). Vliv světla na výkon a psychi-

ku je u osob s PAS stěžejním problémem. [42]

Velikost místností, bezbariérovost a prostorová přístupnost

V rámci výzkumu Anny Janošové na téma Typologie bydlení bylo provedeno dotazníkové šetření přímo s osobami s PAS. Celkem odpovědělo 9 respondentů různého věku a s různými diagnózami autismu. Z hlediska preferencí rozměrů bydlení preferují z 77,8 % středně velké prostory (hlavní prostor okolo 30 m², ložnice 16 m²), 22,2 % preferuje velké prostory (hlavní prostor okolo 50 m², ložnice 20 m²). Z tohoto a z průzkumu dostupné literatury výzkum doporučuje pro osoby s PAS se doporučuje navýšit minimální normované rozměry pokojů kvůli potřebě více prostoru, predikovatelnosti a možnosti zónování. Časté jsou u osob s PAS poruchy pohybu i zraku. Nutná je jasná navigace, kontrast a dostatek prostoru.

Zároveň vzhledem k přidruženým postižením je při návrhu nutno vzít v potaz Zákon č. 283/2021 Sb., stavební zákon, který nově zahrnuje požadavek „přístupnosti“ jako základní požadavek na stavby (§ 145) a stanoví, v jakých prostorech má být uplatněna přístupnost (§ 149)., přesněji Vyhláška č. 146/2024 Sb., o požadavcích na výstavbu — tato vyhláška je prováděcím předpisem k novému stavebnímu zákonu a obsahuje základní funkční požadavky na přístupnost (§ 29) U veřejných staveb je nutno vytvořit výtahem přístupné podlaží, nebo alternativní řešení (plošina), široké vstupy, dostatek manipulačního prostoru. Minimální šířky dveří, ramp, výšky vypínačů a umyvadel musí být dodrženy. U vozíčkářů je nutné řešit prostor pro otáčení, podjetí a pohyb. Důraz na funkční uspořádání a ergonomii — důležitý je prostor v kuchyni, ložnici, sociálním zařízení, i garáži.

Chytré technologie

Chytré technologie a umělá inteligence představují významný nástroj pro zvýšení bezpečnosti, autonomie a efektivity péče o osoby s PAS. Pomáhají detekovat krizové situace pomocí senzorů (pohyb, hluk, pád), automaticky upozorňují pečující osoby a snižují nutnost nepřetržitě přítomnosti dohledu. U lidí s vyšší mírou samostatnosti mohou tyto technologie umožnit samostatné bydlení, zatímco u těžších případů přispívají k bezpečnějšímu prostředí.

Umělá inteligence se postupně uplatňuje při sledování emocí a neurofyziologických reakcí, čímž může pomoci lépe pochopit a řídit senzorické přetížení či afektivní výkyvy. Tento trend je zatím ve fázi výzkumu, ale přináší potenciál pro hlubší personalizaci péče. [43]

Opatření pro bydlení pro osoby s PAS

Návrh prostředí pro osoby s PAS vyžaduje individualizovaný přístup vzhledem k velké variabilitě projevů autismu od samostatného fungování až po potřebu nepřetržitého dohledu. Výzkum mezi 30 rodinami pečujícími o osoby s nízkou až středněfunkčním autismem ukázal klíčové priority: bezpečnost, odolnost prostředí, snadná údržba a flexibilita. [44] Bezpečnost je zásadní z důvodu impulzivitu, senzorické přecitlivělosti a zhoršené schopnosti rozpoznat rizika. Odolnost prostoru se týká hlavně záchvatového chování a stimulačních návyků. Snadná údržba je klíčová zejména pro pečující těžce postižených osob.

ZÁVĚR

Výzkum potvrzuje, že návrh bydlení pro osoby s poruchou autistického spektra (PAS) vyžaduje odlišný přístup než u běžné populace. Architektura zde není pouze fyzickým rámcem, ale aktivním nástrojem podpory ovlivňujícím psychickou stabilitu, samostatnost a kvalitu života. Standardizované modely sociálního bydlení nedokážou reflektovat rozmanitost projevů autismu — klíčová je individualizace, senzorická stabilita a flexibilita prostředí.

Typologie bydlení pro osoby s PAS je složitá, protože každý jedinec má jiné potřeby a projevy, proto nelze stanovit univerzální rozměry ani pevná pravidla návrhu. Klíčem je individuální přístup založený na analýze konkrétní osoby či skupiny.

Samotný návrh musí vycházet z jasné prostorové struktury, čitelnosti a zónování, které zajišťují psychickou i fyzickou bezpečnost, senzorickou stabilitu a možnost individuálního přizpůsobení. Cílem je vytvořit prostředí podporující orientaci, klid i aktivní zapojení do života.

Přínos práce spočívá v komplexním propojení architektonických, psychologických a sociálních aspektů návrhu a ve vytvoření metodiky analýzy potřeb osob s PAS. Ta vychází ze znalostí senzorického vnímání a prostorové orientace a umožňuje formulovat individuální architektonické zadání podle míry potřebné podpory.

Výzkum vychází z dostupné odborné literatury i z vlastního empirického šetření, které zahrnovalo sérii experimentů zaměřených na vztah osob s poruchou autistického spektra (PAS) k prostředí, v němž žijí. V rámci experimentu 1 se 15 osob s PAS a jejich rodiče účastnili výběru předmětů, přičemž většina autistů zvolila jiné předměty, než předpokládali rodiče, což potvrdilo nutnost přímého zapojení osob s PAS do rozhodování o prostoru. Experiment 2, uskutečněný formou workshopu na téma Typologie bydlení pro osoby s PAS, prokázal pozitivní reakce dětí i dospělých autistů na strukturální vizuálně-hmatové obrazy, které vedly ke zklidnění a opakované interakci. Experiment 3 pak potvrdil význam textury a vizuálního vzoru v interiéru – dítě s těžkým autismem reagovalo na různé tapety a barevné výmalby rozdílně, od klidu po odmítání. Tyto experimenty společně dokládají, že prostředí má zásadní vliv na senzorické i emoční prožívání osob s PAS a že jejich aktivní účast v procesu navrhování je klíčová pro vytvoření podpůrného a stabilního životního prostoru. Dále byl výzkum podpořen o dotazníkové šetření.

Výzkum představuje první ucelený přístup k definování typologických zásad bydlení pro osoby s PAS v českém kontextu. Nabízí metodologický rámec, praktická doporučení a empiricky ověřené poznatky, které mohou sloužit jako základ pro budoucí legislativní i projektové standardy inkluzivní architektury.

POUŽITÉ ZDROJE

[1] Organizace spojených národů. (1948). Všeobecná deklarace lidských práv. New York: OSN.

[2] Centers for Disease Control and Prevention. (2024). Data and statistics on autism spectrum disorder [online]. Atlanta: CDC. [cit. 2025-05-27]. Dostupné z: <https://www.cdc.gov/ncbddd/autism/data.html>

[3] ÚZIS ČR. Poruchy autistického spektra: Doporučený postup. Praha: Ústav zdravotnických informací a statistiky ČR, 2022. [online]. Dostupné z: <https://kdp.uzis.cz/res/guideline/52-poruchy-autistickeho-spektra-final.pdf> [cit. 2025-06-26].

[4] AUTISM.ORG.UK – National Autistic Society. (n.d.) The history of autism: From the triad of impairments to the spectrum [online]. London: National Autistic Society, [cit. 2025-06-26]. Dostupné z: <https://www.autism.org.uk/advice-and-guidance/what-is-autism/the-history-of-autism>

[5] National Institute for Health and Care Excellence (NICE). (n.d.) Autism spectrum disorder in adults: Diagnosis and management (CG142) – Recommendations [online]. [cit. 2025-10-23]. Dostupné z: <https://www.nice.org.uk/guidance/cg142/chapter/recommendations>

[6] American Academy of Child and Adolescent Psychiatry. (n.d.) Autism Resource Center [online]. [cit. 2025-10-23]. Dostupné z: https://www.aacap.org/aacap/Families_and_Youth/Resource_Centers/Autism_Resource_Center/Home.aspx

[7] Scheeren, A.-M., Begeer, S., Oerlemans, A. M., et al. (2021) 'The importance of home: Satisfaction with accommodation, expectations and housing features among adults with autism spectrum disorder', *Frontiers in Psychiatry*, 12, p. 723. DOI: 10.3389/fpsyt.2021.723.

[8] National Center for Biotechnology Information (NCBI). (n.d.) Atypical autism (Concept ID: C0338986) [online]. [cit. 2025-10-23]. Dostupné z: <https://www.ncbi.nlm.nih.gov/medgen/572882>

[9] Sainsbury, W. J., McKeown, R., Patel, N., et al. (2023) 'Parent-reported early atypical development and age of diagnosis in autism spectrum disorder', *Journal of Autism and Developmental Disorders*, 53(8), pp. 2781–2793. DOI: 10.1007/s10803-022-05715-2.

[10] Boschi, A. (2016) 'From High Intellectual Potential to Asperger Syndrome', *Frontiers in Psychology*, 7:1605.

[11] Faridi, F., Wajid, A., and Khan, A. (2017) 'Behavioral, cognitive and neural markers of Asperger syndrome: A review', *Psychiatry Investigation*, 14(1), pp. 1–10. DOI: 10.4306/pi.2017.14.1.1.

[12] Townend, G. S., Curfs, L. M. G., and Boer, H. (2020) 'Development of consensus-based guidelines for managing communication of individuals with Rett syndrome', *Journal of Applied Research in Intellectual Disabilities*, 33(5), pp. 1229–1240. DOI: 10.1111/jar.12750.

[13] Lamb, A. E., Oliver, C., and Moss, J. (2016) 'Family functioning mediates adaptation in caregivers of individuals with Rett syndrome', *Patient Education and Counseling*, 99(11), pp. 1990–2000. DOI: 10.1016/j.pec.2016.06.016.

[14] Mehra, C. (2019) 'Childhood disintegrative disorder and autism spectrum disorder: A systematic review', *Research in Autism Spectrum Disorders*, 64, p. 101434. DOI: 10.1016/j.rasd.2019.101434.

[15] Angell, A. M., Frank, C., and Solomon, O. (2018) 'A review of diagnosis and service disparities among children with autism spectrum disorder and intellectual disability', *Journal of Child and Adolescent Behavior*, 6(1), p. 1000435. DOI: 10.4172/2375-4494.1000435.

[16], [18], [19], [23] Autism Speaks. (n.d.) Pervasive developmental disorder – not otherwise specified (PDD-NOS) [online]. [cit. 2025-10-23]. Dostupné z: <https://www.autismspeaks.org/pervasive-developmental-disorder-pdd-nos>

[17] Brand, A. (2010) *Living in the Community: Housing Design for Adults with Autism*. London: Kingwood Partnership. 48, ISBN 978-1-907342-25-7

[20], [24] Advanced Autism Services. (2025) 'How to create a sensory-friendly environment at home', *Advanced Autism Blog*, 28 Apr. [online]. [cit. 2025-10-23]. Dostupné z: <https://www.advancedautism.com/post/how-to-create-a-sensory-friendly-environment-at-home>

[21] Geilman, A. (2020) 'Designing for children with sensory integration disorders', *Honours Journal, Johnson County Community College*. [online]. [cit. 2025-10-23]. Dostupné z: https://scholarspace.jccc.edu/honors_journal/vol8/iss1/3

- [22] Discovery ABA. (n.d.) Autism sensory activities you can do at home [online]. [cit. 2025-10-23]. Dostupné z: <https://www.discoveryaba.com/aba-therapy/autism-sensory-activities-for-home>
- [25] Meritova, L., Smith, J., and Roberts, K. (2021) eXtended reality for autism interventions: The importance of mediation and sensory-based approaches, arXiv preprint, arXiv:2105.04233.
- [26], [29] Gaines, K., Bourne, A., Pearson, M. a Kleibrink, M. (2016). Designing for autism spectrum disorders. 1. vyd. London: Routledge. ISBN 9780367030469.
- [27] Scheeren, A.-M., Begeer, S., Oerlemans, A. M., et al. (2021) The importance of home: Satisfaction with accommodation, neighbourhood, and life in adults with autism, *Frontiers in Psychiatry*, 12, p. 723. DOI: 10.3389/fpsyt.2021.00723.
- [28] Haussmann, A. H. A. and Olin, C. V. (2025) Designing beyond walls: An exploration of how architecture can contribute to semi-independent living for autistic adults, *Architecture*, 5(3), 48. DOI: 10.3390/architecture5030048.
- [29], [31] Vartanian, O., Navarrete, G., Palumbo, L. a Chatterjee, A. (2021). Individual differences in preference for architectural interiors. *Journal of Environmental Psychology*, 2021(101668). DOI: 10.1016/j.jenvp.2021.101668. [cit. 2025-6-26]. Dostupné z: <https://doi.org/10.1016/j.jenvp.2021.101668>
- [30] Zaniboni, L., Marzi, A., Caniato, M. a Gasparella, A. (2021). Comfortable and safe environments for people with autism: preliminary analysis of risks and definition of priorities in the design phase. *Journal of Physics: Conference Series*, 8th International Building Physics Conference (IBPC 2021), 2069 (012177). Bristol: IOP Publishing. DOI: 10.1088/1742-6596/2069/1/012177. [cit. 2025-26-6]. Dostupné z: https://www.researchgate.net/publication/356734626_Comfortable_and_safe_environments_for_people_with_autism_preliminary_analysis_of_risks_and_definition_of_priorities_in_the_design_phase
- [32] The Autism Helper. (n.d.) Visual supports for the home [online]. [cit. 2025-10-23]. Dostupné z: <https://theautismhelper.com/visual-supports-for-the-home>
- [33] Madison House Autism Foundation. (n.d.) Architectural design for autism [online]. [cit. 2025-10-23]. Dostupné z: <https://madisonhouseautism.org/housing/architectural-design-for-autism/>
- [34] Happé, F. G. E. (1996). Studying weak central coherence at low levels: children with autism do not succumb to visual illusions. *The Journal of Child Psychology and Psychiatry*, 37(7), 873–877. [cit. 2025-26-6]. Dostupné z: <https://pubmed.ncbi.nlm.nih.gov/8923230/>
- [35] Russell, L. (2024). 28 tipů na stimulační hračky a pomůcky pro děti i dospělé s PAS [online]. Autism-Port. Národní ústav pro autismus, z. ú., publikováno 15. 2. 2024; aktualizováno 17. 6. 2024. [cit. 2024-18-6]. Dostupné z: <https://www.autismport.cz/o-autistickem-spektru/detail/28-tipu-na-stimulacni-hracky-a-pomucky-pro-deti-i-dospELE-s-pas>
- [36] Merriam-Webster. (n.d.). Stimming [online]. Merriam-Webster.com Dictionary. Merriam-Webster, Incorporated. [cit. 2025-26-6]. Dostupné z: <https://www.merriam-webster.com/dictionary/stimming>
- [37] Cavallaro, G., Fitzpatrick, T., Walker, S., et al. (2012) Perceptual and neural response to affective tactile texture stimulation in adults with autism spectrum disorders, *Autism Research*, 5(6), pp. 350–363. [cit. 2025-10-23]. Dostupné z: <https://pubmed.ncbi.nlm.nih.gov/22447729/>
- [38] Autism Education Trust. (2025) Autism design principles for schools [online]. London: Autism Education Trust. [cit. 2025-10-23]. Dostupné z: https://www.autismeducationtrust.org.uk/sites/default/files/2025-01/autism_design_principles_for_schools.pdf
- [39] Williams, Z. J. (2022). Decreased sound tolerance in autism: understanding and distinguishing between hyperacusis, misophonia, and phonophobia [online]. *ENT & Audiology News*, 3. 5. 2022. [cit. 2025-6-26]. Dostupné z: <https://www.entandaudiologynews.com/features/audiology-features/post/decreased-sound-tolerance-in-autism-understanding-and-distinguishing-between-hyperacusis-misophonia-and-phonophobia>
- [40] Miron, O., Beam, A. L. a Kohane, I. S. (2018). Auditory brainstem response in infants and children with autism spectrum disorder: A meta analysis of wave V. *Autism Research*, 11(2), 355–363. DOI: 10.1002/aur.1886.
- [41], [42] Jalali, M.S., Jones, J.R., Tural, E. a Gibbons, R.B. (2024). Human Centric Lighting Design: A Framework for Supporting Healthy Circadian Rhythm Grounded in Established Knowledge in Interior Spaces. *Buildings*, 14(4), čl. 1125. Dostupné z: <https://www.mdpi.com/2075-5309/14/4/1125> [cit. 2025-26-6]. DOI: 10.3390/buildings14041125
- [43] Al Nafjan, A., Alharthi, K. a Kurdi, H. (2020). Lightweight Building of an Electroencephalogram Based Emotion Detection System. *Brain Sciences*, 10(11), čl. 781. Dostupné z: <https://www.mdpi.com/2076-3425/10/11/781> [cit. 2025-26-6]. DOI: 10.3390/brain-sci10110781
- [44] Janošová, A. (2025). Typologie bydlení pro osoby s poruchou autistického spektra [disertační práce, Vysoká škola báňská – Technická univerzita Ostrava, Fakulta stavební]. Výzkum zahrnuje skupinu 30 rodin z organizací ADAM – autistické děti a my, z.s. a RAIN MAN – Spolek rodičů a přátel dětí s autismem.

VŠESTRANNĚ KOMPATIBILNÍ BROŽURA, PLAKÁT, PREZENTACE—JAKO NÁSTROJ VÝVOJE A KOMUNIKACE PROJEKTU. URBORELO.

Kolařík Radek

RADEK KOLAŘÍK, DOC. ING. ARCH.

Fakulta umění a architektury
Technická univerzita v Liberci
Studentská 1402/2
461 17 Liberec, Česká republika

radek.kolarik@tul.cz

ORCID ID: 0000-0003-3414-2966

Radek Kolařík je architekt a učitel architektury. Studoval na FA VUT v Brně, TH Delft a AVU v Praze. Praxi zahájil v ateliéru SIAL v Liberci a ateliéru Jean Nouvel v Paříži. Vede vlastní kancelář RKAW. Byl asistentem v ateliéru Evy Jiřičné na VŠUP, hostujícím asistentem ateliéru Doris Wächli na ETH Zurich, byl vedoucím ateliéru na FA ČVUT, je vedoucím ateliéru na FUA TUL, koncipoval a vede předmět Architecture and City na škole ARCHIP. www.rkaw.cz

¹ KOLAŘÍK 2023

² PATT 2012

³ MAU—LEONARD 2024

⁴ „Měrnou jednotkou této rozvahy jsou studentka a student standardní. Není zde zohledněno oněch cca 20 % studentů, kteří se orientují v jakémkoliv přijatelně koncipovaném modelu struktury studia, jsou připraveni v základních zručnostech nebo připraveni nedostatky v základech samostatně, tedy tak, jak by to na škole univerzitního typu mělo být standardem, operativně doplnit.“ KOLAŘÍK 2023.

⁵ MAU—WARD 2020

⁶ „Adobe InDesign je profesionální software od společnosti Adobe pro sazbu a návrh rozvržení stránek, který slouží k vytváření tiskových i digitálních publikací, jako jsou knihy, časopisy, plakáty, elektronické knihy a interaktivní PDF dokumenty. Poskytuje širokou škálu nástrojů pro práci s textem, grafikou a rozložením, což umožňuje vytvářet vysoce kvalitní a vizuálně působivý obsah pro různé tiskové i digitální platformy. Poskytuje možnosti pro tvorbu obsahu jak pro tradiční tisk, tak pro digitální distribuci, včetně moderních prvků pro interaktivní digitální projekty.“⁷

⁷ Zdroj: OPENAI. Co je Adobe InDesign. Online. Dostupné z: <https://www.google.com/search?q=adobe+indesign>. [Citováno 2025-08-18]

⁸ BLAŽEK 2024

⁹ BLAŽEK 2020

¹⁰ PECINA 2017

¹¹ AMBROSE—HARRIS 2009

¹² Zdroj: Wikipedie. Formát papíru. Online. Dostupné z: https://cs.wikipedia.org/wiki/Formát_papíru. [Citováno 2025-08-12]

ABSTRACT: Příspěvek prezentuje nástroje zpracování a komunikace (ateliérového) projektu, jeho možnosti a případovou studii s komentářem, na projektu pro obor urbanismus. Je reflexí zkušenosti z jejího používání autorem ve výuce na třech školách architektury (ARCHIP, FA ČVUT, FUA TUL) v posledních deseti letech.

Případová studie využívá formát Urborela, který jsem vytvořil pro potřeby úvodních projektů v oboru urbanismu na všech třech školách. Urborelo je leporelo pro město a krajinu, resp. obecně pro jakékoli prostředí. Je složeninou slov urbanismus a leporelo (dětská obrázková skládací knížka). V jeho podobu vyústila snaha o strukturování postupu vedení ateliérového projektu na školách architektury, a ještě déle trvající snaha o nalezení soudobé, adaptabilní formy komunikace projektu v jeho koncepční fázi. Dosavadní zkušenosti z používání nástroje jsem vyhodnotil. Kritériem hodnocení byla účinnost využití nástroje.

KLÍČOVÁ SLOVA: Urborelo; všestranně kompatibilní brožura; účinnost ve vzdělávání; nástroj komunikace projektu; koncepční fáze; (typografická) mřížka; osnova; struktura příběhu; grafický jazyk

ÚVOD

Studentské projekty je potřeba komunikovat, tedy prezentovat vhodným způsobem a dostupnými formami.¹ K tomu studentům a budoucím architektům² slouží základní nástroje:

- model (analogový, digitální zahrnují do 2D ilustrací nebo animací, tedy do tiskové formy nebo digitální projekce),
- ilustrace (jakékoliv 2D zobrazení, zpravidla však vždy základní části projektové dokumentace, ale i fotografie modelů, koláže apod.)
- slovo psané (různé literární žánry a styly)
- slovo mluvené
- ostatní (pouze pro potřeby tohoto elaborátu): videa, animace, performance apod.

Základní otázka tedy zní: Jaký nástroj studentům doporučit/připravit, aby nesnížil autenticitu jejich individuálních výstupů a pomohl jejich vývoji a prezentaci?³

Následující pojednání prezentuje metodu utváření jednoho takového nástroje, shrnutí a vyhodnocení zkušeností z jeho vývoje a desetiletého používání. Text je koncentrátem témat, která všechna mají relevantní roli v osvětlení vzniku a užívání nástroje.

Důvody pro vytvoření nástroje

Velká a zpravidla málo efektivní energie, vynakládaná většinou studentů⁴ (a následně i jejich učitelů) na přípravu podkladů pro konzultace, kontroly rozpracovanosti jednotlivých fází projektu; resp. tatáž energie ztracená v čase konzultací vysvětlováním, jaké by to bylo, kdyby to bylo takové, jak se autor domnívá a snaží říct, i když to nedokáže momentálně nijak doložit, pouze abstraktně verbálně (zpravidla zdlohavě a chaoticky) popsat.⁵ To proto jsem se rozhodl nástroj z vlastního impulsu a na náklady vlastní kanceláře vytvořit, aby tato energie mohla být vynaložena na zpětnou vazbu a diskusi, otevřenou všem, jimž může být prospěšná (tedy zpravidla studentům a jejich spolužákům). Nástroj má, zjednodušeně napsáno, podobu šablony brožury, plakátu, prezentace.

ZÁKLADNÍ CÍLE NÁSTROJE (JEHO ZÁKLADNÍCH FOREM: BROŽURY, PLAKÁTU)

Těmi je maximální realizovatelné zjednodušení ko-

munikace studentů⁴ s vedoucím práce, konzultanty, spolužáky, při konzultacích v průběhu vypracování konceptu; s oponenty či členy komise, případně (a to byl jeden z hlavních impulsů) komunikovat základní myšlenky konceptu zástupcům politické reprezentace města, veřejnosti v nejširším smyslu slova. Z tohoto důvodu primárně prezentuji nástroj pro projekty urbanistické, resp. krajinářské ve fázi návrhu stavby, studie (tedy prezentace konceptů a jejich odůvodnění). Pro projekty návrhů staveb a jejich souborů je pak použití analogicky adaptované.

METODA (JE CHARAKTERIZOVÁNA RELEVANTNÍMI PRVKY, KROKY A JEJICH SOUVISLOSTMI A ROLÍ V RÁMCÍ CELKU)

Základní technologie nástroje

Aby byla práce s nástrojem — přesněji šablonami pro něj vytvořenými — dostupná nejširšímu (a především potřebnému) počtu studentů¹, je bezpodmínečně nutné, aby jim jeho použití bylo dostupné rychle, v rámci krátkého zaškolení, zpravidla navíc konaného v rámci ateliérové výuky. Nenáročnost na předchozí zkušenosti s (předtiskovým) software. Z tohoto hlediska je primárně užíván Adobe Indesign.⁶

Základní konstrukce nástroje

Aby byla práce s nástrojem dostupná nejširšímu (a především potřebnému) počtu studentů⁴ a zejména efektivní pro studenty i učitele, je nutné, aby základní formy nástroje byly adaptabilní a verzatilní, resp. aby tyto formy měly jednotný základ, snadno využitelný ve všech jeho aplikacích. K tomu ideálně slouží nástroj k tomu určený a používaný těmi, pro které je tato činnost tou profesní hlavní: typomřížka⁸ užívaná grafickými designéry.^{9,10}

Základní formát nástroje

Tím je ten obvyklý, využívaný i v tisku (knih).¹¹ Je jím formát řady A dle ISO 216, DIN 476¹², využívaný tradičně pro adjustaci a expedici základní projektové dokumentace. Už tím dává najevo svoji specifickou adaptaci. A úplnou základní jednotkou je jeden formát A4 na výšku (portrét). Dva (dvojstrana) tvoří A3, nejčastěji využívaný pro portfolia projektů. Šablony předpokládají vazbu A4 s tím, že tisk je oboustranný, dvojstrana reprezentuje A3 stranu, a navíc je proporce A3 vyhovující pro digitální projekci.

Základní typografická mřížka

Existuje celá řada možností, jak s typografickou mřížkou pracovat.^{13,14} Adaptoval jsem její použití pro potře-

by výuky studentů na školách architektury. Musí být uživatelsky přívětivé, zejména z pohledu studentů: jeho základní principy musí být snadno vyložitelné a také aplikovatelné, adaptace šablony pro každý obor (tedy urbanismus, který je ilustrován v rámci tohoto příspěvku, i architektura) musí být takřka intuitivní. Mřížka je tedy lapidární z praktického hlediska a důsledek takto dosažené lapidárnosti je pak vedle písmového fontu základní součástí vizuálního stylu nástroje.

Písmový font

Vedle aplikace typomřížky (neutrální, ne důsledně typografické) jsou písmový font a jeho řezy tím, co má zásadní vliv na celkový dojem — a ten by, jak vyplývá z logiky věci — měl být maximálně neutrální. Což je objektivně podmínka nenaplnitelná z pohledu všech. Podmínky neutrálnosti, obecnosti s tím, že se pohybuje na poli více technickém (než uměleckém, ale tady mám na mysli spíše než třeba literárním či reklamním) splňuje nejlépe písmový font Helvetica, která k tomuto účelu byla stvořena. Pro její nedostupnost všem padlo pragmatické rozhodnutí na Arial, dostupný až na výjimku všem studentům. Podstatná pak je jeho aplikace jako součásti vizuálního stylu nástroje.^{15, 16}

Vizuální styl, charakteristika

Musí vyhovovat všem a všemu (studentů a jejich pracím), ale i potenciálním adresátům (uživatelům, členům komisí, oponentům apod.). To je vlastnost bezesbýtku reálně nenaplnitelná; rozhodně ne tak, aby byla akceptovatelná, akceptovaná a přijatá všemi bez výhrad. Vizuální styl je proto ve své podobě neutrální, spíše technický. Lapidárnost až banálnost podporuje neutrálnost a potřebnou odtažitost ve vztahu k primárnímu obsahu stránek.

Práce s písmem je analogicky mechanická, s těmito pravidly: zvolený písmový font v jednom řezu se používá ve čtyřech základních a jedné doprovodné velikosti (pro zdroje a poznámky pod čarou); velikost písma automaticky asociuje význam sdělení (a čím je větší, tím musí být sdělení stručnější, tedy je snadnější dostupné a tím je intuitivně dána jeho naléhavost. Text tedy teče z horního levého rohu, bez další (zpravidla nereálné) ambice na uspořádání plochy.¹⁷

Vizuální styl, struktura

Přebal je postaven na vyvolání napětí, iniciaci zvědavosti. Na přední straně je jméno projektu, je zásadně bez ilustrací, nic víc, než abstraktní slovo nenabízí, láká. Na zadní straně je abstrakt — protože sice čteme zepředu dozadu, ale knihu bereme do ruky a po krátkém shlédnutí titulní strany se nejdříve díváme na zadní stranu, mohu krátký text (cca 200 znaků vč. mezer) během pár vteřin přečíst a nechat se tak v kombinaci se jménem projektu zlákat k prolístování obsahu. (viz Obr. 1.)

Struktura šablony brožury i plakátu (analogicky pak i prezentace), vychází z členění zpracování projektu na jednotlivé fáze: analytická, koncepční, návrhová; občas je uvedena kapitolou nultou, obsahující ilustrace řešeného území a vybrané podklady, pokud to zapadá do příběhu projektu, nebo nějakou jinou. Každá kapitola je zpravidla uvedena piktogramem, sloganem, glosou, esejí; některými nebo všemi; vždy uvozují, co přijde; logicky jsou proto zpracovávány poté, co je obsah hotov; obsah fáze následuje. Tento princip dává brožurě i prezentaci potřebný rytmus, spád, podporuje působivost příběhu, usnadňuje adresátovi orientaci.

Plakát v základní podobě má podobu pásu, sestávajícího ze čtyř formátů A1 nalezato. Doplněných o pás čtyř A4 formátů, v zásadě přebalu knihy a volné interpretace obsahu a tiráže. Ve výšce očí jsou dva formáty (zpravidla) určeny fázi návrhu, spodní formát fázi vývoje konceptu a horní formát úvodní analytické fázi. V souladu s rolí plakátů všech toto uspořádání velmi často úmyslně nerespektujeme a podřídíme povaze práce. (viz Obr. 2., 3.)

Cílem takto koncipovaného, ve svých možnostech velmi úsporného vizuálního stylu, je intuitivnost vnímání sdělení (zprostředkování obsahu adresátovi). Proto nedominují popisky, ale obsah (v pořadí dle významu ilustrace, text). Popisky jsou umístěny v levém horním rohu, provedeny nejmenší (doplňkovou) velikostí, odlišeny podtržením, případně doplněny podtitulem. Slouží pouze k tomu, abych se adresát občas mohl utvrdit v tom, že obsah vnímá správně.

Pojmenování vizuální styl je možná s ohledem na finální podobu podkladů (šablon) a principů, na kterých jsou založeny, ambiciózní; jde prostě o vzhled výsledku. Ale zůstávám u dnes obvyklého sousloví (vizuální styl), pokud se bavíme o vzhledu čehosi, co je součástí nástrojů komunikace, resp. vizuální identity jako celku (o tu se tady nejedná).

Vizuální styl, pro a proti

Z výše uvedeného vyplývá, že je vizuální styl postaven na určitém nedostatku, jehož důsledkem je jistá míra neurčitosti — nevyváženosti: ale pro tu není zpravidla v průběhu zpracování semestrálních prací čas, navíc je pro velkou část studentů něčím, s čím se obtížně potýkají. Tedy upřednostněno je srozumitelné pravidlo, které je zřejmé, obvyklá nevyváženost zůstává, ale čitelná struktura a racionální pořádek jsou přítomni.¹⁸

Základní verzilita nástroje

Základní—nejčastěji užívaný—podformát řady A (A3), tedy jednu dvojstranu brožury, jeden obrázek, lze pro potřeby aplikace na plakát prostě řadit do řad a sloupců. A navíc jej lze v rámci téže typomřížky zvětšovat či zmenšovat po úhlopříčce. Možnosti aplikace jsou neomezené (přiměřeně, přirozeně). V případech, kdy je tato forma využita naplno, je pak podoba volena často velmi individuálně.

Základní formy nástroje

Komunikace studentského projektu se ve své podstatě neliší od komunikace projektu v životě po absoltoriu, tedy profesionálním. V zásadě se ani neliší od prezencí „projektů“ v jiných oborech. Má dvě základní formy: tištěnou a prezentační. Ta tisková má u školních prací zpravidla podobu brožury a plakátu. Prezentační pak zpravidla (komentované) digitální prezentace na projektoru či obrazovce, tedy série obrázků. Pro tuto trojici studenti dostávají v rámci zadání semestrálních úloh šablony.

Role jednotlivých forem

Pro konečnou adresně přesnou aplikaci jednotlivých podob nástroje se snažím vždy osvětlit jejich primární roli. To znamená, že vysvětlení může být, pochopitelně, v odůvodněných případech také jakékoli jiné myslitelné. Vždy však ve výsledku musí být zřejmé, jaká ta podoba být má a ta by měla být naplněna co nejzdařileji, tedy měla by využít potenciál své role v rámci celku komunikace projektu maximálně. Výchozí charakteristiky, mnou uváděné studentům v rámci úvodního zadání semestrálních úloh je následující:

- **brožura (ad Obr. 7):** poskytuje podrobné informace o projektu, chronologicky uspořádané; má rytmus, je strukturovaná podle fází práce; dá se jí listovat nerovnoměrně podle zájmu adresáta pomalu či rychle, vracet se, zastavit se, dá se listovat více brožurami najednou pro srovnání a urychlení vzhledu do prací;

- **plakát (ad Obr. 8):** jeho rolí je zaujmout během úvodních vteřin, na velkou vzdálenost, v rámci celku — ten nenarušovat; přitáhnout pozornost, vzbudit zvědavost zajímat se o projekt dále: tedy může obsahovat i informace, čitelné pouze zblízka; primárně však adresáta přivádí k brožurě, k jejímu prolístování; případně jej motivuje strávit ještě více času shlédnutím prezentace na obrazovce;

- **prezentace** (digitální projekce na obrazovce) může být atraktivním, protože dynamickým způsobem prezentace, doplňující ty statické (včetně analogových

¹⁵ VIGNELLI 2010

¹⁶ VIGNELLI 2013

¹⁷ SHAW 2009

¹⁸ SIDUN 2021

¹⁹ MAU—KOOLHAAS—SIGLER 1997

²⁰ VOSSOUGHIAN 2011



Obr. 1.: Šablona brožury, jak tvoří součást závazného podkladu zadání. Žluté části značí grafiku, červené texty jsou pokyny k dodržení. První slide s typomřížkou, následující pak bez ní. Základní představa toho, co je popsáno v jednotlivých kapitolách (Zdroj: autor Radek Kolařík, RKAW)

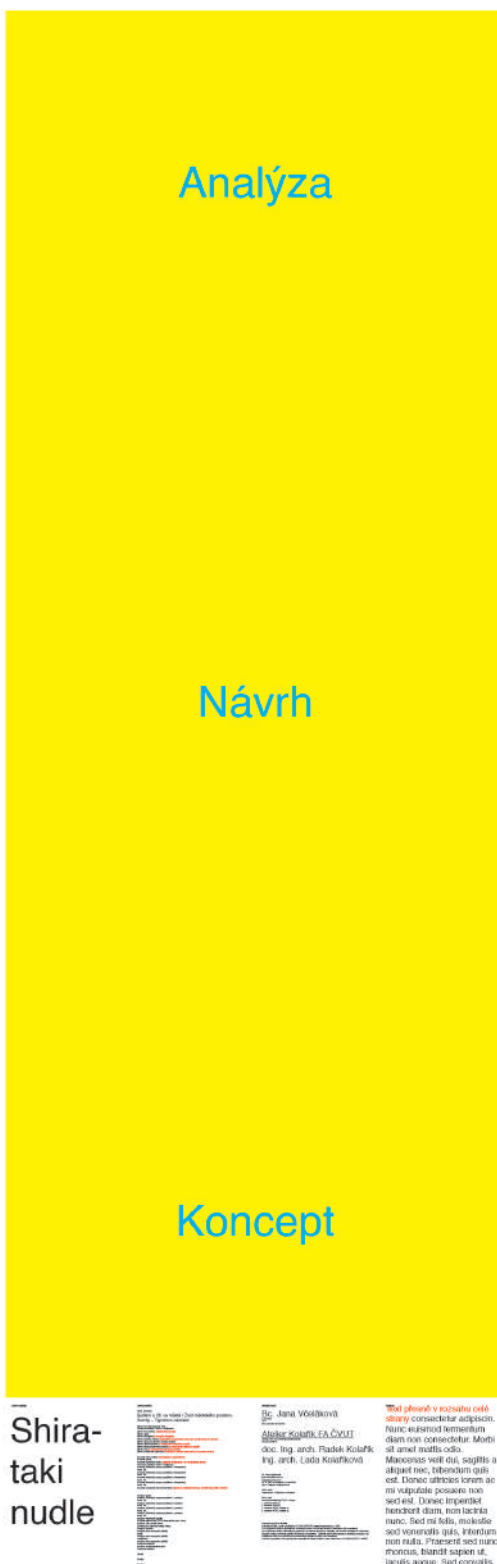
modelů, které zde mohou být animované); do určité míry může být personifikována medailonkem — osobním představením, uvedením, uzavřením tématu (v případě instalace v rámci výstavy, kdy autor není osobně přítomen); prezentace určená pro osobní výklad bývá úspornější v počtu snímků (zejména komentářových předělů) a zpravidla neobsahuje animace či videa.

ZÁVĚR

Svoboda užívání (a z užívání nástroje pramenící) jsou pro mě základními kritérii jeho užitečnosti. Nástroj

pochopitelně není vždy přijat (studenty) s nadšením. Je ale závaznou součástí zadání s tímto mým odůvodněním: umožňuje nám při konzultacích i prezentacích plné soustředění na obsah vašeho sdělení, nerozptyluje nás vnější forma grafické úpravy; na vás je působivost vašeho návrhu. V praxi architekta není tato podmínka nijak výjimečná, to praktikující architekti vědí a absolventi často následně oceňují.

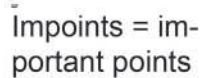
Jednotnost prezentace (podpořená i základní strukturou uspořádání charakteristických stránek (ad struktura šablony) pomáhá komunikaci konceptu směrem k veřejnosti či komisi. To se opakovaně potvr-



Obr. 2.: Šablona plakátu, jak tvoří součást závazného podkladu zadání. Žluté části značí grafiku, červené texty jsou pokyny k dodržení, modré označují doporučené umístění dokumentace fází. Vlevo s typomřížkou, vpravo bez ní. Základní představa toho, co je popsáno v jednotlivých kapitolách (Zdroj: autor Radek Kolařík, RKAU)

Edifici connectivity

A charming, medium-sized town located in Eastern Bohemia. The commission will be to get to know the city. On the basis of a personal inspection and study of all available documents. After that, you each define places or topics that according to you are meaningful for further thinking about the development of the city. This is how you specify your individual assignment. You will process it in the form of illustrated recommendations on how to proceed within a specific assignment. The results of the work can serve the representatives of the city and its citizens. The assignment is to be completed by the end of the summer of the city, as a view of the city from a distance. The city is almost a prototype of many cities of Central Europe. If you learn to understand Dvůr Králové nad Labem, you will be able to understand those other cities as well.



166

zuje s častou pochvalou. Aplikuji tedy přiměřeně tuto myšlenku: „Svoboda je pochopením nutnosti.“¹⁹

Šablony jsou závazné pro standardní semestrální práce. U mistrovských prací (bakalářské a diplomové) mohou být studenty využity, ale naopak očekávám jejich specifickou interpretaci, která pomůže podpořit vyznění konceptu. Resp. využity být nemusí.

Opodstatnění používání nástroje

Zkušenosti nabyté aplikací nástroje (šablon brožury, plakátu, resp. prezentace) jsou sice zkušenostmi nabytými na poli oboru příbuzného, jsou však aplikovatelné v (ne)překvapivě velké míře v rámci výuky architektury, urbanismu, krajinářské architektury — tedy všeho, co jaksi souvisí s vystavěným či obecněji řečeno urbanizovaným prostředím. Opět zjednodušeně pro ilustraci: čím se liší práce na úvodní fázi projektu čehokoli, která se z části odehrává ve 2D zobrazení, od práce s plochou stránkou či plakátu? V obou případech jde o hledání konkrétní podoby harmonizace uspořádání prvků, v nějakém řádu, na podkladě nějaké osnovy.

Vyhodnocení účinnosti²⁰ využívání nástroje.

Účinnost byla hodnocena z hlediska dvou faktorů:

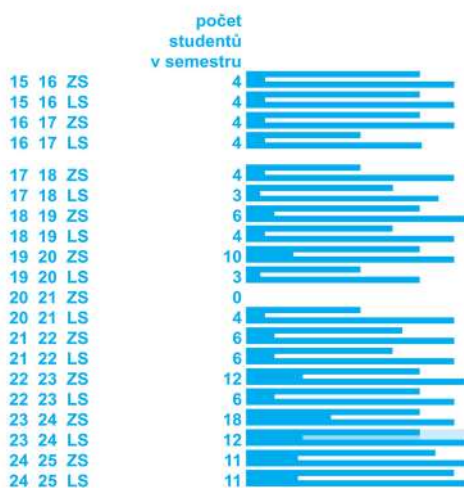
- vývoj projektu/konceptu (faktor 1) a
- komunikace výstupů/výsledků práce (faktor 2).

To pro seminární práce na škole ARCHIP a semestrální projekty na FA ČVUT a FUA TUL. (viz. Obr. 4., 5., 6., 7., 8.)

Pro další možný/doplňující pohled uvádím dále vyhodnocení krátkodobých úkolů, zadávaných studentům 1. semestru Bc. stupně na FUA v rámci Workshopu první. Účinnost je hodnocena z hlediska popularity nástroje a Urborela (faktor 3, viz. Obr. 9.)

Faktory 1 a 2 jsou dílčími hodnoceními mnou vedených studentských prací, které tvoří celkovou známku. Jsou tedy pochopitelně individuální, subjektivní—jsou však zpravidla agregovanou položkou známky vedoucího, asistenta a 2-3 nezávislých členů komise. Faktor 3 je z hlediska měření účinnosti výsledkem sběru zpětné vazby (určitá podoba dotazníkové metody), resp. analýzy

účinnost % 0 25 50 75 100



Obr. 4., 5.: Účinnost nástroje; horní linka značí faktor 1, dolní faktor 2; číslo ukazuje počet studentů v daném semestru, vyjádřený i blokem o výšce obou linek; studenti pouze Mg. stupně ARCHIP (Zdroj: Archiv Radka Kolaříka. Hodnocení seminárních prací, příslušná část. Architecture and City. ARCHIP 2015-2025.)

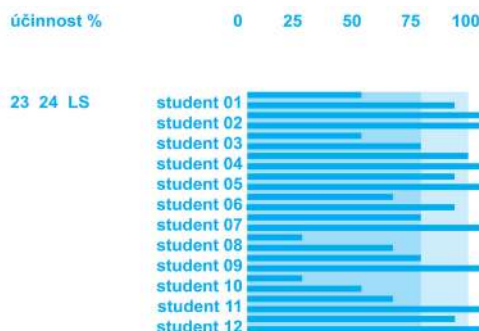
dat (přehledová tabulka studentů a jimi vybraných úloh pro prezentaci). Je metrikou.²¹ Jde o analogii konverzního poměru.²²

Faktor 1 by se dal charakterizovat jako míra přínosu nástroje pro pochopení, využití a rozvinutí potenciálu zadání a pro strukturovanou práci na projektu při jeho přípravě, zpracování a dokončování.

Faktor 2 by se dal charakterizovat jako míra přínosu nástroje v komunikaci výstupů po dokončení projektu, jako efektivita využití výsledků práce v důsledku jeho využití.

Faktor 3 by se dal charakterizovat jako míra popularity (úspěšnosti) nástroje a Urborela u studentů v kontextu dalších třinácti úkolů, zadávaných dalšími učiteli FUA. Do jisté míry se dá hovořit o míře souladu s vytčenými cíli.²³

Závěry vyhodnocení by se daly charakterizovat takto: je—li faktor 1 > 50%, pak je většinou faktor 2 > 75%. Slovy vyjádřeno: pokud student při zpracování projektu smysluplně nástroj využívá, efektivita jeho využití v



Obr. 6.: Účinnost nástroje; horní linka značí faktor 1, dolní faktor 2; jednotliví studenti, jak si stojí navzájem a v rámci agregované hodnoty výsledků všech v semestru; vzorek semestru 23-24-SJ; studenti pouze Mg. stupně ARCHIP (Zdroj: Archiv Radka Kolaříka. Hodnocení seminárních prací, příslušná část. Architecture and City. ARCHIP 2015-2025.)



Obr. 7.: Účinnost nástroje; horní linka značí faktor 1, dolní faktor 2; číslo ukazuje počet studentů v daném semestru, vyjádřený i blokem o výšce obou linek; studenti Bc. i Mg. stupně FA ČVUT (Zdroj: Archiv Ateliér Kolařík +. Hodnocení semestrálních projektů, příslušná část. FA ČVUT 2015-2022.)



Obr. 8.: Účinnost nástroje; horní linka značí faktor 1, dolní faktor 2; číslo ukazuje počet studentů v daném semestru, vyjádřený i blokem o výšce obou linek; studenti Bc. i Mg. stupně FUA TUL. (Zdroj: Archiv Ateliér Kolařík +. Hodnocení semestrálních projektů, příslušná část. FUA TUL 2019-2025.)

¹⁹ ŠKVORECKÝ neurčeno. Zdroj: Citáty slavných osobností. Josef Škvorecký. Online. Dostupné z: <https://citaty.net/autori/josef-skvorecky/>. [Citováno 2025-08-01]

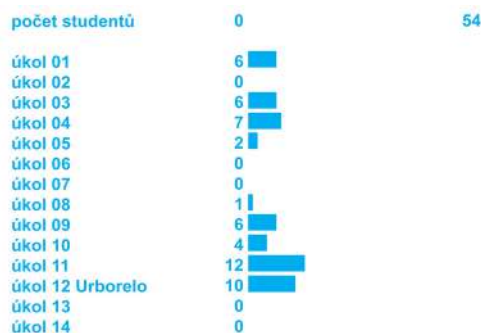
²⁰ Účinnost je fyzikální veličina popisující, jak se vložená energie přemění na požadovanou energii. Účinnost je určena podílem výkonu a příkonu. Termín účinnost používám v přeneseném smyslu slova.

²¹ „Metrika je kvantitativní měření nebo ukazatel, který se používá k vyhodnocení výkonu, efektivitu a pokroku v různých oblastech.“ Zdroj: Wikipedia. Metrika. Online. Dostupné z: <https://cs.wikipedia.org/wiki/Metrika>. [Citováno 2025-08-12]

²² „Konverze na internetu označuje situaci, kdy návštěvník webových stránek vykoná provozovatelem žádanou akci, jež má pro něj zejména obchodní užitek.“ Zdroj: Wikipedia. Konverze na internetu. Online. Dostupné z: [https://cs.wikipedia.org/wiki/Konverze_\(marketing\)](https://cs.wikipedia.org/wiki/Konverze_(marketing)). [Citováno 2025-08-10]

²³ V mém případě to byly ilustrované poznámky ke studentem vybranému městu, zpracované na podkladě šablony brožury, formou Urborela. Workshopu se účastní všichni studenti prvního ročníku, tedy z oborů umění, architektura a urbanismus společně. Každý týden v semestru dostanou zadání úkolu, které během téhož týdne zpracují. Zadání a konzultace jsou pro každý týden připraveny jiným pedagogem, většinou vedoucím ateliéru či některé z hlavních doprovodných disciplín. Tento způsob vedení semestru probíhá nyní třetím rokem, je ve vývoji. V loňském roce (který uvádím jako případovou studii) studenti z kapacitních důvodů byli vyzváni vybrat si pro finální prezentaci ten ze čtrnácti úkolů, který považují se svého pohledu za nejlépe zpracovaný a který chtějí, aby byl hodnocen. Z celkem 54 prezentovaných dokončených úkolů (z celkem 64 studentů prvního ročníku všech oborů) si vybralo 10 projekt Urborela. A převážně byli navíc vysoce hodnoceni komisí. Hodnocení nepovažuji v tomto případě za směrodatné tak jako nijak subjektivně ovlivnitelný fakt, že si 18,5 % studentů všech oborů (tedy i výtvarných) vybralo jako vizitku svojí semestrální práce zpracování urbanistického úkolu. Zadání tedy bylo druhým nejlépe hodnoceným ve výběru samotných studentů. To považuji za známku smysluplnosti nástroje, měřené jeho popularitou. S tím, že valná většina studentů jde studovat fakultu umění a architektury s tím, že budou navrhovat výtvarná díla a domy, nikoli města. Těch je, z mé zkušenosti méně než 1 %. Nejlépe hodnocené zadání si vybralo 12 studentů (22,2 %).

prezentaci výstupů je vysoká. S pozitivním dopadem na kvalitu celkové=ho výsledku Je—li faktor $1 < 50\%$, pak je většinově faktor $2 < 75\%$. Slovy vyjádřeno: pokud student při zpracování projektu nástroj využívá málo, efektivita jeho využití v prezentaci výstupů je malá. S negativním dopadem na celkový výsledek.



Obr. 9.: Účinnost nástroje, povinná forma Urborelo, úkol zpracovaný během 1. týdne; číslo a blok značí faktor 3: tj. počet studentů z celkového počtu 54, kteří si vybrali k finální prezentaci uvedený úkol; studenti 1. semestru Bc. stupně FUA TUL (Zdroj Archiv Ateliér Kolařík +. Hodnocení jednoho studentem vybraného úkolu, Workshop prváci. FUA TUL 2024.)

Výsledky používání i deklarované vlastnosti nástroje je třeba nahlížet v potřebném kontextu. Univerzalitou nástroje mám na mysli více jeho univerzálnost a verzatilitu v přímé vazbě na konkrétní (v tomto případě moje) metody výuky a vedení studentských prací. V tom je výsledný nástroj naopak výrazně individuální. Použití principu je náročné na jeho adaptaci pro konkrétního učitele. Nástroj disciplinovanost a systematickosti podněcuje, zároveň je však vyžaduje od studenta i učitele. V tom vidím zejména jeho opodstatnění.

URBORELO

Je optimální podoba užití, která přesně koresponduje prezentovanému nástroji — brožůře.^{24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35} Vedle semestrálních prací na FA ČVUT v Praze, kde jsem působil, a na FUA TUL v Liberci, kde působím nyní, tuto konkrétní aplikaci s velmi pozitivní odezvou využívám pro seminární práce na škole ARCHIP v Praze, v rámci mnou koncipovaného a vedeného předmětu Architecture and City. Zde uvádím jako ilustraci — případovou studii — semestrální projekt pro město Dvůr Králové nad Labem, zpracovanou na FUA TUL v Liberci (ad Obr. 3.). Uvádím tuto jedinou případovou studii mj. z důvodu přímocnosti, a tedy srozumitelnosti sdělení: předepsaný formát výstupů na škole ARCHIP je čtverec, písmová font, doporučený Filipem Blažkem³⁶ je Flama³⁷, ve dvou řezech. Aplikace je tedy analogická, její forma a podoba jiná a pro potřeby této statě by byla matoucí. Využití formy lepoprela není nijak zvlášť výjimečné (i když většinou nevyužívá vlastností původního formátu dětské skládací knížky, ale pouze její vnější formu: skládačku).³⁹ V mnou vedených ateliérech většinou principiálně využíváme všechny vlastnosti.

POUŽITÉ ZDROJE

[1] AMBROSE, Gavin; HARRIS, Paul, 2009. Layout: velký průvodce grafickou úpravou. Brno: Computer Press. ISBN 978-80-251-2165-8.

[2] BLAŽEK, Filip, 2020. Typokniha: průvodce tvorbou tiskovin. 2., revidované a doplněné vydání. Praha: UMPRUM. ISBN 978-80-88308-70-6.

[3] BLAŽEK, Filip, 2024. Typomřížky: mřížkové systémy v grafickém designu. Praha: UMPRUM. ISBN 978-80-88622-05-5.

[4] DEMLOVÁ, Zuzana, 2018. Pohádky o kolečkách a

nekonečnu. Praha: Baobab. ISBN 978-80-7515-086-8.

[5] DEUTINGER, Theo, 2019. Ultimate Atlas: Logbook of Spaceship Earth. Zürich: Lars Müller Publishers. ISBN 978-3-03778-592-8.

[6] DEUTINGER, Theo, 2018. Handbook of Tyranny. Zürich: Lars Müller Publishers. ISBN 978-3-03778-719-9.

[7] GUALLART, Vicente, 2008. GeoLogics: geography information, architecture. Barcelona: Actar. ISBN 978-84-95951-61-8.

[8] LLOYD, Peter B.; OVENDEN, Mark, 2012. Vignelli transit maps. Rochester, New York: RIT Cary Graphic Arts Press. ISBN 978-1-933360-62-1.

[9] KOLAŘÍK, Radek, 2023. The notional space of the intellectual load of the architecture student. Architecture school — what should it be? The framework for a possible discussion on the further development of the architectural school. In: Architecture in Perspective 2023. Ostrava: VŠB — Technical University of Ostrava, Faculty of Civil Engineering, Department of Architecture, s. 8. ISBN 978-80-248-4711-5. ISSN 978-80-248-4712-2.

[10] KOOLHAAS, Rem, 2007. The Gulf. Zürich: Lars Müller Publishers. ISBN 978-3-03778-088-6.

[11] LEHNERER, Alex, 2013. Grand Urban Rules. Rotterdam: O10 Publishers, 2009. ISBN 978-94-6208-054-6.

[12] LIU, Yang, 2022. Yang Liu, Today/Yesterday. Cologne: TASCHEN GmbH. ISBN 978-3-8365-9214-7.

[13] MAU, Bruce; KOOLHAAS, Rem; Office for Metropolitan Architecture; SIGLER, Jennifer (ed.), 1997. S,M,L,XL: Small, Medium, Large, Extra-large. Köln: Benedikt Taschen Verlag. ISBN 3-8228-7743-3.

[14] MAU, Bruce; WARD, Jon, 2020. Mau MC24: Bruce Mau's 24 principles for designing massive change in your life and work. New York: Phaidon Press Limited. ISBN 978-1-83866-050-5.

[15] MAU, Bruce; LEONARD, Jennifer, 2024. Massive change. London: Phaidon Press, cop. ISBN 0-7148-4401-2.

[16] MIKOLEIT, Anne; PÜRCKHAUER, Moritz, 2011. Urban code: 100 lessons for understanding the city. Cambridge: MIT Press. ISBN 978-0-262-01641-4.

[17] ODA NEW YORK, 2018. Unboxing New York. Barcelona: Actar. ISBN 978-1-945150-77-7.

[18] PATT, Doug, 2012. How to architect. Cambridge, Mass.: MIT Press. ISBN 0-262-51699-3.

[19] PECINA, Martin, 2017. Knihy a typografie. 3., rozšířené vydání. Brno: Host. ISBN 978-80-7577-040-0.

[20] SHAW, Paul, 2009. Helvetica and the New York City subway system. New York: MIT Press. ISBN 978-0-262-01548-6.

[21] SIDUN, Radek, 2021. Diakritický manuál: případová studie nově navržených akcentů současných písem. Praha: Academy of Arts, Design and Architecture. ISBN 978-80-88308-07-2.

[22] STALDER, Laurent; 2023; 2023, 2018. Architectural Ethnography. Tokio: TOTO Publishing. ISBN 978-4-88706-371-6.

[23] SUTNAR, Ladislav; ANDĚL, Jaroslav, 2003. Ladislav Sutnar — Praha — New York — Design in action. Přeložil

²⁴ LEHNERER 2013

²⁵ ODA 2018

²⁶ STALDER—2023—2023 2018

²⁷ MIKOLEIT—PÜRCKHAUER 2011

²⁸ GUALLART 2008

²⁹ LLOYD—OVENDEN 2012

³⁰ DEUTINGER 2019

³¹ DEUTINGER 2018

³² DEMLOVÁ 2018

³³ ŠAŠEK—HORVÁTH 2014

³⁴ LIU 2022

³⁵ SUTNAR—ANDĚL 2003

³⁶ „Filip Blažek (1974) je grafický designér, typograf, pedagog a publicista. Vystudoval kulturologii na Filozofické fakultě Univerzity Karlovy v Praze. Od poloviny 90. let přednáší o typografii a vede nejrozličnější workshopy u nás i v zahraničí. V současné době vyučuje na Vysoké škole uměleckoprůmyslové a na soukromé vysoké škole ARCHIP v Praze. V roce 2022 založil grafické studio Designiq, které se specializuje na design periodik, knih a corporate identity. Spoluzaložil časopis Typo (2002-2012). Spolu s Pavlem Kočíčkou napsal učebnici Praktická typografie (2000), je autorem skript Písmo v počítačové grafice (2007), publikace Plakáty sametové revoluce (2009), do sborníku Typo 9010 (2015) napsal eseje mapující dění v české typografii a vydal učebnici Typokniha — průvodce tvorbou tiskovin (2020, 2022) a Typomřížky: mřížkové systémy v grafickém designu (2024).“³⁸

³⁷ FELICIANO, Mário, 2004. Flama písmový font. Lisboa: Feliciano Type foundry.

³⁸ Projekt Identita: příběh českého grafického designu. Filip Blažek. Online. Dostupné z: <https://projektidentita.cz/tvurci/filip-blazek> [citováno 2025-08-18].

³⁹ KOOLHAAS 2007

Šimon PELLAR. Praha: Argo. ISBN 80-7203-515-0.

[24] ŠAŠEK, Miroslav; HORVÁTH, Juraj, 2014. This is New York: according to the original 1960 edition prepared for printing by Juraj Horváth. Přeložil Jiří DVORÁK. Praha: Baobab. ISBN 978-80-7515-002-8.

[25] VIGNELLI, Massimo, 2010. The Vignelli Canon. Zürich: Lars Müller Publishers. ISBN 978-3-03778-225-5.

[26] VIGNELLI, Massimo, 2013. Massimo Vignelli Makes Books. Mohawk. Dostupné z: <https://www.youtube.com/watch?v=xDKLB47oiLU> [cit. 2025-08-31].

[27] VOSSOUGHIAN, Nader, 2011. Otto Neurath: The Language of the Global Polis. Rotterdam: Nai Publishers/D.A.P. Distributed Art Publishers. ISBN 978-90-5662-798-0.

VÝRAZOVÉ PRVKY SOUČASNÉ ARCHITEKTURY INDIVIDUÁLNÍHO BYDLENÍ V ČESKÉ REPUBLICE

IVETA KRÍŽOVÁ, ING. ARCH.

dodetailu atelier
Hlavní 16, 664 91 Neslovice
Česká republika

iveta@dodetailu.com

ORCID ID: 000-0003-0340-7634

Už během závěrečné fáze magisterského studia a při prvních projektech jsem si uvědomila, že některé otázky spojené s architektonickým výrazem mě vedou k hlubšímu zkoumání. Rozhodla jsem se proto nastoupit do doktorského studia, jehož tématem jsou výrazové prvky současné architektury – tedy způsob, jakým je skrze architektonickou formu artikulována identita stavby, její význam a vztah k okolí.

Teoretické základy tohoto zkoumání jsem mohla intenzivně rozvíjet i díky výuce v předmětu Základy architektonického navrhování, který jsem vedla společně s doc. Drápalem. Výzkum se ale zároveň prolíná s praxí, kde se teorie střetává s realitou každodenní komunikace s klienty a širší veřejností. Tato konfrontace představuje důležitý korektiv – umožňuje ověřovat akademické poznatky v reálném světě.

Křížová Iveta

ABSTRAKT: Pokud bychom se zamysleli nad dvacátým stoletím z pohledu vývoje stavby pro bydlení, zjistíme, že se jedná o velmi unikátní období. Nepodařilo se ale zavést jednotný systém pro architektonické styly, ale jedná se přeneseně o „století ikonických vil“. Jak navazuje na tuto významnou etapu dějin začátek století dalšího právě v této oblasti bydlení. Je možné již v téže době vzniku a malým časovým odstupem definovat rysy a prvky, které jsou pro tvorbu zásadní? Co tuto současnou architekturu v oblasti rodinného bydlení definuje. Jsou nějaké jednotné směřující tendence navrhování, principy přemýšlení autorů, jejich spolupráce s klientem a další aspekty vstupující do návrhů, jsou nějaké konkrétní měřitelné aspekty, které jsou pro tuto tvorbu i období jednotné a charakteristické? Jaké principy jsou k této tvorbě použité? Je možné je pojmenovat a definovat a charakterizovat tuto teorii, která má v této oblasti prokazatelné mezery. Je současně masově užívaná terminologie správná, nebo je možné najít vhodnější termíny.

KLÍČOVÁ SLOVA: funkce; tvar; forma; prvek; fasáda; souvislost; znak; kontext; koncept

ÚVOD A HISTORICKÝ KONTEXT

Architektura je syntézou vědeckého a uměleckého jed-
no bez druhého není možné posuzovat.

Všechna kritéria jsou naprosto, přirozenou součástí architektury, jejich naplněním, resp. nenaplněním se liší architektura od ne-architektury. Pro takovýto způsob hodnocení architektury je nezbytná jistá míra subjektivní citlivosti, zároveň však by na architekturu nemělo být nahlíženo jako na čistý výtvarný produkt, vždy se jedná o kombinaci pragmatického hodnocení a výtvarného pohledu. Musíme oddělit stavění a architekturu. Zabývat se něčím co je současné, chce velmi mnoho pozornosti, obezřetnosti a vnímavosti jen tehdy můžeme docílit smysluplného hlubokého teoretického poznání. Jsme součástí vývoje, nesmíme tedy ani podlehnout dalším tlakům z venčí, které na stavění jako takovém profituje. Pokud ovšem potlačíme tyto zatížit a často i teoretiky prosazovaná pravidla může to v nás iniciovat nové podněty. „Jestliže člověk není omezován tím, co se může a nesmí, když záměr potlačí rozdíly mezi jednou a druhou funkcí, lidé mají tendenci otevřít svůj rejstřík postřehů a jejich chování je o to bohatší.“ [1]

Někdy ale naopak dochází také ke stimulaci trhu z řad architektů a kritiků, kteří se unášejí na módní vlně. „Aby ho prodali jsou povinni potlačit jakoukoli aplikaci nahromaděného teoretického poznání. Tím se zabrání rozvoji teoretické báze.“ [2] Nikos. A. Salingeros nás v knize Sjednocená teorie architektury nabádá k jakémusi odmítnutí nové bujné architektury. Vždyť ale i ona svým měřítkem, zpracováním, formou, konstrukcí, kontextem může mít opodstatnění. Nejedná se vždy jen o agresivní formu ano jedná se o řekněme opatrně nový přístup. Někdy je do něj aplikováno více konstrukce, měřítka, nebo například jistá surovost formy, výrazu. Ano co je jisté, ten vývoj je mnohem rychlejší a ostřejší, než byl v historii. Ale i bez vyjmenování příkladů, vezmeme-li měřítko a velikost architektury, zde by měla být jasná reciprocita s velikostí funkce. Už Vitruvius ve svých deseti knihách o architektuře věděl, že celý princip architektury se stává z trojice utilitas, firmitas, venustas – užitek, pevnost, krása, nebo prostor hmota a tvar. Tato trojice bude jedním ze základních pilířů, které se pokusím rozvinout jako podklad pro zkoumané principy navrhovaných staveb a opodstatnění jejich konceptů. Mezi těmito třemi skutečnostmi je úzký poměrový vztah, který vzájemně ovlivňuje společné působení výsledného architektonického díla. Celý výsledek by měl vytvořit již zmíněnou harmonii. Krása a estetika a smysl je právě onou přidanou hodnotou architektury, je to, co v subjektivním ohledu vyvolává emoci. Právě poměr této diferenciace vytváří specifika. Někteří architekti přirozeně nalézají

rovnováhu mezi těmito pilíři, jiní se zaměřují pouze na určité konkrétní póly.

Existují samozřejmě nějaké fyziologicky platné skutečnosti, modrá a zelená barva nás uklidňuje, zatímco červená a oranžová nás vzbuzují k aktivitě například, měkké materiály nás objímají, lesklé a hladké jsou neosobní. Dále do toho spadají podtóny barev, kontext, struktura materiálu a tak dále. Na nějakého jedince může asketický interiérový rozvíjet vnitřní hloubku, jindy může způsobovat neklid. Právě i tyto skutečnosti spadají už do jisté subjektivity. „Psychologické a fyziologické prvky se vzájemně ovlivňují a individuální, kulturní a univerzální reakce bývají vzájemně spojeny za hranice našeho vnímání ovlivňují tyto propílené úrovně naší reakci na konkrétní místo.“ [3] Ne nad každou věcí můžeme kdovíjak dlouho přemýšlet, pocit je skutečnost, je to naše srdce, naše rovina. „Subjektivita je postrach všech seriózních vědců, je součástí našeho emocionálního života. Ale prohlásíme-li emoce za neplatné, budeme mít ještě pro co žít? Jak můžeme poskytnout duši to co potřebuje, aniž bychom se přitom zapletli do individuálních subjektivních rozdílů?“ [3] Místa jsou prostory s identitou, tedy „geniem loci.“

Pokud bychom dále rozvíjeli rovinu tradiční architektury, můžeme ji jednoznačně určit svým „vlastním jazykem“, který bez ohledu na konkrétní místo má daný jazyk. Jazyk v této chvíli tvoří „výrazový prostředek“, který interpretuje způsob ztvárnění dané stavby. „Jazyk formy představuje jen předpis pro vytvoření strukturálního řádu. Jeho produkty dostanou svůj charakteristický vzhled.“ [2] Ale v této chvíli, by nám vznikla stavba, která by byla ochuzena o svoji vnitřní bohatost, protože by se jednalo o plochý přepis bez možné přidané hodnoty díla. Jazyk vzorce je právě daný prověřenými pravidly a tendencemi. Poukazuje také právě na hrozbu jazyka formy, který není dostatečně bohatý a opírá se o nová modernistická témata, zde bych ale ráda podotkla, že modernistická forma, nemusí vždy být chudá, jedná se například o asketismus, který je životním směrem v kladném slova smyslu. Ve velké většině Salingeros proklamuje veškeré moderní a modernistické tendence za ne příliš bohaté a kladné. Ráda bych byla méně skeptická a představila současnou tendenci, které mají jasně opodstatnitelný architektonický záměr i pokud by se jednalo o architekturu méně výrazově bohatou. Prostorové archetypy se z hlediska jejich hlubšího významu interpretují v dnešní architektuře jako symboly trvalé uspořádanosti anebo přímo sklouzávají do polohy neměnných dogmat poněkud vzdálených od reálného života. Vzniká rozpor mezi úsilím o jednoznačné řešení a zároveň nezbytností související s jeho členěním na části, mezi potřebou o jisté danosti světa a vědomím

o jejím nepřetržitým porušování. Tradiční regionalismus dle Salingera zahrnuje přizpůsobení se místním materiálům, podnebí, kultuře a společenským praktikám. Tradiční architektura by měla mít odkaz na místní kulturu, materiály, být přirozená v daném období a daném čase. Položme si ovšem otázku, zda je opravdu ve 21. století naopak přirozené lpět v tomto přetechňovaném světě na těchto tendencích? Venkov již dávno neplní funkci venkova a většina mít i materiálů bez problému dokáže překonat jakékoli obtíže, či vzdálenosti. Není to naopak už jen patos a násilná strojenost tyto tradice zachovat v místech, kde o to není přirozený zájem. Na toto téma možná lehce reaguje kritický regionalismus, který svým způsobem přizpůsobuje design lokálním potřebám. I zde je ovšem rozpor, neboť základním principem regionalismu by mělo být „osvobození od jakéhokoli globálního jazyka vnuceného shora od všech snah o uniformizaci a konformitu. Kritický regionalismus odmítá vernakulár a „doporučuje abstraktní estetiku mezinárodního modernismu.“ [2] Kritický regionalismus musí být chápán jako praxe žijící na okraji, jež je sice kritická vůči modernizaci, ale přesto se odmítá vzdát osvobozujících myšlenek moderní architektury, jedná se tedy o vědomě svázanou architekturu, kladoucí důraz na místo, jež je vytvořeno prostřednictvím stavby na daném pozemku, zdůrazňuje hmatové i vizuální kvality.

„Správnou cestu pro navrhování v daném jazyce představuje nejprve srovnávání a dokumentace tohoto jazyka na základě jednoho nebo vícera protikladů, a následně použití jazyka pro návrh novostavby“ [2]

V kontextu výše uvedeného textu pak můžeme v procesu chápání architektonického díla definovat následující myšlenkový postup: Hledání archetypů prostorového uspořádání vycházejících z lokálního kulturního a prostorového kontextu, historické vzory jsou jen surovinou, ale cílem, zaručují ale zakotvenost díla v prostředí a tím i jeho primární srozumitelnost. Proces abstrakce tohoto vzoru = jeho transformace (anamorfóza) do imaginární roviny jako výraz nadčasové platnosti a stability hodnoty, prostředkem abstrakce je častokrát (v historii) používaný proces geometrizace ploch, hmot, prostorů. Proces zpochybnění, ironizace vzoru jeho záměrným porušováním v detailech, nikoliv však v celkové koncepci, nejedná se tedy o zpochybnění základních principů.

Nebo naopak hledat případnou bohatost v obsahové, nikoli jen výrazové stránce. Hledat konkrétní důvody, které by naopak tyto tendence povzbudily na kladnou rovinu. Skutečně dům na vesnici musí mít vždy sedlovou střechu? Je to vždy správně? A co když v podhůří někdo postaví betonový dům oproti očekávanému dřevěnému? Je vždy nutné vyžadovat tuto konformitu s okolím? Jana Tichá ve své knize hovoří o jakémisi „fenomenologickém a topografickém obratu“, k němuž dochází v architektuře na sklonku 20. a na počátku 21. století, kdy se architektura ocitla v důsledku vyčerpání modernismu s jeho racionálním, funkčním, hierarchickým přístupem k organizaci prostoru i procesů, které se v něm odehrávají. Můžeme opravdu v současné tvorbě nalézt takovou přílišnou bohatost, kterou zde popisuje?

Názory Salingerose, ale staví architekturu jako vědu, která by měla být velmi pevně zakotvena jednak v podkladech týkajících se vědy, ale také podnícena realitou lidského vnímání. Vědecká disciplína i v architektuře je schopna odhalit měřitelné výsledky, na jejichž výsledcích můžeme postavit další část vývoje poznání. „I pocitově méněná architektonická tvorba však musí zápolit s absencí společensky sdílených hodnot a idejí, které by mohly být jejím obsahovým vodítkem.“ [4]

Současný stav architektury. Jaký je? Jistě není tak špatný. Nemůžeme přehnaně hodnotit něco co prožíváme svojí přítomností.

Problémem není ani stav architektury jako produkce, spíše to, že za touto produkcí nestojí kvalitní teorie, která tuto teorii pojmenovává a dostává do popředí. V kontrastu k jisté „rychlosti“ doby, naopak panuje strnulost přesvědčení populace, obyvatel a konzervatismus, který je tímto ještě více podnícen. Druhým příkladem je moje vlastní praxe architekta. Kdy většina současných klientů z doby maximálně současné (pozn. nikoli období vzniku reprezentativního vzorku zkoumaných staveb) vnímá interpretaci současné architektury jako dům s „plochou střechou, bílou barvou omítky a antracitovou barvou oken...“

Stojíme na pomyslném prahu historické a moderní doby. Ovšem i tak toto období trvá bezesporu jedno století, i toto období bude někdy považováno za historii a vývoj. Postmodernistická ani následně dekonstruktivistická etapa se nestaly trvalejšími hodnotami ve vývoji architektury, ale přinesly některá poučení, platná dodnes. Jedná se zejména o práci s urbanistickým kontextem, a silný tvarový koncept, jež se stává hlavním motivem stavby a bez něhož se stavba jeví fádní. Hmota stavby je výrazně členěná, povrchy jsou velice osobité.

Reem Koolhaas popisuje současnou dobu jakýmsi brakovým prostorem, „Brakový prostor je celkovým úhrnem všeho, čeho jsme až doposud dosáhli; postavili jsme toho více než všechny předchozí generace dohromady, ale jaksi nevážíme na stejné váze. My po sobě nezanecháme pyramidu. V souladu s novým evangeliem ošklivosti je na počátku 21. století už rozestavěno víc brakových prostorů, než kolik nám jich zbylo z 20. století... Vynález moderní architektury pro dvacáté století byl chybou; architektura ve dvacátém století zmizela; četli jsme pod mikroskopem poznámku pod čarou a doufali jsme, že se promění v román; zájem o masy nás učinil slepými vůči architektuře Lidu. Brakový prostor vypadá jako úchylnka, ale on je podstatou, je tím hlavním... Produkt setkání eskalátoru a klimatizace, počatý v inkubátoru ze sádkokartonu (ani jednu z těchto věcí nenajdete v historických knihách)“ [5] Christopher Alexander dokonce hovoří o „nafouknuté bublině prolhané architektury konce 20. století“, která by měla prasknout.

Michal Kohout dokonce říká „Nová forma o sobě je v podstatě zbytečnost – něco vyhrazeného do oblasti bláznovství či svátků. Do reálného života by měla pronikat jen pod tlakem potřeby, pokud možno pomalu, chcem-li se uchránit chaosu. Stávající formu jako prostředek vzájemné komunikace je tedy potřeba chránit a pečovat o ni.“ [2]

Moderní doba je často charakterizována ztrátou jednotné perspektivy a s ní související relativizací hodnot. Přitom je společenská soudržnost na sdílení hodnot do značné míry závislá. Proto musí společnost hledat nějaký společný hodnotový základ. Já bych se ve své další práci chtěla zaměřit na více než jen hledání prvoplánových tvaroslovných předobrazů zapadajících do jedné kategorie přístupu navrhování. Existuje opravdu skutečné vědecké kritérium, které nám ukáže, co jsou ty ukazatele, které vytváří kvalitní architekturu a dobré prostředí? Všeobecně bychom se měli snažit ve všech stavbách hledat harmonii. Nyní si ale pokusme vysvětlit jakým způsobem toho můžeme dosáhnout.

Organická architektura vs. Funkcionalistická moderna? „Existují všeobecná kritéria hodnocení architektury, podle kterých by se měla kvalita architektonického díla posuzovat, jedná se zejména o: Urbanistická kvalita řešení ve smyslu hledání skutečných kontextů ale i v urbanistické disciplinovanosti. Funkční kvalita ve smyslu naplnění přirozených požadavků na funkčnost prostorů a architektonických prvků, správné typologické hierarchizace prostorů, na využití přirozených vlastností použitých stavebních systémů, konstrukcí, materiálů kvalitu detailů stavby (domyšlenost) výpovědní sílu,

Do prvotního výběru staveb bylo zařazeno zhruba 200 staveb, ze kterého byly empirickou metodou pozorování a škálování vybráno 30 staveb. Které byly podrobeny kompletní analýze. Stavby byly vybírány na základě několika kritérií. Nejprve byly zařazeny do časového období rozmezí deseti let, od doby ukončení realizace roku 2008-2018 s plynulou návazností předchozí projekce k realizaci. Stavba musí být samostatně stojící, nesmí být přímo ovlivněna její výrazová koncepce pramenící nutné návaznosti na sousední objekty, vyloučeny byly též stavby v plochách regulace.

Výběr staveb probíhal z děl, autory prezentovaných ve volně dostupných publikacích, je možné je také najít ve společném webu archiweb. Stavby extrémně výrazné až expresivní byly z výběru vyloučené, stejně jako stavby velmi malého měřítka, chaty, dočasné stavby, ale naopak i velmi okázalé stavby i vily. Hlavním kritériem výběru byl na první pohled odlišný jazyk dané stavby, který se jevil prokazatelně odlišně oproti škálovanému širokému spektru staveb prvotního počtu. Klíčem byly nuance detailů provedení staveb oproti masovému počtu. Díky tomuto principu je možné výběr staveb navýšit a analýzu opakovat.

Jednou z forem posuzování staveb komplexně je architektonická kritika. Buď je nedostatečná, nebo není komplexní nebo zcela absentuje. Je prvním nástrojem, kterým je možné strukturovaně porovnávat, hodnotit a nacházet odpovědi na otázky. Abychom ji mohli provést je potřebné se blíže zabývat jejím tématem jako takovým. „Esa Laaksonen z Finska upozorňuje na důležitost kritiky, neboť i hvězdní architekti můžou chybovat. Dorota Leśniak-Rychlak z Polska vyzdvihuje roli kritiky kvůli přehlcení obrazy a daty a varuje před omezením na estetiku a Andrija Rusan z Chorvatska vidí problém v uzavřenosti a malé velikosti profesní komunity.“ [7]

Pro splnění všestrannosti je nutné, aby recenzent, kritik znal problematiku komplexně. Neměl být pouze teoretikem, ale měl by ovládat i navrhování. „Pragmatický odklon od kritiky, případně její začlenění do samotného navrhování a prezentace architektury, může znamenat ztrátu nezávislé, kritické funkce, celkový úpadek profese a její přeměnu na komerci a zábavu. Recenzent by měl posuzovat všechny podněty, včetně východisek architektonické práce. Architektura je syntézou a recenze by měla být analýzou, v současnosti se ovšem úlohy zaměňují. Architekt přijímá různé informace, aniž dokáže posoudit to podstatné, recenzent většinou postupuje jednostranně a hodnotí jen formální výraz. Nefungující architektura již ovšem architekturou není.“ [7]

Architektonická kritika je potřebným nástrojem, který nám vymezuje hodnotu vědeckého poznání. Kritika by měla být účelná, věcná, nestranná. Kritika je určena pro všechny konzumenty, široká adresnost – publikace, stejně jako každý vidí stavbu, kterou užívá. Zabývá se fázemi přípravnými regulační, zahrnuje mechanismy hodnotící a srovnávací. Mechanismus je přímý a přesný srovnání díla, už s dříve vypracovanými platnými formami a standardy.

Architektonická kritika byla provedena na výběru tzv. reprezentativních vzorků zkoumaných objektů principem tzv. Shlukové analýzy „(Shluková analýza – též clusterová analýza, je vícerozměrná statistická metoda, která se používá ke klasifikaci objektů. Slouží k třídění jednotek do skupin (shluků) tak, aby si jednotky náležící do stejné skupiny byly podobnější než objekty z ostatních skupin. Shlukovou analýzu je možné provádět jak na množině objektů, z nichž každý musí být popsán prostřednictvím stejného souboru znaků, které má smysl v dané množině sledovat, tak na množině znaků, které jsou charakterizovány pros-

třednictvím určitého souboru objektů, nositelů těchto znaků.“ [8]

Jedná se tedy o kvantitativní metodu, kterou je nutné použít pro rozbor většího množství zkoumaných vzorků, které mají větší množství třídících parametrů. Aby bylo možné zjistit všechny vztahy a vazby, architektonická kritika postupovala jednotně a zkoumala všechny náležitosti jak po obsahové, tak vztahové a výrazové stránce.

Teoretická osnova kritiky:

- Popis pozemku a sklon
- Zhodnocení stavebního programu, individuality
- Zkoumání principu navrhování – kritika, obhajoba, objevování nového
- Konkrétní výrazové prvky

Pro teoretickou analýzu staveb byl vybrán vysoce hodnotný vzorek staveb, na kterém po zanalyzování každé stavby bylo možné nalezení, odhalení nějakého kladného hlavního rysu, který alespoň částečně tuto stavbu zařadil a definoval.

OBJEVY VÝZKUMU

Z výzkumu rozboru vzorků byly stanovené hlavní prokazatelné rysy, které se u staveb opakovaly. Některé rysy jsou čistě typologické, některé vycházely z kontextu, ale jejich určením byla také typologie. Jiné rysy byly čistě charakteru koncepčního, uměleckého, výtvarného. Objevovaly se rysy, které sloužily jako podpůrné pro vyjádření konceptu stavby. Tyto hlavní rysy byly bez ohledu na pořadí a významnost vepsány do tabulky. Z výzkumu rozboru vzorků byly stanovené hlavní prokazatelné rysy, které se u staveb opakovaly. Některé rysy jsou čistě typologické, některé vycházely z kontextu, ale jejich určením byla také typologie. Některé typologické rysy byly podpůrnou složkou konceptu. Jiné rysy byly čistě charakteru koncepčního, uměleckého, výtvarného. Objevovaly se rysy, které sloužily jako podpůrné pro vyjádření konceptu stavby. Tyto hlavní rysy byly bez ohledu na pořadí a významnost vepsány do tabulky. Zajímavým určujícím faktorem byla skutečnost, že většina staveb, které měly možnost dům umístit k severní straně, tak učinili, neboť dále opodstatnili pro využití pobytové zahrady na slunnou stranu. S tím také úzce souvisela velmi častá orientace hlavního pobytového prostoru (společenského) právě nejbližší k obytné části domu. Z výtvarného i typologického hlediska bylo ve více případech navrženo integrování terasy (ve formě lodžie) do hlavního objemu domu bez nutnosti sekundárně navrhovat terasu/zastřešení nové. Naopak opět zajímavé navržení zastřešení a tvaru terasy bylo ve dvou případech řešeno jako velmi zajímavý prvek, který se propisoval a zapadal do konceptu daného domu. Nejprokazatelněji výrazný rys se projevil u domů s výraznou sklonitou střechou – ve všech případech byla realizována v řešení jako nařízený regulativ – nikdy dobrovolně, tyto stavby byly druhotně vyřazené ze zkoumání a počet byl o tyto stavby navýšen. Ve většině případů se jednalo o propracovaná řešení s velkým důrazem na detail a „minimalistické“ provedení. Zároveň také všechny domy pracovaly s principem otevřeného prostoru do této části sklonu. Míra otevřenosti se lišila, ale odlišit vztahy a proporce vnitřních prostor nebyly ani přímo v zájmu zkoumání. Část domů se ale mírou abstrakce snažila střechu zapojit do svislé fasády, některé domy ji tím de-facto téměř popřely. Velké spektrum zaujímaly domy, kde převládá jasný koncept výrazu tvaru ortogonálního nebo jiného, kdy se prolínalo výrazné tvarové geometrické řešení.

Prvotním přímým a viditelným výrazovým prvkem, který byl na objektech objeven, je forma obkladů fasád. Nejedná se o průlomové řešení, ale jistý způsob

ustáleného způsobu řešení několika posledních desetiletí. Principy jeho užití jsou různé a nejedná se o jednotný přístup. Explicitně použité materiály jsou dřevo – většinou ve formě laťového obkladu, občas i plošného nebo tzv. pero-drážka. Latě jsou prvek, který lze zařadit mezi materiály nadužívané a jeho častá aplikace byla na stavbách v jeho výběr byl selektován.

Dalším z materiálu použitého pro obklad je plech. Ve formě plošné rovné, perforované, profilované, vlnité. Způsob řešení, který byl aplikován u těchto staveb měl několik důvodů. V některých případech měl za cíl umocnit svým měřítkem velikost objemu stavby, někdy naopak byl volen střídmeji a reagoval na potlačení některých momentů na objektech, jindy tento důvod přímé opodstatnění neměl. Práce s měřítkem a způsobem těchto řešení tedy není jednotně směřující, ani přímo nově objevená. Je to pochopitelné, že u staveb malých měřítek není vždy nutné hledat velká gesta a počiny, stavby odpovídající svým požadavkům, by měly být schopny reagovat i s méně prostředky, menším rozpočtem. „Kontrast mezi jednoduchostí prostředku projektu a bohatostí jeho prostor je přesvědčivý – vyrostl celek, který je významnější než součet jeho částí. Tento „akumulativní esencialismus“ zaměřil naši pozornost k fundamentálním architektonickým činům, ohraničení, otevření, a nalezení vzdálenosti. Zkrátka k architektuře jako umění vymezit a konfigurovat prostor.“ [9] Při postupování svých úvahách již architekti neuvažují v odkazech historické doby. Přestože některé principy jako pravidelný rytmus (například v případě vlnícího se plechu se opakují) ale není to jistě předobraz ve formě jakékoli historické architektury. Možná hranice podprahového, již zažitého stereotypu. Objeveny byly ale i novější tendence domy, kde převládá jasný koncept se prolínalo tvarové geometrické řešení, plošné ale i členité obklady s různou měrou hloubky výtvarného řešení.

Druhotným i když zásadnějším způsobem ztvárnění a vytváření výrazu objektů je princip řešení celkové hmoty domu. 1. kategorie je napojení provozních vazeb interiéru a exteriéru.

Buď se může jednat čistě o základní reakce což je umístění domu a jeho orientace na pozemku, velikost, tvar a proporce oken, Okna svojí velikostí reagují na vnitřní plochu, což není ukazatel nového směřování. Ani nejsou prvoplánově podřízena přísné tektonice fasády, takže nejsou v tomto případě umírněna do



Obr.1.: Rodinný dům v Chlumci nad Cidlinou, průčelí domu orientované do zahrady a za výhledy k zámku Karlova Koruna (Zdroj: <https://www.archiweb.cz/b/rodinny-dum-v-chlumci-nad-cidlinou>)



Obr.2.: Rodinný dům v Libčici a výhledy do krajiny (Zdroj: <https://www.archiweb.cz/b/rodinny-dum-u-libce>)

nějakého rytmu, ale jsou výsledkem přímé reakce na výhledy. V těchto případech koncept výrazu domu vychází z kontextu okolí (pozn. tvarování půdorysu přenesené do objemu) ale v této chvíli se už jedná o výraznější formování celého objemu objektu.

Tvarování objemu může ale také vycházet z členitosti morfologie terénu a v tomto případě se jedná o formu organického směřování-přizpůsobujeme se přírodě. U realizce domu Rodinný dům s rampou, Realizace: 2018, Autor: Prokš Příkryl architekti-Martin Prokš, Marek Příkryl se jedná o možné úvaze formy organické architektury, neboť rovinatost okolního terénu je totožná s rovnou atikou ploché střechy, a přizpůsobení se profilaci domu do terénu je také jasné, i když zbytek domu je tvaru jasněho lapidárního kvádrů.



Obr.3.: Rodinný dům s rampou, boční pohled na fasádu a zakončení objemu hmoty do terénu (Zdroj: <https://www.archiweb.cz/b/dum-s-rampou>)

Řešení celkové hmoty domu může být také velmi jednoduché, strohé a konceptem domu je zkrátka objem, který architekt zvolil, ale na toto téma, které je spíš otázkou jednotlivce a jeho přístupu.

Co je ovšem ale přínosné z hlediska poznání je celková práce s objemem domu a jeho vědomým tvarováním, které můžeme nazývat plasticitou. Nejedná se o předobraz rostlinné, ani morfologické podoby, ale tvarový koncept, který pracuje jak s reakcí na propojení provozních vazeb, ale i práce s objemem hmoty jako takové.

Rodinný dům v Dobříši autor: Mimosa architekti

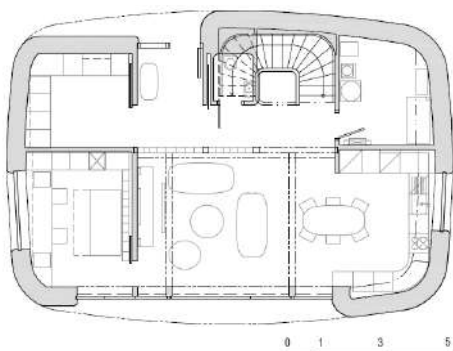
Na první pohled monumentální objem, který je změkčený plastickým zaoblením rohů, ne zcela jasně jinak tvarovaného půdorysu. Plasticita se projevuje i v případě vstupu, který se spirálovitě zařezává do objemu oblého objemu a funguje s charakterem objemu domu. Zde se jedná o plasticitu vědomou, která slouží k regulaci objemu.

Celou fasádu pokrývají jemné plátky šindelového obkladu. Tento přírodní drobně strukturovaný povrch je souzněním i v materiálové symbióze pasivní dřevostavby.

Pokud bychom hovořili o potlačení dojmu monumentalit na obranu autorů i celkový výsledný dojem toto drobné, ale z kraje pozemku rozeznatelné měřítko, povrch domu lehce rozměšňuje a tříští dojmem šupinatění, což je ve výsledném efektu skutečné podpoření potlačení objemnosti hmoty.



Obr.4.: Rodinný dům v Dobříši fotografie nároží, změkčení objemu hmoty a záliv vstupu do domu (Zdroj: <https://www.archiweb.cz/b/rodinny-dum-v-dobrisi-1>)



Obr.5.: Rodinný dům v Dobříši půdorys (Zdroj: <https://www.archiweb.cz/b/rodinny-dum-v-dobrisi-1>)

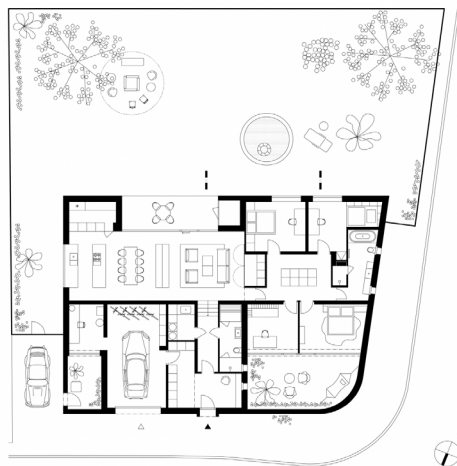
Rodinný dům Litvínovice

autor: ATELIER 111 architekti s.r.o

V přisunutí domu k hranici pozemku je patrná přímá reakce na kontext místa, tzv. kontextuální přístup ve



Obr.6.: Rodinný dům Litvínovice pohled na plasticky zaoblené nároží lemuující pozemek a hranici domu (Zdroj: <https://www.archiweb.cz/b/rodinny-dum-litvinovice>)



Obr.7.: Rodinný dům Litvínovice půdorys (Zdroj: <https://www.archiweb.cz/b/rodinny-dum-litvinovice>)

formování tvaru fasády (zde i v části tvořící jen plot). Fasáda se stává plastickou. Celé pojetí vnitřního prostoru vykazuje čistotu a eleganci, je patrné, že v otevření krovu bylo záměrem klást důraz na prostory dle hierarchie od společensky přínosnějších. Všechny vnitřní prostory jsou řešené v totožně se prolínajících materiálech. Materiálová estetika v interiéru dotváří tuto jednoduchost exteriérových forem a podtrhuje ji. V rámci objemu hlavní linie fasády do zahrady je zasunutí lodžie-terasy do vnitřního objemu domu.

Rodinný dům Blansko

autor: ATX Architekti, s.r.o.

Tvar domu je odpovědí na kontext mírně se vlnící krajiny a zadáním ovlivněného požadavku. Plošná hmota malé výšky nevychází z krajiny a je doplněna vlnící se střechou s nepatrnou gradací a dynamikou. Toto vlnění se promítá i do mírných detailů a nenásilných nepravidelných zaoblení v rámci interiéru. V některých místech se také tato hmota odpoutá od vnitřního objemu domu a vytvoří tak přirozený krytý ochoz a terasu. Jedná se o jasný prvek plasticity.



Obr. 8.: Rodinný dům Blansko, pohled na dům v kontextu okolí (Zdroj: <https://www.archiweb.cz/b/rodinny-dum-blansko>)

Lesní vila

autor: mjölk architekti

Zde je velmi kontextem a výrazem velmi úzká vazba. Mimo průběžného nekonečně se vlnícího obvodu fasády, nejsou na domě jiné prvky. Fasáda je provedená v omítce jemné bílé barvy – béžové. Tato barva není agresivní k okolí, ale také přílišně nesplývá. Lem střechy je propsán do půdorysu.



Obr. 9.: Lesní vila, pohled na dům v krajině (Zdroj: <https://www.archiweb.cz/b/lesni-vila>)

Rodinný dům srdce

autor: Daniela Polubědová

Obtížně identifikovatelný objem na první pohled. Ze strany ulice obalená do rezavého cortenového plechu rytmičtějšího svislého vlnění, velmi malého měřítka. Měřítka vln nemá na výraz vliv, ale patrné je, že díky vlně nejsou znát svislá napojení a není třeba řešit kladečský plán. Jen horizontální linka podpořená zarovnáním nadpraží okenních otvorů této fasády a rytmičtější nosné, též pravidelné nýty, které jsou ale vidět jen z bližšího pohledu. (Profil plechu vlny byla pravděpodobně užita jako možnost snáze ohýbat silný

plech dle zaobleného půdorysu).

Fasáda směrem do zahrady je plno prosklená, její rastr podléhá dělení zachování obloukové fasády a dále jsou do strukturálního zasklení dle funkčnosti umístěné otevřivá okna.

V přístupu k řešení bylo kombinováno několik principů. Jedná se o kontext, který utváří tvar domu, jehož výsledkem je jakési plastické tvarování a začlenění domu do okolí – charakteru místa, tvarem i materiály. Dle Franka Lloyda Wrighta jde v tomto případě o organickou architekturu. Na kontext místa odpovídá jednak tvarování, změkčení a rozvinutí půdorysu, ale také materiály, které zde svojí barevností – tmavý plech, dřevěné profily nerámovaného zastřešení a zde je možné hovořit i smysluplném zasazení a vytvoření zahrady a zapojení k sobě.

Současně s domem se návrh týkal také interiéru. Výrazným tvarováním vzniká velmi úzké propojení a bylo třeba uvažovat výraznějším způsobem nad zařizováním, neboť místy také není klasický mobiliář možné klasickým způsobem umístit. Plastického tvarování bylo v interiéru tedy přistoupeno návrhem delších pracovních stolů umístěných pod okna k výhledům, tak stejně např. deskám pod umyvadlo i kuchyňskému ostrůvku.

Ovšem zde se předmětu návrhu nevyhnuly i detaily jako úchyty, topné tyče, či kliky a madla a ty byly vytvářeny naprosto přímým spojením předobrazu přírody, dokonce odlévané a tvarované dle předloh – nasbíraných na místě a okolí – listy, kousky dřeva. Jde tedy o druhým způsob vyjádření architektury organické je architektura předobrazu.

„Definujeme ji tedy jako moderní směr usilující o harmonizaci přírody a staveb. Směr, který usiluje o tvorbu prostoru inspirovaný přírodními předobrazy (živočichové, rostlinstvo, člověk, nebe, voda, vzduch, vesmír a další.)“ [10]



Obr. 10.: Rodinný dům Srdce pohled na hlavní uliční fasádu domu, zaoblení a osazení domu do krajiny (Zdroj: <https://www.archiweb.cz/b/rodinny-dum-srdce>)



Obr. 11.: Rodinný dům Srdce, tvarování vnitřního dvora domu s terasou (Zdroj: <https://www.archiweb.cz/b/rodinny-dum-srdce>)

SHRNUTÍ

Byly odhaleny nové tendence a směry. U staveb převládá jasný koncept se prolínalo tvarové geometrické řešení. Podařilo se nalézt stavby, kde proběhlo tvarování vyplývající z terénních souvislostí, tím byl zpřesněn a vymezen pojem organická architektura a plasticita, kontextuální architektura. V tomto ohledu panuje jasné přesvědčení, o vhodnosti, spíše i nevhodnosti užívání některých pojmů.

Nebylo objeveno přímé užití nového materiálu jak pro stavbu nebo konkrétní výrazový prvek, v případě řešení, které supluje ochotou pavlač včetně terasy se jedná o recyklaci levnějšího materiálu a kontrastní přístup, který se již v minulosti u staveb objevil (Rodinný dům v Luhačovicích, Realizace. 2011-2012, Autor: OK PLAN ARCHITECTS, Luděk Rýzner, Marcela Susedíková), stejně tak jako kontejnery (Dům v plotě Pardubice, Realizace: 2015, Autor: mjölk architekti).

„Každá stavba vždy vyjadřuje dobu, v níž vznikla. Vypovídá o ní s ojedinělou pravdivostí o společenské situaci doby. S novou energií přichází vždy chuť experimentovat, ale i případech většiny těchto pokusů se jedná o sofistikované přesvědčivé výsledky z architektury je patrná přesvědčivost a pozitivní energie.

Byla potvrzena názorová plurálnost a bohatost přístupů řešení. Názorová a přístupová nejednotnost bude jistě i v odkazu doby kvitována, neboť je vhodné vždy uvažovat ve smyslu, možnosti výběru. Zcela vyloučena je tedy slepá ulička celého jednotného proudu.

Jistá reakce na nátlak byla patrná u staveb s užitím sedlové střechy (a s tím souvisejících rysů) byla realizovaná pouze v realizacích jako nařízený regulativ – nikdy „dobrovolně“. Ve většině případů se jednalo o zpracovaná řešení s velkým důrazem na detail a „minimalistické až abstraktní“ provedení. Tato problematika by se měla řešit v rámci podobnějšího zpracování územního plánování a obecně jako tematika hlouběji.

POUŽITÉ ZDROJE

- [1] Simitch, A., Warke, V.K., Carnicero, I. et al. (2015) Jazyk architektury: 26 principů, které by měl každý architekt znát. Přel. A. Poláčková. Praha: Slovart. ISBN 978-80-7529-034-2.
- [2] Salinas, N.A. a Horáček, M. (eds.) (2017) Sjedenáct teorie architektury: forma, jazyk, komplexita. Brno: VUTIUM. ISBN 978-80-214-5345-6.
- [3] Day, C. (2004) Duch a místo: uzdravování našeho prostředí – uzdravující prostředí. Brno: ERA. ISBN 80-86517-95-0.
- [4] Švácha, R. (2004) Česká architektura a její přísnost: padesát staveb 1989–2004. Praha: Prostor – architektura, interiér, design. ISBN 80-903257-3-4.
- [5] Koolhaas, R. (2014) Texty. 1. vyd. Přel. J. Tichá, L. Vidmar a A. Všecká. Praha: Zlatý řez. Čtení o architektuře, sv. 2. ISBN 978-80-903826-8-8.
- [6] (2011) Česká a slovenská architektura 1971–2011. Praha: Zlatý řez. ISBN 978-80-87108-28-4.
- [7] Pištek, P. (2023) Recenze rodinných domů v architektonických časopisech. Disertační práce. Vysoké učení technické v Brně, Fakulta architektury.
- [8] Řezanková, H., Húsek, D. a Snášel, V. (2009) Shluková analýza dat. 2., rozšířené vyd. Praha: Professional Publishing. ISBN 978-80-86946-81-8.
- [9] Siza, Á., Machabert, D. a Beaudouin, L. (2013) Otáz-

ka měřítko: rozhovory s Dominique Machabertem a
Laurentem Beaudouinem. Zlín: Archa a Architektura.
ISBN 978-80-87545-21-8.

[10] (2012) Organická soudobá architektura a by-
dlení [online]. Dostupné z: <https://invenio.nusl.cz/record/558220?ln=cs>.

Pešková Zuzana

**ZUZANA PEŠKOVÁ, PROF. ING.
ARCH., PH.D.**

Katedra architektury
Katedra architektury
České vysoké učení technické v Praze
Thákurova 9, 166 29, Praha,
Česká republika

zuzana.peskova@FCE.cvut.cz

ORCID iD: 0000-0002-8837-5098

Profesorka na Katedře architektury
Fakulty stavební ČVUT v Praze, ga-
rantka bakalářského a magisterského
studijního programu Architektura a
stavitelství, proděkan pro pedagog-
ickou činnost. Zajímá se o vzdělávání
architektů, výukové metody, architek-
tonické kreslení, počítačovou grafiku,
interiéry a venkovský prostor. Vyučuje
též ateliérovou tvorbu, vede závěrečné
práce, školí doktorandy. Má též vlastní
projekční praxi.

ABSTRAKT: V 19. století se začíná architektura systematicky vyučovat na univerzitách. Za nejstarší ucelený novodobý výukový program je považován ten na École des Beaux-Arts v Paříži, kde v roce 1819 oficiálně vznikla katedra architektury a škola se stala modelovým vzorem pro další školy architektury. V Praze architekturu v podstatě učil Christian Josef Willenberg od roku 1718, přičemž od inženýrských disciplín se architektura na pražské technice odděluje až v roce 1864. Záhy i školy architektury začaly přijímat ke studiu ženy. Mezi první promovány architektky patřily Mary Louisa Page (absolvovala 1878 na University of Illinois), Sophia Hayden (1890 absolvovala na Massachusetts Institute of Technology), Margarete Schütte-Lihotzky (v roce 1920 absolvovala na Uměleckoprůmyslové škole ve Vídni) a v Československu to byla Milada Petříková Pavlíková, která byla v roce 1921 promována architektkou na Českém vysokém učení technickém v Praze a byla jedinou ženou-studentkou ve svém ročníku. Dnes počet studentek architektury na ČVUT v Praze přesahuje 60 %, celosvětově studentky architektury převažují početně nad studenty, přesto však je praxe stále více doménou mužů. V ateliérech jsou na vedoucích pozicích architektky pouze z 20 %. Na nedostatečné zastoupení ženské části architektonické scény ve výuce, médiích i praxi poukazuje například platforma Architektky.

Příspěvek si klade za cíl připomenout ženy architektky pionýrky, díky jejichž úsilí se současná architektura stále více otevírá ženám, a zamyslet se nad tím, proč je to právě architektura, která tolik přitahuje uchazečky o studium, přestože v praxi zatím stále nedominují. Přináší i originální srovnání dat z matrik a informačních systémů EU a ČVUT v Praze.

KLÍČOVÁ SLOVA: architektura; studium architektury; ženy architektky; Mary Louisa Page; Sophia Hayden; Margarete Schütte-Lihotzky; Milada Petříková Pavlíková; Stanislava Nowicki; Alena Šrámková; Zaha Hadid

ÚVOD: CESTA ŽEN K ARCHITEKTONICKÉMU VZDĚLÁNÍ A POVOLÁNÍ

Ženy zanechaly bezesporu svůj rukopis na řadě historických staveb ve starověku i středověku, ale jejich role zůstává v zapomnění, protože nebyla zaznamenána tak, jako tomu bylo u mužů, což bylo dáno společenskými konvencemi. Ženy z vyšších vrstev mohly mít značný vliv na zadávání a financování stavebních projektů, a tím i na výslednou podobu architektury. Mohly ovlivňovat estetické a funkční požadavky. V některých kulturách a obdobích mohly mít ženy specifické role v náboženských stavbách nebo v rámci domácností, kde mohly dohlížet na stavbu či úpravy prostor. Není vyloučeno, že měly i znalosti a zkušenosti v oblasti stavebního řemesla, které však nemohly uplatňovat tak, jak je možné dnes, tj. v povolání architektka.

Za první jmenovitě známou architektku novodobé historie je považována lady Elizabeth Wilbraham (1632–1705), která byla významnou mecenáškou architektury a dle některých badatelů [1] je jí připisováno až 400 architektonických děl, které ale zařadili svým jménem různí muži. Podle určitých zjištění mohla být i učitelkou sira Christophera Wrena, který ji snad i nechal navrhnout některé ze svých londýnských kostelů. Její autorství však bývá jinými badateli zpochybňováno [2]. Nezanedala mnoho důkazů o své činnosti, přesto se pár desítek jejích návrhů podařilo objevit [1].

Povolání architekt je vnímáno jako samostatné od poloviny 19. století, na což reaguje i univerzitní prostředí a architektura se stává samostatnou akademickou disciplínou [3]. Za nejstarší ucelený novodobý výukový program je považován ten na École des Beaux-Arts v Paříži, kde v roce 1819 oficiálně vznikla katedra architektury a škola se stala modelovým vzorem pro další školy architektury [4]. Od konce 19. století lze tedy sledovat první absolventky škol architektury a jejich profesní osudy nejdříve v Severní Americe, severní Evropě a posléze i v Rakousku-Uhersku a v Československu.

Mary Louisa Page (1849–1921) byla první ženou, která absolvovala vysokou školu technickou a první ženou v Severní Americe, která získala bakalářský titul v oboru architektury (1878, University of Illinois). Po ukončení studia založila společnost Whitman & Page. Jejím

společníkem byl spolužák Robert Farwell Whitman – zeměměřič a stavební inženýr. Mary Louisa Page se starala o rýsování. Výběr mužského partnera byl v té době pro ženu strategickou obchodní praxí [7].

Sophia Hayden (1868–1953) promovala s vyznamenáním v roce 1890 a jako první žena získala titul v oboru architektury na Massachusetts Institute of Technology (MIT). Sophia Hayden vyhrála soutěž na návrh budovy pro ženy (Woman's Building), která měla být postavena pro mezinárodní výstavu v Chicagu v roce 1893. I přes velké změny v zadání projektu a časový tlak dokázala stavbu zdárně realizovat. Ohlasy na její práci byly jak pochvalné, tak kritické. Dva roky života ve velkém stresu se podepsaly na jejím zdraví. První zakázka byla zároveň její poslední realizovanou stavbou, čím byla podnícena diskuze zda mohou ženy v architektonické praxi uspět [8].¹

V Evropě byla ženám přisouzena jakási „amatérská architektonicko-filantropická“ role. Ve Spojeném království bylo považováno za „vhodnou zábavu pro dámy z vyšší třídy“ například navrhovat sociální byty pro dělníky, ale jak se proces výstavby odchyloval od řemeslného původu a industrializoval se, byl považován za „mužskou“ profesi. Ke konci 19. století bylo ženám povoleno nanejvýš rýsovat plány a psát specifikace. To sice umožňovalo alespoň určitou osobní a finanční nezávislost, ale práce to byla všední a velmi málo prestižní. Ženy byly zpravidla omezeny jen na práci u rýsovacího prkna kvůli předpokládaným obtížím, s nimiž by se setkaly při kontrole staveb na místě. Dokonce i v prostředí kanceláří existoval systém, kdy muži a ženy byli umístěni v oddělených místnostech [10].

Finsko bylo evropskou zemí, kde bylo ženám poprvé povoleno studovat architekturu a získat akademickou kvalifikaci, i když zpočátku měly status zvláštních studentů. Nejstarší záznam patří Signe Hornborg (1862–1916), která od jara 1888 navštěvovala Vysokou školu umění, designu a architektury v Helsinkách a v roce 1890 na základě zvláštního povolení absolvovala jako architektka [10].

Jednou z prvních žen, která studovala v letech 1915–1919 na vídeňské škole užitého umění (dnešní die Angewandte), byla Margarete Lihotzky (1917–2000). Aktivně projektovala až do 60. let 20. století a napsala

¹ Práci vybraných padesáti žen americké architektury v prvních desetiletích 20. století představuje projekt Pioneering Women of American Architecture, který vznikl v roce 2012 a jeho iniciátorkami byly Wanda Bubricki a Beverly Willis [9].

i řadu odborných textů [11].

V Praze architekturu v podstatě učil Christian Josef Willenberg od roku 1718, přičemž od inženýrských disciplín se architektura na pražské technice odděluje až v roce 1864 [5]. Na sklonku 19. století se nově vznikající ženská hnutí ujmají otázky vzdělávání žen. Před tím, než se ženám plně otevřela možnost studovat architekturu a příbuzné obory jak na středních, tak vysokých školách v českých zemích, se některé z nich vydaly studovat do zahraničí. Od roku 1914 mohly ženy začít navštěvovat přednášky na pražské technice alespoň jako hospitantky. V témže roce se stala první hospitantkou oboru architektura a pozemní stavitelství Milada Petříková Pavlíková (1895–1985). Po vypuknutí první světové války přibývalo stále více mimořádných posluchaček, které poskrovnu doplňovaly řídící řady studentů odcházejících na frontu, žádosti o převedení do řádného studia byly zamítány. Změnu přinesl až vznik samostatné Československé republiky s novou ústavou, která znamenala formální zrovnoprávnění žen s muži. Hospitantky byly převedeny na řádné posluchačky, odstudované předměty jim byly uznány a Milada Pavlíková byla v roce 1921 promována jako první architektka na Českém vysokém učení technickém v Praze. Na Vysokém učení technickém v Brně (VUT) se architektura začala vyučovat až v roce 1919, tedy v době, kdy už nemohla být uplatňována žádná omezení týkající se přijímání posluchaček. Jako první žena zde promovala Jagiela Blažková v roce 1929. Na Slovensku se architektura začala vyučovat až v roce 1946 [12].²

Je to více jak sto let, kdy se ženám oficiálně otevřela možnost studovat architekturu na vysoké škole a vykonávat povolání architektka. Jejich cesta však nebyla snadná. Jak se změnil podíl studentek a studentů architektury? Kolik žen skutečně v architektuře uspělo? Musí se stále „schovávat za muže“, nebo už je společnost ochotná přijmout jejich schopnosti a ocenit jejich práci? A lze predikovat, zda se architektura stane ve 21. století „ženským“ oborem?

POSTUP PRÁCE: ARCHITEKTKY V DATECH ZNÁMÝCH I MÉNĚ ZNÁMÝCH

Základní metodou byla rešerše literatury a pramenů, která vedla k poznání problému a pochopení širších souvislostí. Navazovala část sběru dat z matrik ČVUT, jejich srovnání a pak získání dat z dalších databází a zdrojů, které ukazují, jak jsou absolventky škol architektury zapojeny do praxe a do akademické sféry a zda se ženám podařilo získat ocenění za jejich práci. Zapojena byla i osobní empirická zkušenost. Za pomoci analýzy a syntézy byla predikována budoucí situace žen v architektuře.

VÝSLEDKY: ARCHITEKTKY DNES

V roce 1914 byla jedinou českou studentkou architektury Milada Pavlíková. Na počátku 21. století už byla na Fakultě architektury ČVUT v Praze (FA) třetina studentek a na Fakultě stavební (FSv) ve studijním oboru Pozemní stavby a architektura, který vychovával inženýry s rozšířenými architektonickými znalostmi, dokonce ke 40 % studentek [14]. V roce 2003 bylo zahájeno strukturované studium a na FSv začal být realizován studijní program Architektura a stavitelství zakončený titulem Ing. arch. V prvním ročníku usedlo do poslucháren na FSv 44 % studentek a na FA 40 % [14]. Počet posluchaček architektury se pomalu nadále zvyšoval, v roce 2005 dosáhl podíl studentek architektury v bakalářském studiu 50 % a v magisterském studiu to bylo 50 % žen v roce 2007 na FSv a v roce 2008 na FA [14]. V roce 2024 byl počet studentek architektury v bakalářském stupni 64 % a v magisterském 62 %, přičemž 65 % studentek architektury bylo již překonáno v bakalářském stupni na FSv v roce 2024,

v magisterském stupni na FA v roce 2021 [14]. Trend počtu studentek je setrvale rostoucí. Podobná situace není jen na ČVUT. V Evropské unii (EU), podle databáze Eurostat, absolvovalo v roce 2023 ve studijních programech s ISCED-F 0731 Architektura a urbanismus 57,7 % žen v bakalářských studijních programech, nejvíce absolventek bylo v Bulharsku (88,9 %), Polsku (69,4 %), Chorvatsku (69,2 %) a na Slovensku (68,1 %), nejméně na Maltě (25 %) a ve Španělsku (28,2 %). Česko uzavírá první čtvrtinu pomyslného řebříčku sledovaných zemí s 64,5 %. V magisterských studijních programech to bylo v rámci celé EU 59,4 % žen, nejvíce na Islandu (81,3 %), Slovensku (72,7 %) a v Polsku (72,4 %), nejméně ve Švýcarsku (45,9 %) a Nizozemsku (46,6 %). Česko mělo 60 % absolventek a je přibližně v polovině pořadí sledovaných zemí [15].

Zatímco studium architektury prošlo za posledních sto let výraznou feminizací, architektonická praxe a působení ve vyšších akademických pozicích na tento trend teprve čeká. Podle statistik Architects' Council of Europe (ACE), která sdružuje 52 členských organizací, jež zastupují zájmy více než půl milionu architektů z 36 zemí Evropy, vykonávalo profesi architekta v roce 2024 v Evropě 45 % žen, přičemž v roce 2010 to bylo 31 %. Vyšší podíl praktikujících architektek než architektů je v Srbsku (63 %), Estonsku (58 %), Litvě (58 %), Chorvatsku (55 %), Švédsku (55 %), Itálii (54 %), Norsku (54 %), Finsku (52 %), Řecku (52 %), nejméně praktikujících architektek je na Slovensku (19 %), v Nizozemí (20 %) a Maďarsku (24 %) [16]. K datu 1. 1. 2025 eviduje Česká komora architektů (ČKA) celkem 4 226 autorizovaných architektů (z toho 3 042 mužů a 1 184 žen), tedy 39 % žen [17].

Postupné prosazování se absolventek škol architektury v reálné architektonické praxi dokládají prestižní ocenění. První ženou oceněnou Pritzkerovou cenou za architekturu byla v roce 2004 Zaha Hadid (v roce 1977 absolvovala na Architectural Association School of Architecture v Londýně). V roce 2010 byla oceněná Kazuo Sejima se svým spolupracovníkem Rjúe Nišizawa (SANAA), v roce 2017 Carme Pigem (v roce 1987 absolvovala Escola Tècnica Superior d'Arquitectura del Vallès) společně se svými spolupracovníky Rafaellem Arandou a Ramónem Vilaltou (RCR Arquitectes), v roce 2020 Shelley McNamara a Yvonne Farrell (Grafton Architects, absolvovaly obě roku 1974 University College Dublin) a v roce 2021 jako zatím poslední získala cenu Anne Lacaton (absolvovala Bordeaux Montaigne University v roce 1984) se svým spolupracovníkem Jean-Philippe Vassalem (Lacaton & Vassal) [18].

Největší českou architektonickou soutěž o nejlepší realizaci založila v roce 1993 Alena Šrámková, která v roce 2000 získala jako první žena Cenu za celoživotní dílo, v roce 2006 ji následovala Věra Machoninová, v roce 2023 Zdeňka Vydrová a v roce 2024 Vítězlava Rothbauerová [19]. Poctu České komory architektů získala v roce 2007 jako první žena Alena Šrámková, v roce 2014 Věra Machoninová, v roce 2021 Eva Jiříčná a v roce 2023 Zdeňka Marie Nováková [20].

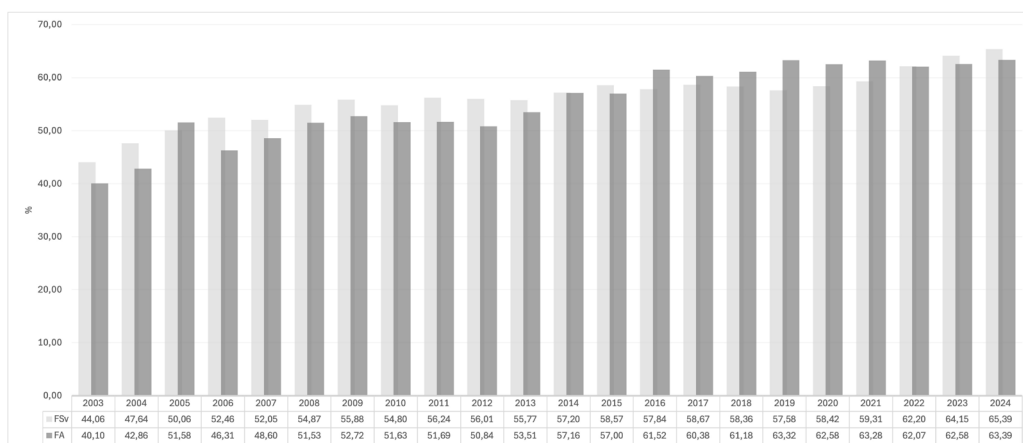
Ženy se ve vyšších akademických pozicích prosazovaly též velmi pozvolna. Stanisława Sandecka-Nowicka (1912–2018) byla první ženou v historii Spojených států, která získala titul profesorky architektury v roce 1963 na University of Pennsylvania [21]. Flora Ruchat Roncati (1937–2012) byla první ženou, která v letech 1985–2002 zastávala řádnou profesuru na ETH v Curychu [22]. Od konce války až do roku 1989 na FSv, resp. FA ČVUT, nebyla žádná žena ve vedení ústavu, natož celé fakulty (první žena na pozici proděkanky FA zasedla až v roce 2003, aktuálně jsou ve vedení FA dvě proděkanky, na FSv je jedna proděkanka architektky [25]). Ve výuce se ženy objevovaly na pozicích odborných asistentek. Do roku 1989 získala na ČVUT docenturu Milada Radová Štiková, Dagmar Rybářová a Vlasta Řezníčková. Na Akademii výtvarných umění

² Výzkumný projekt „Ženy v architektuře“ se věnuje mapování a interpretaci aktivit žen na poli architektury v českých zemích mezi lety 1945 a 2000. Představuje ženy v širokém spektru jejich činností. Hledisko historie architektury doplňuje mezioborový přesah a témata, jako jsou praxe architektonické profese, vzdělání architektek, propojení profesního a rodinného života nebo reflexe a uznání práce architektek. Představeno je 105 architektek a jejich 438 děl [13].

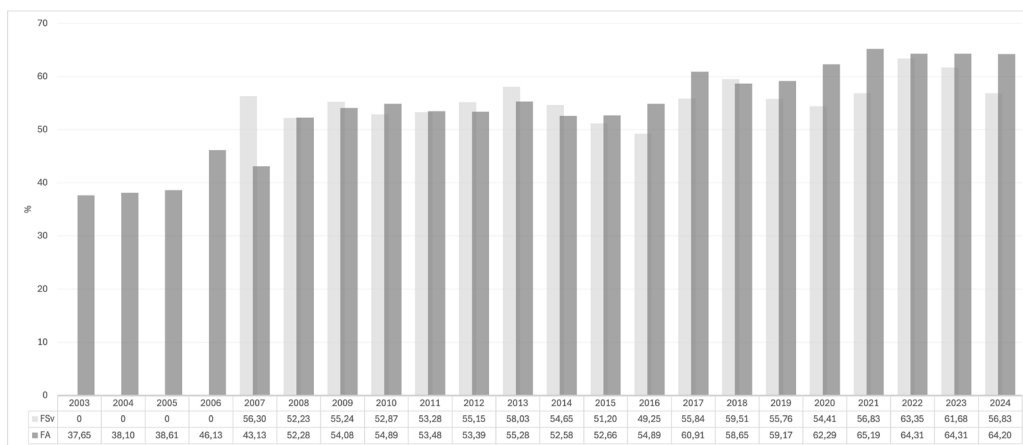
(AVU) v Praze se habilitovala Zdeňka Nováková (1980), na VUT získaly docenturu Dagmar Matoušková (1967/1968), Libuše Kostelková (1969/1970) a Růžena Bartková (1973/1974), která na téže instituci v roce 1987 dokonce jako první žena u nás získala profesuru. Helena Zemánková byla jmenována profesorkou na VUT v roce 1997 [13]. Alena Šrámková byla v roce 1999/2000 jmenována profesorkou v oboru Architektura na AVU v Praze [23]. Profesorkou pro obor Architektura byla na FA ČVUT v Praze v roce 2014 jmenovaná Irena Šestáková a v roce 2018 byla na FSV v oboru Architektura a stavitelství jmenována Zuzana Pešková [24]. V roce 2025 působí na ČVUT v Praze 44 osob s akademickým titulem doc. Ing. arch., z nichž je 11 žen (25 %) a 24 prof. Ing. arch. a 3 prof. Akad. arch., z nichž jsou čtyři ženy (15 %) [25].

DISKUZE: BUDE ARCHITEKTEM 21. STOLETÍ ŽENA?

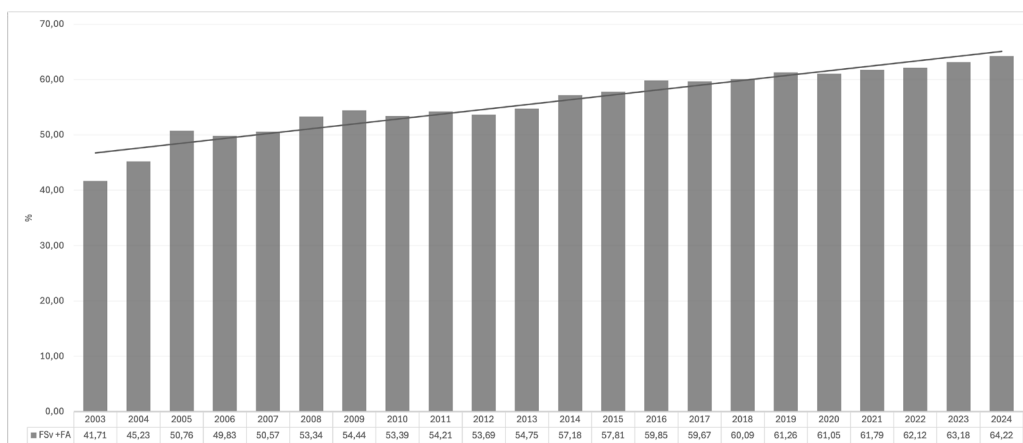
Během první čtvrtiny 21. století se poměr žen a mužů studujících architekturu v zásadě obrátil. Téma feminizace studujících architektury silně rezonuje nejen v akademickém prostředí a stává se předmětem řady diskuzí na českých i evropských platformách. Co jsou hlavní důvody stále se zvyšujícího zájmu žen o studium architektury? Zcela jistě je to změna společenská. Po volání architektky se stalo během 20. století společensky přijatelné. Mění se stereotypy. Architektura jako taková již není výhradně „mužskou technickou profesí“. Nové milénium s sebou přineslo pohled na architekturu jako na multioborovou záležitost, což je důsledek



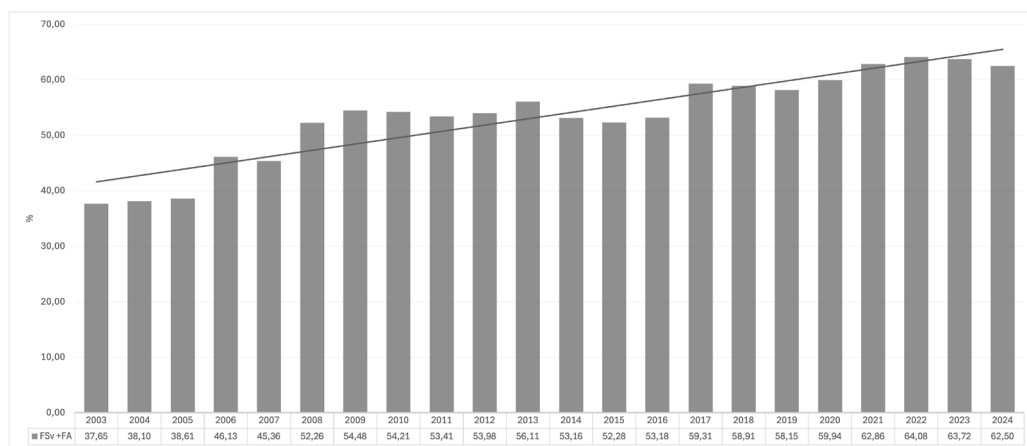
Obr. 1.: Graf procentuální podíl studentek v bakalářském studiu architektury na FSV a FA ČVUT v Praze v letech 2003–2024, autor Zuzana Pešková (Zdroj: autor)



Obr. 2.: Graf procentuální podíl studentek v magisterském studiu architektury na FSV a FA ČVUT v Praze v letech 2003–2024, autor Zuzana Pešková (Zdroj: autor)



Obr. 3.: Graf procentuální podíl studentek v bakalářském studiu architektury na ČVUT v Praze celkem v letech 2003–2024, autor Zuzana Pešková (Zdroj: autor)



Obr. 4.: Graf procentuální podíl studentek v magisterském studiu architektury na ČVUT v Praze celkem v letech 2003–2024, autor Zuzana Pešková (Zdroj: autor)

čím dál tím větší náročnosti projektové a stavební praxe. Architekt už není jediným tvůrcem, ale členem širokého týmu. Atraktivní je bezesporu i kreativní složka práce a společenský přesah oboru. Kladen je větší důraz na rovnost příležitostí, školství začalo být inkluzivnější, více podporující. Navíc se od počátku milénia začínají objevovat silné ženské architektonické vzory, které dosáhly mimořádného uznání a které se dostaly do širšího povědomí veřejnosti. Mužům se navíc otevřely nové možnosti technického studia a lukrativního uplatnění v oblastech informačních technologií. Lze předpokládat, že zájem uchazeček o studium architektury bude i nadále stoupající. V horizontu další dekády pravděpodobně přesáhne podíl studentek architektury v ČR 70 %. Pokud nezačnou školy architektury uplatňovat opačnou genderovou politiku, je možné, že počet studentek může vystoupat až k 80 % někdy kolem poloviny 21. století. Je však velmi málo pravděpodobné, že by výrazněji stoupl i dále, protože vždy bude určité procento mužů, pro které bude profese architekta atraktivní.

Přestože školy architektury produkují čím dál více absolventek, v architektonické praxi se uplatňuje jen část z nich, což je dáno zejména vysokou náročností a nízkým oceněním povolání, které lze obtížně kloubit s mateřstvím a rodinným životem. Řada žen proto raději volí pozice administrativně-správní, akademické, nebo zcela obor opouští. Na tyto skutečnosti upozornila například RIBA ve spolupráci University of the West of England v Bristolu [26], platforma Architektky [27] nebo výzkumná zpráva Pracovní podmínky mladých architektů a architektek [28]. Přesto se pomalu, ale konzistentně zvyšuje i podíl praktikujících architektek na trhu. Pozvolna dochází též ke generační obměně v architektonických kancelářích, která s sebou nese i změnu řady stereotypů. Mladší generace už vnímají pozici žen a jejich schopnosti jinak, stejně tak se zvolna mění i přístup mužů k péči o děti a tradičním rolím mužů a žen v rodině. Lze tedy předpokládat, že podíl žen v architektonické praxi bude i nadále stoupat a že se postupně začnou čím dál tím více prosazovat v klíčových a vedoucích pozicích podobně, jako je tomu nyní u Viktorie Souček v Bogle Architects a Evy Le Peutrec v Casua. Mezi absolvováním vysokoškolského studia a uznáním bývá 20 let tvrdé práce. Nositelky Pritzkerovy ceny získaly toto ocenění 27, 30, 46 a 37 let po odpromování. Vyšších pracovních pozic je zpravidla dosahováno až kolem 40–50 let věku. Podobně je tomu i v akademickém prostředí. Lze tedy zjednodušeně odhadnout, že druhá polovina 21. století se stane obdobím, kdy začnou být ženy v architektuře dominantnější. Přesto budou pravděpodobně častěji součástí architektonických týmů, být více feminizovaných. Prosadit v konkurenci mužských spolupracovníků a vytvořit si svůj autorský styl se pravděpodobně i nadále podaří jen těm výjimečným.

ZÁVĚR: ARCHITEKTKY VČERA, DNES A ZÍTRA

20. století otevřelo ženám možnost studia architektury a práce architektky. Cesta k tomu, aby se toto stalo společensky přijatelné a aby architektura nebyla vnímána výhradně jako „mužský obor“, nebyla jednoduchá a nebýt celosvětového úsilí řady odhodlaných, vytrvalých a nezdolných žen, tak by se tak nestalo. Nové milénium přineslo změny. První architektky se dočkaly uznání své práce, ať již profesními oceněními, nebo nejvyššími akademickými tituly. Na školách architektury došlo k výrazné feminizaci studujících, přičemž v architektonické praxi lze tento trend předpokládat s jistým zpožděním. Článek se v průřezu ohlédl za pionýrkami – prvními absolventkami škol architektury tuzemskými a zahraničními, prvními ženami, které získaly prestižní architektonické ocenění, i za těmi, které dosáhly profesorské pozice. Ve statistických analýzách bylo zkoumáno zastoupení žen ve studiu i architektonické praxi, a to jak v evropském kontextu, tak v detailu ČVUT v Praze. Podle zjištěných dat lze předpokládat, že pokud nedojde k zásadní změně vnějších okolností, bude trend zvyšujícího se počtu studentek architektury, praktikujících architektek a architektek v akademickém prostředí stále konstantně pokračovat a ve druhé polovině 21. století budou mít ženy v architektuře převažující zastoupení a budou i v klíčových a řídicích pozicích.

Děkuji Ing. Dittě Salákové, vedoucí studijního oddělení Fakulty stavební ČVUT v Praze, za obětavou pomoc při získávání dat z matrik ČVUT.

POUŽITÉ ZDROJE

- [1] MILLAR, John (2020). The first woman architect. Online. Architects' Journal. Dostupné z: <https://www.architectsjournal.co.uk/practice/culture/the-first-woman-architect> [citováno 2025-07-17]
- [2] KAHN, Eve M. (2012). Maybe a Lady Taught Christopher Wren. Online. The New York Times. ISSN0362-4331. Dostupné z: <https://www.nytimes.com/2012/03/09/arts/design/the-case-for-a-17th-century-female-british-architect.html> [citováno 2012-03-08].
- [3] BRŮHOVÁ, Klára a DOUDOVÁ, Helena (ed.) (2024). Ženy v architektuře: kritické studie a genderové analýzy českého architektonického prostředí po roce 1945. Vysoká škola uměleckopřírodovědná v Praze. ISBN 978-80-88622-10-9.
- [4] JACQUES, Annie (2001). Les Beaux-Arts, de l'Académie aux Quat'z'arts, anthologie historique et

littéraire établie. Paris. É.N.S.B.A.

[5] DULLA, Matúš (ed.). FA ČVUT 1976–2016. Praha: Fakulta architektury ČVUT, 2016. ISBN 978-80-01-06031-5.

[6] Historie. ČVUT v Praze. Online. Dostupné z: <https://www.cvut.cz/historie> [citováno 2015-07-15].

[7] Mary Louisa Page. Online. Illinois Distributed Museum. Dostupné z <https://distributedmuseum.illinois.edu/exhibit/mary-louisa-page/> [citováno 2015-07-15].

[8] HYDE, Timothy. Sophia Gregoria Hayden Bennett. Pioneering Woman of American Architecture. Online. Dostupné z: <https://pioneeringwomen.bwaf.org/sophia-gregoria-hayden-bennett/> [citováno 2015-07-15].

[9] Pioneering Woman of American Architecture. Online. Dostupné z: <https://pioneeringwomen.bwaf.org> [citováno 2015-07-15].

[10] CAVEN, Valerie a DIOP, Marie (2011). Women and Equality in Architecture: An Anglo-French Comparative Study. Online. Association of Researcherrs in Construction Management. Dostupné z: https://www.arcom.ac.uk/-docs/proceedings/ar2011-0217_0226_Caven_Diop.pdf [citováno 2015-07-15].

[11] Margarete Schütte-Lihotzky. Online. Archiweb. Dostupné z: <https://www.archiweb.cz/margarete-schutte-lihotzky> [citováno 2015-07-15].

[12] Cesta žen k architektonickému vzdělání. Online. Ženy v architektuře. Dostupné z: <https://zenyvarchitekture.cz/tema/temata-detail/?tema=6> [citováno 2015-07-15].

[13] Ženy v architektuře. Online. Dostupné z: zenyvarchitekture.cz [citováno 2015-07-15].

[14] Sdružené informace matrik studentů (SIMS) k 30. 10. daného roku.

[15] Databáze Eurostat. Online. Dostupné z: https://ec.europa.eu/eurostat/databrowser/view/educ_uoe_grad10__custom_17519909/default/table?lang=en [citováno 2015-07-17].

[16] ACE Observatory. Online. Dostupné z: https://aceobservatory.com/A_Gender.aspx?Y=2018&c=Europe&l=EN [citováno 2015-07-17].

[17] Česká komora architektů. Základní informace. Online. Dostupné z: <https://www.cka.cz/komora/o-komora/zakladni-informace> [citováno 2015-07-17].

[18] The Pritzker Architecture Prize. Online. Dostupné z: <https://www.pritzkerprize.com> [citováno 2015-07-17].

[19] Grand Prix Architectů. Národní cena za architekturu. Online. Dostupné z: <https://www.grandprixarchitektu.cz/grand-prix-architektu/> [citováno 2015-07-17].

[20] Pocta ČKA. Online. Česká komora architektů. Dostupné z: <https://www.cka.cz/svet-architektury/prehledky-a-oceneni/pocta-cka> [citováno 2015-07-17].

[21] Humanist modernity. Stanisława and Maciej Nowicki. Online. Narodowy instytut architektury i urbanistyki. Dostupné z: <https://przewodniki.niaiu.pl/en/humanist-modernity/> [citováno 2015-07-17].

[22] PEROTTI, Eliana a kol. Flora Ruchat Roncati at ETH Zürich. Online. ETH Zürich. Departement of Architecture. Dostupné z: <https://arch.ethz.ch/en/>

[news-und-veranstaltungen/lehre-forschung/archives/flora-ruchat-roncati.html](https://www.ethz.ch/en/architectural-projects/flora-ruchat-roncati.html) [citováno 2015-07-17].

[23] HORSKÝ, Jiří (2003). Profil: Alena Šrámková. Architekt. Roč. 49, čís. 2, s. 44–47.

[24] Profesorské spisy. Portál ČVUT. Online. Dostupné z: <https://portal.cvut.cz/informace-pro-zamestnance/habilitace-a-inaugurace/profesor-ske-spisy/> [citováno 2015-07-17].

[25] Usermap. Databáze lidí na ČVUT. Online. Dostupné z: <https://usermap.cvut.cz> [citováno 2015-07-17].

[26] DE GAFT-JOHNSON, Anne; MANLEY, Sandra; GREED Clara (2003). Why do women leave architecture? Online. University of the West England, Bristol. Dostupné z: <https://www.scribd.com/document/324503599/Why-Do-Women-Leave-Architecture> [citováno 2015-07-18].

[27] Platforma Architektky. Online. Dostupné z: www.architektky.net [citováno 2015-07-18].

[28] LOKŠOVÁ, Terezie; POMYJOVÁ Eliška a kol. (2020). Pracovní podmínky mladých architektů a architektek. Online. Dostupné z: <https://www.era21.cz/vyzkum/> [citováno 2015-07-18].

OD ELEMENTU K PROSTORU: METODA PRVNÍHO ROČNÍKU ZALOŽENÁ NA TRIÁDĚ GRAMATIKA–LOGIKA–RÉTORIKA

Řihák Pavel

ABSTRAKT: Příspěvek představuje didaktickou metodu výuky základů architektonického navrhování v prvním ročníku. Opírá se o dva pilíře: navrhování od prvního týdne a pevnou sekvenci elementárních úloh—skladebný prvek → otvor → plocha → objekt → cesta → pavilon. Vedení zajišťuje triáda gramatika–logika–rétorika, která spojuje kompoziční a tektonický řád, chování prostoru v čase a srozumitelné podání a obhajobu. Metodicky jde o praxi zakotvenou kvalitativní evidencí z velké skupiny (100–150 studentů; 7 pedagogů) s týdním rytmem a překryvy úloh navázanými na Kolbův cyklus učení. Standardizované výstupy (diagram, ortogonální výkresy, axonometrie/perspektiva, stručný text; model dle potřeby) slouží jako „důkazy“ rozhodnutí. Zjišťujeme rychlejší zapojení a vyšší čitelnost konceptů bez sklouznutí k triviálním úlohám. Diskutujeme limity (formalismus, omezená kvantifikace), jejich vyvažování a přenositelnost „kostry“ kurikula od elementu k prostoru.

KLÍČOVÁ SLOVA: výuka architektury; první ročník; ateliérová pedagogika; gramatika–logika–rétorika; sekvence úloh; práh a světlo; tektonika; figury; objekt a pole místa; cesta; pavilon; Kolbův cyklus; kvalitativní případová studie; návrh kurikula

ÚVOD

První ateliér je často nejintenzivnější střet nováčků s architektonickou disciplínou: vedle nadšení přichází i nejistota, rozdílné dovednosti, zkratkovité představy o výsledku. Společným jmenovatelem je možnost dělat informovaná rozhodnutí a vidět jejich důsledky ve výkresech a modelech. V tomto textu proto obhajujeme dva vzájemně se podírající pilíře:

1. navrhování od prvního týdne

2. práci v pevné sekvenci elementárních úloh: skladebný prvek → otvor → plocha → objekt → cesta → pavilon

Teze: prostorovou gramotnost, kritický úsudek a autorskou odpovědnost lze v prvním ročníku nejrychleji kultivovat, pokud student od počátku zažívá volbu (co je podstatné a proč), důkaz (jak se volba projeví ve výkresech, perspektivě) a sdělení (jak jasně a stručně předat princip). Tyto tři požadavky formulujeme jako triádu gramatika–logika–rétorika: „gramatika“ označuje kompoziční a tektonický řád, „logika“ chování prostoru v čase a jeho smyslové účinky, „rétorika“ srozumitelnou reprezentaci a obhajobu.

Výzkumná otázka: Pomáhá sekvence elementárních úloh a explicitní práce s triádou gramatika–logika–rétorika k rychlejšímu a intenzivnějšímu zapojení studentů 1. ročníku do architektonické tvorby? Druhá otázka: Slouží tato „kostra“ jako přenositelný rámec, na který lze navěšovat program, normy a typologii bez ztráty čitelnosti konceptu?

Neprovádíme kvantitativní srovnání ve smyslu procentuálního zlepšení. Předkládáme kvalitativní, praxi zakotvený přehled v konkrétních úlohách u prací z prvního ročníku (celkem více než 150 studentů, tým 7 pedagogů). Cílem není výběr „nejlepších obrázků“, ale přehled různorodých výsledků.

METODOLOGICKÉ VÝCHODISKO

Studenti se učí architektonicky uvažovat nikoli tím, že shromažďují data, ale tím, že tvoří – volí, hierarchizují, vymezují, a to v rytmu krátkých úkolů. Sledujeme vývoj (skica – diagram – výkresy – model – krátký text) pomocí různých typů konzultací (individuální i skupinové, vítaná je otevřená debata všech studentů i pedagogů) s překryvem několika úloh.

Forma a tektonika: První ročník potřebuje „společný

jazyk“ pro kompozici a čitelnost (např. Ching, 2015; von Meiss, 2018). Tektonická logika – co nese, co je nesené – dává návrhu věrohodnost (např. Deplazes, 2013; van der Laan, 2012).

Fenomenologie: Prostor se „čte“ tělem, světlem a pohybem (např. Rasmussen, 1977; Pallasmaa, 2012). V měřítku cesty a města rozhoduje konfigurace a čitelnost průchodu (např. Hillier, 2015; Norberg-Schulz, 2010).

Tento dvojí rámec by sám o sobě nestačil bez rétoriky – schopnosti jasně zobrazit podstatné a obhájit návrhové rozhodnutí (např. Rowe, 2007; Zumthor, 2009). Proto jsou nezbytné: diagram (co je podstatné), výkresy (důkazy) a stručný text (argument).

Od rané fáze výuky jde o uvažování, nikoli o prosté kvantifikované hodnocení. Jednoduché metriky (např. světelné testy, konfigurační čitelnost průchodu) používáme tam, kde posilují porozumění, nikoli jako náhradu architektonického úsudku.

KURIKULÁRNÍ ARCHITEKTURA ZAN 1,2

Organizace týdne. Každé setkání má tři stabilní části: krátká úvodní přednáška (k principu, precedensu či nástroji), samostatná práce a konzultace (během odpoledne lze střídavě mluvit s různými pedagogy. Studenti jsou vedeni, aby poslouchali a učili se i z konzultací spolužáků) a odevzdání dílčích úkolů s reflexí. Konzultace jsou záměrně různorodé. Někdy více zaměřené na smysl a kompozici, jindy na jasnost podání. Hodnotíme společně všemi pedagogy (kompozice a tektonika, čitelnost prostoru, jasnost sdělení). Sledujeme docházku a včasnost odevzdání jako nezbytná minima.

Každá úloha trvá přibližně šest týdnů, další začíná v týdnu pátém. Překryv vede studenty k nutnosti pracovat na různých úkolech najednou. Jeden úkol ladí v závěru, druhý zahajují. Tento rytmus zároveň odpovídá Kolbovu cyklu: zkušenost–reflexe–zobecnění–experiment (Kolb, 2014).

Média a výstupy. Základ tvoří výkresy, axonometrie/perspektiva, diagram a stručný text. Model požadujeme u vybraných úloh. Zásadou je srozumitelnost a vnitřní konzistence napříč médii (Ching, 2015; Rowe, 2007).

Zacílení úloh. Každá úloha má odlišné těžiště. Část je

PAVEL ŘIHÁK, ING. ARCH., PH.D.

Katedra architektury
Fakulta stavební
VŠB - Technická univerzita Ostrava
Ludvíka Podéště 1875/17
708 00 Ostrava, Česká republika

pavel.rihak@vsb.cz

ORCID iD: 0000-0002-1000-7340

Autor vystudoval obor architektura na Vysoké škole báňské – Technické univerzitě Ostrava. V současnosti na Katedře architektury přednáší urbanismus a územní plánování. Ve svém výzkumu se soustředí na vztah architektury a urbanismu. Praktické zkušenosti získal nejen v České republice, ale také v Santa Cruz de Tenerife. Od roku 2019 působí v ostravském Městském ateliéru prostorového plánování a architektury (MAPPA).

bez konkrétní lokality (aby se student neschoval za „řešení místa“ dřív, než má princip), část konkrétní místo zadává. Někdy převládá řemeslo a kompozice (skladebný prvek), jindy práh a světlo (otvor), členění a spojování (plocha), tektonická čitelnost a vztah část–celek (objekt), sekvence a orientace (cesta), případně vytvoření vnitřního prostoru a jeho hranic (pavilon).

TRIÁDA GRAMATIKA–LOGIKA–RÉTORIKA

Gramatika dává návrhu řád: vztah figury a pozadí, organizace (centralizace, linie, radiála, shluk, mříž), kompoziční principy (osa, symetrie/asymetrie, hierarchie, rytmus, kontrast) a tektonika (nosné × nesené, hrana, spára, přechod). Gramatika není styl ani předpis. Je to abeceda (Ching, 2015; von Meiss, 2018).

Logika tvoří smysl a význam každého prostoru v čase: konfigurace, síť, cesty, hierarchizace eliminují dojem a emoce proměňují v uchopitelné vlastnosti každého prvku, nebo prostoru (Hillier, 2015; Norberg-Schulz, 2010).

Rétorika zajišťuje čitelnost sdělení: diagramy oddělují podstatné od nepodstatného, výkresy jsou důkazy, krátký text formuluje argument. Zpracování plakátu není chápáno jen jako grafická dovednost, ale jako součást návrhu. Zmatek ve formálním zpracování často odrazí zmatek v myšlení (Rowe, 2007; Zumthor, 2009). Triáda je i brzdou estetizace. Vyžaduje současně řád, smysl i srozumitelnost. Chybí-li jeden pól, lze to pojmenovat a napravit (Olgiati, 2019).

SEKVENCE ÚLOH: OD ELEMENTU K PROSTORU

Sekvence skladebný prvek → otvor → plocha → objekt → cesta → pavilon staví výuku na postupném rozšiřování dovedností. Od skladebného prvku a jeho vztahů (řád, rytmus, spára) přes prahy a světlo (čtení prostoru tělem) a koherentní pole (členění a spojování) k tektonické čitelnosti (část–celek) a sekvenci chůze (konfigurace), až po vytvoření vnitřního prostoru s přesvědčivou hranicí. Každá úloha má jiné těžiště, ale všechny jsou překryvné. Výsledek jedné úlohy se stává dovedností pro úlohu další. V praxi to znamená, že se v každé fázi soustředí na několik podstatných témat — a ty dovede předvést v čitelné podobě (výkres/model/text). Tím se od počátku rozhodovat, nikoli dekorovat. Skladebný prvek. Je to cvičení střídmosti. Cílem je minimum tvarů, maximum vztahů. Student se učí hierarchii a rytmu, rozlišuje, co je datum a co variace. Klíčová je spára, členění a prostorová struktura — nikoli jako dekor, ale jako nositel řádu. Právě na nejmenší jednotce je nejlépe vidět, zda existuje vhodná kompozice, zda rytmus umí pracovat s pauzou, zda mezera není nahodilá, a zda měřítko a proporce jsou v principu přítomné. Když se variabilita rozjede, vracíme se k jedinému pravidlu a jeho důsledné variaci. Když spára sklouzne k ornamentu, vracíme ji k logice skládání. Cíl není „hezky vzorec“, nýbrž smysluplná struktura (viz obr. 1–2).

Otvor. Z „díry v ploše“ se stává element(y). Práh je pás (krytý předprostor — poloveřejná nika — dveře). Tvar a hloubka špalety vytváří světelné gradienty, které drží měřítko i intimitu. Otvor je formotvorná jednotka. V řezu má být čitelné, kde vzniká stín, jak se tok světla projevuje na špaletě a kde je skutečný přechod mezi venkem a vnitřkem. Plovoucí otvor bez souvislostí, vracíme se ke gramatice (osa, rytmus, datum). Pokud je jen efektem, ptáme se po smyslu a významu, který musí potvrdit výkres i model (viz obr. 3–4).

Plocha. Není to „shluk buněk“, ale členění a spojování do koherentního pole. Pracujeme s rytmem, kontrastem a měřítkem člověka. Cílem je koherence bez monotónnosti. Figury pomáhají ověřit, že pozadí se skutečně „rozpíná“ a pole drží pohromadě. Jeden jednoduchý kompoziční princip (osa, pás, mříž) chrání

před samoúčelným designem. Zavádíme dominantu — prázdno či kontrast — aby vzniklo ohnisko, a současně dbáme, aby mimořádnost byla čitelná pro lepší orientaci a nebyla samoúčelná. Plocha je základní prostředník mezi elementem a prostorem (viz obr. 5–6).

Objekt. Cílem úkolu je navrhnout objekt jako generátor okolního prostoru — těleso, které svým tvarem, figurou, umístěním, výškou, nebo porézností vytváří magnetické pole, lokální centrum, ohnisko, jež uspořádává blízké i vzdálenější vztahy (náměstí, dvůr, nároží). Neřešíme interiér, ale princip je stejný. Primární je pro nás venkovní prostor, který objekt zakládá. Pracujeme s hranami (zed, stěna, kolonáda), překrytím (stříška, římsa, koruna stromu), podnoží (schod, lavice) a otvory rámujeícími průhledy — jejich vzájemná konfigurace určuje stupeň ohraničení, orientaci a pohyb. Měřítka a vzdálenost (blízké — střední — vzdálené pole), natočení a vrstvení dávají prostoru čitelnost a pobytovou kvalitu. Důkazem je půdorys (jak prázdno drží pohromadě), řez přes meziprostor a pohledy (kde vzniká uzel, kde se otevírá/uzavírá horizont). Hodnotíme, zda objekt zakládá jasné pole, udržuje hierarchii míst, a vede cesty (viz obr. 7–8).

Cesta. Je to sekvence a zároveň konfigurace. Dobrá cesta je figura, která vede a zároveň nabízí místa pobytu. Střídá zúžení/rozšíření, světlo/stín, přímé/šikmé a tvoří srozumitelné uzly a předěly. V půdorysu lze čitelnost pohybu odhadovat přes hloubky a integrace. Když je síť komplikovaná, vracíme se ke smyslu a kvalitě uzlů. Když vznikají „mrtvé prostory“, často stačí jemná geometrická korekce. Sekvence doplňují měřítkové archetypy — zábradlí, římsa, lampa, aby bylo možné srovnat „rozum a tělo“ (viz obr. 9).

Pavilon. Poslední úkol neusiluje o „syntézu všeho“, ale o vytvoření vnitřního prostoru a jeho hranic. Pavilon je komorní zkouška tloušťky a tektonické samozřejmosti obálky, světla a měřítka, a zároveň test rétorické jasnosti. Začínáme interiérem. Definujeme „vnitřní pokoj“ (intimita, akustika, výhled), a teprve potom kreslíme vnější obrys. Jen formální obálka nestačí, cílem je vztah formy exteriéru a interiéru s jedním určujícím principem (raumplan, plan libre, prostorový plán) vše ostatní podřizuje. Výsledkem má být klid formy zvolený s disciplinovaným omezením prostředků (viz obr. 10) Sekvence úloh od elementu k prostoru není katalogem dovedností. Na prvku se student učí rozlišovat pravidlo a chybu. Na otvoru chápe práh a gradienty. Na ploše ovládá pole a měřítko. Na objektu tvoří magnetické pole. Na cestě skládá čas a orientaci. V pavilonu vytváří vnitřek, který obtočí svou hranicí, světlem a měřítkem. Každý krok tak rozvíjí část podstatných dovedností a zároveň je předává dál. Spára a tloušťka se vrací ve špaletě, perforace plochy se stává fasádou, magnetické pole objektu zakládá uzel a zkušenost sekvence spoluformuje pavilon. Výuka je díky tomu přehledná a přenosná. Student ví, jakou otázku řeší, jakým jazykem ji obhájí a jaký důkaz předloží.

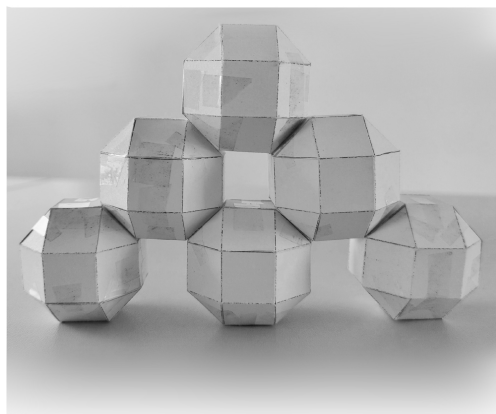
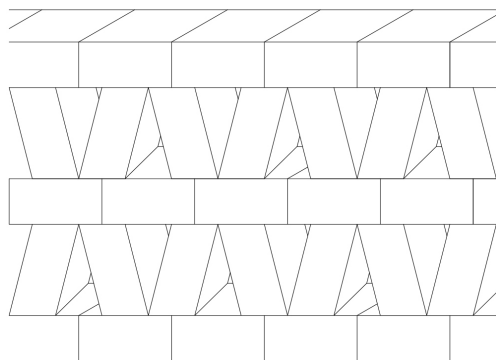
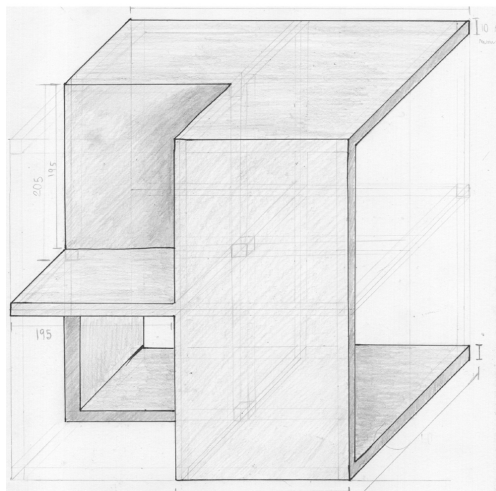
PŘÍPADY JEDNOTLIVÝCH ZADÁNÍ

Ukázky slouží jako čitelná evidence procesu a přístupu. Jak se řešení různě prezentují a jak se triáda gramatika–logika–rétorika propisuje od skladebného prvku po pavilon. Záměrně volíme různé přístupy, aby bylo zřejmé, že kvalita neleží v jednom stylu, ale v přesnosti návrhu, odůvodnění a invenci.

Výsledky studentů v předmětech ZAN 1 a ZAN 2 v letech 2023/24 a 2024/25 ukazují stabilní úroveň odevzdávaných prací. V akademickém roce 2023/24 získali studenti v ZAN 1 hodnocení výborně v 20 %, velmi dobře v 56 %, dobře ve 21 % a nevyhověl ve 4 % případů. V ZAN 2 téhož roku bylo rozložení obdobné: 23 % výborně, 65 % velmi dobře, 8 % dobře a 4 % nevyhověl. V roce 2024/25 došlo k vyšším důrazu na konzistentní kvalitu napříč úkoly. V ZAN 1 bylo hodno-

ceno 15 % prací jako výborně, 60 % jako velmi dobře, 19 % jako dobře a 6 % jako nevyhověl. V ZAN 2 dosáhlo na výborně 10 % studentů, 54 % získalo velmi dobře, 25 % dobře a 11 % nevyhověl. Tyto výsledky neukazují zhoršení odevzdaných prací, ale spíše to, že výborné práce se častěji rozprostřou napříč jednotlivými úkoly, což ztěžuje dosažení výsledného hodnocení výborně. Zároveň platí, že studenti, kteří předmět úspěšně dokončí, odevzdávají dlouhodobě kvalitní a solidní výstupy. Článek dále nezkoumá větší detail hodnocení jednotlivých prací. Zároveň je možné v budoucnu na tuto analýzu navázat a případně ji propojit s analýzou výsledků v dalších ateliérech.

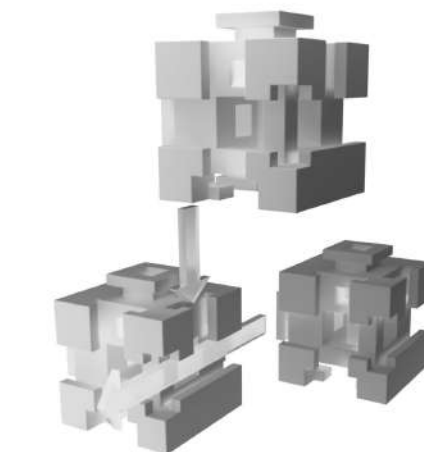
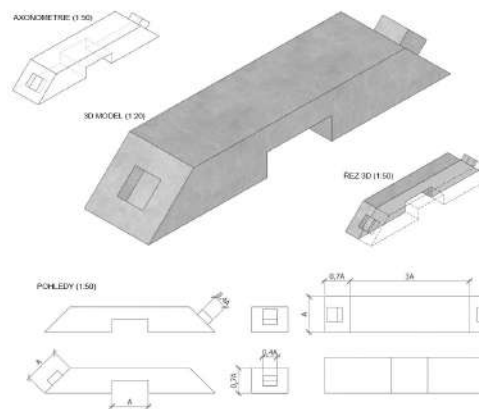
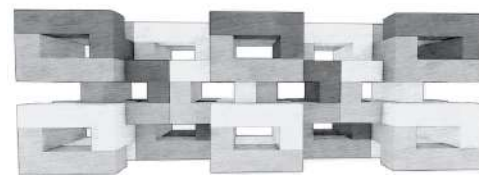
Skladebný prvek 2023/2024 (obr. 1). Tři přístupy k elementu: (1) porézní pole vzniklé překrýváním prvků, (2) jediná změna – zkosení dvou hran – otevírá široké spektrum skladebnosti, (3) prostý objem navržený pro prostorové skládání do více variant. Důraz na spáru a datové pravidlo ukazuje, že gramatika prvku i logika jeho kombinatoriky jsou stejně podstatné.



Obr. 1.: Skladebný prvek, ročník 2023/2024, autoři (shora): Zuzana Ryšavá, Daniel Dostál, Filip Grosman. Kompilace a výběr: autor (Zdroj: Ryšavá, 2023; Dostál, 2023; Grosman, 2023)

Skladebný prvek 2024/2025 (obr. 2). Všechny tři příklady pracují s „zacvakáváním“: (1) Prvek umožňuje zasouvání a rotaci, pole je tuhé. (2) Variace inspirované dřevěnými spoji jsou pevné i čitelné. (3) Složitější objem skládá stěny do přesných zámků – tektonická tuhost je součástí konceptu. Dobrá skladebnost je konstrukční vlastnost, ne ornament.

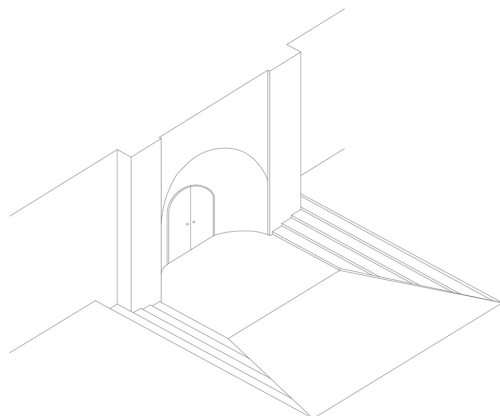
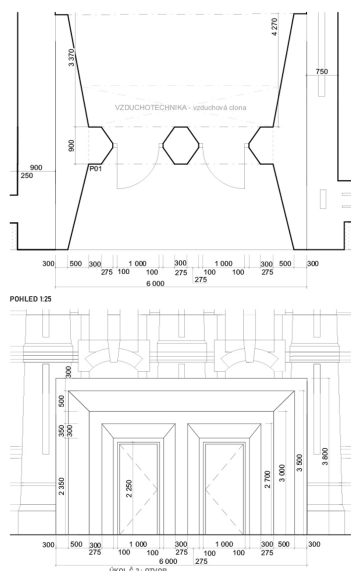
Otvor: vstup do bývalých jatek 2023/24 (obr. 3). Různé práce řeší i rozdílné výšky terénu a podlahy. (1) Zdrženlivý portál sjednocuje jednoduché dveře do výrazného prahu. (2) Zapuštěný vstup s rampou a bočními schody, abstrahovaná půlkruhová klenba – „plečnickovská“ střídmost bez citací a referencí. (3) Novotvar, který odkazuje na kruh a šikmé motivy fasády, ale zůstává jednoznačně současný.



Obr. 2.: Skladebný prvek, ročník 2024/2025, autoři (shora): Miroslav Volný, Pavel Růžovský, Patrik Čapka. Kompilace a výběr: autor (Zdroj: Volný, 2024; Růžovský, 2024; Čapka, 2024)

Otvor: postindustriální hala 2024/25 (obr. 4). Zadání pracuje s halou v rámci jednoho z bývalých ostravských dolů. Součástí je areál staveb a přístaveb. (1) Přidaný objem s jasnou geometrií pohlcuje všechny přechody a vytváří nový, čitelný rámec. (2) Naopak minimalistické nároží jako „maják“ využívá stávající otvory a kontrast odpovídající například i preferované současné památkové péči. (3) Rozšířená terasa integruje rampy a schodiště, navazuje na rytmus sloupů a otevírá nároží.

Plocha: Kostelní náměstí 2023/24 (obr. 5). Složitý terén, adice ke kostelu i zbytky opevnění. Vybrané

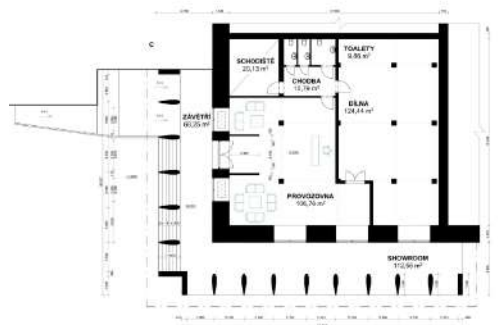
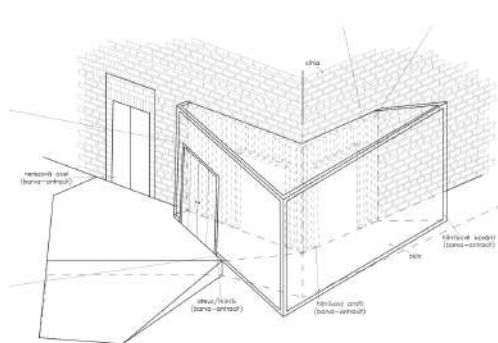
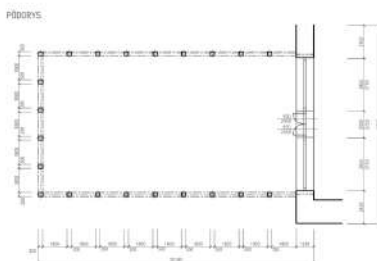


Obr. 3.: Otvor: Vstup do bývalých ostravských jatek, ročník 2023/2024, autoři (shora): Pavel Dorociak, Andrea Mikešová, Izabela Hanzelková. Komplikace a výběr: autor. (Zdroj: Dorociak, 2023; Mikešová, 2023; Hanzelková, 2023)

návrhy místo „provozního plánu“ navrhuji jasnou celistvou plochu, k níž se provoz přizpůsobí, pracují s hierarchií pásů, prázdnem a dominantou sakrální figury. Výsledkem je sdílené prostranství bez preferencí různé dopravy– nejprve pole, potom provoz.

Plocha: Zahrada FAST 2024/25 (obr. 6). Neukotvený obvod vyžaduje nový řád. Dva návrhy používají linie k členění a hierarchii, střední příklad vkládá velkorysé kruhové pole, které prostor sjednotí a dává měřítko. Velkorysá plošná gramatika lépe potlačí komplikovanost a neukotvenost místa, čistě liniová řešení končí spíš funkční organizací.

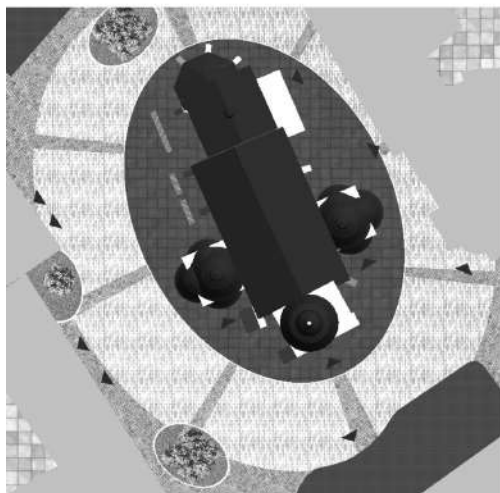
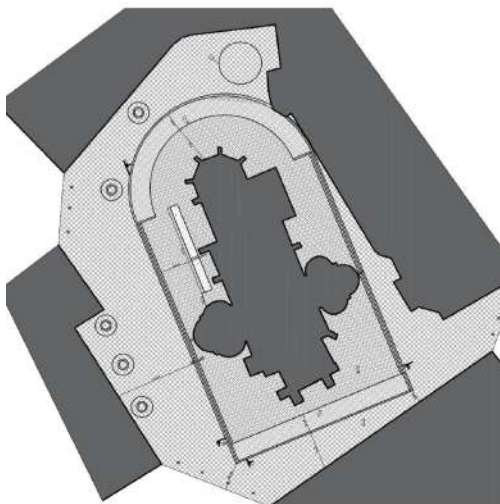
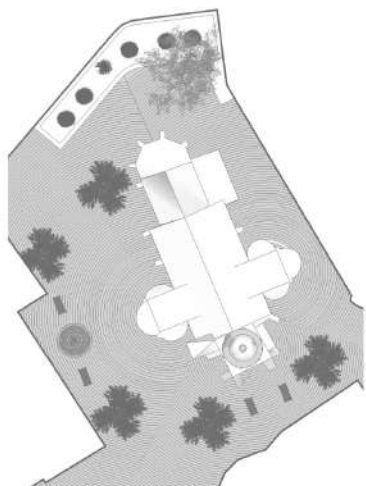
Objekt: soutok Ostravice a Lučiny 2023/24 (obr. 7).



Obr. 4.: Otvor: Postindustriální hala, ročník 2024/2025, autoři (shora): Petra Simová, Karolina Vedrová, Adam Profota. Komplikace a výběr: autor (Zdroj: Simová, 2024; Vedrová, 2024; Profota, 2024)

Tři strategie place-makingu: (1) Solitér je magnetické jádro a drobné mohyly jsou vedlejší. (2) Rozptýl 23 štihlých prvků tvoří kruh – symbol spojení všech tří břehů. (3) Žádná vertikála, jen síť vydlážděných linií, které se kříží v ohnisku. Různé přístupy v podobě objektu, pole i linie mohou vytvářet místo.

Objekt: Památník obětem války na Ukrajině 2024/25 (obr. 8). Rozptýl přístupů, vysoká kvalita. (1) Přerušený kruh s dvojicí siluet postav vytváří pobytový prostor. (2) Tradiční monument na podstavci s výrazem důstojnosti. (3) Abstraktní „nápis“ z plných objemů, průchody střídají šířku – diskutován „donucovací“ efekt



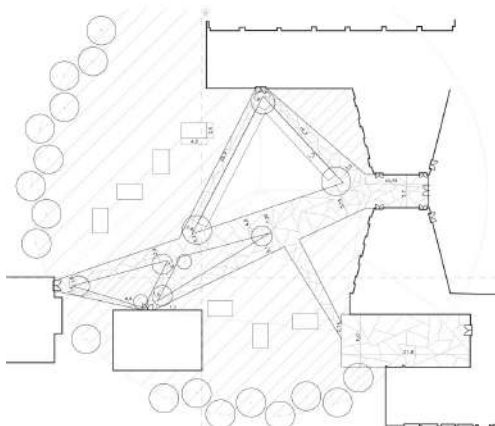
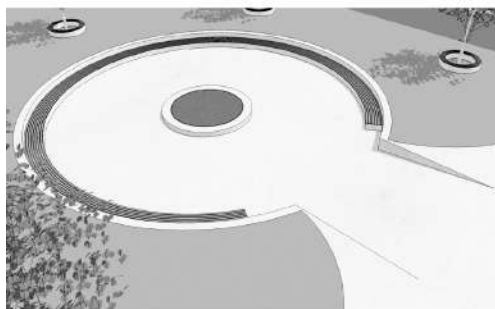
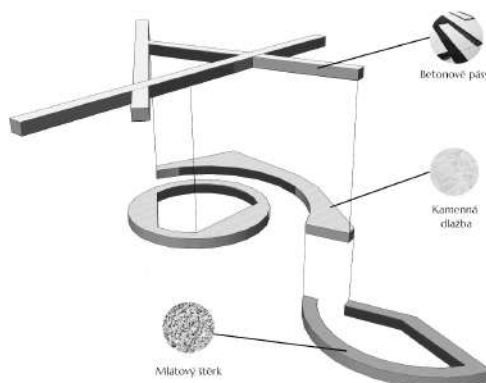
Obr. 5.: Plocha: Kostelní náměstí, ročník 2023/2024, autoři (shora): Mariana Polášková, Viktorie Mádrová, Katarina Hofierková. Kompilace a výběr: autor (Zdroj: Polášková, 2023; Mádrová, 2023; Hofierková, 2023)

průchodu. Společné měřítko a práce se světlem dávají návrhům váhu bez gest.

Cesta: chodba v bytovém domě 2023/24 (obr. 9). Volně specifikované dispozice. (1) Segmentovaná chodba navazuje na členění bytů, jádra vytvářejí přehledné uzly dispozice. (2) Kruhový motiv se propisuje do schodiště a výtahu, vstupy do bytů jsou za rohem – vznikají chráněná závětrí. (3) „Rokle“ pavlačového domu s organickým profilem učí disciplíně kresby i kompozice. Cesta je série figur, ne zbytková plocha.

Pavilon 2024/25 (obr. 10). Tři různé cesty k vnitřnímu prostoru. (1) Rozebíratelný dřevěný skelet s membránou – konstrukce určuje výraz venku i uvnitř. (2) Volná adice objemů se světliky, různé velikosti = různá osvětlení i propojení. (3) Silná geometrie půdorysu i střechy, která nese celou prostorovou strukturu.

Příklady ukazují, že studenti dokážou v krátkém čase převést princip do konkrétního návrhu. Nejde o jeden správný tvar, ale o jasnou kompozici, ověřenou logiku a srozumitelnou rétoriku. Tam, kde se tyto tři roviny potkají, vzniká komplexní architektonický návrh.



Obr. 6.: Plocha: Zahrada FAST, ročník 2024/2025, autoři (shora): Anežka Planková, Nikola Lusková, Karolína Vedrová. Kompilace a výběr: autor (Zdroj: Planková, 2024; Lusková, 2024; Vedrová, 2024)

LIMITY A JEJICH VYVAŽOVÁNÍ

Kvantifikace. Fenomenologické kvality (světlo, haptika, klid formy) nelze redukovat na jedno číslo. Zároveň neignorujeme měřitelná minima, kde pomohou porozumění (např. jednoduché světelné zkoušky, základní akustická úvaha, konfigurační čitelnost průchodu). Používáme je jako korektiv, nikoli jako náhražku úsudku (Norberg-Schulz, 1979; Valena, 2018).

Riziko formalismu. Práce s „gramatikou“ může svádět k formálnímu rituálu. Protiváha je dvojí: fenomenologie – prostor se musí chápat tělem; tektonika – řez a spára musí dávat smysl. V praxi to znamená, že každé „hez-ké“ rozhodnutí musí mít prostorovou a konstrukční logiku (Olgiati, 2019).

Variabilita pedagogů. Sedm vyučujících záměrně přináší rozdílné názory – to je záměr. Robustnost posuzování zvyšujeme společnými konzultacemi a sdílenými minimy výstupů (diagram, výkresy, model, text). Rozdílné, ale argumenty podpořené názory jsou pro studenty přínosem.



Obr. 7.: Objekt: Soutok Ostravice a Lučiny, ročník 2023/2024, autoři (shora): Pavel Dorociak, Tomáš Křížek, Matěj Lasák. Kompilace a výběr: autor (Zdroj: Dorociak, 2024; Křížek, 2024; Lasák, 2024)

Digitální nástroje a AI. AI používáme instrumentálně (řešerše, postprodukce). Autorství konceptu a volby zůstává u studenta. Požadujeme, aby dokázal vysvětlit, proč je jeho řešení nejlepší vzhledem k okolnostem.

ZÁVĚR

Předložená metoda stojí na prosté, ale náročné ambici. Navrhovat od prvního týdne a trvat na tom, aby každé rozhodnutí bylo gramaticky (kompozice/tektonika), logicky (chování/smysl) i rétoricky (sdělení/obhajoba) uchopitelné. Sekvence elementárních úloh: skladebný prvek → otvor → plocha → objekt → cesta → pavilon – poskytuje přehlednou „kostru“, na kterou lze později všes programovou složitost, normy i metriky, aniž by se rozpadla čitelnost principu.

Evidované případy ukazují, že studenti v krátkém čase dokážou pojmenovat, co dělají a proč, a doložit to ve výkresech. Limity (kvantifikace, formalismus) vyvažujeme pozorovatelnými minimy a zejména společnou konzultací a hodnocením až sedmi pedagogy.



Obr. 8.: Objekt: Památník obětem války na Ukrajině, ročník 2024/2025, autoři (shora): Yaroslav Kachurovskiy, Monika Šuláková, Barbora Štorková. Kompilace a výběr: autor (Zdroj: Kachurovskiy, 2025; Šuláková, 2025; Štorková, 2025)

Nechceme, aby se první ročník stal „výrobou efektů“ nebo „katalogem analýz“. Chceme, aby se stal místem učení odpovědné tvorby: co je podstatné, jak to nejpřesněji vyjádřit a čím to prokázat. Tímto způsobem si studenti již od prvního semestru osvojují to, co podle našeho názoru dělá architekta architektem – schopnost hledat nejlepší možné řešení v daném čase a místě a nést za ně odpovědnost.

POUŽITÉ ZDROJE

[1] AURELI, Pier Vittorio. The possibility of an absolute architecture. Writing architecture series. Cambridge,

Massachusetts: The MIT Press, [2011]. ISBN 978-0-262-51579-5.

[2] CARUSO, Adam. The feeling of things. Barcelona: Ediciones Polígrafa, [2008]. ISBN 978-84-343-1186-2.

[3] CHING, Francis D. K. Architecture: form, space, & order. Fourth edition. Hoboken: Wiley, [2015]. ISBN 978-1-118-74508-3.

[4] DEPLAZES, Andrea (ed.). Constructing architecture: materials, processes, structures, a handbook. 3rd extended ed. Basel: Birkhäuser, 2013. ISBN 978-3-03821-451-9.

[5] HILLIER, Bill. Space Is the Machine: A Configurational Theory of Architecture. CreateSpace, 2015. ISBN 1511697768.

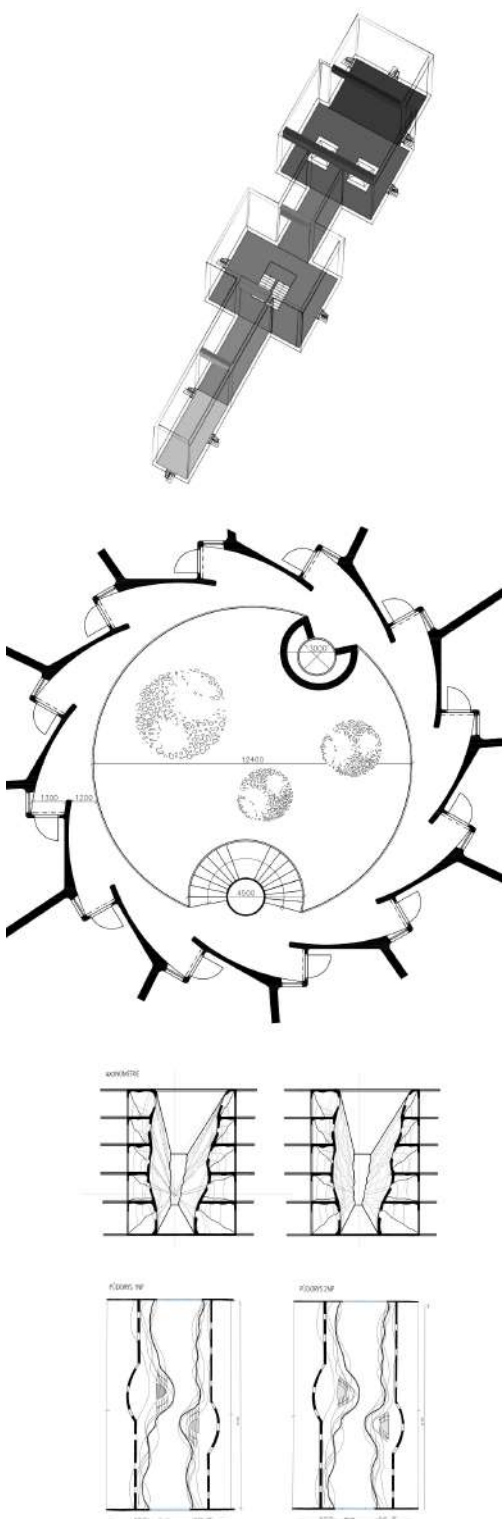
[6] HERTZBERGER, Herman. Přednášky pro studenty architektury. Přeložil Šárka RUBKOVÁ. Dolní Kounice: MOX NOX, 2012. ISBN 978-80-905064-0-4.

[7] KOLB, David. Experiential Learning: Experience as the Source of Learning and Development. FT Press, 2014. ISBN 9780133892505.

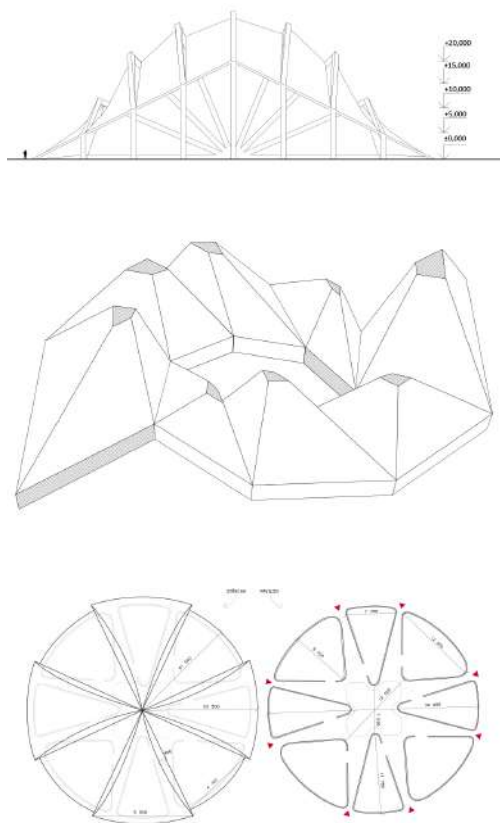
[8] KRIER, Léon. Architektura: volba nebo osud. Přeložil Jaroslav HUŤA. Praha: Academia, 2001. ISBN 80-200-0012-7.

[9] LAAN, H. van der. Architektonický prostor: patnáct naučení o povaze lidského obydlí. A Architektura. Zlín: Archa, 2012. ISBN 978-80-87545-13-3.

[10] MEISS, Pierre von; MEISS, Pierre von a MEISS, Pierre von. Od formy k místu: úvod do studia architektury; + O tektonice: úvod do studia architektury. Přeložil Michaela BROŽOVÁ. A Architektura. Ve Zlíně: Archa, 2018. ISBN 978-80-87545-61-4.



Obr. 9.: Cesta: Chodba v bytovém domě, ročník 2023/2024, autoři (shora): Zuzana Topinková, Klára Zavadilová, Eliška Talandová. Kompilace a výběr: autor (Zdroj: Topinková, 2025; Zavadilová, 2025; Talandová, 2025)



Obr. 10.: Pavilon, ročník 2024/2025, autoři (shora): Nella Kulhánková, Petra Simová, Karolína Vedrová. Kompilace a výběr: autor (Zdroj: Kulhánková, 2025; Simová, 2025; Vedrová, 2025)

- [11] MELKOVÁ, Pavla. Humanistická role architektury. V Řevnicích: Arbor vitae, 2016. ISBN 978-80-7467-114-2.
- [12] NORBERG-SCHULZ, Christian. Genius loci: krajina, místo, architektura. 2010. ISBN 8073633035.
- [13] OLGIIATI, Valerio a BREITSCHMID, Markus. Non-referential Architecture. Park Publishing (WI), 2019. ISBN 303860142X.
- [14] PALLASMAA, Juhani. Oči kůže: architektura a smysly. A Architektura. Zlín: Archa, 2012. ISBN 978-80-87545-10-2.
- [15] RASMUSSEN, Steen Eiler. Experiencing architecture. 2nd ed. [S.l.]: M. I. T. Press, 1977.
- [16] ROWE, Colin. Matematika ideální vily a jiné eseje. Brno: ERA, 2007. ISBN 978-80-7366-094-9.
- [17] ŠEVČÍK, Jiří a MITÁŠOVÁ, Monika (ed.). Česká a slovenská architektura 1971-2011: texty, rozhovory, dokumenty. V Praze: Akademie výtvarných umění, Vědecko-výzkumné pracoviště ve spolupráci se Slovenskou národní galériou v Bratislavě, Úsekem výskumu a rozvoja a Vysokou školou výtvarných umění v Bratislavě, Centrom výskumu, 2013. ISBN 978-80-87108-28-4.
- [18] VALENA, Tomáš. Vztahy: o vazbě k místu v architektuře. 2018. ISBN 8088033055.
- [19] ZUMTHOR, Peter. Promýšlet architekturu. A Architektura. Zlín: Archa, 2009. ISBN 978-80-87545-42-3.
- [20] ZUMTHOR, Peter. Atmosféry: architektura v okolním prostoru. AArchitektura. Zlín: Archa, 2013. ISBN 978-80-87545-22-5.
- [21] ČAPKA, Patrik (2024). Otvor: Postindustriální hala. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [22] DOROCIÁK, Pavel (2023). Otvor: Vstup do bývalých ostravských jatek. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [23] DOROCIÁK, Pavel (2024). Objekt: Soutok Ostravice a Lučiny. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [24] DOSTÁL, Daniel (2023). Skladebný prvek. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [25] GROSSMAN, Filip (2023). Skladebný prvek. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [26] HANZELKOVÁ, Izabela (2023). Otvor: Vstup do bývalých ostravských jatek. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [27] HOFIERKOVÁ, Katarina (2023). Plocha: Kostelní náměstí. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [28] KACHUROVSKYI, Yaroslav (2025). Objekt: Památník obětem války na Ukrajině. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [29] KŘÍŽEK, Tomáš (2024). Objekt: Soutok Ostravice a Lučiny. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [30] KULHÁNKOVÁ, Nella (2025). Pavilon. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [31] LASÁK, Matěj (2024). Objekt: Soutok Ostravice a Lučiny. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [32] LUSKOVÁ, Nikola (2024). Plocha: Zahrada FAST. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [33] MÁDROVÁ, Viktorie (2023). Plocha: Kostelní náměstí. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [34] MIKEŠOVÁ, Andrea (2023). Otvor: Vstup do bývalých ostravských jatek. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [35] PLANKOVÁ, Anežka (2024). Plocha: Zahrada FAST. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [36] POLÁŠKOVÁ, Mariana (2023). Plocha: Kostelní náměstí. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [37] PROFOTA, Adam (2024). Otvor: Postindustriální hala. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [38] RŮŽOVSKÝ, Pavel (2024). Skladebný prvek. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [39] RYŠAVÁ, Zuzana (2023). Skladebný prvek. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [40] SIMOVÁ, Petra (2024). Otvor: Postindustriální hala. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [41] SIMOVÁ, Petra (2025). Pavilon. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [42] ŠTORKOVÁ, Barbora (2025). Objekt: Památník obětem války na Ukrajině. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [43] ŠULÁKOVÁ, Monika (2025). Objekt: Památník obětem války na Ukrajině. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [44] TALANDOVÁ, Eliška (2025). Cesta: Chodba v bytovém domě. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [45] TOPINKOVÁ, Zuzana (2025). Cesta: Chodba v bytovém domě. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [46] VEDROVÁ, Karolina (2024). Plocha: Zahrada FAST. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [47] VEDROVÁ, Karolina (2024). Otvor: Postindustriální hala. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [48] VEDROVÁ, Karolina (2025). Pavilon. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [49] VOLNÝ, Miroslav (2024). Skladebný prvek. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.
- [50] ZAVADILOVÁ, Klára (2025). Cesta: Chodba v bytovém domě. Studentský projekt. FAST VŠB-TU Ostrava. Vedoucí práce: P. Řihák a kol.

Části studentských prací jsou zveřejněny se souhlasem autorů.

2/ Urbanismus a veřejný prostor

PROSTOROVÉ REZERVY MĚSTA: MOŽNOSTI ZAHUŠŤOVÁNÍ BYTOVÉ ZÁSTAVBY V CENTRU BRNA

Mikel Jakub

JAKUB MIKEL, ING. ET ING. ARCH.

Fakulta architektury, Vysoké učení
technické v Brně, Poříčí 273/5,
639 00 Brno, Česko

xamikel@vutbr.cz

ORCID ID: 0009-0005-0367-7767

Autor je doktorandem na Ústavu urbanismu Fakulty architektury Vysokého učení technického v Brně, kde se ve svém výzkumu zaměřuje především na ekonomiku urbanismu. Vystudoval Fakultu architektury a Ústav soudního inženýrství, což mu umožňuje propojovat architektonické znalosti s legislativními a ekonomickými aspekty územního plánování.

Kromě akademické činnosti je Jakub Mikel aktivní také v praxi, kde spolupracuje vlastní architektonicko-projekční kancelář. Kombinací akademického výzkumu a profesní zkušenosti přispívá k uplatňování teoretických poznatků v konkrétních projektech a řešeních.

ABSTRAKT: Příspěvek se zabývá možnostmi zahušťování městské zástavby jako jedním z možných řešení bytové krize. Zaměřuje se na identifikaci a analýzu nevyužitých prostor, jako jsou proluky, poddimenzovaná výstavba a podkroví, které mohou představovat rezervy pro novou bytovou výstavbu. Výzkum provedený v městské čtvrti Brna hodnotil tyto plochy z hlediska jejich fyzické a legislativní vhodnosti pro rozvoj. Příspěvek zdůrazňuje zahušťování jako klíčový nástroj udržitelného městského rozvoje s ekonomickými, environmentálními a legislativními výhodami. Efektivnější využití stávající městské struktury umožňuje přeměnu nevyužitých zdrojů na nové bytové kapacity a přispívá k optimalizaci městského prostoru bez nutnosti rozrůstání města do krajiny. Zároveň příspěvek nastiňuje i hlavní bariéry zahušťování, mezi které patří technická, legislativní a sociální omezení, jež mohou realizaci projektů komplikovat.

KLÍČOVÁ SLOVA: Zahušťování městské zástavby; bytová krize; rezervy městského prostoru; nevyužitá parcely / proluky; poddimenzovaná zástavba; podkroví; udržitelný rozvoj města

ÚVOD

Současná nedostupnost bydlení v České republice patří mezi jednu z nejvyšších v rámci Evropy. V rámci výzkumu provedeného v roce 2023 musel průměrný Čech vynaložit 13,3 průměrného ročního platu pro koupi průměrného 70 m² (Deloitte, 2023). Ve srovnání s ostatními státy, kde například v Dánsku vychází tento koeficient na 5,0, nebo k nám geograficky bližšímu Polsku 8,1, se toto číslo jeví jako velmi vysoké. Do kontextu je nutné vzít skutečnou dobu splácení hypotečních úvěrů, kdy v roce 2023 byla průměrná doba splatnosti 26,6 let (Česká národní banka, n. d.). Tato data nasvědčují, že situace na poli dostupnosti bydlení má výrazný vliv na celkovou kvalitu života, jelikož převážnou část aktivního pracovního období domácnosti platí značnou část domácího rozpočtu na splácení hypotečního úvěru. Například v roce 2021 byl průměrný index dostupnosti bydlení 61,5 % (Golem Finance, 2021). Jinými slovy: pokud by si průměrná česká domácnost koupila byt o průměrné ceně, na splátku hypotéky by vynakládala 61,5 % svých čistých měsíčních příjmů.

Situace na poli nemovitostí je ještě umocněná tím, že současná mladá generace upřednostňuje individuální bydlení, a to jak nájemní, tak osobní (Eurostat, n. d.). Ačkoliv na toto bydlení často nedosáhne a je nakonec nucena využít sdílené bydlení nebo zůstat u rodičů. Jakmile jsou však schopni pokrýt náklady na vlastnické bydlení, volí tuto variantu. Stejně tak v celé České republice je osobní vlastnictví upřednostňováno před nájemním bydlením (RE/MAX, 2024). Tato vysoká poptávka po bydlení ještě více prohlubuje disparitu mezi nabídkou a poptávkou, čímž dochází k narůstající nerovnováze na trhu nemovitostí. Zdálo by se, že řešením této situace je výstavba nových bytů, která by vyrovnala situaci mezi poptávkou a nabídkou. Avšak současný trend je opačný a počet nových bytů naopak klesá, meziroční pokles dokončených nových bytů dosahuje 60,1 % (Český statistický úřad, 2025). Důvody této situace lze identifikovat v několika klíčových faktorech, přičemž dominantní roli hraje vysoká míra regulace spojená s časově náročným povolenacím procesem, komplexností změn územních plánů, které často vyžaduje rozsáhlejší bytová výstavba, a složitými majetkoprávními vztahy. Dalším zásadním aspektem je skutečnost, že nová výstavba často vede k záboru zemědělského půdního fondu, jehož ochrana je legislativně ukotvena v právním řádu České republiky, což z oprávněných důvodů prodražuje, zpomaluje nebo v některých případech zcela znemožňuje výstavbu v určitém území. V tomto kontextu se otevírá otázka, zda

existuje možnost rozšiřování bytového fondu, která by minimalizovala environmentální dopady, jako je úbytek orné půdy a potřeba budování nové dopravní a technické infrastruktury.

Odpovědí na tuto otázku může být kromě regenerace brownfieldů rovněž zahušťování městských center, což představuje proces umožňující efektivní využití dostupného prostoru na již urbanizovaných plochách, přičemž zároveň přispívá ke zlepšení urbanistické kvality a dlouhodobé udržitelnosti měst. Tento přístup se zároveň zaměřuje na centra měst, která vykazují vysokou poptávku po bydlení, čímž dochází k vytváření obytných jednotek v oblastech, kde je poptávka reálná a ekonomicky opodstatněná. Zahušťování je zároveň konceptuálně ukotveno v teorii rozhodování aktérů městského rozvoje, zejména developerů, kteří při rozhodování o investici zvažují kombinaci očekávaného výnosu, složitosti povolenacích procesů a regulačních překážek (Brueckner, 2011; Henderson & Ioannides, 1983). Významnou roli přitom hrají i institucionální a behaviorální faktory, jako je odpor sousedů (tzv. efekt NIMBY – „Not In My Backyard“), fragmentace vlastnictví či nedostatečná motivace vlastníků k aktivnímu využití nevyužitých prostor (Monkkonen, Lens & Manville, 2020).

Navzdory tomuto potenciálu však kapacity pro zahušťování zůstávají často nevyužity. Jedním z důvodů může být nedostatek městských strategií zaměřených na aktivaci vnitřního rozvojového potenciálu a regulační rámce, které nezohledňují proměnlivé potřeby města (Gechter & Tsivanidis, 2023).

Výhody tohoto procesu by se daly rozdělit do tří kategorií:

1. Ekonomické:

- Eliminace budování nové dopravní a technické infrastruktury. Vyšší hustota obyvatelstva umožňuje efektivnější využívání stávající infrastruktury a snižuje náklady na veřejné služby (Ahlfeldt & Pietrostefani, 2019).
- Využití stávajících konstrukcí, v podobě střeš a základů při vestavbách do podkroví. Efektivní způsob využívání existující stavební struktury může snížit náklady na výstavbu a urychlit proces urbanistické obnovy (Brueckner, 2011).

2. Environmentální:

- Eliminace záboru zemědělské půdy. Zahušťování pomáhá omezit urban sprawl a tím chrání zemědělskou půdu (Bertaud & Brueckner, 2005).
- Zkrácení dojezdových vzdáleností. Kompaktnější

městské uspořádání vede ke kratším cestovním vzdálenostem a tím i ke snížení emisí (Carozzi & Roth, 2023).

3. Sociální:

– Využití stávající kulturní a občanské vybavenosti. Hustší zástavba podporuje efektivní využití veřejných zařízení a služeb bez potřeby jejich rozšiřování (Institut plánování a rozvoje hl. m. Prahy, 2020).

Mezi dosud ne zcela prozkoumané aspekty procesu zahušťování městských center patří především velikost jeho potenciálu pro vznik nových bytových jednotek a nárůstu počtu obyvatel v rámci stabilizované městské struktury. Tento výzkum se zaměřuje právě na identifikaci rezerv pro výstavbu bytů v těchto oblastech a zkoumá možnost efektivního využití dostupného prostoru. Klíčovou otázkou, která je předmětem tohoto výzkumu, je, jak velký potenciál pro bytovou výstavbu skýtá stabilizovaná městská zástavba.

Vymezení lokality

V rámci výzkumu byla analyzována vybraná městská čtvrť Brna, která sloužila jako modelová oblast pro posouzení velikosti disponibilních ploch ve stabilizované zástavbě (Obrázek 1).



Obrázek 1: Grafická interpretace vymezení lokality výzkumu (vlastní zpracování).

Konkrétně se jednalo o Zábrdovice, a to s ohledem na její vhodnou polohu, urbanistickou strukturu a dostupnost dat. Lokalita zároveň představuje typický příklad stabilizovaného území širšího centra, což umožňuje ověření metody v podmínkách běžných pro většinu velkých českých měst. Metoda jako celek je navržena tak, aby byla přenositelná i na jiná území s obdobnými charakteristikami, a to při zachování dostatečné míry přesnosti a relevance výsledků.

Zábrdovice jsou středně velkou městskou čtvrtí, která tvoří samostatné katastrální území [610704] o celkové rozloze 1,64 km². V roce 2021 zde žilo 12 632 obyvatel (Český statistický úřad, 2021), přičemž tato lokalita bezprostředně navazuje na centrum města a tvoří přechodovou oblast mezi historickým jádrem a dalšími městskými čtvrtěmi, což z ní tvoří vyhledávanou oblast. Zábrdovice jsou propojené s centrálními městskými zónami prostřednictvím významné dopravní infrastruktury, včetně městské hromadné dopravy a hlavních silničních tepen, což umožňuje efektivní napojení na širší regionální i městskou síť.

Zábrdovice jsou charakteristické relativně hustou blokovou zástavbou, která byla primárně formována v průběhu 19. a 20. století, přičemž většina budov byla postavena v období industrializace a urbanizačních změn, kdy došlo k výraznému rozvoji městských funkcí. Tato zástavba dodnes představuje typickou strukturu městské zástavby s vysokým podílem obytných funkcí, ale i přítomností menších komerčních objektů a veřejných budov. V oblasti se nachází několik historických a kulturních památek, což vytváří určitý tlak na zachování specifického charakteru zástavby při případné regeneraci a přetváření městského prostoru.

V území je přítomná kompletní technická a dopravní infrastruktura, včetně kanalizace, vodovodního a plynového potrubí, a relativně pestrá občanská vybavenost, jako jsou školy, školky, obchody, restaurace a zdravotnická zařízení, což z něj činí vhodné prostředí pro další urbánní rozvoj bez nutnosti rozsáhlých investic do základních veřejných služeb a dopravního napojení. Tyto charakteristiky činí ze Zábrdovic vhodnou lokalitu pro posouzení potenciálu zahušťování v rámci stabilizované městské struktury.

METODOLOGICKÝ PŘÍSTUP

Cílem výzkumu bylo navrhnout a ověřit pilotní přístup k identifikaci a kvantifikaci rozvojových kapacit ve stabilizovaných městských územích. Následně byla tato data vyhodnocena a zasazena do kontextu potenciálního přírůstu bytového fondu.

Ačkoliv existující přístupy k bilančnímu hodnocení rozvojového potenciálu stabilizovaných ploch – jako například metodika IPR Praha (Institut plánování a rozvoje hl. m. Prahy, 2020) nebo přístup Monkkenen et al. (2020) – poskytují cenný rámec pro strategické plánování na úrovni města nebo regionu, předkládaná metoda se odlišuje důrazem na mikroúroveň. Zaměřuje se detailně na konkrétní lokalitu, a to prostřednictvím kombinace mapových podkladů, místního šetření a individuální klasifikace každé potenciálně rozvojové plochy. Tím přináší hlubší prostorovou přesnost a realističtější výsledky využitelné pro aplikovanou praxi.

V porovnání s dosavadními přístupy, které často operují na makroúrovni celého města nebo využívají pouze typologické analýzy (např. pro brownfieldy), tento přístup sleduje konkrétní bloky v rámci stabilizované městské struktury a umožňuje získání detailních kvantitativních údajů o využitelném rozvojovém potenciálu (Institut plánování a rozvoje hl. m. Prahy, 2020; Hudeček et al., 2019). Pilotní přístup navazuje na předchozí výzkumy městského rozvoje a kapacit, jakými jsou například Územně analytické podklady Prahy (Institut plánování a rozvoje hl. m. Prahy, 2020) nebo kvantitativní analýzy dopadů prostorového uspořádání na veřejné výdaje v prostředí českých měst (Hudeček et al., 2019). Zvolený analytický rámec kom-

binuje prostorovou identifikaci nevyužitých ploch se základními urbanistickými, právními a demografickými vstupy, a jeho cílem je ověřit potenciál využitelnosti těchto ploch pro obytnou funkci.

Pro účely výzkumu byly vymezeny tři typy ploch s rozvojovým potenciálem: Nevyužitá podkroví (NS) – prostory vhodné pro vestavbu bytových jednotek.

Nezastavěné proluky (VP) – pozemky umožňující výstavbu nových bytových domů.

Poddimenzovaná zástavba (PV) – objekty, jejichž výškový nebo půdorysný rozsah nevyužívá svůj maximální potenciál. V těchto případech byla zvažována možnost nástavby sloužící k bydlení. Pokud by se nástavba ukázala jako technicky nerealizovatelná, byla zvažována demolice a její nahrazení novou stavbou, přičemž do výpočtů byly započítány pouze plochy nově vzniklé oproti původnímu stavu. Graficky znázorněno: (Obrázek 2)

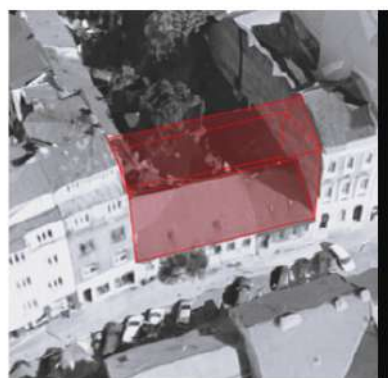
Nevyužitá podkroví (NS)



Nezastavěné proluky (VP)



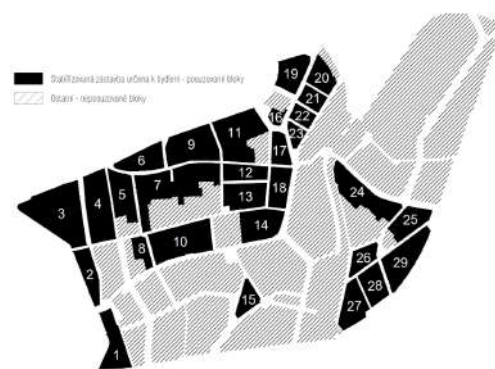
Poddimenzovaná zástavba (PV)



Obrázek 2: Interpretace metodologie vymezení zkoumaných jevů (vlastní zpracování).

Výběr lokalit a sběr dat vycházel z podmínek daných platným územním plánem, stavebním zákonem a základními urbanistickými a architektonickými principy, které představují soubor pravidel pro zachování prostorové kontinuity, měřítka zástavby, uliční čáry, proporcí veřejných prostranství a kvality obytného prostředí. Tyto principy odpovídají zásadám uvedeným například v Politice architektury a stavební kultury ČR (Ministerstvo pro místní rozvoj ČR, 2015).

V rámci posuzované lokality Zábrdovic byly vybrány bloky zástavby, které jsou v územním plánu definovány jako stabilizované (Statutární město Brno, 2024a). Celkem bylo identifikováno 29 takových bloků (Obrázek 3). Tyto bloky byly následně analyzovány na základě leteckého snímkování, katastrálních map (ČÚZK, 2024) a místního šetření, přičemž byl proveden detailní průzkum disponibilních ploch. Tyto plochy byly číselně identifikovány a barevně vyznačeny do vytvořené mapy disponibilních rozvojových ploch (Obrázek 4).



Obrázek 3: Mapa rozdělení posuzovaných bloků (vlastní zpracování).



Obrázek 4: Mapa disponibilních rozvojových ploch (vlastní zpracování)

U všech identifikovaných ploch byla shromažďována data o jejich typu, půdorysné ploše v m² a potenciálním počtu podlaží. Pro zvýšení přesnosti výpočtů byla plocha půdorysného průmětu upravena redukčními koeficienty – 0,8 pro standardní podlaží a 0,7 pro podkrovní prostory, což umožnilo převod na čistou podlahovou plochu bez započtení tloušťky konstrukcí a společných prostor.

Celková využitelná plocha pro tvorbu bytových jednotek byla následně vypočtena jako součin redukované půdorysné plochy a odhadovaného počtu podlaží. Pro zohlednění požadavků na veřejnou vybavenost byla výsledná rozloha dále snížena koeficientem 0,9, čímž byla vytvořena 10% rezerva pro případnou tvorbu veřejné vybavenosti. Zbýlá část plochy byla následně vydělena průměrnou velikostí bytové jednotky, kde bylo uvažováno o velikosti 75 m², čímž byl odhadnut potenciální počet nově vzniklých bytů. Následně, na základě průměrné obsazenosti domácností (2,4 osoby/byt), byl stanoven předpokládaný nárůst počtu obyvatel k dané identifikované ploše (Český statistický úřad, 2022).

Tato data byla následně sečtena jak po jednotlivých blocích (Tabulka 1), tak i celkově. Čímž došlo k získání

Označení	Typ plochy	Plocha půdorysného průmětu (m²)	Koeficient redukce plochy (využitelnost)	Čistá podlahová plocha jednoho podlaží (m²)	Koeficient redukce plochy (vybavenost)	Potencionální počet obytných podlaží	Celková čistá podlahová plocha (m²)	Počet bytů (75 m²)	Počet obyvatel (2,4 os./byt)
Blok 1									
1	VP	1445	0,8	1156	0,9	5	5202	69	165,6
2	PS	459	0,8	367,2	0,9	2	660,96	9	21,6
3	PS	440	0,8	352	0,9	2	633,6	8	19,2
4	PS	420	0,8	336	0,9	2	604,8	8	19,2
5	NP	685	0,7	479,5	0,9	1	431,55	6	14,4
6	NP	245	0,7	171,5	0,9	2	308,7	4	9,6
7	VP	1191	0,8	952,8	0,9	7	6002,64	80	192
8	NP	154	0,7	107,8	0,9	1	97,02	1	2,4
9	VP	825	0,8	660	0,9	5	2970	40	96
10	PS	654	0,8	523,2	0,9	5	2354,4	31	74,4
Celkem:							19265,67	256	614,4

Tabulka 1: Blok 1 - Sbíraná data a postup výpočtu (vlastní zpracování).

informací o tom, kolik nových bytů může ve stabilizovaných plochách Zábřovic vzniknout a jaký počet potenciálních obyvatel by mohl danou lokalitu obývat.

Struktura a zdůvodnění analytického postupu

Typologie ploch. Vymezení rozvojového potenciálu stabilizovaných ploch – včetně nevyužitých podkroví, proluk a poddimenzované zástavby – vychází z přístupů doporučených v plánovacích dokumentech, například v Metodickém pokynu MMR k vyhodnocení potřeby zastavitelných ploch (Ministerstvo pro místní rozvoj ČR, 2022).

Vymezení území. Analýza se zaměřila výhradně na oblasti označené v územním plánu jako stabilizované. Tyto plochy jsou obvykle považovány za prostorově naplněné, přesto mohou v sobě nést latentní kapacity. Přístup navazuje na přístupy využívané v plánovacích dokumentech, jako jsou Územně analytické podklady hl. m. Prahy, které upozorňují na možné vnitřní rezervy i ve stabilizovaném území (Institut plánování a rozvoje hl. m. Prahy, 2020).

Datový sběr a prostorová identifikace. Kombinace leteckého snímkování, katastrálních dat a terénního průzkumu umožňuje identifikaci ploch, které by nebyly zachyceny pouze prostřednictvím GIS nástrojů. Podobný přístup je využíván i v případech regenerace center (např. Auckland – Murphy, 2012).

Výpočet využitelné podlahové plochy. Pro účely tohoto výpočtu byly použity redukční koeficienty 0,8 pro běžná podlaží a 0,7 pro podkrovní prostory. Tyto hodnoty reflektují běžnou praxi v urbanistických analýzách při odhadu čisté podlahové plochy, zohledňující odečet společných a technických prostor, včetně samotných tlouštěk konstrukcí. V rámci podkroví pak reflektují i

nevyužitelné části v místech zkosení, a tedy tento koeficient je zvolen s větší mírou redukce.

Zohlednění veřejné vybavenosti. Rezerva 10 % pro veřejnou vybavenost byla do výpočtu zahrnuta jako metodický odhad, vycházející z běžné praxe v územním plánování, kde je při rozvoji obytných ploch standardně počítáno s částí území vyhrazenou pro občanskou vybavenost.

Přepočet na bytové jednotky a počet obyvatel. Na základě dat Sčítání lidu, domů a bytů 2021, kde se průměrná velikost bytu pohybovala ve střední kategorii 60–80 m² a průměrná obsazenost činila přibližně 2,3 osoby na byt (Český statistický úřad, 2022). Hodnoty použité v tomto výpočtu (75 m², 2,4 osoby/byt) tedy reflektují mírně optimistický, ale realistický scénář pro městské prostředí.

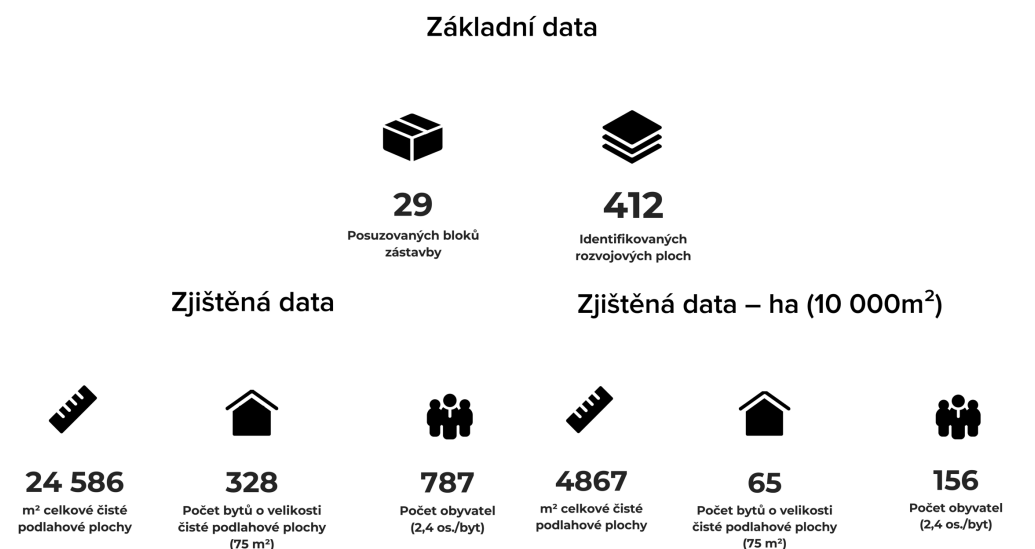
ZJIŠTĚNÁ DATA

Celkem bylo identifikováno 412 rozvojových ploch, z nichž bylo 167 nevyužitých podkroví, 60 nezastavěných proluk a 187 ploch poddimenzované zástavby. Celková zjištěná čistá podlahová plocha po snížení koeficienty: 24 586 m²; počet bytů o velikosti čisté podlahové plochy (75 m²): 328 bytů; počet obyvatel (2,4 os./byt): 787.

Pro lepší porovnání dat lze uvažovat s přepočtem na 1 ha (10 000 m²).

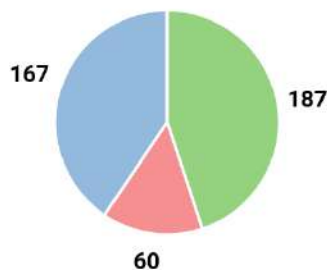
Podlahová plocha: 4 867 m²; počet bytů o velikosti čisté podlahové plochy (75 m²): 65 bytů; počet obyvatel (2,4 os./byt): 156.

Podíl čistých podlahových ploch: 13,64 % nevyužitá podkroví, 41,86 % nezastavěné proluky a 44,49 % poddimenzovaná zástavba. Graficky znázorněno: (Obrázek 5 a 6)



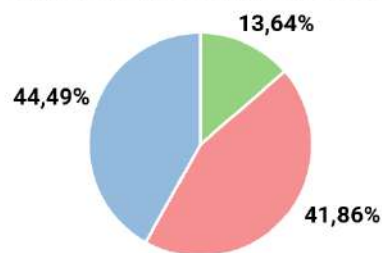
Obrázek 5: Grafická interpretace výsledků 1 (vlastní zpracování).

Počet identifikovaných rezerv



■ 1. NP - Nevyužitá podkrovní ■ 2. VP - Nezastavěné proluky ■ 3. PS - Poddimenzovaná zástavba

Podíl čistých podlahových ploch



Obrázek 6: Grafická interpretace výsledků 2 (vlastní zpracování)

ANALÝZA VÝSLEDKŮ

Na základě získaných dat bylo zjištěno, že v rámci posuzovaných stabilizovaných ploch městské čtvrti Zábřovice, které představují přibližně polovinu celkové rozlohy čtvrti, byly identifikovány rezervy umožňující, při zohlednění platné legislativy a plošné rezervy pro doplnění občanské vybavenosti, výstavbu bytů pro přibližně 7 910 nových obyvatel. Toto zjištění naznačuje potenciál pro výrazný nárůst obyvatelstva, přičemž podle posledního sčítání obyvatel (2021) činil počet obyvatel Zábřovic 12 632 (Český statistický úřad, 2021). Potenciální nárůst počtu obyvatel tak dosahuje 62,62 %, což lze považovat za významný demografický přírůstek pro tuto lokalitu.

Je však nutné podotknout, že uvedený nárůst o 62,62 % vychází z údajů o trvale hlášených obyvatelích dle sčítání z roku 2021. Vzhledem k tomu, že se v městských částech s vyšším podílem nájemního bydlení často pohybuje větší množství obyvatel bez trvalého pobytu (např. studenti, zahraniční pracovníci apod.), je pravděpodobné, že skutečný počet bydlících osob je vyšší. Reálný relativní přírůstek obyvatelstva by tak mohl být ve srovnání s touto reálnou základnou o něco nižší. I při tomto zohlednění však zůstává identifikovaný kapacitní potenciál významný.

Proč nebyl potenciál zahušťování městské zástavby doposud výrazněji využit? Využití potenciálu je omezeno řadou legislativních překážek, které zpomalují jeho realizaci, čímž snižují jeho ekonomickou výhodnost oproti projektům mimo zastavěné území. Vysoká míra regulace spojená nejen se složitým a časově náročným povolovacím procesem, ale i s přísnými obecnými technickými požadavky na výstavbu, představuje výrazné zpomalení celého procesu, které často vede k upuštění od realizace projektů v centrech měst. Současný regulační rámec, který byl původně navržen pro ochranu veřejných zájmů, ve skutečnosti negativně ovlivňuje schopnost adaptace na měnící se potřeby, jako je například potřeba zvyšování kapacity dostupného bydlení. Kromě toho mohou komplikované vlastnické vztahy a nesouhlas sousedů představovat další významné bariéry v implementaci zahušťování, neboť se zde částečně projevuje trend NIMBY („Not In My Backyard“), kdy lidé sice obecně podporují zahušťování, ale odmítají jeho realizaci v bezprostřední blízkosti svých domovů, což dále komplikuje a zpomaluje realizaci těchto projektů.

V tomto směru má státní správa roli, kterou může plnit nejen snížení regulačních bariér v podobě úprav stavebních předpisů a zjednodušeného povoloovacího procesu, ale také zavedení pozitivních motivací, jako jsou dotace do tvorby nových bytových jednotek ve stabilizovaných plochách. Nebo naopak negativní motivací, například prostřednictvím daňových nástrojů, tak, aby motivovala vlastníky nevyužívaných prostor k jejich aktivnímu rozvoji a využití pro nové bydlení. Ačkoli se již začínají objevovat první pozitivní kroky,

jako například schválení brněnských stavebních předpisů (Statutární město Brno, 2024b), které do jisté míry snižují regulační zátěž, nebo zavedení dotací v rámci programu Dostupné nájemní bydlení (Státní fond podpory investic, 2025), v kontextu závažnosti nedostupnosti bydlení se tato opatření zatím jeví jako spíše nedostatečná.

V kontextu zjištěných informací se jako vhodné jeví provedení podrobného posouzení všech městských částí Brna, což by umožnilo získání přesnějších a reprezentativních dat pro celé město. Tento přístup by poskytl ucelenější pohled na urbanistické a prostorové charakteristiky Brna. Vzhledem k časové náročnosti tohoto procesu se jako efektivní alternativa nabízí možnost automatizace výzkumu, což by umožnilo efektivněji sbírat a analyzovat data. Další variantou by mohlo být zaměření na posouzení charakteristických fragmentů jednotlivých městských částí, které by následně mohly být pomocí vhodných matematických metod extrapolovány na celou městskou část a postupně na celé město. Tento přístup by umožnil získat komplexní a přehledná data pro celé Brno, aniž by došlo k výraznému prodloužení času potřebného k realizaci výzkumu.

ZÁVĚR

Výsledky tohoto výzkumu potvrzují, že zahušťování stabilizované městské zástavby v Zábřovicích představuje významný rozvojový potenciál pro výstavbu nových bytových jednotek, který může zásadně přispět ke zlepšení dostupnosti bydlení nejen v této lokalitě, ale i v širším kontextu města Brna. Tento přístup lze považovat za efektivní strategii městského rozvoje, jež v sobě kombinuje ekonomické, environmentální a sociální aspekty udržitelné urbanizace. Zahušťování městského prostoru umožňuje maximální využití již existující dopravní a technické infrastruktury, přičemž dochází k úsporám nejen při pořízení této infrastruktury, ale i při její následné údržbě. Z environmentálního hlediska tento proces minimalizuje potřebu záboru zemědělské půdy a přispívá k omezení urban sprawl, což má pozitivní dopady na ekosystém a krajinný ráz. Zároveň vede k efektivnějšímu využití dostupného zastavěného území, čímž posiluje funkční soudržnost městské struktury.

Je však nutné zdůraznit, že zjištěný potenciál by bylo možné plně využít pouze za předpokladu, že by došlo k odstranění či výraznému zmírnění klíčových bariér, které zahušťování brání. Jedná se zejména o složité a zdoluhavé povolovací procesy, nízkou motivaci vlastníků nevyužitých prostor k aktivnímu rozvoji a často negativní postoje veřejnosti k nové výstavbě v bezprostředním okolí. Pokud by se tyto překážky podařilo snížit – například prostřednictvím zjednodušení legislativy, cílené podpory měst a obcí nebo lepší komunikace s obyvateli – bylo by možné využít větší část identifikovaného potenciálu. Bez těchto kroků se však v praxi

dá spíše očekávat, že bude skutečně využita jen jeho část. Přesto však výsledky ukazují, že i při částečném naplnění lze dosáhnout významného přínosu pro rozvoj nových bytů v rámci stávající městské struktury.

PRAMENY/POUŽITÉ ZDROJE

- [1] AHLFELDT, G.M. & PIETROSTEFANI, E. (2019). The economic effects of density: A synthesis. *Journal of Urban Economics* [online], 111, 93–107. Dostupné z: <https://doi.org/10.1016/j.jue.2019.03.004> [cit. 31. 5. 2025].
- [2] BERTAUD, A. & BRUECKNER, J.K. (2005). Analyzing building-height restrictions: predicted impacts and welfare costs. *Regional Science and Urban Economics* [online], 35(2), 109–125. Dostupné z: <https://doi.org/10.1016/j.regsciurbeco.2004.02.004> [cit. 31. 5. 2025].
- [3] BRUECKNER, J.K. (2011). *Lectures on Urban Economics*. Cambridge, MA: MIT Press.
- [4] CAROZZI, F. & ROTH, S. (2023). Dirty density: Air quality and the density of American cities. *Journal of Environmental Economics and Management* [online], 118, 102767. Dostupné z: <https://doi.org/10.1016/j.jeem.2022.102767> [cit. 31. 5. 2025].
- [5] ČESKÁ NÁRODNÍ BANKA (n. d.). Český trh obytných nemovitostí: včera, dnes a zítra [online]. Dostupné z: https://www.cnb.cz/cs/o_cnb/cnbblog/Cesky-trh-obytnych-nemovitosti-vcera-dnes-a-zitra/ [cit. 10. 2. 2025].
- [6] ČESKÝ STATISTICKÝ ÚŘAD (2021). Výsledky sčítání 2021 – otevřená data [online]. Praha: ČSÚ. Dostupné z: <https://csu.gov.cz/produkty/vysledky-scitani-2021-otevrena-data> [cit. 31. 5. 2025].
- [7] ČESKÝ STATISTICKÝ ÚŘAD (2022). Sčítání lidu, domů a bytů 2021 [online]. Dostupné z: <https://www.czso.cz/csu/scitani2021> [cit. 31. 5. 2025].
- [8] ČESKÝ STATISTICKÝ ÚŘAD (2025). Výstavba budov [online]. 6. 2. 2025. Dostupné z: <https://csu.gov.cz/vystavba-budov> [cit. 10. 2. 2025].
- [9] ČÚZK (2024). Letecký měřický snímek [online]. Praha: Český úřad zeměměřický a katastrální. Dostupné z: <https://ags.cuzk.cz/archiv> [cit. 12. 12. 2024].
- [10] DELOITTE (2023). Property Index 2023 [online]. Dostupné z: <https://www2.deloitte.com/content/dam/Deloitte/cz/Documents/real-estate/property-index-2023.pdf> [cit. 4. 10. 2024].
- [11] EUROSTAT (n. d.). Young people – housing conditions [online]. Dostupné z: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Young_people_-_housing_conditions [cit. 10. 2. 2025].
- [12] GECHTER, M. & TSIVANIDIS, N. (2023). Spatial spillovers from high-rise developments: Evidence from the Mumbai Mills [online]. Dostupné z: <https://www.nicksivanidis.com> [cit. 31. 5. 2025].
- [13] GOLEM FINANCE (2021). Index (ne)dostupnosti bydlení překonal 60% hranici [online]. 17. 12. 2021. Dostupné z: <https://golemfinance.cz/2021/12/17/index-nedostupnosti-bydleni-prekonal-60-hranici/> [cit. 10. 2. 2025].
- [14] HENDERSON, J.V. & IOANNIDES, Y.M. (1983). A model of housing tenure choice. *The American Economic Review* [online], 73(1), 98–113. Dostupné z: <https://www.jstor.org/stable/1803922> [cit. 31. 5. 2025].
- [15] HUDEČEK, T., HNILIČKA, P., DLOUHÝ, M., LEŇO
- CUTÁKOVÁ, L. & LEŇO, M. (2019). Urban structures, population density and municipal expenditures: An empirical study in the Czech Republic. *Urban Studies* [online], 56(16), 3450–3465. Dostupné z: <https://doi.org/10.1177/0042098018810605> [cit. 31. 5. 2025].
- [16] INSTITUT PLÁNOVÁNÍ A ROZVOJE HL. M. PRAHY (2020). Územně analytické podklady [online]. Dostupné z: <https://iprpraha.cz/stranka/3360/uzemne-analyticke-podklady> [cit. 31. 5. 2025].
- [17] MINISTERSTVO PRO MÍSTNÍ ROZVOJ ČR (2015). Politika architektury a stavební kultury České republiky [online]. Praha: MMR. Dostupné z: <https://www.mmr.cz/getmedia/6fd4b994-88ee-48c2-8ebc-3ae5fa9c787e/Politika-architektury-a-stavebni-kultury-CR.pdf> [cit. 31. 5. 2025].
- [18] MINISTERSTVO PRO MÍSTNÍ ROZVOJ ČR (2022). Metodický pokyn k vyhodnocení potřeby zastavitelných ploch [online]. Dostupné z: https://www.uur.cz/media/fdujhbrs/69-mmr-1640_2022_81-vyhodnoceni-potreby-zastavploch-metodika-2022-01-12.pdf [cit. 31. 5. 2025].
- [19] MONKKONEN, P., LENS, M. & MANVILLE, M. (2020). Built-out cities? How California cities restrict housing production through prohibition and process. *Journal of the American Planning Association* [online], 86(4), 403–419. Dostupné z: <https://doi.org/10.1080/01944363.2020.1747591> [cit. 31. 5. 2025].
- [20] MONKKONEN, P., MARTINEZ, D., PARK, J. & RONGBIN, Z. (2020). Built-out cities? Housing development in Los Angeles. *Journal of the American Planning Association* [online], 86(3), 306–321. Dostupné z: <https://doi.org/10.1080/01944363.2020.1726303> [cit. 31. 5. 2025].
- [21] MURPHY, L. (2012). Land assembly for urban transformation – the case of Auckland’s CBD. *Planning Practice & Research* [online], 27(3), 329–345. Dostupné z: <https://doi.org/10.1080/02697459.2012.681130> [cit. 31. 5. 2025].
- [22] RE/MAX (2024). REMAX 2022 European Housing Trend Report [online]. Dostupné z: <https://remax.eu/wp-content/uploads/2024/03/REMAX-2022-European-Housing-Trend-Report.pdf> [cit. 10. 2. 2025].
- [23] STÁTNÍ FOND PODPORY INVESTIC (2025). Program Dostupné nájemní bydlení [online]. Dostupné z: <https://sfpi.cz/dostupne-bydleni/> [cit. 10. 2. 2025].
- [24] STATUTÁRNÍ MĚSTO BRNO (2024a). Připravovaný návrh územního plánu města Brna: Návrh OOP 2024 [online]. Dostupné z: <https://upmb.brno.cz/pripravovany-uzemni-plan/upmb-navrh-oop-2024/> [cit. 31. 5. 2025].
- [25] STATUTÁRNÍ MĚSTO BRNO (2024b). Nařízení č. 14/2024 o požadavcích na výstavbu ve statutárním městě Brně (brněnské stavební předpisy) [online]. Účinnost od 1. 7. 2024. Dostupné z: <https://www.brno.cz/w/narizeni-4375> [cit. 31. 5. 2025].

MĚSTSKÉ NÁBŘEŽÍ A POVODNĚ – PRAXE, VÝZKUM A VÝUKA KRAJINÁŘSKÉ ARCHITEKTURY

Ševčíková Barbara - Radilová Lucie - Lacina Adam

BARBARA ŠEVČÍKOVÁ, DOC. ING., PH.D.

Department of Garden and Landscape Architecture, FH MENDEL University in Brno, Zemědělská 1, 613 00 Brno

barbara.sevcikova@mendelu.cz

ORCID ID: 0000-0002-0915-0297

Barbara Ševčíková je docentkou působící na Ústavu zahradní a krajinářské architektury Zahradnické fakulty Mendelovy univerzity v Brně, který v současnosti vede. Garantuje studijní program Krajinářská architektura, vyučuje ateliérové a teoretické předměty, je aktivní ve výzkumné oblasti a tvůrčí praxi. Dlouhodobě se zabývá veřejným prostorem, jeho proměnami, plánováním, navrhováním, identitou.

LUCIE RADILOVÁ, ING., MGR., DIS.

Landscape Architecture Studio Sendler–Radilová/Dep. of GALA, FH MENDEL University in Brno, Tomešova 1, 602 00 Brno

lucie.radilova@mendelu.cz

ORCID ID: 0009-0006-1445-1277

Lucie Radilová je autorizovanou krajinářskou architektkou a historickou umělkyní. Projekty Ateliéru krajinářské architektury Sendler–Radilová, kde působí jako hlavní krajinářská architektka, byly oceněny desítkami cen u nás i v zahraničí. Je porotkyní architektonických soutěží a od roku 2023 předává své zkušenosti studentům krajinářské architektury na Zahradnické fakultě Mendelovy univerzity v Brně.

ADAM LACINA, ING. ARCH., MGR.

Ertepl Architecture/Department of GALA, FH MENDEL University in Brno, Zemědělská 1, 613 00 Brno

adam.lacina@mendelu.cz

ORCID ID: 0009-0000-4221-2800

Adam Lacina je architekt a biolog, který studoval na Přírodovědecké fakultě MU v Brně a FUA TU v Liberci. V roce 2019 založil vlastní ateliér ertepl – podzemní jablko prodávající se hlínou architektury. Od roku 2023 vede ateliérovou výuku a tvůrčí workshopy pro studenty krajinářské architektury na Zahradnické fakultě Mendelovy univerzity v Brně.

ABSTRAKT: Příspěvek se věnuje problematice městských nábřeží z perspektivy krajinářské architektury v oblasti výzkumu, výuky a praxe se zaměřením na povodňové události. Na příkladech z ČR a Slovenska zkoumá plánování a realizaci protipovodňových opatření v aktivní záplavové zóně a identifikuje legislativní a institucionální překážky. Představuje tři teoretické přístupy (Water Sensitive Urban Design, Sponge City, Room for the River) a zdůrazňuje roli státní politiky, interdisciplinární spolupráce a zapojení komunit při realizaci. Praktická část popisuje zkušenosti s výukou na Mendelově univerzitě v Brně. Řešeným ateliérovým tématem pro zimní semestr 2024 bylo nábřeží řek ve městě Jeseník, nečekaně formované ničivou povodní. Adaptace měst na klimatické změny vyžaduje odborníky schopné multidisciplinární spolupráce a holistického přístupu k problémům městských nábřeží s vědomím souvislostí v krajině za hranicemi města. Propojení výzkumu a výuky krajinářské architektury může významně podpořit přenos inovativních metod do praxe.

KLÍČOVÁ SLOVA: nábřeží; krajinářská architektura; územní plánování; adaptace na povodně; aktivní záplavová zóna; odolnost při povodních; vzdělávání, Jeseník

ÚVOD

Výstava ateliérových prací studentů magisterského studijního programu Krajinářská architektura na ZF MENDELU, která se konala v Moravské zemské knihovně v Brně v roce 2023, se stala impulsem pro zahájení spolupráce s městem Jeseník. Vernisáže se účastnil Ing. arch. David Zatloukal, který nás oslovil s nabídkou zabývat se možnostmi řešení městského nábřeží jeseníckých řek. V srpnu 2024 bylo vše nachystáno, ... když začalo pršet. Povodně zasáhly Jeseník devastujícím způsobem a smetly ze stolu také naši přípravu. Když krátce před zahájením semestru opadla voda, přišla z Jeseníku zpráva – přijďte, potřebujeme vás! Kromě cesty do nejisté situace nás čekala kompletní změna ateliérového zadání. Nebyl čas na přípravu, bylo dohodnuto, že tentokrát ateliér proběhne jinak – rozhodováním na místě, podle aktuální situace, výuka přímou zkušeností z krizového plánování a navrhování. Chyběla nám teoretická příprava problematiky povodní v kontextu městského veřejného prostoru. Nebyl čas připravit a realizovat výzkum standardního typu. Diskusí zapojených pedagogů byly vyselektovány tři výzkumné otázky, jejichž řešení v průběhu semestru mělo studentům pomoci v hledání ideální podoby jeseníckých nábřeží:

- Jaké problémy jsou spojené s realizacemi veřejného prostoru v aktivní zóně záplavového území v České republice?
- Jaké současné teorie a inovativní přístupy k řešení aktivní záplavové zóny mohou být inspirativní pro naše město?
- Jaké okolnosti napomáhají k tomu, aby byly naplánované inovativní projekty realizovány?

PRAXE (ATELIÉR KRAJINÁŘSKÉ ARCHITEKTURY SENDLER–RADILOVÁ)

Lucie Radilová z brněnského Ateliéru krajinářské architektury Sendler–Radilová si vzala za úkol na vybraných příkladech z projekční praxe identifikovat problémy spojené s realizací nových městských nábřeží v České republice.

Příklad 1_Zelená páteř města Žďár nad Sázavou¹

Koncepční dokument ve formátu územní studie měl za cíl definovat prostory navazující na řeku Sázavu, jejich funkční využití a architektonicko-krajinářský charakter. Město Žďár nad Sázavou je zasazeno v krajině, a právě krajinný ráz říčních břehů tvořil výchozí situa-

ci pro většinu řešených lokalit. Charakter klasických „tvrdých“ nábřeží se v koncepci uplatnil pouze v rámci historického centra. Většina navržených veřejných prostranství měla spíše parkový charakter, neboť přímo navazovala na existující městské parky.

Vzhledem k tomu, že na řece Sázavě je vyhlášeno aktivní záplavové území (AZÚ), došlo během vyjednávání s dotčenými orgány státní správy k výraznému omezení původně navržených intervencí. Většina zásahů byla zamítnuta s odkazem na ustanovení vodního zákona č. 254/2001 Sb., podle něhož není v rámci AZÚ možné zmenšovat jeho průtočný profil ani provádět stavby. Orgán ochrany přírody zároveň upozornil na riziko narušení kontinuity břehového porostu jako součásti biokoridoru ÚSES.

Koncepce byla dokončena v roce 2019, kdy zároveň začala příprava pilotního projektu „Živá Farčata – molo a písková pláž“ v parku Farská humna. S ohledem na finanční možnosti a stanoviska dotčených orgánů státní správy (DOSS) bylo přistoupeno pouze k akupunkturnímu zásahu: instalaci pobytového mola, písečné pláže a grilovacího místa v rámci břehové linie parku. Projekt získal v roce 2019 podporu z grantu Nadace Proměny a územní souhlas.

Během inženýringu však došlo k dalším kompromisům, které se negativně promítly do výsledné architektonické kvality návrhu. Molo muselo být odsunuto dál od řeky (otázka, zda lze stále hovořit o „molu“), písečná pláž byla nahrazena štěrkovým trávníkem. Gril a dubové sedací hranoly byly naproti tomu vyhodnoceny jako přípustné prvky v rámci AZÚ. Realizace proběhla díky iniciativě dobrovolníků ze spolku Žijeme Žďárem ještě v témže roce.

Od té doby město prostřednictvím dalších projektů usiluje o zmírnění striktních omezení nejen ze strany správce toku (Povodí Vltavy), ale i odboru životního prostředí. Věřme, že se v některém z dalších projekčně připravovaných nábřežních veřejných prostranství, například v okolí kulturního domu „Prostor kultury“² či v parku Libušín³, podaří naplnit záměry nastíněné koncepcí Zelené páteře města.

Příklad 2_Revitalizace Sadu Janka Kráfa⁴

Projekt byl zadán jako podrobná studie proveditelnosti s navazující architektonickou studií pro území Sadu Janka Kráfa a přilehlého Tyršova nábřeží v Bratislavě. Z pohledu našeho týmu byl projekt atraktivní zejména díky silnému charakteru Tyršova nábřeží a dynamice Dunaje, v níž jsme spatřovali příležitost pro návrh soudobého a kvalitního veřejného prostoru.

Ve spolupráci s inženýrem Martinem Mišíkem (specialista na vodní hospodářství a vodní stavby) jsme se, v logice „nelze-li snížit průtočnost, je třeba ji zvětšit“, pustili do návrhu úprav spočívajících ve virtuálním bagrování říčního břehu a definování prostoru kombinací přírodních i technických opatření. Jejich vyvážená kombinace měla pozitivní dopad nejen na protipovodňovou ochranu, ale také na zvýšení biodiverzity a adaptaci území na klimatickou změnu.

Návrhové varianty byly následně převedeny do hydraulických modelů, které potvrdily správnost zvolené strategie. Výsledek byl oboustranně přínosný. Došlo ke snížení rizika rozsáhlých škod při povodních (daný úsek Dunaje je v kontextu návaznosti na kritický průtočný bod Most SNP dlouhodobě vysoce ohrožen), a zároveň vznikl návrh veřejného prostoru evropského standardu. Potěšující bylo, že návrh získal podporu všech zástupců dotčených orgánů státní správy, včetně správce toku (SVP) i památkové péče. Dokonce jsme obdrželi kladné stanovisko k umístění rozsáhlého gastro-zázemí ve formě mobilních kontejnerových objektů s vlastním povodňovým plánem.

Navržené úpravy Tyršova nábreží mají potenciál stát se účinnou součástí komplexního systému protipovodňové ochrany centra Bratislavy, dimenzovaného na tisíciletou vodu. Jediným výrazným problémem se ukázala být otázka kotvení stávajících plovoucích zařízení, která by musela být pro realizaci opatření přemístěna. Tato překážka se jevila jako neřešitelná, až do chvíle, kdy s námi byla bez udání důvodu jedностranně ukončena smlouva⁵. A tak skončil vcelku pohádkový příběh o jednom evropském nábreží.

Příklad 3_Poříční park Plzeň⁶

Téma nábreží bylo v rámci této územní studie krajiny spíše okrajové, přestože téměř celé řešené území se nachází v aktivní zóně záplavového území, a návrh tak musel respektovat podmínky vyplývající ze zákona. Úvodní návrh byl poměrně velkorosý, inspirovaný zkušenostmi získanými při práci na Dunaji, a ve spolupráci s inženýrem Markem Viskotem (specialista na vodní hospodářství a vodní stavby) jsme se zaměřili na zlepšení průtočnosti území. Klíčovým opatřením bylo zvětšení meandru řeky Mže, což mělo přispět ke zlepšení podmínek pro navazující vegetační úpravy a vybavenost. Ukázalo se však, že Povodí Vltavy není Povodí Dunaje, a nepodařilo se nám obhájit návrh mobilního parkového zázemí (toalety, kavárna). Navržené vegetační struktury i sportovní vybavenost však byly schváleny v uspokojivém rozsahu. Návrh pobytového nábreží ve zvětšeném meandru pracoval s ověřenými a konzervativními principy: opevnění po hladinu dvouleté vody, zatravněné břehy, betonové a kamenné prvky mobiliáře, tedy řešení pragmatické, minimalistické, bez ambicí na revoluční architekturu. Právě tato střídá koncepte získala kladné stanovisko správce toku. Územní studie krajiny byla schválena a zaevidována, nicméně realizace části nábreží zůstává podmíněna vypovězením nájemní smlouvy v zahrádkářské kolonii na městském pozemku, z našeho pohledu je tedy odložena na neurčito.

V průběhu jednotlivých projektů se ukázalo, že původní představa o vytvoření architektury srovnatelné se zahraničními realizacemi byla naivní. Je zřejmé, že přestože jsou legislativní a technické podmínky pro navrhování v aktivní záplavové zóně vesměs obdobné, dosažené výsledky se často výrazně liší. Z našich přímých zkušeností z praxe tedy vyplývá, že:

- Realizovaný výsledek plánování a navrhování je ve velké míře závislý na výkladu legislativních a technických podmínek ze strany správců vodních toků a dotčených orgánů státní správy.
- Je opodstatněné se domnívat, že kvalitní realizace bývají na území České republiky častěji výsledkem politického zájmu a vůle, než projevem osvětleného a vstřícného přístupu odpovědných institucí.

VÝZKUM (ÚSTAV ZAHRADNÍ A KRAJINÁŘSKÉ ARCHITEKTURY ZF MENDELU V BRNĚ)

L. Radilová ve svém závěrečném konstatování dospěla k názoru, že postrádá osvětlený a vstřícný přístup odpovědných institucí, který by podpořil vznik inovativních strategií. Teoretický výzkum, který probíhal improvizovaně v krátkém čase (říjen, listopad 2024) na Ústavu zahradní a krajinářské architektury ZF MENDELU v Brně⁷, navázal na tuto formulaci, a zaměřil se na dvě výzkumné otázky:

- Jaké současné zahraniční přístupy k řešení aktivní záplavové zóny by mohly být inspirující pro plánování a navrhování nábreží v České republice?
- Jaké okolnosti pomáhají k tomu, aby byly inovativní projekty městských nábreží realizovány?

Metody výzkumu zahrnovaly identifikaci vhodných zdrojů informací (databáze Google Scholar, Scopus, monografie a odborné časopisy ve specializovaném fondu knihovny Ústavu ZAKA a knihovny MENDELU, aktuálně vydané monografie a monotematická čísla časopisů, internetové stránky krajinářských a urbanistických ateliérů, strategických, výzkumných, vládních a rozvojových organizací, odborných uskupení a společností), jejich utřídění, studium, srovnání a analýzu s cílem rozlišit nejvýraznější názorové proudy a teorie. Ve druhém kroku proběhl výběr inspirativních teorií s ohledem na podmínky v České republice, kritické zhodnocení, výběr reprezentativních příkladů realizací inovativních projektů a vyhledání informací o okolnostech, které nejvýrazněji přispěly k jejich vzniku. Vzhledem k limitům výzkumu (nedostatek času, nefinancování, aktivita nad rámec plánované výzkumné aktivity) se nemělo, ani nemohlo, jednat o komplexní odpověď na výzkumné otázky, ale o pokus extrahovat klíčové informace a zprostředkovat je studentům.

Výsledky

V současném přemýšlení o způsobech řešení povodní ve městech lze zaznamenat výrazný posun paradigmatu od „město zabezpečené proti povodním“ (město rezistentní, odolávající povodním pomocí protipovodňové ochrany formou stavebních a konstrukčních řešení) k „městu odolnému při povodních“ (město resilientní, pružné se přizpůsobující, aplikující přírodní blízká řešení). Zárodky uvažování tímto směrem lze dle Liao Kuei-Hsien (2012) datovat do začátku druhého tisíciletí.⁸ Městské řeky mají být vnímány jako dynamické proměnlivé systémy, které se vyvíjí v prostoru a čase s akceptovatelnou mírou nepředvídatelnosti. Tedy, zjednodušeně, velká voda přijde, město je na ni připraveno, částečně ji zadrží, absorbuje, akumuluje, a zbytek bez větších škod pustí dál. Že se nejednalo pouze o teorii, ale o intenzivně silící inovativní přístup, potvrzuje také komentář porotců cen Americké asociace krajinářských architektů (ASLA) udílených v roce 2015: „Všichni jsme viděli projekty, které usilují o navrácení vody do jejího přirozeného stavu. Je to pozoruhodné.“ (ASLA Awards Jury, 2015) V současnosti je princip „urban resilience to floods“ běžnou součástí rozvojových strategií měst po celém světě⁹.

Z výše popsaného principu vycházejí tři hlavní současné přístupy k řešení povodňových událostí a záplav: Water Sensitive Urban Design, Sponge City a Room for the River.

Teorie 1_Water Sensitive Urban Design - Šetrné navrhování městského vodního cyklu

Water Sensitive Urban Design (WSUD) je komplexní přístup k udržitelnému plánování a navrhování měst, který obnovuje přirozený vodní cyklus napodobováním přírodních hydrologických procesů. Znamená zásadní přehodnocení vztahu města k povodním a jeho real-

¹ Radilová, L., Ryška, Z. (2019) Zelená páteř města: územní studie. Žďár nad Sázavou: Odbor investic Městského úřadu Žďár nad Sázavou.

² M&P Architekti; Ateliér krajinářské architektury (2019). Žďár nad Sázavou: OSRI Městského úřadu Žďár nad Sázavou.

³ Studie je zpracovávána studenty oboru Krajinářská architektura na ÚZAKA Mendelovy univerzity v Brně pod vedením L. Radilové. Zadavatelem byl OSRI Městského úřadu Žďár nad Sázavou (2019).

⁴ Horňáková, M., Sendlar, Z., Radilová, L., Mišík, M. (2023). Revitalizácia Sadu Janka Kráľa: štúdia realizovateľnosti. Bratislava: Metropolitný inštitút Bratislavy (MIB).

⁵ Viz Sárkózi (2023)

⁶ Radilová, L., Viskot, M.; Ateliér Sendlar-Radilová (2024). Poříční park Plzeň: územní studie krajiny. Plzeň: Útvar koncepce a rozvoje města Plzně.

⁷ Prováděla první autorka tohoto příspěvku.

⁸ Např. Schielen a Roovers (2008) vybízí k přípravě společnosti na jiné vnímání povodní. Pokud je společnost připravena, není povodeň krizovou událostí, ale přirozeným jevem. Neřeší se ochrana proti povodním, ale bezpečnost při povodních.

⁹ Při procházení obsáhlé databáze projektů a realizací z oblasti krajinářské architektury Landezine.com si můžeme v sekci Flood Resilience prohlédnout 52 projektů z celého světa (Holandsko, Dánsko, Švýcarsko, Německo, Švédsko, Finsko, Čína, Francie, Kanada, USA, Irsko, Jižní Afrika, Chile, Austrálie, Taiwan, Lucembursko, Omán), které dle specifik dané země reflektují nové způsoby řešení povodňových událostí.

¹⁰ Poměrně chaotické terminologii a ekvivalentům v češtině věnoval článek Rous (2020).

¹¹ Viz např. České vysoké učených technické v Praze (2017).

¹² Viz např. publikace Macháč a kol. (2022), Ministerstvo ŽP ČR (2024), IPR hlavního města Prahy (2025), Projekt Interreg Central Europe MaGICLandscape (vyd., 2019).

¹³ CRC for Water Sensitive Cities (CRCWSC, <http://watersensitivecities.org.au/>) sdružovalo světově uznávané odborníky na dané téma a lídry v oboru. Cílem vládního programu byl výzkum, který změní hospodaření s vodou v Austrálii i v zámorí, vyvíjet sociálně-technická řešení městského vodohospodářství, vzdělávací a školicí programy a zapojení průmyslu potřebné k tomu, aby města šetrně hospodařila s vodou. Centrum spolupracovalo s více než 80 výzkumnými, průmyslovými a vládními partnery.

¹⁴ CRCWSC byl součástí programu Kooperativního vládního výzkumného centra Commonwealthu (CRC), který podporuje různé zaměřené výzkumné centra za účelem komercializace špičkového výzkumu a inovací probíhajícího především na australských univerzitách a výzkumných institucích a produkování absolventů s praktickými zkušenostmi v oboru (Eastern Metropolitan Regional Council, nedatováno).

¹⁵ V oblasti půdního bioinženýrství bylo během 11 měsíců testováno 10 strategií – hledáno bylo řešení, které zajistí dobré fungování parku jako záplavové oblasti. Byla použita řada rostlin a podkladových materiálů ke stabilizaci břehů a několik postupů k přirozenému čištění vody.

¹⁶ Máme na mysli například mediálně dobře známou náplavku řeky Svratky v Brně. Stavba v délce 3 km byla zahájena v roce 2022, dokončena v létě 2025.

izace může přinést ekologickou, ekonomickou, sociální a kulturní udržitelnost. WSUD minimalizuje dopady urbanizace na vodní toky, hledá způsoby hospodaření s dešťovou vodou, zásobování pitnou vodou, čištění a recyklace odpadních vod a udržení čistoty vodních toků. Cílem je obnovení přirozené vodní bilance, snížení rizika záplav, zlepšení stavu vody a posílení sociální a environmentální role vody ve městě (Hoyer a kol., 2011).

Podobný koncept je v USA nazývaný Low-impact development (LID), ve Velké Británii Sustainable Drainage System (SuDS), v České republice se jim přibližuje Hospodaření s dešťovou vodou (HDV)¹⁰, které však představuje pouze část WSUD. WSUD je v ČR méně známý koncept¹¹ a obvykle se ztotožňuje s principem modrozelené infrastruktury (MZI, Blue-Green Infrastructure, BGI). Protože MZI označuje systémy přírodních a polopřírodních prvků s cílem snižovat odtok dešťové vody, zvyšovat biodiverzitu, adaptovat města na změny klimatu a vytvářet esteticky hodnotné prostředí¹², může být vnímán jako prostředek pro dílčí realizaci konceptu WSUD. Na toto téma existuje řada publikačních výstupů.

Úspěšná realizace WSUD projektů závisí na interdisciplinární spolupráci především krajinářských architektů, urbanistů a vodohospodářů. Vládní výzkumné programy, jako bylo Kooperativní výzkumné centrum pro města šetrně hospodařící s vodou (CRCWSC)¹³, založené v Austrálii v roce 2012 s financováním do roku 2021, výrazně přispívají ke změně přístupů k navrhování a správě měst a obcí¹⁴. Projekty v Elwoodu, postiženém pravidelnými záplavami, ukázaly, že participativní plánování a zapojení místních komunit posiluje legitimitu programu i odpovědnost obyvatel a vytváří předpoklady pro dobré přijetí inovativních řešení veřejností (CRC FOR WATER SENSITIVE CITIES, nedatováno).

Nedostatek vodních zdrojů v Singapuru byl hnacím motorem národní politiky a inovací do takové míry, že lze toto asijské město považovat za vzor pro aplikaci WSUD. Situaci ve městě komplikuje také narůstající intenzita přívalových dešťů, působící časté záplavy a povodně. Jedním ze systémových opatření k řešení záplav byla rekonstrukce parku Bishan-Ang Mo Kio (dok. 2012). Rekonstrukce proběhla v rámci programu Aktivní, krásné, čisté vody (ABC Waters), který je dlouhodobou iniciativou singapurské Národní vodohospodářské agentury (PUB). Do plánování a realizace projektu byla zapojena také Správa národních parků (NParks). Zatímco PUB se zabýval efektivitou nového řečiště, specialisté z NParks se zaměřovali na kvalitní veřejný prostor. K naplnění společného cíle přispěla řada diskusí, otevřenost novým řešením, zapojení místních obyvatel a informační kampaně (C40 CITIES, nedatováno).

Součástí projektu byla remodelace betonového odvodňovacího kanálu na parkem meandrující řeku s dynamickými, přírodě blízkými společenstvy, kterou navrhovalo Ramboll studio Dreiseitl. Komplexní přístup k plánování a projektování integroval zásobování vodou, řešení přívalových povodní a obnovu říčních ekosystémů (vč. bioremediace). Plánované inovativní řešení bylo potřeba podpořit rozsáhlým experimentálním výzkumem vhodných technologií¹⁵, byly minimalizovány náklady na přesuny hmot a kácení stávajících stromů, využívány možnosti recyklace (C40 CITIES, nedatováno). Benefity, které projekty jako Bishan-Ang Mo Kio park vytváří, nespočívají jen v ochraně města před povodněmi. Mají pozitivní vliv na posilování vztahů místní komunity, umožňují rekreaci, mohou zlepšovat zdraví obyvatel, zvyšují hodnotu nemovitostí, poskytují nové pracovní příležitosti, zvyšují biodiverzitu (v parku Bishan o 30 %), ochlazují zastavěné prostředí.

Teorie 2_Sponge City – Město Houba

Koncept Sponge City rozvíjí přibližně od roku 1997 do současnosti prof. Kongjian Yu se svým týmem (dnes Turenscape). Poukázal na to, že „přírodní mokřady podél řek mohou fungovat jako houby, které zadržují vodu během povodní a doplňují vodu během sucha.“ (Turenscape, nedatováno) V roce 2001 prof. Kongjian a jeho kolegové navrhli „Deset strategií pro výstavbu městské ekologické infrastruktury“, jednu z prvních systematických diskusí o ekologickém hospodaření s dešťovou vodou. Mezi hlavní strategie Sponge City patří zajištění čisté vody, ochrana před suchem a povodněmi, doplňování podzemních vod, ochrana rozmanitých stanovišť, rekreační příležitosti a esteticky upravené, kvalitní prostředí pro městské obyvatele. V roce 2004 bylo těchto deset strategií začleněno do Technické koncepce pro stavebnictví Ministerstva stavebnictví a v období 2011–2013 byla realizována první tři města, kde byla pod vedením Kongjian Yu pilotně ověřována teorie Sponge City (Suining, 2011, Qian'an, 2010 a Xixian New Area, 2013). Následně, v roce 2014, se principům Sponge City dostává pozornosti na Ministerstvu bydlení a rozvoje měst a venkova, které vydalo „prozatímní technické pokyny“ pro jejich výstavbu. O tři roky později je v pracovní zprávě čínské vlády podpora výstavby měst na principu Sponge City uvedena jako jedna ze čtyř hlavních vládních priorit (Turenscape, nedatováno). Nepřekvapuje tedy, že vznik „houbových“ měst je čínskou vládou masivně podporován včetně rozsáhlých projektů krajinářského plánování.

Princip města–houby je v podstatě jednoduchý: pomocí propojené sítě prvků modrozelené infrastruktury (parky, zahrady, propustné povrchy, biotopová jezera, mokřady apod.) město absorbuje dešťovou vodu s cílem zvládat povodně nebo záplavy a následně i sucho, zlepšit kvalitu vody, snížit dopady urbanizace na životní prostředí, vytvářet udržitelný vodní cyklus. WSUD a princip Sponge City jsou koncepčně velmi podobné. Obdobně se zaměřují na udržitelné řízení vodního cyklu ve městech a využívají přírodní a přírodě blízké metody. WSUD vznikl jako holistický přístup k integraci vodního cyklu do urbanistického plánování, Sponge City je systém možná více zaměřený na čištění a opětovné využití vody také s pomocí technických opatření a klade větší důraz na celoměstské a regionální plánování.

Teorie 3_Room for the River – Prostor pro řeku

Národní strategie Room for the River byla zahájena po velkých záplavách v Nizozemsku v roce 1995. Cílem programu bylo dát řekám více prostoru, aby byly schopné bezpečně pojmout a odvést vyšší vodní stavy. Od let 2006–2015 byl otevřen ucelený vládní program projektování velkých řek Room for the River 2.0. Hlavním cílem je protipovodňová ochrana, krajinářské úpravy a zlepšení celkového stavu životního prostředí včetně veřejného prostoru měst. Konkrétně se strategie týká čtyř velkých řek, pro které postupně vzniklo 40 projektů.

Tato teorie byla v roce 2000 zachycena ve Strategii ochrany před povodněmi pro území České republiky (2000, str. 20), kde je uvedeno: „Základním trendem uplatňovaným v současnosti v ochraně před povodněmi v zahraničí je omezovat ekonomické aktivity v záplavových územích namísto snah chránit tato území před povodněmi za každou cenu. Tento trend označovaný jako „dát vodě prostor“ nemá zatím v české legislativě podporu a většina prostředků je dosud věnována obnově v záplavových územích.“ Dnes, o 25 let později, můžeme konstatovat, že první nesmělé projekty protipovodňové ochrany využívající rozšíření koryta v zastavěném území byly dokončeny, a můžeme posuzovat jejich funkčnost¹⁶.

Nizozemské vládní strategii předcházely úvahy o „pros-toru pro řeku“ Isar v německém Mnichově. Zárodky mnichovského projektu úprav nábreží lze datovat do roku 1970, kdy profesor krajinářské architektury na Technischen Hochschule München Alwin Seifert zveřejnil memorandum „Isar severně, uvnitř a jižně od města Mnichova–plán obnovy“ (Bämle a Czisch, 2023). Plán podpořila veřejnost, která vytvořila poli-tický tlak a iniciovala vznik pracovních skupin místních obyvatel k návrhu principů obnovy řeky Isar. Roku 1980 byl schválen první oficiální dokument s pod-porou bavorského ministerstva životního prostředí. V roce 1995 byla na základě dřívějších usnesení městské rady založena interdisciplinární pracovní skupina Isar Plan Munich. Do průběhu projektu se zapojil Státní úřad pro vodní hospodářství Mnichov, město Mni-chov (odbor veřejné výstavby, územního plánování a stavebního úřadu), Ministerstvo zdravotnictví a životního prostředí a Isar-Allianz (aliance nevládních organizací). Účast veřejnosti byla zajištěna prostřed-nictvím komplexních komunikačních technik. Účinná spolupráce všech uvedených subjektů byla jedním z klíčových faktorů úspěchu projektu (Schaufuß, 2016).

Realizace vyžadovala také legislativní změny, imple-mentaci nového plánu hospodaření s odpadními vodami (modernizace čističek odpadních vod podél řeky Isar) nebo zvýšení průtoku vody, který byl bloko-vaný historickými dohodami s výrobcí energií. Vlastní realizace projektu byla zahájena v roce 2000 a trvala do roku 2011. Říční koryto bylo rozšířeno o 50–90 m, břehy zpevněny štrkem, sníženy a rozšířeny do plochy (nový rekreační prostor), odstraněny říční bariéry (Zin-graff, 2023).

Z uvedených příkladů vyplývá, že k realizaci inova-tivních projektů WSUD, Sponge City a Room for the River nejvíce přispívá vládní podpora a politika, zapo-jení nebo iniciativa místních komunit, akademických, výzkumných, občanských a dalších organizací, interdis-ciplinární spolupráce a vhodně nastavené legislativní prostředí. I přes dílčí legislativní rámec (povinnost hos-podařit se srážkovou vodou, chránit podzemní i povr-chové vody), metodické a stavebně-technické nástroje (normy) a národní strategie jsou zatím v České repub-lice teorie WSUD, Sponge city nebo princip Room for the River aplikovány nedostatečně a vyžadují aktivní přístup. Zásadní pro úspěšnou realizaci podobných projektů je dlouhodobá a intenzivní vládní podpora, prostředí pro výzkum a inovace, rozvinuté metody participativního plánování, začleňování pro podmínky České republiky vhodných principů do legislativy a adekvátní financování (vč. nákladů na dlouhodobou péči). A v neposlední řadě vzdělávání, odborné i laické veřejnosti.

VÝUKA KRAJINÁŘSKÉ ARCHITEKTURY (ATELIÉR NAVRHOVÁNÍ IV)

Wende a kol. (2020) precizně vystihují tvůrčí podstatu krajinářské architektury, která se, podobně jako ur-banismus a architektura, stále více potýká s narůstající složitostí. Pro tvorbu zastavěného prostředí je nezbyt-né pochopení všech souvisejících procesů a schopnost s nimi pracovat. Zároveň, technologický rozvoj a růst měst zvýšily dynamiku procesů a představy budoucího vývoje jsou čím dál více nejisté. Krajinářští architekti se s dynamikou procesů učí pracovat od začátku, je-jich základní stavební prvky se neustále vyvíjí, rostou, odumírají, mění svoji velikost, tvar. Krajina, jedno, jestli venkovská, urbánní nebo jiná, se každým okamžikem proměňuje v čase a prostoru. Wende a kol. (2020, s. 141) pokračují: „Pokud ... krajinu vnímáme jako holi-stický a dynamický „systém systémů“, pak je chápána jako vyjádření dynamické interakce mezi ekologickými, sociálními a ekonomickými procesy. Tyto různé pro-cesy neustále krajinu mění, takže dynamika transfor-mace je klíčovým tématem výzkumu a navrhování.“ Z

výše uvedeného je zřejmé, že role krajinářské architek-tury při plánování nábreží (a všech dalších veřejných prostorů) je nepostradatelná. Otázkou, kterou řešíme zejména v ateliérové výuce krajinářských architektů je, jak učit chápání a tvůrčí práci se „systémem systémů“.

Na tomto místě stručně představíme průběh a výsled-ky Ateliéru navrhování IV, který probíhal v zimním semestru 2024 pod vedením Ing. Viktora Filipi a Mgr. Ing. arch. Adama Laciny¹⁷, který vysvětluje: „Zpočátku, před ničivými povodněmi v září 2024, mělo zadání pro město Jeseník docela jiný rozměr. Původně mělo jít o úpravu nábreží dvou řek tvořících páteř města, tedy Bělé a Staříče. Studenti měli hledat řešení zpřístupňu-jící řeky uvnitř města a zvyšující jejich atraktivitu. Po přívalem povodních bylo přistoupeno ke změně tématu a akcentaci aspektu ochrany proti povodním. A jelikož leží obě řeky protékající městem v CHKO Jeseníky, ukázala se ochrana přírody a k přírodě citlivé zacházení s toky jako další nosné téma našeho přístu-pu. Zadání bylo koordinováno s vedením samotného města a městským architektem Ing. arch. D. Zatlou-kalem. Základním kamenem navrhování se stal terénní průzkum, vzhledem k situaci, nefungující logistice a citlivosti tématu nakonec koncentrovaný do jedno-ho dne. Ulice byly díky práci místních a dobrovolníků z velké části uklizeny od násosů bahna a naplavenin, ale škody na domech, v korytě a na infrastruktuře byly všudypřítomné.“

Třífázové zadání začalo plánováním v širším měřítku a mělo být dotaženo do vybraného návrhového detailu:

1_studium problematiky povodní, analýza širších souvislostí povodní v katastru města Jeseník a návrh opatření v krajině katastru. Cíl: pokusit se zjistit příčiny devastujícího působení povodní na město a krajinu, porozumět vlivům lidské činnosti a principům povodňových jevů, navrhnout změny v okolní kra-jině vedoucí k ochraně intravilánu města před velkou vodou a vysvětlit je veřejnosti.

METODY: terénní průzkum, studium doporučených a dalších zdrojů, vlastní výzkum problematiky, přednáška L. Radilové (zkušenosti z praxe), krajinářské analýzy¹⁸. S nadsázkou lze hovořit o uplatnění metody „vhození do vody“ s pokynem „Plavte!“. Společná práce.

V této fázi byla jako specifická výuková metoda zvolena příprava osvětové povodňové příručky pro město Jeseník. Do finálních výstupů ateliérů byla zařazena navíc, neplánovaně, na základě pro studenty přek-vapivého zjištění, že povodně v Jeseníku ovlivnily více způsoby hospodaření v okolní krajině a její geomor-fologie, než průběh toků městem a vlastnosti koryt. Jistě, protipovodňová opatření v prostoru městského nábreží jsou důležitá, ale ve specifickém kontextu města v podhůří Jeseníků budou účinná pouze v kom-binaci s komplexními opatřeními v okolní krajině. Pro vznik příručky si studenti museli nejdříve nastudovat řešené problémy, navrhnout způsoby jejich řešení a přemýšlet, jakým způsobem by vše mohli srozumitel-ně vysvětlit veřejnosti, tj. hledat formu a obsah sdělení i vizuální jazyk.

2_podrobné krajinářské a urbanistické analýzy toku Staříče a části Bělé. Cíl: porozumět klíčovými vlastnos-tem vybraných lokalit a vzbudit na okolí, identifikovat jejich problémy a stanovit východiska navrhování.

METODY: standardní analytický proces prohloubený v oblasti vodního hospodářství. Interpretace analýz formou problémových map a východisek navrhování. Zpětná vazba v průběhu kritiky za účasti zástupců mės-ta a přizvaných odborníků. Přednáška a konzultace Ing. Marka Viskota (Povodí Moravy). Práce v pětičlenných týmech.

¹⁷ Ateliér je vyučován v prvním semestru magisterského studia navazujícího studi-jního programu Krajinářská architektura.

¹⁸ Retenční schopnost, vodní eroze, hyp-sometrie, land use, lesní hospodářství, odtokové linie, záplavy, problémová mapa.

3_návrhová část. Cíl: prověřit, navrhnout a prezentovat možnosti řešení konkrétních veřejných prostranství v návaznosti na vodní toky a pravděpodobné budoucí povodňové události.

METODY: výzkum formou navrhování – řešení veřejných prostranství, adaptace na povodňové události. Zpětná vazba v průběhu kritiky za účasti zástupců města a přizvaných odborníků. Přednáška shrnující závěry výzkumu současných teorií a praxe. Komunikace s odbornou i laickou veřejností přípravou prezentace formou plakátů, které byly vystaveny a představeny na veřejné výstavě v Jeseníku. Každý student individuálně.

Vyhodnocení průběhu ateliéru:

Pozitiva:

- příležitost zahájit ateliér terénním průzkumem krátce po záplavách byla pro studenty silnou zkušeností a motivací
- možnost seznámit studenty s problematikou plánování a navrhování v aktivní zóně záplavového území, v kontaktu s realitou zasaženého města
- pocit smysluplné práce, která může skutečně pomáhat, není „do šuplíku“
- prostor pro zjednodušený specifický výzkum bez vazby na projektové výzvy a generující nové výukové materiály, poznání a zkušenosti
- pozitivní ohlasy na původně neplánovanou povodňovou příručku i výstavu studentských projektů

Negativa:

- potřeby plánování a navrhování by vyžadovaly podrobnější terénní průzkum
- vyšší míra potřebných improvizací (pozitivně hodnocená pedagogie) se nesetkala s pochopením studentů, většina by volila předem stanovený obsah i rozsah úkolů a výstupů
- neosvědčila se společná práce celé skupiny, vhodnější by bylo rozdělení úkolů do menších skupin v průběhu celého semestru
- problematika povodní je rozsáhlá, vyžaduje intenzivnější ponor i robustnější balík analýz, než se podařilo uskutečnit
- výsledky souběžně prováděného základního výzkumu byly k dispozici až ve druhé fázi navrhování a nemohly průběh ateliéru výrazněji ovlivnit

Ateliér pro město Jeseník byl tvůrčí laboratoří otevírající nová témata a příležitosti. Na naše zadání navázali kolegové z Ústavu plánování krajiny, kteří v dalším semestru řešili se stejnými studenty problematiku krajinného plánování s akcentem ochrany Jeseníku před povodňovými událostmi. Ateliér kladl nároky na flexibilitu a samostatnost studentů, a jeho vedení bylo náročné na organizaci a komunikaci. Propojení výzkumu a navrhování se sice nezdařilo podle plánu, ale výzkum pokračuje a obohatí budoucí výuku. Žádoucí je i mezioborové propojení studentů příbuzných oborů formou smíšených pracovních týmů, které se již osvědčilo.

I přes uvedená negativa je nezpochybnitelné, že pozitivní výuky formou přímé zkušenosti s řešeným tématem převažují. Ateliér navrhování IV a jeho neplánované pokračování v navazujícím semestru otevřely studentům cestu k poznání vrstevnatého plánování a navrhování řízeného dynamikou přírodních procesů. Pokud si odnesli schopnost zpochybňovat stav věcí, experimentovat a vytrvat při hledání a prosazování nových řešení a postupů, byli jsme úspěšní.

ZÁVĚR

Městská nábřeží jsou klíčovými veřejnými prostory, kde se setkávají potřeby ochrany před povodněmi s požadavky na kvalitní veřejný prostor a ekologickou udržitelnost. Úspěšná praxe vyžaduje nejen adekvátní

legislativní rámec, dialogu otevřené správní orgány a vládní/samosprávní podporu, ale také schopnost hledat inovativní, přírodě blízká (citlivá) řešení, aktivní zapojení komunity a multidisciplinární spolupráci. Úspěšná realizace těchto projektů vyžaduje propojení odborníků z různých profesí, jako jsou krajinářští architekti, urbanisté, vodo hospodáři a další aktéři. Vládní výzkumné a podpůrné programy nebo státní politiky a strategie jsou klíčové pro financování, vývoj a implementaci komplexních řešení.

Výzvy současnosti směřují k přijetí nového paradigmatu: ke změně ve vnímání povodní jako cyklického jevu, vůči kterému se město nemusí opevňovat na středověký způsob, ale na který se adaptuje a přijme jeho dynamiku. Výzkum a výuka krajinářské architektury mají zásadní význam v podpoře implementace těchto změn, rozvoji inovativních metod a přípravě odborníků, kteří dokáží problémy městských nábřeží komplexně řešit. Optimální je přímá zkušenost studentů z terénu (mimo jejich komfortní zónu) a důležitá je snažit se posilovat jejich flexibilitu, odvahu experimentovat, vytrvalost při hledání řešení, schopnost pracovat v multidisciplinárních týmech a osobní resilienci.

POUŽITÉ ZDROJE

[1] ASLA Awards Jury (2015). Dostupné z: <https://www.asla.org/2015awards/95842.html> [citováno 2025-07-10].

[2] Bäumlér, K. a Czisch, W. (2023). Die Isar in München: Bürgerengagement als Motor der Fluss-Renaturierung. München: Franz Schiermeier Verlag. Dostupné z: <https://muenchner-forum.de/die-isar-in-muenchen/> [citováno 2025-07-28].

[3] C40 Cities (nedatováno). Singapore: Bio-Engineering Works at Bishan-Ang Mo Kio Park to Prevent Urban Flooding. Dostupné z: <https://www.c40.org/case-studies/singapore-bio-engineering-works-at-bishan-ang-mo-kio-park-to-prevent-urban-flooding/> [citováno 2025-07-28].

[4] České vysoké učení technické v Praze (2017). České implementace Water Sensitive Design [PDF]. Dostupné z: <https://portal.cvut.cz/wp-content/uploads/2017/04/HP2013-09-Stransky.pdf> [citováno 2025-06-10].

[5] CRC for Water Sensitive Cities (nedatováno). Water Sensitive Elwood. Shifting from conventional water management. Dostupné z: <https://watersensitivecities.org.au/solutions/case-studies/water-sensitive-elwood/> [citováno 2025-07-28].

[6] Eastern Metropolitan Regional Council (nedatováno). Cooperative Research Centre for Water Sensitive Cities. Dostupné z: <https://www.emrc.org.au/sustainability/environmental-services/energy-water-and-climate-change/crc-for-water-sensitive-cities.aspx> [citováno 2025-07-28].

[7] Hoyer, J., Dickhaut, W., Kronawitter, L. a Weber, B. (2011). Water Sensitive Urban Design Principles and Inspiration for Sustainable Stormwater Management in the City of the Future. Manual. Jovis Verlag GmbH, Berlin. ISBN 978-3-86859-106-4. Dostupné z: https://www.hcu-hamburg.de/fileadmin/documents/Research/Forschungsgruppen/REAP/WD_Publikationen/Hoyer_Dickhaut_Kronawitter_Weber_Manual_WSUD_2011.pdf [citováno 2025-07-28].

[8] IPR hlavního města Prahy (2025). Ukázkové řešení BGG systému modrozelené infrastruktury v Praze. Dostupné z: <https://iprpaha.cz/assets/files/files/67fff-716c533791b23d1dd66a5d691b7.pdf> [citováno 2025-07-28].

- [9] Liao, K. (2012). A theory on urban resilience to floods—a basis for alternative planning practices. *Ecology and Society*, 17(4), 48. Dostupné z: <http://dx.doi.org/10.5751/ES-05231-170448> [citováno 2025-07-10].
- [10] Macháč, J., Hekrlé, M. a kol. (2022). *Modrozelená města: Příklady adaptačních opatření v ČR a jejich ekonomické hodnocení. Ústí nad Labem: Institut pro ekonomickou a ekologickou politiku (IEEP)*. ISBN 978-80-7561-405-6.
- [11] Ministerstvo životního prostředí ČR (2000). *Strategie ochrany před povodněmi pro území České republiky*. Schváleno vládním usnesením č. 382 ze dne 19. dubna 2000. Dostupné z: <http://www.dppcr.cz/prilohy/pravo/2000-382-Strategie.pdf> [citováno 2025-07-28].
- [12] Ministerstvo životního prostředí ČR (2024). *Modrozelená infrastruktura*. Dostupné z: <https://mzp.gov.cz/cz/agenda/klima-a-energetika/adaptace-na-zmenu-klimatu/modrozelená-infrastruktura> [citováno 2025-07-27].
- [13] Projekt Interreg Central Europe MaGICLandscapes (vyd., 2019). *Příručka zelené infrastruktury – koncepční a teoretické základy, termíny a definice (Česká zkrácená verze)*. Dostupné z: <https://www.interreg-central.eu/Content.Node/MaGICLandscapes.html> [citováno 2025-07-28].
- [14] Ramboll (nedatováno). *Bishan Park Singapore: nature for all*. Dostupné z: <https://www.ramboll.com/projects/water/bishan-park-singapore-nature-for-all> [citováno 2025-07-28].
- [15] Rous, V. (2020). *Zelená infrastruktura? To jsou jako ty stromy v ulicích?* Dostupné z: <https://ekolist.cz/cz/publicistika/nazory-a-komentare/vitek-rous-zelena-infrastruktura-to-jsou-jako-ty-stromy-v-ulicich> [citováno 2025-07-27].
- [16] Sárközi, A. (2023). *Obrovská prehra. Hlavné mesto zrušilo zmluvu s architektmi Sadu Janka Kráľa, tí opisujú neštandardné praktiky*. Dostupné z: <https://www.asb.sk/architektura/obrovská-prehra-hlavne-mesto-zrusilo-zmluvu-s-architektmi-sadu-janka-krala-ti-opisuju-nestandardne-praktiky> [citováno 2025-04-04].
- [17] Schaufuß, D. (2016). *Isar-Plan – Water management plan and restoration of the Isar River, Munich (Germany)*. Dostupné z: <https://climate-adapt.eea.europa.eu/en/metadata/case-studies/isar-plan-2013-water-management-plan-and-restoration-of-the-isar-river-munich-germany> [citováno 2025-07-27].
- [18] Schielen, R.M.J. a Roovers, G. (2008). *Adaptation as a way of flood management*. 4th International Symposium on Flood Defence: Managing Flood Risk, Reliability and Vulnerability, Toronto, Ontario, Canada, 6.–8. 05. 2008. Dostupné z: https://www.researchgate.net/publication/357406663_4_th_International_Symposium_on_Flood_Defence_Managing_Flood_Risk_Reliability_and_Vulnerability_ADAPTATION_AS_A_WAY_OF_FLOOD_MANAGEMENT [citováno 2025-07-10].
- [19] Turenscape (nedatováno). *„Sponge City“ Theory and Practise by Kongjian Yu and his team*. Dostupné z: <https://www.turenscape.com/topic/en/spongecity/index.html> [citováno 2025-06-10].
- [20] Wende, W., Nijhuis, S., Mensing-de Jong, A. a Humann, M. (eds.) (2020). *Inclusive Urbanism: Advances in research, education and practice*. TU Delft OPEN Publishing. Dostupné z: <https://doi.org/10.7480/rius.6> [citováno 2025-07-27].
- [21] Zingraff-H., A., Lupp, G., Bäumlér, K., Huang, J. a Pauleit, S. (2023). *The Isar River: Social Pride as a Driver of River Restoration*. In: Wantzen, K.M. (ed.) *River Culture – Life as a Dance to the Rhythm of the Waters*, s. 611–636. UNESCO Publishing, Paris. DOI: 10.54677/YXWJ9055.

VEREJNÉ PRIESTORY AKO JEDEN Z FAKTOROV MESTA KRÁTKYCH VZDIALENOSTÍ.

Vitková Lubica - Suchánková Zuzana

ĽUBICA VITKOVÁ, , PROF. ING.
ARCH. PHD.

Slovenská technická univerzita v
Bratislave, Fakulta architektúry a
dizajnu, Nám. Slobody, 19, 812 45

lubica.vitkova@stuba.sk

ORCID iD: 0009-0004-4199-5275

Ľubica Vitková je architektka, plánovačka, PhD. a profesorka Fakulty architektúry STU v Bratislave. Jej pedagogická, výskumná a tvorivá činnosť sa zameriava na oblasť urbanistického dizajnu a urbanistického plánovania s dôrazom na monitorovanie kvalitatívnych a kvantitatívnych aspektov mestských štruktúr. Je členkou správnej rady Riadiaceho výboru projektu EUI EULIST a vedúcou výskumníčkou domácich a medzinárodných projektov na STU.

ZUZANA SUCHÁNKOVÁ, ING. ARCH.
PHD.

Slovenská technická univerzita v
Bratislave, Fakulta architektúry a
dizajnu, Nám. Slobody, 19, 812 45

zuzana.suchankova@stuba.sk

ORCID iD: 0009-0005-5623-3924

Zuzana Suchánková je architektka s praxou v architektonických ateliéroch v Európe a Číne. Je odbornou asistentkou na Fakulte architektúry a dizajnu STU v Bratislave. Vo svojej vedeckej a tvorivej práci sa zameriava na problematiku presahu urbanizmu a architektúry (mestských štruktúr a architektúry rôznych typov budov) s dôrazom na verejné priestory, overovanie kvality a efektívnosti urbanistických štruktúr.

ABSTRAKT: Udržateľná doprava predstavuje jeden z významných faktorov, ktorý prispieva k mestskej odolnosti a udržateľnosti, vzhľadom na skutočnosť, že doprava je zodpovedná za štvrtinu všetkých emisií oxidu uhličitého v EÚ. Cestná doprava sa na týchto emisiách podieľa vyše 70 percentami. Preto sa stále väčšia pozornosť venuje koncepciám znižovania automobilovej dopravy v prospech verejnej a cyklistickej dopravy a najmä podpore pešieho pohybu.

Príspevok prezentuje základné koncepcie transformácie mesta na princípe udržateľnej dopravy s dôrazom na nástroje transformácie mestských štvrtí a ich verejných priestorov, aplikovaných na reálne podmienky Bratislavy. Príspevok je zameraný na prezentáciu a vyhodnotenie navrhovaných koncepcií, ako aj realizovaných intervencií. Prezentuje stratégie rozvoja verejnej dopravy, koncepcie udržateľných štvrtí, založených na princípe mesta krátkych ciest, ako realizácie transformácie verejných priestorov mesta.

Fakulta architektúry a dizajnu STU v Bratislave v danej téme intenzívne spolupracuje s Mestským metropolitným inštitútom. Overuje nastavené stratégie a koncepcie na modelových riešeniach mestských štvrtí, ako aj na možnú transformáciu verejných priestorov prostredníctvom študentských prác. Pre výskum problematiky zníženia uhlíkovej stopy z dopravy bol podaný spoločný projekt v rámci POO.

KLÚČOVÁ SLOVA: Udržateľnosť a odolnosť miest; udržateľná doprava; mesto krátkych vzdialeností, verejné priestory pre ľudí.

ÚVOD

Udržateľná doprava predstavuje jeden z významných faktorov, ktorý prispieva k mestskej odolnosti a udržateľnosti, vzhľadom na skutočnosť, že doprava je zodpovedná za štvrtinu všetkých emisií oxidu uhličitého v EÚ. Cestná doprava sa na týchto emisiách podieľa vyše 70 percentami. V Slovenských mestách je situácia podobná. Automobilová doprava sa podieľa 50% na celkovej prepravnej kapacite, pričom stále narastá. Dôvodom je dlhodobé uplatňovaný a stále pretrvávajúci funkcionalistický princíp rozvoja slovenských miest, v ostatnom období umocnený navyše extenzívnym územným rozvojom. Ten sa prejavuje jednak rastom miest do šírky, ako aj intenzívnou suburbanizáciou. Tá je prítomná nie len v okolí väčších miest, ale prejavuje sa i v menej rozvinutých regiónoch.

Preferencia automobilového druhu dopravy je environmentálne, tak ekonomicky, ale aj priestorovo dlhodobu neudržateľná. Preto sa stále väčšia pozornosť venuje koncepciám znižovania automobilovej dopravy v prospech mestskej hromadnej dopravy, cyklistickej dopravy a podpore pešieho pohybu.

Medzi koncepcie, ktoré rozvíjajú a podporujú udržateľný rozvoj miest patrí: mesto krátkych ciest, kompaktné mesto, koncepcia Ecocity, ktoré rozvíjajú mnohí autori

Všetky uvedené koncepcie rozvoja, respektíve transformácie miest sú založené na princípe udržateľnej dopravy, na optimalizácii hustoty mestských štruktúr, či premiešaní funkcií. Významnú úlohu v uvedených koncepciách zohráva kvalita verejných priestorov vzhľadom na ich spoločenský, ekonomický, environmentálny, či kultúrny význam. Verejné priestory súčasne zohrávajú dôležitú úlohu v rámci regeneračných a rozvojových programoch.

V kontexte zamerania na tému udržateľnosti a znižovania uhlíkovej stopy z dopravy je príspevok zameraný predovšetkým na ich environmentálny význam a ich úlohu v transformačných procesoch miest.

TEORETICKÉ VÝCHODISKÁ

Model kompaktného mesta je založený na princípe ekonomickej a sociálnej aktivity okolo centier rôznej hierarchie (Vitková, 2008). Mestská štruktúra je organizovaná okolo polyfunkčných ťažísk s vyššou hustotou zástavby, ktoré obsluhujú územia v rámci dochádzkových parametrov. Územie mesta je tak členené na ucelené územné celky organizované do prstencov na

základe diferencovanej efektívnej dostupnosti. Od susedstiev okolo lokálnych centier v pešej dostupnosti, po komplexnejšie celky s vyššou intenzitou zástavby a zastúpením vybavenosti dostupné MHD, respektíve cyklistickým prepojením (The Urban Task Force, 1999; Lozano, 1990). Kompaktný rozvoj miest je založený na vnútromestskom rozvoji s dôrazom na recykláciu územia a na redukcii dopravy, predovšetkým tej automobilovej. Zohľadňuje tak ekonomické, sociálne a environmentálne aspekty rozvoja.

Koncepcie rozvoja miest aplikujúce model kompaktného mesta stavajú na uplatňovaní kontrastnej a rôznorodej zástavbe z hľadiska jej intenzity, funkcií a foriem. Intenzívna polyfunkčná štruktúra je prirodzene koncentrovaná okolo centier rôzneho významu a významných mestských koridorov a osí (Vitková, 2008). Teória kompaktného mesta rozvíjalo množstvo autorov už od 60. rokov minulého storočia. Priekopníkmi v tejto teórii boli Jacobs (1965), De Roo (1998), Krier (1998), či The Urban Task Force (1999). Koncept kompaktných miest sa stal dôležitou súčasťou rozvojových stratégií ako na globálnej (Peters, Novy, 2012; UN-Habitat, 2014), tak na národnej úrovni (Mazúr Ján a kol. 2022).

Model Ecocity predstavuje najekologickejší model udržateľného urbanizmu. Mestá na princípe Eco-city sú založené na minimalizácii nárokov na energetické zdroje, či spotrebu plôch a materiálov. Model je založený na tvorbe zdravého a obývateľného prostredia pri využívaní obnoviteľných zdrojov. Model preto kladie dôraz na vnútromestský rozvoj cez recykláciu území a existujúcich urbánnych štruktúr, cez zhodnocovanie nevyužívaných plôch pri podpore efektívnej dopravy. Model je založený na polycentrickom princípe, formovaní svojbytných mestských štvrtí a na princípe mesta krátkych ciest (Coplák a kol., 2009; Komrska a kol., 2005).

Model tradičného mesta (teória Nového urbanizmu) je založený na tradičných kompaktných a polyfunkčných formách mestských štruktúr – na aplikácii tradičných stavebných prvkov mesta, ako sú ulice, námestia, mestské bloky. Koncept tradičného mesta rozvíjal vo svojich prácach Katz, (1998), Kostof (1992), Krier (1998) a ďalší autori aktívni v Kongrese nového urbanizmu (Congress for the New Urbanism, 2006).

Koncepcia 15-minútového mesta predstavuje urbanistickú teóriu a urbanistický model, ktorý je založený na blízkosti jednotlivých funkcií, nevyhnutných pre zabezpečenie každodenných potrieb obyvateľov mes-

ta, ako je bývanie, práca, služby, vzdelanie, zdravotná starostlivosť, kultúra a voľný čas. Model, ktorý bol formulovaný urbanistom Morenom (2024) pracuje s rozmiestnením uvedených funkcií v 15 minútovej dochádzkovej vzdialenosti chôdze, alebo jazdy na bicykli. Model dôsledne sleduje princípy ekonomickej, environmentálnej a sociálnej udržateľnosti.

Verejné priestory zohrávajú v modeloch udržateľných miest významné miesto, vzhľadom na svoj sociálny, ekonomický, kultúrny a environmentálny význam. Význam verejných priestorov pre funkčnosť mesta, najmä pre jeho sociálne kontakty je zásadný. V teoretických prácach Jana Gehla (2010), ako aj v ich praktickej aplikácii pre veľký počet miest sú to práve verejné priestory, ktoré zásadným spôsobom ovplyvňujú kvalitu mestského prostredia a života v ňom. Pre kvalitu mestského prostredia je rovnako významná ich environmentálna funkcia, ako súčasť zeleno-modrej infraštruktúry mesta - verejné priestory ako plúca mesta, ako jeho zelené oázy, či línie. Podľa Carmonu (2010) sú verejné priestorystvá súčasne významným ekonomickým fenoménom. Zohrávajú dôležitú úlohu v mestských, či komerčných regeneračných a rozvojových programoch.

Verejné priestory sú základnými stavebnými prvkami mesta krátkych ciest. Najmä forma ulíc sa zásadným spôsobom podieľa na znižovaní uhlíkovej stopy z automobilovej dopravy. Podpora udržateľných foriem dopravy a zvyšovanie kvality verejných priestorov by preto mala byť súčasťou k celkovej koncepcie transformácie miest (Kasralian, Maat, Van Wee, 2019; McCann, 2017).

APLIKÁCIA MODELOV UDRŽATEĽNÝCH MIEST SLOVENSKU. PRÍPADOVÉ ŠTÚDIE PRE BRATISLAVU

Slovenské mestá a vo svojich strategických materiáloch, plánoch sociálneho a hospodárskeho rozvoja začínajú reflektovať požiadavky udržateľného rozvoja. Tieto požiadavky však už nie sú premietnuté do územných plánov slovenských miest, nakoľko sú zväčša zastarané. Zo zotrvačnosti zotrávajú na aplikovaní funkcionalistického a extenzívneho rozvoja. Uvedený stav do značnej miery vyhovuje komerčným rozvojovým aktivitám. Tie sa koncentrujú predovšetkým do mono-funkčných zón (obchodu, administratívy, či skladov), alebo do suburbií. To predstavuje zvýšenú dopravnú záťaž medzi jednotlivými funkčnými systémami (bývaním a prácou, bývaním a vybavenosťou), ktorú zabezpečuje najmä osobná automobilová doprava. Situáciu navyše zhoršuje skutočnosť, že do územných plánov sídel, rovnako ako zón sa premietajú požiadavky platnej dopravnej normy, ktoré stanovujú vysoké nároky na kapacity statickej dopravy a parametre cestných komunikácií.

Mestá cielene neaplikujú princípy kompaktného mesta, poly-centrického mesta, či mesta krátkych ciest.

To si vyžaduje prehodnotiť stratégie rozvoja miest a premietnuť ich do svojich územných plánov.

Medzi pozitívne príklady patria aktivity Hlavného mesta SR Bratislavy. Mesto Bratislava bolo zapojené do mnohých medzinárodných projektov zameraných na udržateľný rozvoj mesta. Pre podporu teoretickej a metodologickej bázy boli cenné predovšetkým projekty zamerané na pripravenosť mesta na zmenu klímy RES-IN (2014-2020), či Projekt ATELIER (2019-2026) rámci schémy EU Horizont 2020. Skúsenosti z medzinárodných projektov sa premietli do strategických a metodických materiálov mesta (Hudeková, 2014; Streberova, Reháčková, Kučáková, 2017), ako aj do samotnej realizácie opatrení na zmiernenie dopadov zmeny klímy. Bratislava má spracovaný strategický dokument Bratislava 2030 (Fajta, Číranová, Sidorová, 2022), Program rozvoja mesta 2022 – 2030 (Mazúr, 2022).

Medzi dôležité materiály v kontexte udržateľnosti patrí Manuál verejných priestorov (Žitňanský a kol.). Predstavuje nástroj, ktorý stanovuje celkovú koncepciu, zásady obnovy a tvorby verejných priestorov v zmysle zvyšovania ich kvality a znižovania uhlíkovej stopy. Uvedené materiály spracoval Metropolitný inštitút Bratislavy (MIB), ako odborný inštitút mesta pre oblasť architektúry, územného plánovania, participácie a strategického plánovania. Ten pripravuje aj modelové štúdie rozvoja vybraných mestských zón na princípe mesta krátkych ciest.

Za zmienku stoja aktivity Bratislavy a MIB zamerané na obnovu ulíc. Súčasťou projektov je zvýšenie ich kvality najmä cez reorganizáciu a upokojenie dopravy, doplnenie zelene, výmena povrchov, či mobiliáru. Ulice sa tak stávajú nie len komunikačným koridorom, ale príjemným miestom pre sociálne kontakty a trávenie voľného času. Medzi ďalšie realizačné aktivity patrí transformácia vybraných verejných zanedbaných priestorov pod spoločným názvom "Živé miesta". Cieľom programu, je revitalizovať vybrané priestory mesta tak, aby vytvárali v štruktúre mesta systém inkluzívnych, funkčných a príťažlivých miest pre trávenie voľného času svojich obyvateľov, ale aj návštevníkov. Ide o revitalizáciu námestí, parkov, priestorov pred školami a pod.

Fakulta architektúry a dizajnu STU bola zapojená prostredníctvom prác študentov do tohto procesu.

Výskum na Fakulte architektúry a dizajnu STU sa problematike udržateľných miest venuje dlhodobo. Bola riešená a rozvíjaná v rámci mnohých medzinárodných projektov v súčinnosti so samosprávami. Na koncepcie udržateľného mesta boli zamerané projekty Ecocity, (projekt SRP EU), DANUrB, DANUrB 2 (Interreg, DTP), Creative Danube (Erasmus+ K2). Vo všetkých projektoch boli rozvíjané teoretické princípy udržateľného mesta a aplikované na konkrétnych mestách v pozitívnej konfrontácii so skúsenosťami partnerských inštitúcií a miest v zahraničí. Hlavným cieľom projektu Ecocity bolo overiť koncepciu modelu kompaktného a poly-centrického mesta s dôrazom na udržateľnú dopravu. Projekt bol zameraný na harmonizáciu urbanistických štruktúr potrebám peších, cyklistov a na budovanie efektívnych systémov verejnej dopravy.

Projekty DANUrB a DANUrB + boli orientované na udržateľný rozvoj malých a stredných miest prostredníctvom udržateľného turizmu (Kádár, Vitková, 2019). Transformácia uvedených miest bola rovnako založená na aplikácii mesta krátkych ciest - podpore lokálnych komunít a komplexných mestských celkov. Kvalitné verejné priestory a udržateľná doprava boli neoddeliteľnou súčasťou stratégie a modelových riešení vybraných podunajských miest, čo prezentujú koncepcie pre mesto Štúrovo (Joklová, Kristiánová, 2019) a pre mesto Komárno (Šeligová, Smatanová, 2018).

Dôležitou súčasťou výskumu na Fakulte architektúry STU je výskum prostredníctvom tvorby (research by design). Na zadaniach v rámci ateliérovej tvorby overujeme spolu so študentami aplikáciu modelu mesta krátkych miest v rámci spolupráce so samosprávami. Najaktívnejšia je spolupráca s Magistrátom hlavného mesta Bratislavy, konkrétne s jeho koncepčným pracoviskom - Metropolitným inštitútom Bratislavy. Na Fakulte architektúry a dizajnu STU v súčinnosti s uvedeným inštitútom overujeme možnosti transformácie vybraných lokalít mesta na princípe mesta krátkych ciest.

Overovacie štúdie budú slúžiť Metropolitnému inštitútu Bratislavy, ako podklad pre prípravu nového územného plánu. Jednou z dôležitých výziev a možností aplikácie princípu mesta krátkych ciest, ktorá doteraz nie je dostatočne aplikovaná v koncepciách rozvoja mesta Bratislavy je výraznejšie začlenenie kofajovej dopravy do systému mestskej hromadnej dopravy. Je

rozpracovaných niekoľko štúdií navrhujúcich možné trasovanie nových električkových tratí, rovnako ako štúdie vyhodnocujúce možné využitie existujúcich železničných tratí pre obsluhu rozvojových území. Uvedené štúdie využitia koľajovej dopravy majú podporiť vnútromestský rozvoj mesta na úkor intenzívnej suburbanizácie v bratislavskom regióne závislej na individuálnej automobilovej doprave.

Predpokladom pre úspešnosť zavedenia a efektívnosti koľajovej dopravy sú parametre nových, respektíve transformujúcich území v jej kontakte. Pre efektívnosť koľajovej dopravy a jej rentabilitu je zásadný charakter urbánnych štruktúr - intenzívnejšie a kompaktnejšie formy zástavby, zabezpečujúce adekvátne prepravné kapacity a vhodné dochádzkové vzdialenosti k zastávkam, či staniciam koľajovej dopravy. Optimálnym je prepojenie intenzívne obývaných území s mestským centrom (respektíve s podružnými centrami). Vzhľadom na skutočnosť, že ťažiská terciérneho a kvartérneho sektoru sa viažu práve na mestské centrá je ideálne, aby sa najvyššia koncentrácia týchto aktivít realizovala práve v okolí dopravných uzlov koľajovej dopravy, čo podporuje poly-centrický a vnútromestský rozvoj. Zastávky a stanice koľajovej dopravy naplňujú úlohu magnetov územného rozvoja (Peters, Novy, 2012).

Rozvojové územia okolo uvedených zastávok musia okrem adekvátnej intenzity zástavby a vysokej miery poly-funkčnosti spĺňať aj ďalšie požiadavky.

- Integrita zastávky, či stanice a príslušného územia;
- Priame dopravné prepojenie s niekoľkými dopravnými systémami (MHD – električka, autobusové linky, cyklistické a pešie trasy);
- Optimálna lokalizácia zastávky, respektíve stanice voči hlavným mestským verejným priestorom (rozvojovým osiam, hlavným peším zónam a pod) a jasná sieť verejných priestorov rozvojového územia;
- Dôraz na efektívne formy dopravy (preferencia pešieho pohybu, cyklistickej dopravy);
- Bohatosť funkčného využitia – ako katalyzátor mestského života (obchod, služby, voľnočasové aktivity, pracovné príležitosti, prechodné ubytovanie);
- Charakteristické priestorové riešenia rozvojovej oblasti – predovšetkým okolo ťažiska
- Flexibilný lokálny program;
- Etapizácia rozvoja (Vitková, 2019).

Modelovými lokalitami bolo niekoľko území vo väzbe na existujúce železničné trate v niektorých územiach aj zo stávajúcimi železničnými stanicami, či dokonca funkčnými bodmi integrovanej mestskej dopravy zastávky. Cieľom overovacích štúdií bolo overiť možnosti rozvoja príslušných území s rôznymi charakteristikami (brownfield, nezastavané územie, rôznorodá forma a funkcia existujúcej zástavby, poľnohospodárska pôda) v rôznej polohe v rámci mesta (vnútorné mesto, okrajová poloha mesta) a s rôznym vzťahom a potenciálom k rôznej hierarchii centier (mestské centrum, regionálne, obvodové, štvrťové centrum, lokálne centrum). Išlo o zväčša o nezastavané územia, respektíve územia brownfield s významným rozvojovým potenciálom. V rámci overovacích štúdií sme sa zamerali na naplnenie nevyhnutných parametrov mesta krátkych ciest, ktoré boli definované v prácach kolektívu Ústavu urbanizmu a územného plánovania FAD (Vitková, 2008):

- parametrov intenzity a poly-funkčnosti zástavby,
- kvality verejných priestorov.

Overili sme formy intenzity zástavby adekvátne významu danej lokality a poukázali na skutočnosť, že územný plán mesta, nedostatočne zohľadňuje mieru polyfunkčnosti, respektíve ju definuje príliš striktné bez potrebnej flexibility, nevyhnutnej ako reakcia na meniace sa podmienky trhu a dopytu (Vranková a kol., 2007).

V rámci modelových riešení sme kladli dôraz na **konceptu verejných priestorov** ako systému ulíc, námestí a prvkov zeleno modrej infraštruktúry (parkov, vegetačných a vodných línií) prepájajúcich bloky mestskej zástavby. Profily a forma uličných priestorov boli koncipované s dôrazom na peší, cyklistický pohyb a ukladnú automobilovú dopravu, optimálnu dostupnosť a prístupnosť s dôrazom na inklúziu. Pre podporu orientácie v priestore, najmä v strategických polohách bol kladený dôraz na priehľady, orientačné body a línie, či formu a funkcie parteru).

Definovanie hmotovo-priestorovej štruktúry je zásadné pre optimalizáciu zástavby rozvojových oblastí založených na princípe mesta krátkych ciest a viazaných na lokálne/štvrťové, obvodové, regionálne ťažisko so zastávkami koľajovej dopravy (železničná stanica, zastávka električky). Ako optimálne sa javí uplatnenie racionálneho rastra, založeného na sieti ulíc. Uličná mriežka pôsobí ako prirodzený regulátor rozvoja. Predznamenáva súbor kritérií a pravidiel, ktoré z nej vychádzajú. Definuje mestský blok stavebnou čiarou, výškovými parametrami novej zástavby a podmienkami oslivenia budov. Ďalšie kritéria ako je intenzita, forma a funkcia zástavby, umožňujú širokú škálu možností, vyplývajúcich jednak z konkrétnych daností lokality, ale i súčasných, respektíve budúcich potrieb a stavu ekonomiky. Zásadným princípom je uplatnenie diferencovanej hustoty a miery poly-funkčnosti od najvyššej v ťažiskových polohách okolo zastávok a línií koľajovej dopravy s ich postupným znižovaním so zväčšujúcou sa dochádzkovou vzdialenosťou.

V rámci realizovaných modelových štúdií sme overovali uvádzanú diferencovanú hustotu mestských štruktúr. Pre urbanistickú štruktúru vnútorného mesta v bezprostrednom kontakte so železničnou stanicou (ako súčasť štvrťového centra) sme overovali hustotu zástavby s IPP 2,50 až 3,00. V rámci mestských tried sme overovali uplatnenie polyfunkčnej zástavby s hustotou IPP 2,00 až 2,50. Obytná zástavba dosahovala hustotu zástavby s IPP od 1,00 po 1,8 v závislosti od dochádzkovej vzdialenosti od navrhovaných ťažísk.

V podmienkach vonkajšieho mesta sa hustoty mestskej štruktúry v rámci overovacích štúdií viazané na železničnú stanicu pohybovali v rozmedzí IPP 2,00 až 2,50. Hustota obytných štruktúr sa pohybovala v intervale IPP 1,25 až 1,8 (pre blokovú zástavbu) po hodnoty 0,8 až 1,00 (pre málo-podlažnú zástavbu) na hrane dochádzkovej vzdialenosti.

Nezanedbateľným faktorom úspešnosti rozvoja založeného na princípe mesta krátkych ciest je **poly-funkčný charakter** mestskej štruktúry. Ten napomáha kreovanie lokálnych spoločenstiev. Ide o nevyhnutný mix funkcií - bývania, služieb, pracovných príležitostí, voľnočasových aktivít v súlade s lokálnymi potrebami a dopytom v pešej dostupnosti obyvateľov. Životaschopnosť územia súčasne zabezpečuje dôsledné rozmiestnenie bývania v rámci celej rozvojovej lokality, prirodzene s uplatnením rôznych druhov v závislosti od významu a charakteru polohy. Nezanedbateľnou zásadou je kreovanie aktívneho parteru na frekventovaných verejných priestoroch. Z tohto dôvodu sme overili flexibilný interval polyfunkčnosti, schopný reagovať na meniaci sa dopyt na trhu. Pre obvodové centrá vo vnútornom meste sme uvažovali s rôznou kombináciou komerčných, vybavených a rezidenčných funkcií v rozmedzí od 60 do 40 %. Pre štruktúru bývania vo vnútornom meste sme overovali kombináciu vybavenosti a bývania v intervale od 20 do 80 %. Pre štruktúru vonkajšieho mesta bol pre lokálne centrum overovaný interval zastúpenia komerčných a rezidenčných funkcií 30 až 70 %. Obytné prostredie pre vonkajšie mesto sme kombinovali v intervale od 10 do 90 % medzi vybavenosťou a bývaním.

Veľkú pozornosť sme venovali profilu ulíc. Mestské triedy, bulváre, systém obslužných a obytných ulíc. V rámci modelových riešení sme overili hierarchický

systém lineárnych priestorov založený na princípe XL, L, M, S. Lineárne verejné priestranstvá v našich modeloch sú nasledovné:

- Ulice XL sú prezentované ako bulváre do 50 metrov.
- Ulice L sú prezentované ako hlavné osi s rozmermi do 35 metrov.
- Ulice M sú prezentované ako obslužné cesty a obytné ulice do 24 metrov.
- Ulice S sú prednastavené obytné ulice a pešie zóny do 12 metrov.

Rozvoj územia okolo železničných staníc a koľajovej dopravy je dlhodobý proces. Pre úspech uvedených projektov je dôležitá správne nastavená **etapizácia**. Okrem jej vhodného nastavenia vychádzajúcej z nastavenej koncepcie a významu jednotlivých častí územia sú podmieňujúcimi faktormi je ekonomická situácia a socio-demografický vývoj.

ZÁVER

Rozvoj a transformácia územia okolo zastávok koľajovej dopravy, predovšetkým železničných staníc sú z hľadiska presadzovania modelu kompaktného mesta a podpory efektívnej dopravy kľúčovými lokalitami pre presadenie modelu kompaktného poly-centrického mesta, respektíve mesta krátkych vzdialeností. Práve mestská koľajová doprava vzhľadom na svoje prepravné kapacity a efektívne a priame trasovanie, je schopná zabezpečiť efektívne prepojenia medzi jednotlivými časťami mesta, medzi ucelenými a funkčnými mestskými oblasťami. Má významný podiel na posilnení vnútromestského rozvoja oproti sub-urbanému rozvoju a tým i na znižovaní uhlíkovej stopy z automobilovej dopravy.

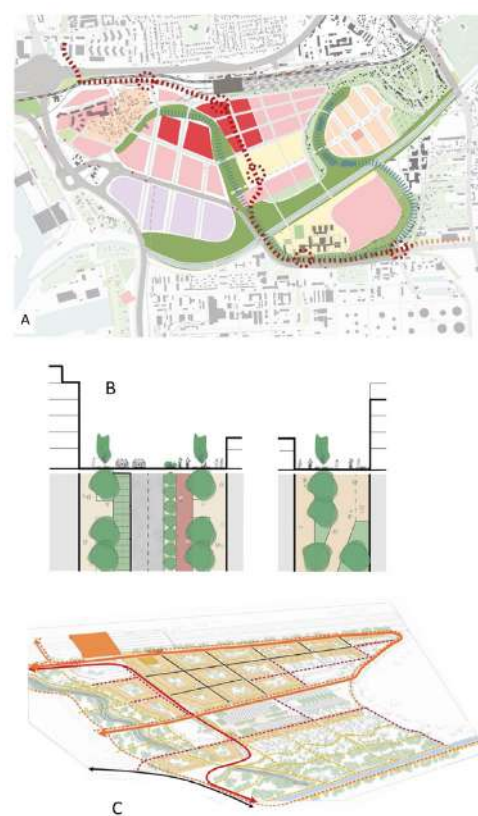
Cielená dopravná politika mesta je kľúčovým nástrojom na dosiahnutie udržateľnej mobility. Aby bola efektívna a účinná, musí byť založená na dôkladných analýzach, ktoré sledujú a zohľadňujú mobilitu obyvateľstva, stav životného prostredia, socio-ekonomické trendy, rovnako ako širšie zázemie mesta. Stratégie udržateľného rozvoja, ako aj politika dekarbonizácie by mali vychádzať z poznania vzťahov vo vnútri mesta, ako aj v rámci jeho funkčného regiónu. Existujúce vzťahy a väzby v rámci mesta a jeho širšieho zázemia cez koncepcie udržateľného rozvoja a premyslené dopravné stratégie je možné vhodne presmerovať na iné efektívnejšie formy prepojení, rovnako ako posilniť svojbytnosť jednotlivých častí miest.



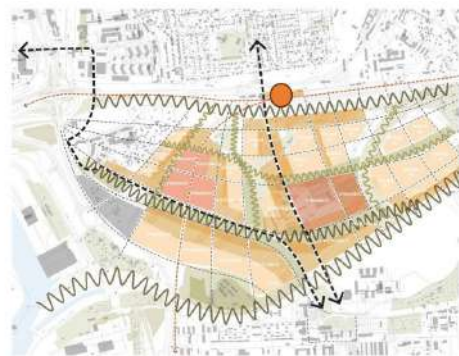
Obrázok č. 2.: Koncepcie rozvoja územia „Šajby“ okolo železničnej stanice Rača na princípe mesta krátkych ciest realizované v rámci atliéru GLOCAL (Vitková_Suchánková). Autor: E. Benčíková A: celkový návrh; B: Návrh profilov ulíc s ukludnením dopravy; C: Schéma diferencovanej hierarchie systému verejných priestorov na princípe mriežky.



Obrázok č. 1.: Koncepcie rozvoja územia „Šajby“ okolo železničnej stanice Rača na princípe mesta krátkych ciest realizované v rámci atliéru GLOCAL (Vitková_Suchánková). Autor: E. Benčíková, Laura Ožvaldová, Katarína Mindová



Obrázok č. 3.: Koncepcie rozvoja územia „Domové role“ okolo železničnej stanice Ružinov na princípe mesta krátkych ciest realizované v rámci atliéru GLOCAL (Vitková_Suchánková). Autor: D. Pamulová A: celkový návrh; B: Návrh profilov ulíc s ukludnením dopravy; C: Schéma diferencovanej hierarchie systému verejných priestorov na princípe mriežky.



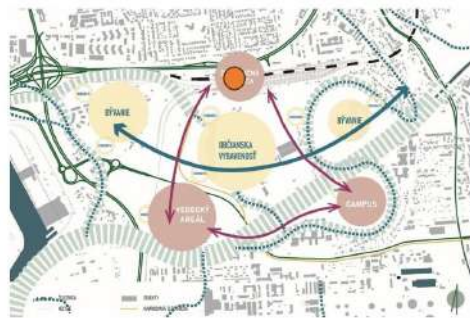
Students: Zuzana Hulecová, Andrea Illešová, 2024



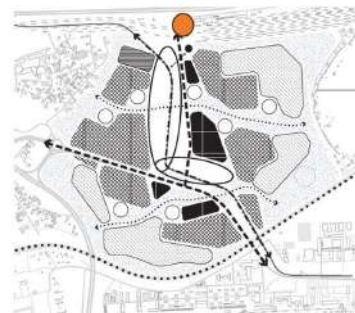
Student: Nina Jadrná, 2024



Student: Dominika Pamulová, 2024



Student: Veronika Vatehová, 2024



Student: Barbara Štofová, 2024



Student: Viktória Maláková, 2024

Obrázok č. 4.: Koncepce rozvoja územia „Domové role“ okolo železničnej stanice Ružinov na princípe mesta krátkych ciest realizované v rámci atliéru GLOCAL (Vitková_Suchánková).

Lokalita	Poloha v meste/	Význam lokality	Väzba na železniciu/električku	Forma rozvoja	Hustota zástavby v ťažisku územia/netto Miera poly-funkčnosti*	Hustota zástavby s prevažujúcou funkciou bývania/netto Miera poly-funkčnosti**
Petržalka Nové mestské a obvodové centrum na Dunaji	Kontakt s centrom mesta	Súčasť mestského centra + obvodové centrum pre cca 100 tis. obyvateľov	existujúca železnica a električka	Transformácia brownfield	IPP 3,00 - 4,00 Interval poly-funkčnosti 80 – 20 %	IPP 1,5 – 2,5 Interval poly-funkčnosti 20 – 80 %
Nové mesto Súčasť obvodového centra MČ Nové Mesto	Vnútročné mesto	Súčasť obvodového centra	existujúca železnica a električka	Transformácia brownfield	IPP 2,5 - 3,00 Interval poly-funkčnosti 60 – 40 %	IPP 1,5 – 2,5 Interval poly-funkčnosti 20 – 90 %
Zóna Domové role MČ Ružinov	Vonkajšie mesto	Potenciál novej štvrte a regionálneho centra	existujúca železnica plánovaná električka	Nová výstavba, transformácia brownfield, Nadväznosť na existujúcu zástavbu (bývanie, skladov, dopravy)	IPP 2,50 - 3,00 Interval poly-funkčnosti 50 – 50 %	IPP 1,5 – 2,5 Interval poly-funkčnosti 20 – 80 %
Zóna Šajby MČ Rača	Okraj mesta	Potenciál novej štvrte a jej centra	existujúca železnica	Nová výstavba, nadväznosť na existujúcu zástavbu (bývanie, areálov priemyslu, skladov, dopravy)	IPP 2,00 – 2,5 Interval poly-funkčnosti 30 – 70 %	IPP 1,5 – 2,5 10 – 90 %

Poznámka: *Interval podielu vybavenostných funkcií a bývania; **Interval podielu bývania a vybavenostných funkcií

Tab. č. 1.: Vyhodnotenie charakteru modelových území a návrh na reguláciu hustoty a poly-funkčnosti ich urbanistickej štruktúryObr. 1.: Názov obrázku, autoři (Zdroj:...)

PRAMENY/POUŽITÉ ZDROJE

- [1] CARMONA, Matthew - TIESDELL, Steve - HEATH, Tim - OC, Taner. (2010). Public places Urban spaces. The dimensions of urban design. Second Edition, Routledge. s. 77,
- [2] CONGRESS FOR THE NEW URBANISM. (2006) Dostupné na: <http://www.cnu.org/charter>, accessed on 23 June 2025.
- [3] COPLÁK, Jaroslav - PIFKO, Henrich - GREGOROVÁ, Jana - RAKŠÁNYI, Peter - KOVÁČ, Bohumil - KOMRSKA, Ján - ŠABÍKOVÁ, Jana - VITKOVÁ, Ľubica - IVANIČKA, Koloman (2009). Plánovanie ekologických sídlisk. Bratislava, Road. s. 132. ISBN 978-80-88999-37-9.
- [4] DE ROO, G. (1998). Environmental Planning and the Compact City a Dutch Perspective. In.: Studies in Environmental Science, edited by T. Schneider, s. 1027–1042, Elsevier.
- [5] FAJTA, Zuzana - CIRANOVÁ, Lucia - SIDOROVÁ, Milota (2022). Bratislava 2030, Metropolitný inštitút Bratislava, ISBN 978-80-973834-7-3
- [6] GEHL, Jan (2010). Life Between Buildings. Using Public Space. Sixth Edition. The Danish Architectural Press.
- [7] HUDEKOVÁ, Zuzana (2014). Stratégia adaptácie na nepriaznivé dôsledky zmeny klímy na území hl. mesta SR Bratislavy. Bratislava hl. mesto SR, s. 48 Dostupné na: https://bratislava.blob.core.windows.net/media/Default/Dokumenty/Str%C3%A1nky/Chcem%20vediet/064_Adaptacne%20strategie.pdf, accessed on 23 June 2025
- [8] JACOBS, Jane (1965). The Death and Life of Great American Cities. 2 ed. London: Penguin Books.
- [9] JOKLOVÁ, Viera - KRISTIÁNOVÁ, Katarína (2019). DANUrB - Impulzy pre Štúrovo, Impulses for Štúrovo. 1. vydanie. Bratislava : Vydavateľstvo SPEKTRUM STU, 104 s. ISBN 978-80-227-4898-8.
- [10] KÁDÁR Bálint - VITKOVÁ, Ľubica (2019). Sustainability options for tourism development. In.: Book on the unexplored cultural heritage in communities by the Danube : DANUrB 2017 - 2019. 1. vydanie. Praha, Česko : Gasset, 2019, S. 88-95. ISBN 978-80-87079-63-8.
- [10] KASRAIAN, D. – MAAT, K. - VAN WEE B. (2017). The Impact of Urban Proximity, Transport Accessibility and Policy on Urban Growth: A Longitudinal Analysis over Five Decades. Environment and Planning B: Urban Analytics and City Science 46 (6): 1000–1017. Dostupné na: <https://doi.org/10.1177/2399808317740355>, accessed on 23 June 2025
- [11] KATZ, P. (1994). The new urbanism: Toward an architecture of community. New York: McGraw-Hill.
- [12] KOMRSKA, Ján - FINKA, Maroš - GÁL, Peter - ŠPAČEK, Robert - PIFKO, Henrich - COPLÁK, Jaroslav - KOVÁČ, Bohumil - VITKOVÁ, Ľubica - GREROROVÁ, Jana - PETRÍKOVÁ, Dagmar - BELČÁKOVÁ, Ingrid - BOBER, O. - PAŠIAK, Ján - STRUSSOVÁ, Mária - RAKŠÁNYI, Peter - JAŠŠO, Matej (2005). Ecocity Trnava. In. Ecocity Book I. A better place to live /2002-2005. Viedeň : Vienna University of Economics and Business,, s.67-72. ISBN 3-200-00421-5.
- [13] KOSTOF, Spiro (1992). The city assembled: The elements of urban form through history. London: Thames and Hudson.
- [14] KRIER, Leon. (1998). Choice or fate. Windsor, UK, Papadakis.
- [15] LOZANO, Eduardo (1990). Density in Communities, or the Most Important Factor in Building Urbanity. From Community Design and the Culture of Cities. In: Urban Design Reader, London, Routledge. s. 680
- [16] MAZÚR Ján a kol. (2022). Bratislava 2030, Program rozvoja mesta 2022-2030, Vízia a strategická časť. Metropolitný inštitút Bratislava; Dostupné na: https://bratislava2030.sk/wp-content/uploads/2023/03/A-C-Strategicka-cast-Bratislava-2030_032023.pdf, accessed on 18 August 2025
- [17] MCCANN, Eugen (2017). Mobilities, Politics, and the Future: Critical Geographies of Green Urbanism. Environment and Planning A, vol. 49 (8), s. 1816–1823
- [18] MORENO, Carlos (2024). The 15-Minute City. 2024, s. 350, ISBN 9781394228140
- [19] OECD (2012). Compact City Policies: A Comparative Assessment. OECD Green Growth Studies. Paris: OECD Publishing.
- [20] PETERS, Deike – NOVY, Johannes (2012). Train Station Area Development Mega-Projects in Europe: Towards a Typology. Build Environment. 38/1, s. 5 – 30.
- [21] STREBEROVÁ, Eva - Rehačková, Tamara – Kučárová, Katarína (2017). Akčný plán adaptácie na zmeny klímy hl. mesta SR Bratislavy 2017 – 2020, s. 94 Dostupné na: https://mycovenant.eumayors.eu/storage/web/mc_covenant/documents/17/yUYkiS5oqAVN7sNIm-8PQzffSxCvORHg3.pdf accessed on 18 August 2025
- [22] ŠELIGOVÁ, Andrea - SMATANOVÁ, Katarína (2018). Udržateľný rozvoj malých a stredných miest na Dunaji : Vymedzenie území a ich valorizácia v prípadovej štúdii Komárno. In ALFA. Roč. 23, č. 2, s. 18-23. ISSN 1335-2679.
- [23] THE URBAN TASK FORCE (1999). Towards an Urban Renaissance. London: Routledge.
- UN-Habitat (2014). A New Strategy of Sustainable Neighbourhood Planning: Five Principles. Nairobi: UN Habitat.
- [24] VITKOVÁ, Ľubica (ed.) (2008). Kvantitatívne parametre urbanistických štruktúr. Zborník príspevkov. Zost. Ľ. Vitková. Bratislava : Road, 90 s. ISBN 978-80-88999-35-5.
- [25] VITKOVÁ, Ľubica (2019). Železničné stanice ako súčasť koncepcie Smart City, overovacie štúdie pre Bratislavu. In.: Inžinierske stavby. Roč. 67, č. 1, s. 49-51. ISSN 1335-0846.
- [26] VRANKOVÁ, Oľga - DROBNIÁKOVÁ, Dana - LUNÁČEK, Vladimír - HREŠKO, Peter – DEĎO, Vasil - ŠIMLOVIČOVÁ, Jana (2007): Územný plán hlavného mesta SR Bratislavy, Hl. mesto SR Bratislava. Dostupné na: <https://bratislava.sk/zivotne-prostredie-a-vystavba/rozvoj-mesta/uzemnoplanovacie-dokumenty/platna-uzemnoplanovacia-dokumentacia/uzemny-plan-mesta-a-jeho-zmeny-a-doplňky/uphm2007>, accessed on 18 August 2025
- [27] ŽITŇANSKÝ, Roman - NOVÁČEK, Oto - LUKAČOVIČ, Adam - ŠINGEROVÁ, Petra - MARCINOV, Michal (2021). Manifest verejných priestorov, Metropolitný inštitút Bratislava. ISBN 978-80-973834-0-4

HRADBY MĚSTA MILÁNA A JEJICH VLIV NA URBANISTICKOU FORMU MĚSTA

Volná Lenka - Svatoš Jindřich - Počil Jozef - Pytel Jan

LENKA VOLNÁ, ING. ARCH.

Katedra architektury, Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech
Republic

lenka.volna@vsb.cz

ORCID ID: 0000-0002-2448-8608

Studentka doktorského programu na
Katedře architektury. Rovněž působí
v praxi.

JINDŘICH SVATOŠ, PROF. ING. ARCH

Katedra architektury, Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech
Republic

jindrich.svatos@vsb.cz

ORCID ID: 0000-0003-3019-7329

Univerzitní profesor na Katedře archi-
tektury na FAST, VŠB a FAST, ČVUT.
Rovněž působí také jako praktikující
architekt ve vlastním ateliéru.

JOZEF POČIL, ING. ARCH

Katedra architektury, Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech
Republic

jozef.pocil@vsb.cz

ORCID ID: 0000-0003-4137-6429

Student doktorského programu na
Katedře architektury. Rovněž působí
v praxi.

JAN PYTEL, ING. ARCH.:

Katedra architektury, Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech
Republic

janpyt@seznam.cz

Absolvent magisterského studia na
Katedře architektury a nyní praktikující
architekt.

ABSTRAKT: Příspěvek se zabývá opevněním města Milána a jeho trvajícím dopadem na urbánní formu a identitu tohoto města. Jako jedno z nejvýznamnějších italských měst se Milán zásadně vyvíjel v kontextu postupné výstavby a následného odstraňování jeho hradebních okruhů. Příspěvek se zaměřuje na vývoj městských hradeb Milána, jejich průběžnou modifikaci a nové využití míst v lokalitách bývalého opevnění. Adresováno je rovněž téma vlivu opevnění na urbanistický a architektonický charakter města Milána. Výzkum se věnuje i dalším fenoménům souvisejícím s městskými fortifikacemi a klade důraz na vliv původní uliční sítě na současné uspořádání města. Metodika výzkumu se skládá z vizuálních metod, terénního výzkumu provedeného in situ a literární rešerše. Pomocí zkoumání pozůstatků městských hradeb, urbánní paměti města a jeho vzorců v dialogu se současnými a historickými mapami příspěvek upozorňuje na důležitost soudobého přístupu architektonické praxe v souvislosti se stopami historických urbanistických forem. Na základě výsledků zkoumání je v rámci předkládaných návrhů v místě bývalých městských hradeb doporučeno zdůraznit historický kontext místa a jeho genius loci.

KLÍČOVÁ SLOVA: Opevnění; Konverze; Urbanismus; Architektura; Historie

ÚVOD

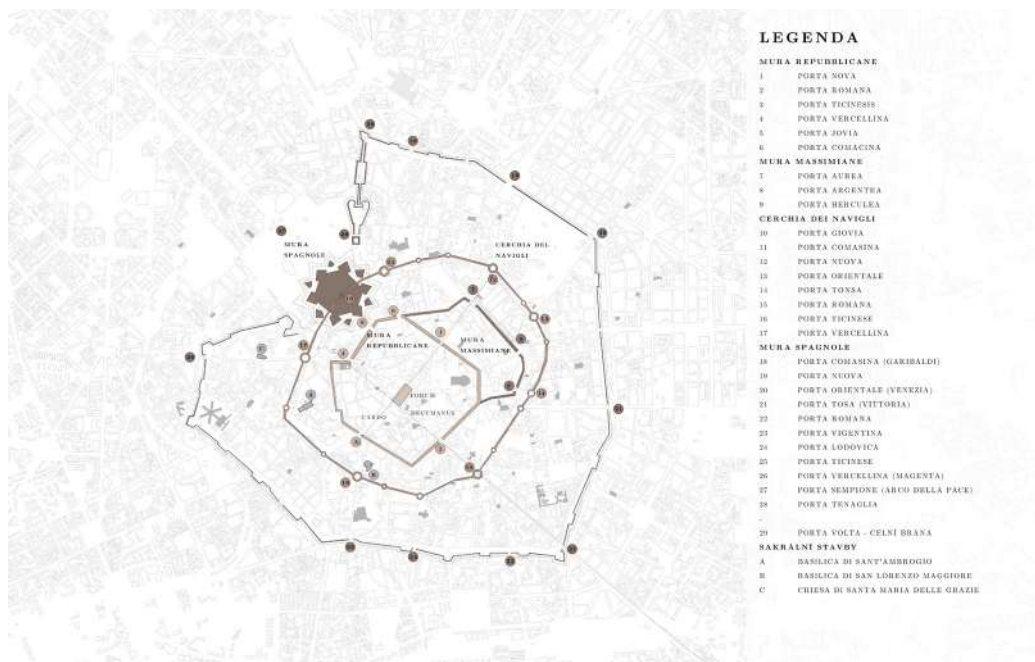
Opevnění a městské hradby jsou součástí lidské civilizace a kultury od nepaměti. Hradby jsou mnohem více než jen obranné struktury, v minulosti reprezentovaly moc, hodnotu a status sídla, které ohrožovaly. V průběhu různých historických epoch opevnění definovala urbánní formu měst, formovala jejich kompaktní jádra, fyzicky i symbolicky. Mezi nejstarší známé urbánní struktury patří biblické město Jericho a stejně tak mladší Jeruzalém, což dokládají biblické texty popisující jejich historii. Překročením původního Jeruzaléma je koncept Nového Jeruzaléma, který zejména v západním světě zůstává nosnou koncepcí jako perfektní urbánní model – vize svatě dokonalosti [1]. Městské hradby vymezovaly jak hmatatelná ohraničení měst, tak hranice náboženské a komunitní. Tyto opevňovací struktury, ve vztahu k blízkým posvátným místům (loca sacra), utvářely tzv. murus protectionis – symbolický a obranný okruh imitující posvátná města jako Jeruzalém nebo Řím [2].

Příspěvek se zaměřuje na italské město Milán, ve kterém můžeme najít několik hradebních okruhů budovaných v průběhu historie. Ačkoliv stopy těchto

hradeb nejsou vždy zřejmé v dnešním urbanistickém uspořádání, jejich odkaz pokračoval v určování urbánní struktury města. Především terénní průzkum odhalil tendenci radiálního růstu Milána v průběhu času. Opakujícím se tématem byla blízkost významných kostelů k hradebním okruhům, což poukazuje na bližší geometrické a symbolické vazby. Cílem tohoto výzkumu bylo zkoumat dlouhodobý vliv historických opevnění na současnou urbánní formu Milána. V průběhu výzkumu jsme hledali odpovědi na následující námi vytyčené otázky: Ovlivnilo původní uspořádání Milána jeho současnou urbánní síť? Do jaké míry hradby formovaly vývoj tohoto města? Přinášá současné plánování a architektonické zásahy v kontextu městských hradeb praktickou hodnotu městu Milánu?

Při hledání odpovědí na tyto otázky byl aplikován kombinovaný metodický rámec, spojující terénní výzkum, vizuální metody a literární rešerši. Tyto postřehy byly dokumentovány během terénního průzkumu Milána in situ, při kterém jsme se zaměřili na identifikaci pozůstatků opevnění a analýze jejich vztahů s okolními urbanistickými elementy a podobou města. Získané poznatky byly podpořeny a interpretovány pomocí historických map a současných mapových

Obr. 1.: Mapa Milána s vyznačenými hradebními okruhy a branami (Autor mapy: Lenka Volná, na podkladu [5])



nástrojů, jako Google Maps, Google Street View a Cad-mapper. Vizuální metodologie se sestávala z digitálních skic a fotografické dokumentace, všechny přílohy v podobě skic a fotografií byly zpracovány autory. Mapa na obrázku 1 byla vytvořena pomocí CAD softwaru a zdůrazňuje postupně budované okruhy opevnění Milána s jejich branami. Tato mapa slouží jako prostředek pro vyznačení a prezentování historických vrstev urbanistické struktury stejně jako analytický nástroj pro interpretaci urbánních vzorců v uspořádání Milána.

HLAVNÍ ČÁST

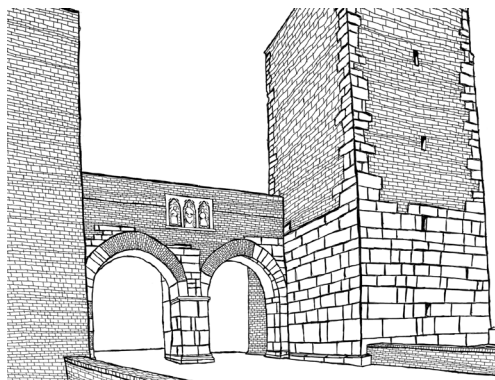
Historický kontext a vrstevnatost, historické tendence v lokalitě bývalých městských hradeb

Území dnešního Milána bylo osídleno Galy již od 6. století př. Kr. Po dobytí Římany v roce 222 př. Kr. se osada Metlaun proměnila v castrum s názvem Mediolanum [3], které expandovalo do podoby města a následovalo schéma římského castra. Římské opevnění města bylo postaveno do čtvercového uspořádání, protnuto dvěma hlavními osami, decumanus (od jihozápadu k severovýchodu) a cardo (od jichovýchodu k severozápadu) a vstupovalo se do něj branami s věžemi [4]. První obranné hradby římského castra, známé jako Mura Reppublicane, byly postaveny v roce 49 př. Kr. Tento fortifikační systém zahrnoval šest hlavních bran [5] – na obrázku 1 je možno vidět jejich názvy a umístění. O pár století později byly římské hradby rozšířeny o Mura Massimiane, díky které přibýly tři nové městské brány [5] – naznačeno na obrázku 1. Stopy římské urbánní mřížky a vnější osnovy opevnění původního castra jsou stále zřetelné v historickém jádru Milána, stejně jako v jiných městech, např. v Bologni, Florencii a Vídni [1]. Lze si také povšimnout na obrázku 1, že cardo a decumanus jsou stále identifikovatelné a že později budované brány se drží daného vzorce – Porta Nuova (7,12,19) navazuje na cardo, zatímco Porta Romana (2,15,22) navazuje na decumanus.

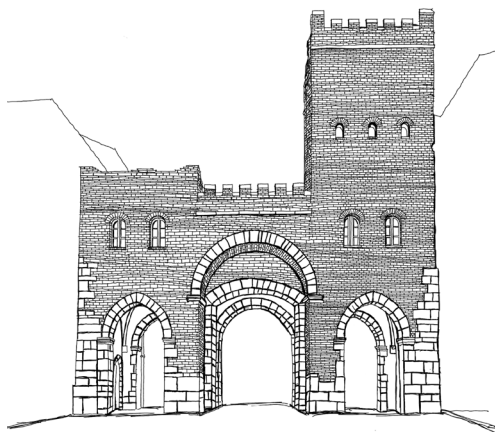
Po krátké době úpadku, který následoval po pádu Západořímské říše a invaze barbarů v 6. století po Kr., Milán obnovil svou pozici jako klíčový severoitalský městský stát. Během středověku se město postupně koncentricky rozrůstalo okolo římského jádra [4]. Částečná destrukce Milána vojsky císaře Svaté říše římské Fridricha I. v roce 1158 dokonce za pomoci českých vojsk byla dalším milníkem pro milánské městské hradby¹ [6]. Poté byl vystavěn nový okruh opevnění spolu s vodním příkopem s přívodem vody z kanálu Navigli [7]. Finální podoba hradebního pásu obsahovala hlavní brány (vyznačeno na obrázku 1) a asi deset druhotných bran, které se nazývají pusterle a z nichž na obrázku 2 vyobrazená Pusterla di Sant' Ambrogio zůstala dochována. Z hlavních bran jsou dodnes dochovány Porta Ticinese (obrázek 3, 16) a Porta Nuova.

Pod španělskou nadvládou na počátku 16. století Milán zažil výstavbu třetího opevňovacího okruhu, bastionových hradeb strategicky položených dále od středověkých hradeb, který obklopoval nově rozvinutá předměstí [4]. Tato změna v umístění nového okruhu městských hradeb značí vývoj vojenského a urbanistického plánování této doby. Během kulturní a technologicky transformativní éry 18. a 19. století, byly španělské bastiony adaptovány na panoramatickou promenádu [4]. Proměna promenády je patrná také na veřejně dostupných historických mapách z roku 1820, 1846 a 1885, které reflektují měnící se urbanistické tendence [8-10]. Navzdory tomu, že hradby v této době překonaly svou obrannou funkci, jimi vytvořené ohraničení přetrvalo jako administrativní hranice až do roku 1873 [4]. Obranné struktury byly přetvořeny na krajinně upravené bulváry. Španělské hradby nereprezentují jen vrstvu opevnění, ale i milník v urbánním palimpsestu města. V rámci odstranění bastionových hradeb rovněž došlo k výstavbě celních

bran a triumfálních oblouků v místě původních bran [4, 11]. Porta Sempione (27), na ose od pevnosti Castello Sforzesco, byla pozoruhodně přeměněna na pamětní oblouk známý jako Arco della Pace [12]. Mezi transformovanými branami vyniká Porta Ticinese – monumentální brána nesená korintskými sloupy (25, na obrázku 1, skica na obrázku 4).



Obr. 2.: Skica druhotné brány Pusterla di Sant' Ambrogio (Autor: Jan Pytel)



Obr. 3.: Skica středověké brány Porta Ticinese (Autor: Jan Pytel)



Obr. 4.: Skica Porta Ticinese z 19. století (Autor: Jan Pytel)

Soudobý přístup jako současné tendence v lokalitě bývalých městských hradeb

Typickým přístupem k návrhům zástavby a využití prostoru bývalých městských hradeb je tvorba nových městských okruhů. Tento přístup lze vidět u několika českých i evropských měst. Po odstranění hradeb zbyly poměrně velké prázdné plochy, které nabízely četné způsoby využití. Mohly zde vzniknout například dopravní uzly, parkové okruhy či okružní třídy, ve kterých se uplatňovaly nové typologie budov a již existující typologie, ke kterým se v 19. století navracelo vlivem národně-obrozených tendencí. V této době tedy docházelo k rozkvětu kulturních staveb – filharmonii či

¹ Tato vojenská aliance získala Vladislavu II. nedědičný královský titul pro České země v roce 1158 a dle Dalimilovy kroniky si Češi vydobyli své znamení Iva [6].

divadel – a dále paměťových institucí jako muzeí nebo knihoven. Vznikala také nová sídla státních a vládních institucí. V tomto ohledu z českých měst vynikají například Brno, Opava či Krnov. Z evropských lze uvést například Vídeň a podobné tendence můžeme vidět právě v Miláně.

Například město Brno si zachovalo opevnění až do poloviny 19. století. Po demolici hradeb byl architektem Försterem předložen návrh na regulaci a rozšíření města, který zahrnoval vytvoření tangent kolem historického jádra města. Další architekti postupně navazovali s následnými projekty veřejných staveb [1]. V Miláně vznikly postupem času v podstatě dvě okružní třídy. Tyto okruhy mají podobu parkově upravených bulvárů.

Jako dobrý příklad soudobého přístupu k výstavbě v lokalitách bývalých městských hradeb v kontextu města Milána vyzdvihujeme generální plán brány Porta Volta (29), jež kdysi byla součástí Mura Spagnole. Současná podoba brány propojuje město s hřbitovem a dala vzniku radiální spojnici [13]. Urbanistický plán obnovy Porta Volta byl navržen v roce 2010 architektonickým studiem Herzog & de Meuron. Od té doby se Porta Volta stala kulturním centrem, implementujícím nové funkce a mnoho zelených ploch (obrázek 5). Budova následuje konturu brány Porta Volta a zachovává půdorysnou stopu původních bastionů. Brána slouží jako referenční bod v rámci města, doplňující dvě zachované původní celní brány Caselli Daziari di Porta Volta. Návrh svou jednoduchostí a velkolepým měřítkem připomíná historickou milánskou architekturu, jako např. stavby Rotonda della Besana a Castello Sforzesco. Navržené budovy se rovněž inspirovaly podlouhlými lineárními stavbami tradiční venkovské architektury v Lombardii. Architekti ze studia Herzog & de Meuron následně vytvořili podlouhlou a úzkou strukturu, která ztělesňuje geometrické linie místa a balancuje mezi transparentností a definováním prostoru [11].



Obr. 5.: Fotografie Porta Volta Feltrinelli Publishing, navrženo ateliérem Herzog & de Meuron (Autor: Lenka Volná)

Jinou proměnou městského bastionového okruhu je například projekt City Gate, který zcela změnil podobu hlavního vstupu do hlavního města Malt, Valletty (studio Renzo Piano Building Workshop). Tento projekt se skládá ze čtyř částí – městské brány Valletty a okolního veřejného prostranství, návrhu divadla pod širým nebem na místě pozůstatků bývalé Královské opery, výstavby nové budovy parlamentu a terénních úprav příkopu [14].

Městské hradby a jejich vztah ke křesťanským sakrálním stavbám v Miláně

V Miláně se objevuje zajímavý fenomén, a to že některé významné raně křesťanské kostely jsou situovány v blízkosti městských hradeb, což působí dojmem jisté posvátnosti, která má ochránit město uvnitř hradebního okruhu. Vztah mezi náboženskými komplexy a opevněním je dokumentován v odborné literatuře. Je

popsán například v knize Opavské hradby, následující úryvek znázorňuje tuto souvislost [15]:

„V odborné literatuře a pod jejím vlivem postupně i v obecném povědomí se už od 19. století poměrně pevně zahnízдила představa, že důležitou roli při posílení vybraných středověkých městských opevnění hrály klášterní areály přiléhající k hradbám. Ba dokonce, že mnohé z městských klášterů, především dvou nepočetnějších žebavých řádů, Dominikánů a Minoritů, byly cíleně umísťovány na periferii městského okruhu v kontaktu s hradební linií právě proto, aby zde tvořily zpevnění tohoto ochranného pásma.“

V české odborné literatuře je široce přijímán názor, že sakrální budovy významně přispívaly k obraně měst, ať již díky jejich záměrně vybrané strategické poloze v rámci urbanismu města, jejich začlenění do pásu opevnění, či skrz zvláštní obranné uspořádání [16].

Ačkoli literatura tuto myšlenku podporuje, není to jediný důvod a vysvětlení pro umístění křesťanských sakrálních staveb v blízkosti městských hradeb. Pro přehlednost lze tyto kostely a kláštery rozdělit do dvou kategorií – uvnitř a vně městských hradeb (intro a extra muros). Kostely a kláštery postavené vně hradeb byly často obklopeny hřbitovy, protože pohřbívání uvnitř hradeb nebylo povoleno [17]. Některé posvátné oblasti byly také obklopeny hradbami, které měly rovněž symbolickou funkci oddělení posvátného od profánního (např. Vatikán). Dalším důvodem pro umístění kostelů podél hradeb bylo umožnění modlitby před cestou nebo u vchodu do města. Kláštery umístěné extra muros byly srdcem pozdějších předměstí a mívaly také hospodářský účel [18].

V Miláně mezi významné příklady prolínání sakrální architektury a opevnění patří Bazilika di Sant'Ambrogio (obrázek 6, A) a Bazilika San Lorenzo Maggiore (obrázek 7, B). Umístění komplexu San Lorenzo vně původních hradeb poukazuje na využití k pohřbívání, což souvisí se zákazem pohřbívání uvnitř hradebního okruhu [17]. Obě tyto starobylé baziliky byly původně postaveny extra muros. Původní název Baziliky di Sant'Ambrogio, Bazilika Martyrum, přímo odkazuje na pohřbívání křesťanských mučedníků perzekuovaných během římské éry.

Dalším pozoruhodným kostelem je Santa Maria delle Grazie (obrázek 8, C), domov Da Vinciho Poslední večeře, který byl vybudován jako součást dominikánského kláštera v pozici extra muros [19]. Archeologické nálezy v lokalitě Piazza di Duomo ukázaly, že zde byl již v římské době episkopální kostel. Tato raně křesťanská bazilika v pozici intra muros se tedy nacházela na místě dnešního náměstí.



Obr. 6.: Fotografie Baziliky di Sant'Ambrogio – raně křesťanská atriová bazilika ze 4. století po Kr. s nynější románskou podobou (Autor: Lenka Volná).



Obr. 7.: Fotografie Baziliky San Lorenzo Maggiore – raně křesťanský kostel ze 4. století po Kr., s barokní fasádou a formou (Autor: Lenka Volná).



Obr. 8.: Fotografie kostela Santa Maria delle Grazie (Autor: Lenka Volná).

ZÁVĚR

Příspěvek studoval vrstevnatost Milána v kontextu městských hradeb a jejich vlivu na současnou urbání strukturu, architektonickou identitu a symbolické hodnoty. Analýzou vývoje postupně budovaných hradebních okruhů (chronologicky římský, středověký a bastionový) a jejich proměny v bulváry a významné památky, dokládáme, že opevnění nejsou jen pouhé pozůstatky, ale že hrály klíčovou roli ve vývoji a utváření urbání formy města a jeho paměti. Komplexita a vrstevnatost Milána je podporována jeho urbání formou. Stále jsme schopni nacházet stopy opevnění v uliční síti dnešního Milána.

Náš terénní výzkum a literární rešerše podporuje tvrzení, že radiální růst města byl odvozen z původního římského castra. Na základě výzkumu je možno říct, že původní uspořádání Milána ovlivnilo jeho současnou urbání síť. Rádi bychom zdůraznili vztah mezi sakrální architekturou a opevněním. Jejich vazba je jak prostorová, tak symbolická. Příspěvek pojednává o důvodech umístění křesťanských sakrálních staveb v blízkosti hradeb (ať už intra nebo extra muros). Nejpozoruhodnější se jeví motiv duchovní ochranné hodnoty, které sakrální stavby v blízkosti hradeb mohly vnášet.

Soudobý přístup k lokalitám bývalých městských hradeb je reprezentován generálním plánem Porta Volta navrženým architekty Herzog & de Meuron.

Projekt reflektuje urbání a prostorovou paměť místa, podlouhlá budova je navržena jako půdorysná stopa bastionu Španělských hradeb následující celní brány Porta Volta. Tento urbanisticko-architektonický zásah v kontextu městských hradeb přináší praktickou hodnotu městu Milánu v podobě interpretace geometrie místa a demonstruje způsob, jak zachovat genius loci a zároveň nabídnout nové vrstvy v lokalitách bývalých městských hradeb.

Klíčovým výstupem tohoto výzkumu je zaměření se na urbanistický a architektonický přístup, který začleňuje geografický, historický a morfologický kontext v návrzích v lokalitách bývalých městských opevnění. Milán reprezentuje poutavý příklad integrace současných struktur do historických vrstev významných památkových oblastí. Zkoumáním a dokumentováním těchto urbáních stop a vzorců, architekti a urbanisté mohou udržitelně navrhovat v historických lokalitách a respektovat historii, zatímco vykračují vpřed.

PRAMENY/POUŽITÉ ZDROJE

- [1] Hrůza, J. (2014). Svět měst. Praha: Academia.
- [2] Pomierny-Wąsińska, A., (2019). „Measuring and Shaping the Late Medieval City: Mathematical Descriptions of City Walls in Florence and Milan”, *Kwartalnik Historyczny*, 126(3), s. 5–42. doi: 10.12775/KH.2019.126.SI.1.01.
- [3] Lecco, A. and Foot, J. (1999). Milan | History, Population, Climate, Map, & Facts. [online] Encyclopedia Britannica. Available at: <http://www.britannica.com/place/Milan-Italy/History> [Accessed 30 Aug. 2025].
- [4] Tucci, M., Giordano, A. and Ronza, R.W. (2010). Using Spatial Analysis and Geovisualization to Reveal Urban Changes: Milan, Italy, 1737–2005. *Cartographica: The International Journal for Geographic Information and Geovisualization*, 45(1), pp.47–63. doi:<https://doi.org/10.3138/carto.45.1.47>.
- [5] Ossola, I., Migliarini, G. and Giambone, V. (2011). *Ciclo Urbis, Un parco lineare sui Bastioni milanesi*. [Master's thesis] p.166. Available at: <https://hdl.handle.net/10589/20141> [Accessed 30 Aug. 2025].
- [6] Bahník, P., Bašta, J., Dvořák, A. and Vlnas, V. (2021). *Prolitá krev zavazuje*. Praha: Česká citadela s.r.o., p.256.
- [7] Banfi, F., Bolognesi, C.M., Bonini, J.A. and Mandelli, A. (2021). THE VIRTUAL HISTORICAL RECONSTRUCTION OF THE CERCHIA DEI NAVIGLI OF MILAN: FROM HISTORICAL ARCHIVES, 3D SURVEY AND HBIM TO THE VIRTUAL VISUAL STORYTELLING. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLVI-M-1-2021, pp.39–46. doi:<https://doi.org/10.5194/isprs-archives-xlvi-m-1-2021-39-2021>.
- [8] Zucoli, L. (1820). *Pianta della città di Milano*. Faculty of Science (Map collection). Available at: <https://kramerius.cuni.cz/uk/view/uuid:c1631404-5151-11ec-937b-fa163e4ea95f?page=uuid:c1fcf92a-5151-11ec-937b-fa163e4ea95f> Extent: 1 mapa : mědiryt, čb., podlepena plátnem ; 30,5 x 41,5 cm na listu 31,5 x 42 cm, složeno na 16 x 10,5 cm v papírovém pozdře 16 x 11 cm.
- [9] Tenenti, T. (1846). *Nuova pianta della città di Milano*. Faculty of Science (Map collection). Available at: <https://kramerius.cuni.cz/uk/view/uuid:a821e704-5151-11ec-b2dc-fa163e4ea95f?page=uuid:a8e46464-5151-11ec-b2dc-fa163e4ea95f> Extent: 1 mapa : litografie, čb., podlepena plátnem ; 26,5 x 40 cm na listu 27,5 x 41 cm, složeno na 14 x 10,5 cm v papírových deskách 14,5 x 11 cm.

- [10] Milano a colpo d'occhio guida indispensabile al visitatore. (1885). Faculty of Science (Map collection). Available at: <https://kramerius.cuni.cz/uk/uuid/uuid:d01472f8-9423-11ec-abc7-fa163e4ea95f> Extent: 1 mapa : barev. litografie ; 24,5 x 37 cm na listu 29,5 x 38,5 cm.
- [11] Herzog & de Meuron (2016). 327 Porta Volta Fondazione Feltrinelli. [online] Herzog & de Meuron. Available at: <https://www.herzogdemeuron.com/projects/327-porta-volta-fondazione-feltrinelli/>.
- [12] Banfi, F. and Mandelli, A. (2010). Computer Vision Meets Image Processing and UAS PhotoGrammetric Data Integration: From HBIM to the eXtended Reality Project of Arco della Pace in Milan and Its Decorative Complexity. *Journal of Imaging*, [online] 25(7(7)), p.-. doi:<https://doi.org/>.
- [13] Rossari, A. (1970). MILANO CHE SI COSTRUISCE: I PIANI REGOLATORI. *Incontri di studio*. doi:<https://doi.org/10.4081/incontri.2016.263>.
- [14] Renzo Piano Building Workshop, architects in collaboration with Architecture Project (Valletta) (2021). Valletta City Gate. [online] Fondazione Renzo Piano. Available at: <https://www.fondazionerenzopiano.org/en/project/valletta-city-gate/>.
- [15] Kolář, F., Antonín, R. and Kaniová, P. (2013). Opavské hradby. Opavská kulturní organizace.
- [16] Razím, V. (1996). Sakrální stavby v systému obrany středověkých měst. *Archaeologia historica*, [online] 21([1]), pp.151–167. Available at: <https://hdl.handle.net/11222.digilib/140191> [Accessed 27 Aug. 2025].
- [17] Kinley, D. (n.d.). Italy, Milan, San Lorenzo | Briefing | Professor Dale Kinney | Medieval Architecture. [online] projects.mcah.columbia.edu. Available at: http://projects.mcah.columbia.edu/medieval-architecture/html/kd/ma_kd_discuss_sanl.htm.
- [18] Štajnochr, V. (2019). Jaké jsou podstatné jevy a atributy odrážející urbánní hodnoty historických jader měst? [online] Available at: <https://www.youtube.com/watch?v=B9t5RALbDF0> [Accessed 27 Aug. 2025].
- [19] Bolognesi, C.M. and Aiello, D. (2019). THE SECRETS OF S. MARIA DELLE GRAZIE: VIRTUAL FRUITION OF AN ICONIC MILANESE ARCHITECTURE. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLII-2/W15, pp.185–192. doi:<https://doi.org/10.5194/isprs-archives-xlii-2-w15-185-2019>.

PODĚKOVÁNÍ

Výzkum byl podpořen výzkumným projektem č. SP2022/41, SP2023/040. Konferenční poplatek byl hrazen Katedrou architektury Fakulty stavební VŠB-TU Ostrava.

3/ Soudová architektura bydlení, občanské vybavenosti a stavebního inženýrství

DĚTSKÁ ODDĚLENÍ – POŽADAVKY VS. REALITA – KOMPARATIVNÍ RÁMEC PRO HODNOCENÍ PROSTOROVÉ KVALITY

ANNA WANDA MOLNÁROVÁ, ING.
ARCH.

Ústav nauky o budovách
Fakulta architektury ČVUT,
Thákurova 9, 166 34, Praha,
Česká republika

wanda.molnarova@gmail.com

ORCID iD: 0009-0001-9609-0754

Autorka se věnuje výzkumu zaměřenému na děti v nemocnici na Fakultě architektury ČVUT od roku 2021. Zaměřením výzkumu jsou dětská oddělení ve všeobecných nemocnicích a jejich flexibilita. Po praxi v ateliéru Mimosa architekti kde se spolupodílela na realizovaných stavbách, i na návrzích umístěných v architektonických soutěžích začala působit v ateliéru Domy, který se typologií zdravotnických staveb věnuje již více než 30 let.

Molnárová Anna Wanda

ABSTRAKT: Tento článek představuje srovnávací rámec pro hodnocení prostorových kvalit na dětských odděleních v nemocnicích, založený na kontrastu mezi očekávaným standardem a reálnou praxí. Současný trend v oblasti zdravotnického designu klade důraz na adaptabilitu a péči zaměřenou na pacienta, v případě dětských oddělení na rodinu. Moderní trendy v péči o pacienty na dětských odděleních cítíme ještě víc než na odděleních standardních, protože k pacientovi samotnému se připojuje jako účastník i jeho rodič. V praxi jsou však dětská oddělení – zejména v menších regionálních nemocnicích – často navrhována podle obecných pravidel pro oddělení dospělá, které neodpovídají specifickým potřebám dětských pacientů. Studie definuje soubor kritérií pro flexibilní nemocniční prostředí, jako je možnost přizpůsobení pokojů různým věkovým skupinám, zázemí pro doprovod nebo schopnost reagovat na změnu režimu péče. Tato kritéria jsou porovnávána s aktuální situací na vybraných pracovištích v České republice. Pomocí nástrojů prostorové analýzy a rozboru dispozičních řešení jsou hodnoceny klíčové parametry a identifikovány hlavní limity. Zjištění poukazují na výrazné nedostatky, zejména u menších oddělení s vysokou obložeností, kde je možnost adaptace prostoru minimální. Studie ukazuje potenciál navržené komparační metody jako nástroje pro identifikaci problémových míst a podporu plánování budoucích rekonstrukcí či novostaveb dětských oddělení.

KLÍČOVÁ SLOVA: Nemocnice; děti; dětské oddělení; lůžková péče; děti v nemocnici; zdravotnické stavby; zdravotnictví; architektura

ÚVOD

Článek představuje koncepci srovnávacího rámce pro hodnocení prostorových kvalit dětských oddělení, které zásadně ovlivňují prožitek hospitalizace pacientů. V České republice probíhají napříč nemocnicemi rekonstrukce a přestavby dětských oddělení. Výsledné dispozice však často nedostatečně zohledňují všech aktérů – dětí, jejich doprovodu i personálu – a narážejí na chybnou definici minimálních prostorových nároků pro hospitalizaci dítěte s doprovodem. Způsob hospitalizace dětí předurčuje, že na jedno dítě bude potřeba více prostoru nežli na oddělení dospělém. Důsledkem jsou improvizovaná řešení ubytování doprovodu, nedostatek klidových zón a omezená možnost rychle měnit konfiguraci prostoru podle věku a diagnózy pacienta. V situaci dlouhodobě vysoké obloženosti se pak prostory dostávají na hranu svých možností, a adaptabilita se ztrácí.

Tento článek reaguje na chybějící jasné standardy prostorových nároků pro hospitalizaci dítěte s doprovodem a na potřebu přenést mezinárodní „best practice“ do českého kontextu srozumitelným, reprodukovatelným způsobem. Představuje srovnávací rámec pro hodnocení prostorové flexibility dětských oddělení, který propojuje požadavky vycházející z literatury a praxe s ověřením na vybraných existujících odděleních.

Hodnotící rámec je založený na kontrastu mezi očekávanými standardy a reálnou praxí. Jeho cílem je odhalit mezery mezi očekáváním a realitou, a identifikovat jaká vlastnosti prostředí nejvíce ovlivňují kvalitu a použitelnost lůžkového oddělení. Hypotéza předpokládá nedostatečnou flexibilitu většiny pracovišť, zejména v důsledku prostorových omezení a trvale vysoké obloženosti na všeobecných dětských odděleních. Cílem je představit srovnávací rámec založený na očekávaných kritériích prostředí moderní pediatrie, který bude všeobecně aplikovatelný v lokálních podmínkách a poskytne podklad pro návrhová rozhodnutí při rekonstrukcích i novostavbách.

TEORETICKÁ VÝCHODISKA

V současnosti se návrhy dětských lůžkových oddělení v mezinárodním kontextu posouvají od čistě funkčního, na nemoc zaměřeného modelu k holistickému a re-

sponsivnímu prostředí, které podporuje klinickou péči i individuální potřeby dítěte a jeho rodiny. Tento posun stojí na principech „péče zaměřené na rodinu“ – z anglického family-centered care (FCC) (Kuo et al. 2012) [1], odvozené od patient-centered care, a evidence-based designu (EBD) (Lenton & Ehrich 2015) [2] – návrhu založeném na důkazech a využití technologií umožňujících individualizovanou péči u lůžka.

V zahraničí převažují jedno- až dvoulůžkové pokoje s plnohodnotným ubytováním doprovodu přímo na pokoji (rooming-in) (Sunder et al. 2020) [3]. Dispozice bývají zónované na část klinickou, lůžkovou a rodinnou, s dostatečným prostorem pro relaxaci, soukromí a místem pro trávení společného času. Základními vlastnostmi prostoru, které prokazatelně zlepšují prožitek hospitalizace jsou přítomnost denního světla (Shepley et al. 2012) [4], akustický komfort, vizuální kontakt se zelení (Ulrich 1984) [5] a možnosti personalizace prostoru (vystavení osobních předmětů) (Verschoren et al. 2015) [6]. V řadě zemí se již pracuje s herními terapeuti, kteří pracují s dítětem a připravují ho i jeho rodinu na zákroky které ho v nemocnici čekají, což zlepšuje úzkost a snižuje stres u dítěte i jeho rodiny (Matějček 2001) [7]. V ČR tato praxe naráží na nedostatek personálu, resp. specialistů i nevhodné prostory.

Přínos předkládaného rámce spočívá v jeho operacionalizaci do hodnotícího rámce a v prostorovém, počítačem asistovaném ověřování přímo na půdorysech konkrétních pracovišť. Rámec testujeme na vybraných českých dětských odděleních různého typu (regionální i fakultní), což umožňuje porovnat očekávaný standard s reálně dosaženými výsledky v různých provozních a stavebních kontextech.

Technologický vývoj i posun v medicíně umožňují model péče o pacienta přímo na lůžku, nazvaný „vertikální péče“ kdy se o pacienta ve všech stupních hospitalizace (od intenzivní přes intermediární až na standardní) dokáže personál postarat na jednom lůžku, a není tak potřeba pacienta přesouvat z jednoho pokoje do druhého. Toto přineslo koncept „acuity-adaptable“ pokoje (Hendrich et al. 2004) [8]. Architektonické řešení musí propojovat stavební a provozní strategii.

V dětských odděleních je klíčová flexibilita a věkově přiměřené prostředí (Clensy 2022) [9]. Pokoje a celková konfigurace oddělení musí reagovat a obsáhnout

odlišné potřeby všech věkových skupin dětí, od batolat až po téměř dospělé. V praxi by toto mělo znamenat možnosti využití variabilního nábytku, a umožnění jednoduché přestavby pokoje bez stavebních zásahů a zároveň přiměřené vybavení na celém oddělení i pro doprovod hospitalizovaných mladších dětí.

Přítomnost doprovodu je deklarovaným právem dítěte (EACH 2006) [10]. V praxi ale na některých odděleních nejsou vhodné prostorové a provozní předpoklady – pro plnohodnotný pobyt rodiče je potřeba lůžko pro doprovod, úložné kapacity, zázemí pro rodiče i mimo pokoj, a dále na oddělení místnosti pro soukromý rozhovor o zdravotním stavu dítěte (Ehrich et al. 2017) [11]. Toto vytváří rozpor mezi očekáváním a realitou.

Jako koncepční východisko pro metodiku je použita práce W. Sundera a kol. (The Patient Room, 2020), která popisuje kvalitativně-typologické hodnocení dvoulůžkových pokojů na základě dispozičního řešení a klíčových stavebních prvků s cílem odhadnout jejich uživatelské kvality. Metoda kombinuje rozhovory s odborníky, pozorování provozu a další, a to vše syntetizuje do šesti kategorií (Sunder et al. 2020) [3]. Rámec tedy nenabízí univerzální ideální pokoj, slouží k porovnání typologií a pochopení provozních vazem na kvalitu užívání. Navrhovaná metodika vychází z mezinárodních trendů, které propojují vlastnosti prostředí se subjektivní kvalitou pobytu dítěte a jeho doprovodem, a následně je převádí do kritérií ověřitelné na dispozičním řešení jednotlivých oddělení (Lambert et al. 2013) [12]. Tato teoretická východiska jsou základem pro srovnání „best practice“ se stavem v českých nemocnicích.

Z uvedených trendů vyplývá, proč hodnotíme právě sedm kategorií – flexibilitu, multifunkčnost, srozumitelnost, soukromí a zónování, přizpůsobení dětem, vnitřní prostředí a zapojení rodiny (Verschoren et al. 2015) [6]. Každá z nich odpovídá opakovaně popsaným determinantám kvality pobytu dítěte a rodiny v literatuře a dohromady pokrývají jak klinické potřeby, tak psychosociální aspekty pobytu.

METODIKA

Cílem metodického postupu je převést požadavky rodinně orientované péče do pozorovatelných a poměřitelných kritérií, a tyto ověřit na srovnání se stávajícími dětskými lůžkovými odděleními. Studie má charakter komparativního smíšeného výzkumu (Lucas 2016) [13] a opírá se o princip „očekávání vs. realita“ kdy ověřujeme naplnění kritérií v konkrétních realizacích. Vzorek tvoří vybraná dětská lůžková oddělení s rozdílnou kapacitou a stavebně-provozním uspořádáním. Do analýzy vstupují dispoziční podklady a polostrukturované rozhovory s personálem, časově zachycujeme stav oddělení v aktuálním provozu. Výzkum má prvky post-occupancy evaluation (Groat & Wang 2013) [14], ale není plnohodnotnou aplikací POE

metody. Případy zahrnují menší všeobecné nemocnice i pracoviště fakultního typu, aby bylo možné sledovat, do jaké míry hraje roli nejen návrh, ale i obložnost a konstrukční modul.

Východiskem je syntéza mezinárodních doporučení a mezioborových studií, z níž vzniká sada hodnotících kritérií, které odrážejí klíčové potřeby dítěte, rodiny i provozu. Vybraná kritéria jsou: prostorová flexibilita (schopnost rychlé adaptace bez stavebních zásahů), multifunkčnost (jedno místo sloužící klinické i neklinické funkci), srozumitelnost prostoru (orientace, čitelnost toků, intuitivnost), soukromí a zónování (akustická, vizuální ochrana, zónování pokojů i prostor na oddělení), přizpůsobení dětem (měřítko, ergonomie, bezpečnost, věková přiměřenost), vnitřní prostředí (denní světlo, akustika, teplota, výhled z okna), zapojení rodiny (ubytování pro doprovod, prostory pro doprovod). Paralelně jsou shromažďovány tři typy empirických vstupů – stav lůžkového fondu (dispoziční a technické podklady), polostrukturované rozhovory a statistické informace, které slouží k iterativní úpravě hodnocených kritérií.

Každé kritérium je operacionalizováno do kvantitativních a kvalitativních indikátorů. Kvantitativní ukazatele zahrnují m² na pacienta, podíl pokojů s vlastním hygienickým zázemím či přítomnost a metráž zázemí (Sunder et al. 2020) [3].

Each criterion is operationalized into quantitative and qualitative indicators. Quantitative indicators include m² per patient, the proportion of rooms with their own bathroom facilities, and the presence and size of support spaces (Sunder et al. 2020) [3].

Kvalitativní část hodnotí existenci a kvalitu rodinné zóny, míru soukromí, možnosti adaptace vybavení a čitelnost orientace. Vše je graficky verifikováno pomocí CAD-u, kdy je na dispozičním podkladu modelováno umístění různých typů lůžek, vybavení pro doprovod, zónování oddělení a ověřuje se ergonomie celého provozu. Adaptabilita je posuzována na předem definovaných scénářích hospitalizace, zahrnující různé věkové skupiny a jejich potřeby, specifické požadavky na prostor i vybavení. Zvolené scénáře jsou 0–2, 2–6, 6–10 let (vždy s doprovodem), 10–15 a 15+ (bez doprovodu), a dále psychiatrická hospitalizace. Pro každý scénář je ohodnoceno, zdali umožňuje pohodlný pobyt většiny z prověřovaných scénářů. V CAD systémech ověřujeme průchody, přístup k hygieně, zorná pole a kolize při vložení lůžka pro doprovod. Hodnocení probíhá na tříbodové škále s krátkou poznámkou. Verbální úroveň převádíme na body a triangulujeme indikátor – kategorie – scénář – oddělení. Pro zajištění spolehlivosti používáme jednotnou definici indikátorů a kontrolní čtení v problematických případech.

Hodnocení probíhá na tříbodové škále přizpůsobené jednotlivým kategoriím, přičemž pro komparaci převádíme verbální úroveň na ekvivalentní body a

	Havířov	Kladno	MNUL	Ustí nad Orlicí	FN Motol
Třídění pacientů na jednotky	dle diagnózy	x	dle věku	dle věku	dle věku + diagnózy
Počet lůžek na jednotce	13	24	18	16	21
Věk pacientů na jednotce	0-18	0-18	6-18	6-18	6-18
Počet lůžek pro doprovod	13	12	4	8	2
Zázemí pro rodiče	x	✓	✓	x	21
Herna	✓	✓	✓	✓	✓
Jídelna	✓	x	o	x	x
Velikost pokojů	3-4L	1-4L	2L	2L	1-2L
Koupelna na standard. pokoji	x	x	o	o **	o **
Plocha pokojů na 1 dítě	11,15 m ²	15,7 m ²	11,7 m ²	15 m ²	11,9 m ²
Plocha pokojů (vč. koupelen)	145 m ²	379 m ²	212 m ²	241 m ²	251 m ²
Plocha zázemí na 1 dítě	1,46	3,56	4,89	9,50	3,43
Plocha zázemí	19 m ²	85,4 m ² *	88 m ²	152 m ²	72 m ²
Plocha zázemí rodičů	x	13,8 m ²	31,1 m ²	x	21 m ²
Plocha zázemí pro děti	51 m ²	66,8 m ²	33,3 m ²	27 m ²	15,4 m ²

* samostatné křídlo se sklady a

** koupelna pro 4L buňku

Tab. 1.: Přehled zkoumaných oddělení a základních dat, autor (Zdroj: vlastní zpracování autora, sběr dat)

Kritérium	Definice	Indikátory	Hodnocení - stupnice	
Prostorová flexibilita	Možnost proměny prostor v čase a přizpůsobení se potřebám	Modulární rozložení, posuvné příčky, sdílené zóny	vysoká	více prostor navržených na jiné využití nebo transformaci
			střední	některé místnosti upravitelné ale nekonzistentně
			nízká	dispozice neměnná, téměř žádné upravitelné prostory
Multifunkčnost	Použití jednoho prostoru různým způsobem	Proměnitelné nebo přelínající se zóny	přítomna	jasná různorodá využitelnost
			omezeně	některé prostory umožňují, hlavně pasivně
			nepřítomna	prostory pouze jednoúčelové
Srozumitelnost prostoru	Jasně a přehledně, jednoduše čitelné pro všechny zúčastněné	Orientační body, navigační systém, hierarchie a logické návaznosti prostor	vysoká	navigace je intuitivní, s jasným označením a prostorovými zónami
			střední	částečně hierarchické uspořádání, některé části matoucí
			nízká	nejasná orientace, uživatelé se dezorientují
Soukromí a zónování	Dělení veřejné/neveřejné části, vyšetřovací/odpočívací/herní, hluk/klid - zvýšení	Jednoznačná dispozice, akustická pohoda, přechodové zóny	jasné	jednotlivé zóny, zřejmé přechody
			částečné	částečně se překrývají, zónování ne vždy dodržováno
			nejasné	bez zřejmého dělení jednotlivých zón
Přizpůsobení dětem	Dekorace, herní prvky, přizpůsobení/individualizace prostoru	Herní prvky, barvy, design, prostor pro herní terapii	vysoké	dobře navržené prostory s interaktivními prvky a prostorem pro herní terapii
			střední	jsou použity nějaké prvky interaktivity, design uzpůsobený dětem
			nízké	minimální přizpůsobení dětem, pouze náznaky
Vnitřní prostředí	Denní světlo, větrání, uživatelem ovladatelné vnitřní prostředí (osvětlení, teplota...)	Okna, orientace oddělení, kvalita umělého osvětlení	příjemné	dobře ovladatelné, výhled do zeleně, různorodé možnosti osvětlení
			neutrální	výhled do areálu nemocnice, částečně ovladatelné, osvětlení vyhovující
			nepříjemné	výhled do technických prostor, nemožnost ovládání, osvětlení pouze základní
Zapojení rodiny	Zabezpečení zázemí pro doprovod a rodinu pacienta	Prostor na spaní, denní místnosti, prostor pro edukaci rodiny, herní terapii	dobré	prostory pro rodinu integrované v návrhu, místnost pro herní terapii
			částečné	nějaké prostory pro rodinu (např. denní místnost matek), dostatek prostoru
			minimální	žádné samostatné prostory pro rodinu

Tab. 2.: Návrh hodnotícího rámce včetně kritérií, autor (Zdroj: vlastní zpracování autora)

každé hodnocení doplňujeme stručným komentářem k hlavnímu limitu či výhodě. Výstupem je matice plnění a odpovídající vizualizace, které zřetelně ukazují mezery mezi očekáváním a realitou. Případy jsou voleny účelově tak, aby reprezentovaly menší regionální nemocnice i fakultní pracoviště.

Metoda nenahrazuje dlouhodobé post-occupancy evaluace a výsledky může krátkodobě ovlivnit vysoká obloženost či kvalita podkladů. Sílou je však transparentnost, opakovatelnost a jednoduchá aplikace v ran-

ních fázích plánování rekonstrukcí i novostaveb.

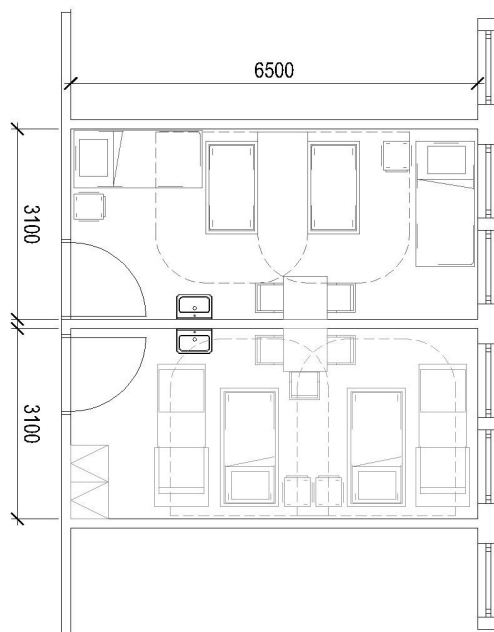
VÝSLEDKY

Aplikace hodnotícího rámce na vybraných dětských lůžkových odděleních poukázala na mezeru mezi očekáváním a realitou. Oddělení jsou ve většině případů málo flexibilní a ubytování rodičů je často improvizované. Klíčové jsou tři systémové proměnné – plocha, aktuální obloženost a konstrukční systém – které nejvíce omezují flexibilitu jednotlivých pokojů. CAD

	Havířov	Kladno	MNUL	Ústí nad Orlicí	FN Motol
Prostorová flexibilita	střední	nízká	nízká	střední	nízká
Multifunkčnost	nepřítomna	nepřítomna	omezeně	omezeně	omezeně
Srozumitelnost prostoru	střední	střední	nízká	vysoká	střední
Soukromí a zónování	nejasné	částečné	nejasné	částečné	jasné
Přizpůsobení dětem	nízké	střední	střední	vysoké	střední
Vnitřní prostředí	neutrální	neutrální	neutrální	příjemné	neutrální
Zapojení rodiny	minimální	částečné	částečné	částečné	částečné

Tab. 3.: Heatmapa posouzení vybraných oddělení (Zdroj: vlastní zpracování autora)

ověřování opakovaně potvrdilo, že už samotné vložení plnohodnotného lůžka pro doprovod blokuje obslužné průchody, komplikuje přístup k hygieně a rozpouští rodinnou zónu do klinické. Bez prostorové rezervy se ztrácí srozumitelnost oddělení i provozní toky. Flexibilita čerpá z nízké míry obloženosti. Nejlepšího výsledku proto dosahují oddělení s nízkou obložeností nebo s velkorysejší metráží na lůžko. Na odděleních, kde jsou pokoje malé a oddělení mají trvale vysokou obloženost, se adaptabilita redukuje na minimum.



Obr. 1.: Možnosti pokojů v Havířově při nižší obloženosti, autor (Zdroj: Nemocnice Havířov, 2024)

Na příkladech je pozorovatelné že Havířov těžší z nižší obloženosti a cíleného a nevyužívání plné kapacity, což umožňuje operativně měnit obsazenost pokojů a jejich kombinace, a pokoje působí flexibilně. Tato vlastnost by při plném obsazení oddělení přítomna nebyla. Nevýhoda v Havířově ovšem je podhodnocené zázemí jak pro personál, tak i pro rodiče, a absence hygienického zázemí pro jednotlivé pokoje.



Obr. 2.: Typologie pokojů v Kladenské nemocnici, autor (Zdroj: archiv DOMY, 2023)

Nemocnice Kladno je oddělením s fixním dělením jednotlivých pokojů, pokoje jsou předem rozděleny dle věku dětí. V praxi toto vede k tomu, že pokud by v nemocnici nastal scénář potřeby hospitalizovat více dětí z jedné skupiny, bylo by nastavení prostoru omezující.

Nemocnice Ústí nad Orlicí jako příklad typologie



Obr. 3.: Buňková typologie v Nemocnici Ústí nad Orlicí, autor (Zdroj: archiv DOMY, 2023)

buněk (dva pokoje se sdílenou hygienou) se dispozičně vyznačuje dobrým přehledem sester, jasným zónováním a dostatkem prostoru pro děti, ale zázemí pro rodiče je omezené. Ubytovávají se dva rodiče na jednu buňku, takže při plné obsazenosti je ne vždy možné rodiče přímo na pokoji ubytovat pohodlně.

V analýze scénářů jsou nejkritičtější 6-10 let s doprovodem, kdy dítě mnohdy již potřebuje velké lůžko, a hospitalizace více starších dětí s požadavkem na soukromí. V menších všeobecných nemocnicích je pokoje těžké zvětšit, protože to neumožňuje konstrukce budovy. Starší objekty mají nosný systém s menším modulem, navržený pro dobu, kdy rodiče na oddělení téměř nesměli a na pokojích bylo víc lůžek pro pacienty. Neměnný nosný systém, umístění instalačních jader a dnes limitují možnosti stavebních úprav při dalším rozvoji – prostor nejde rozumně zónovat ani do něj pohodlně umístit plnohodnotné lůžko pro doprovod. Tlak na co nejvyšší kapacitu se pak přímo mění v nedostatek soukromí a malé možnosti měnit uspořádání. Hypotéza o nedostatečné flexibilitě se proto potvrzuje.

ZÁVĚR

V předložené studii jsme sadu očekávaných kritérií flexibilního pediatrického prostředí porovnali s aktuálním stavem na vybraných pracovištích v České republice. Kombinací prostorové analýzy a rozboru dispozičních řešení byly posouzeny klíčové parametry a identifikovány hlavní limity reálných oddělení vůči požadavkům rodinně orientované péče. Výsledky zodpovídají očekáváním – u menších oddělení s vysokou obložeností je prostor pro adaptaci minimální, ubytování doprovodu bývá improvizované, soukromí a zónování často nedosahují požadované úrovně a adaptabilita je bez stavebních zásahů obtížná. Flexibilita se v praxi opírá o tři proměnné, které se navzájem posilují či oslabují. Plocha na lůžko, aktuální obloženost a konstrukční systém budovy. Bez kombinace větší plochy, nižší obloženosti a příznivější konstrukční logiky zůstane integrace rodiny i reálná adaptace prostoru spíše improvizací než standardem.

Matice přehledně mapuje mezeru mezi očekáváním a realitou napříč scénáři hospitalizace a umožňuje rozhodnout, kde pomůže dispoziční úprava a kde je nutné pracovat s kapacitními a provozními parametry. Pro rekonstrukce a novostavby z toho plynou jasné kroky: pracovat s minimální plošnou normou a kapacitní rezervou, preferovat jedno až dvě lůžka na pokoj s oddělenou rodinnou zónou a plnohodnotným lůžkem pro doprovod, posílit úložné a konzultační zázemí a používat variabilní mobiliář a řešení, která nevyžadují zásah do konstrukce. V objektech se stěnovým modulem má smysl cílit na chytré, jednodušší zásahy s největším dopadem, zejména v oblasti zónování a akustiky.

Další výzkum by měl rámec ověřit na širším vzorku, doplnit jej o post-occupancy evaluace a základní ekonomickou analýzu, aby bylo možné jeho závěry systematicky promítnout do zadávacích podmínek a standardů. Studie tak potvrzuje, že metodický přístup postavený na prostorové analýze a srovnání s jasně definovanými kritérii je vhodným nástrojem pro informované rozhodování o budoucích úpravách dětských oddělení. Hodnotící rámec lze přímo využít v zadávacích podmínkách rekonstrukcí i novostaveb jako kontrolní seznam požadavků na pokoj a soubor scénářů, které musí návrh zvládnout bez stavebních zásahů. Včasné použití rámce snižuje riziko pozdějších kompromisů v soukromí a zapojení rodiny.

POUŽITÉ ZDROJE

[1] Kuo, D. et al., 2012. Family-Centered Care: Current Applications and Future Directions in Pediatric Health Care. *Maternal and Child Health Journal*, vol. 16(issue 2), pp.297-305. <http://link.springer.com/10.1007/s10995-011-0751-7> [Accessed 2025-05-27].

[2] Lenton, S. & Ehrich, J., 2015. Approach to Child-Friendly Health Care; The Council of Europe. *The Journal of Pediatrics*, 167(1), pp.216-218. <https://doi.org/10.1016/j.jpeds.2015.04.001>.

[3] Sunder, W. et al., 2020. *The Patient Room: Planning, Design, Layout 1.*, Braunschweig: Birkhauser.

[4] Shepley, M. et al., 2012. The Impact of Daylight and Views on ICU Patients and Staff. , vol. 5(issue 2), pp.46-60. <http://journals.sagepub.com/doi/10.1177/193758671200500205>.

[5] Ulrich, R., 1984. View Through a Window May Influence Recovery from Surgery. *Science*, vol. 224(issue 4647), pp.420-421. <https://www.science.org/doi/10.1126/science.6143402>.

[6] Verschoren, L. et al., 2015. Designing child-sized hospital architecture: Beyond preferences for colours and themes. *Proceedings of the 20th International Conference on Engineering Design (ICED15)*, 20(nnn), p.10.

[7] Matějček, Z., 2001. *Psychologie nemocných a zdravotně postižených dětí 3. přeprac. vyd.*, Jinočany.

[8] Hendrich, A., Fay, J. & Sorrells, A., 2004. Effects of Acuity-Adaptable Rooms on Flow of Patients and Delivery of Care. *American Journal of Critical Care*, vol. 13(issue 1), pp.35-45. <https://aacnjournals.org/ajcc-online/article/13/1/35/265/Effects-of-AcuityAdaptable-Rooms-on-Flow-of> [Accessed 2024-11-18].

[9] Clensy, D., 2022. The future of hospital design – delivering adaptability. In Buro Happold. <https://www.burohappold.com/articles/the-future-of-hospital-design-delivering-adaptability/> [Accessed 2025-05-27].

[10] EACH, 2006. *EACH Charter: Annotations*.

[11] Ehrich, J., Molloy, E. & Pettoello-Mantovani, M., 2017. Conceptual Design of Future Children's Hospitals in Europe: Planning, Building, Merging, and Closing Hospitals: Planning, Building, Merging, and Closing Hospitals. *The Journal of Pediatrics*, 182, pp.411-412.e1. <https://doi.org/10.1016/j.jpeds.2016.11.068>.

[12] Lambert, V. et al., 2013. Young children's perspectives of ideal physical design features for hospital-built environments. *Journal of Child Health Care*, 18(1), pp.57-71. <https://doi.org/10.1177/1367493512473852>.

[13] Lucas, R., 2016. *Research methods for architecture 1 ed.*, London: Laurence King Publishing.

[14] Groat, L. & Wang, D., 2013. *Architectural research methods Second edition.*, Hoboken: Wiley.

4/ Památková péče, obnova a konverze objektů a architektonických celků

PARADOXY PAMÁTKOVÉ PÉČE V UHELNÝCH PÁVNÍCH SEVEROZÁPADNÍCH ČECH I – ZANIKLÉ SÍDELNÍ ÚTVARY V OKRESE MOST VS. KOREČKOVÉ RYPADLO RK5000

MARIO BARRA, ING. ARCH.

Fakulta architektury ČVUT v Praze |
Czech Technical University in Prague,
Faculty of Architecture, Thákurova
2700/9, 166 34 Praha 6 – Dejvice

mario.barra@fa.cvut.cz

ORCID iD: 0000 – 0002 – 9655 – 1717

Mario Barra absolvoval magisterské studium v modulu Památková péče na Fakultě architektury ČVUT v Praze v červnu 2024 pod vedením prof. Ing. arch. Akad. arch. Václava Girsy se zaměřením na obnovu území povrchového lomu pod zámek Jezeří. V současnosti je doktorandem pod vedením doc. Ing. arch. Tomáše Eflera a PhDr. Martina Ebela, Ph.D. a věnuje se památkové péči v těžební krajině severozápadních Čech (Ústecký a Karlovarský kraj).

MARIO BARRA, ING. ARCH.

Fakulta architektury ČVUT v Praze |
Czech Technical University in Prague,
Faculty of Architecture, Thákurova
2700/9, 166 34 Praha 6 – Dejvice

tomas.efler@fa.cvut.cz

ORCID iD: 0009 – 0002 – 8480 – 1085

Tomáš Efler (*1979) je architekt, stavební historik, památkář a pedagog na FA ČVUT v Praze, kde vede ateliér a Ústav památkové péče. Studium architektury absolvoval pod vedením prof. Václava Girsy na FA ČVUT, v letech 2001–02 pak v Paříži na EAPLV Paris La Villette u prof. Hervé Filipetti. Zaměřuje se na historickou architekturu, průzkum a obnovu památek. V rámci spolupráce s ateliérem GIRSA AT se podílel na konzervaci jižního průčelí zámku Český Krumlov, oceněné cenou Europa Nostra v roce 2008.

Barra Mario - Efler Tomáš

ABSTRAKT: Desítky zaniklých sídelních útvarů v místech historicky aktivních či stále činných povrchových hnědouhelných lomů v okrese Most – velkolom ČSA a lomy Bílina, Vršany, Jan Šverma, Most – Ležáky a Julius III, jsou dnes připomínány díky často velmi podrobné dokumentaci, prováděné velmi často v součinnosti s orgány státní památkové péče. Pouze malé procento objektů různého druhu (šlechtická sídla, církevní stavby, obytné budovy apod.) bylo v průběhu 2. poloviny 20. století zapsáno mezi státem chráněné památky. Na druhé straně se postupně rodí nová vrstva zákonem chráněných památek, zastupující zatím poslední, industriální vrstvu historie území. Jejím zástupcem by se mohlo stát v nadcházejících letech možná i korečkové rypadlo RK5000, poslední exemplář svého druhu v Česku, o jehož záchraně a případné památkové ochraně se aktuálně diskutuje.

KLÍČOVÁ SLOVA: Postindustriální krajina; povrchová těžba; zaniklá sídla; státem chráněné památky, industriální památky; korečkové rypadlo; paměť krajiny; vztah k minulosti; vrstevnatost

ÚVOD

Památková péče v regionu severozápadních Čech, na území Ústeckého a Karlovarského kraje, spojeného v období posledních přibližně 70 let především s povrchovou hnědouhelnou těžbou, která se významně podepsala na proměně tamější kulturní krajiny, je i více než 30 let po zániku posledního sídelního útvaru, obce Libkovic u Mostu, stále spíše opomíjenou kapitolou. Zatímco o nejznámějším příkladu, likvidaci historického královského města Most, který byl dle různých názorů hodnotou své architektury srovnatelný s českými městy dnes zapsanými na Seznam světového dědictví UNESCO [1], již vznikla řada článků, publikací a výstav, ochrana objektů s památkovou hodnotou v sídlech místního či oblastního významu doposud zůstávala opomíjená a zájem se k ní obrací až v posledních letech v souvislosti s postupným útlumem povrchové těžby, navazující rekultivací a plánováním nového využívání území včetně připomínek jeho zaniklé podoby. V řadě sídel, která postupně v 50. – 90. letech 20. století zanikla při rozšiřování povrchových lomů, se nacházelo množství výjimečných architektonických staveb, z nichž ovšem jen nepatrný zlomek získal, byť při zpětném pohledu jen dočasnou, památkovou ochranu. I proto je vhodnější nehovořit o “památkách”, ale spíše o “objektech s památkovou hodnotou”, čímž lze do analýz zahrnout například i památky podkrušnohorské lidové architektury, některé industriální objekty či řadu menších sakrálních staveb, které i přes svou památkovou hodnotu oficiální zákonnou ochranu nezískaly a dnes je můžeme obdivovat jen díky množství dokumentace.

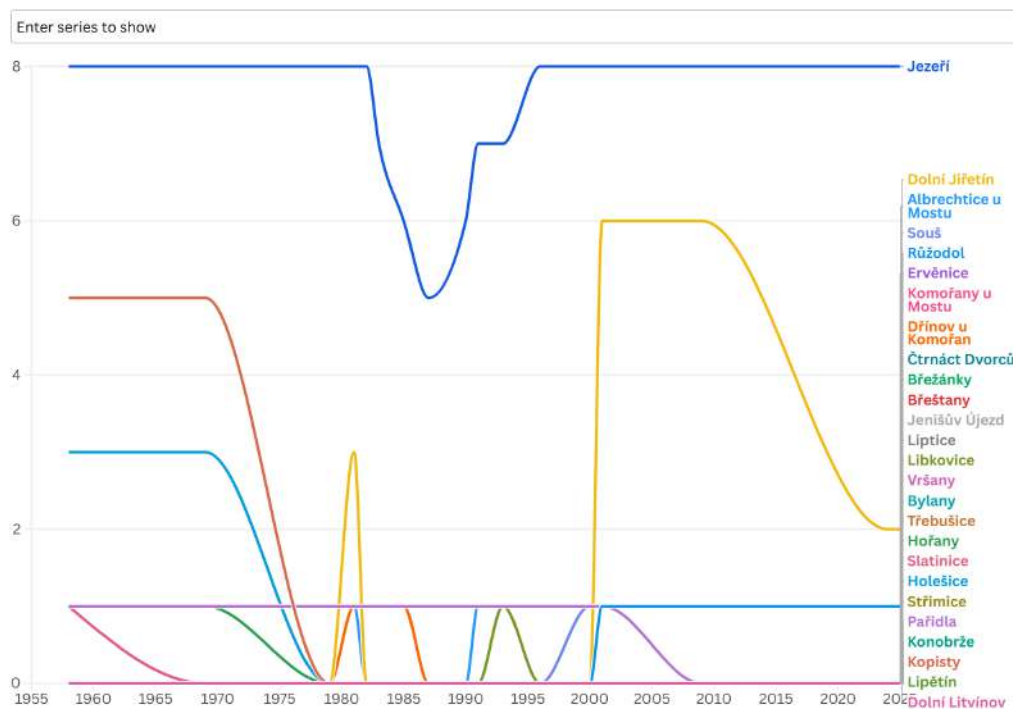
Důležitým faktorem, který ovlivňoval počet oficiálně zapsaných památek či jednotlivé typologické druhy, které byly pro případný zápis uvažovány, bylo i tehdejší politické a společenské vnímání – některé skupiny památkově hodnotných staveb, které by z dnešního pohledu mezi kulturní památky zcela jistě zařazeny byly, zůstávaly v tomto období v zorném poli pouze odborné veřejnosti, nikoliv příslušných institucí, které návrhy na zápis mezi kulturní památky podávaly či o nich rozhodovaly. Velmi dlouho tak mimo státem chráněné památky zůstávala například lidová architektura, která je pro celou tuto zkoumanou oblast Podkrušnohoří a Sudet charakteristická a jejíž výskyt bychom našli hojně zastoupený v audiovizuální, kresebné či fotografické dokumentaci dnes již zaniklých

sídel. Podobně je tomu u menších sakrálních památek, nejen těch větších (kostely, kaple apod.), ale také těch drobnějších – různá boží muka, křížky, pomníky a další. Tyto menší “objekty s památkou hodnotou” měly ve vybraných případech lepší osud – někdy došlo k jejich přesunu, ať již z rozhodnutí místních orgánů či odpovědných regionálních institucí památkové péče; v některých případech se do role “zachránců památek” pasovali přímo místní obyvatelé, kteří se tak mohli snažit reagovat na zdánlivý nezájem ze strany oficiálních orgánů a pokusit se zachránit “památky” přímo z jejich obcí, k nimž si, třeba již jako děti, vybudovali silný vztah. Jedním z důkazů transferovaných památek mohou být na území okresu Most například gotizující boží muka vzniklá kolem roku 1700 [2], dříve situována na ploše zaniklé obce Holešice (území již neaktivního lomu Jan Šverma) a dnes viditelná v areálu hřbitova v Mostě, nebo dnes tamtéž umístěný kříž ze zaniklé obce Slatinice na ploše stále aktivního lomu Vršany [3].

Cílem tohoto článku je představit existenci zapsaných, a státem tak chráněných památek na území okresu Most v průběhu 2. poloviny 20. století, včetně jejich osudů a poukázání na mnohdy smutný příběh, kdy si mnoho z těch oficiálně zapsaných udrželo status zákonné ochrany nejčastěji 20, výjimečně 25 let; samostatnou skupinou, která byla do analýz taktéž zahrnuta, byly porevolučně zapsané památky z industriálního období. Památky zapsané v Ústředním seznamu KP jako “areály” byly v rámci analýz započítávány jako jeden prvek, k počítání jednotlivých součástí jako samostatných prvků bylo přistoupeno pouze výjimečně, došlo – li k odprohlášení a následnému zániku významné části – například zámecký park/arboretum Jezeří, z jehož dolní a střední část byla dva roky po sobě sejmuta památková ochrana a jeho pozůstatkům, tzv. Jezeřskému arboretu, byla znovu připsána až po roce 1990. Závěr práce se věnuje osudu významného technického díla, korečkovému rypadlu RK5000, které je dnes posledním prvkem svého druhu a o jehož možném prohlášení za kulturní památku se v posledních letech vedly a stále vedou odborné diskuse.

OBLAST VELKOLOMU ČSA

Těžební aktivity na ploše velkolomu ČSA, rozděleného mezi území okresů Most a Chomutov, započaly již na počátku 20. století v rámci lomu Hedvika, pobočného dolu Julius V [4], jednalo se však o místa využívaná



Obr. 1.: Vývoj počtu zapsaných kulturních památek v sídlech okresu Most, autor Mario Barra (Zdroj: <https://public.flourish.studio/visualisation/24596959/>, 2025)

do té doby především k zemědělským účelům. Zdejší sídelní strukturu začíná dobývací činnost ovlivňovat v 70. letech (v předchozích desetiletích již přeložkami silnic a železničních tratí), kdy je po roce 1976 vysídlena a z povrchu vymazána první obec, Dřínov u Komořan. Většina ze sídel na ploše velkolomu ČSA, která by dnes náležela do okresu Most, zaniká v první polovině 80. let 20. století [5] a s nimi i řada památkových objektů, přesněji řečeno objektů s památkovou hodnotou. Používání tohoto pojmu je v tomto prostředí vhodnější, jelikož pouze jednotky památek dosáhly na ochranu podle tehdejších právních předpisů: například v sídlech (dnes patrných v názvech katastrálních území) Albrechtice u Mostu, Ervěnice, Komořany, Dřínov u Komořan nebo Dolní Jiřetín byly od roku 1958 až do zániku obcí zapsány pouze jednotky kulturních památek, z nichž navíc jen malý zlomek byl uchráněn před likvidací společně se sídelními útvary přesunem do okolních sídel [6, 7, 8, 9].



Obr. 2.: Staré Komořany přibližně kolem roku 1900, autor neznámý – soukromá sbírka (Zdroj: https://commons.wikimedia.org/wiki/File:Star%C3%A9_Komo%C5%99any.jpg, volné dílo)

V obcích Dřínov u Komořan, respektive Albrechtice u Mostu byla situace o zlomek lepší, v každém ze sídel (mimo památky přesunuté před zánikem mimo dobývací prostor, kterých byly maximálně nižší jednotky) je dohledatelný jeden zápis v Památkovém katalogu (v Albrechticích se jednalo o kostel Všech svatých, zapsaný jako kulturní památka mezi lety 1958 – 82 [10], v případě Dřínova pak o kapli sv. Jana Nepomuckého, mající památkovou ochranu v období 1958 – 87 [11]).

Na pomyslné druhé místo lze zařadit město Dolní Jiřetín, které mělo od roku 1958 zapsány 3 kulturní památky (radnice, kostel sv. Mikuláše a soubor 6 objektů dělnické kolonie z roku 1890), kterým byla zákonem ochrana odejmuta v roce 1982 (mimo to odtud bylo transferováno sousolí sv. Jiří do Horního Jiřetína). O 19 let později byl v tomto katastrálním území nově zapsán areál dolu Centrum, sestávající z objektů vzniklých v osmdesátých letech 19. století (zahájení těžby v dole samotném) a v padesátých letech 20. století. Tento stav trval až do srpna 2024, kdy byla zrušena památková ochrana větší části z tohoto souboru objektů, a to z rozhodnutí Ministerstva kultury ČR¹, statut kulturní památky si zachovala pouze jámová budova a těžní věž C1, resp. strojovna C1 [12].

Z pohledu památkové ochrany byla situace historicky nejlepší v lokalitě Jezeří, kde bylo po vzniku prvního památkového zákona prohlášeno 8 kulturních památek (individuálních objektů či větších souborů – především areál státního zámku se součástmi – hospodářské budovy, sochy apod.). Situace se začala měnit na počátku 80. let, kdy byla v souvislosti s postupem těžby odejmuta památková ochrana nejprve dolní části zámeckého parku (r. 1983), o dva roky později i jeho střední části, a ještě o dva roky později i souboru lesovny u jezeřského zámku v místech dnešního parkoviště. Počet zapsaných kulturních památek, resp. souborů/areálů se tak v roce 1987 ustálil na 5, již na počátku 90. let však bylo na celé ploše kolem Jezeří vyhlášeno ochranné pásmo souboru kulturních památek, znovu prohlášen byl areál Jezeřského arboreta a v roce 1996 doplnila památkově chráněné objekty v této lokalitě rudná štolá ze 14. – 16. století. Pro úplnost je vhodné doplnit, že areál zámku a arboreta byl v roce 2023 prohlášen národní kulturní památkou [13].

Mezi zákonem chráněné památky, a to ani na seznam těch zvažovaných k prohlášení, nebyla v žádném ze zaniklých sídel na Mostecku zařazena žádná z ukázek staveb tradiční podkrušnohorské lidové architektury, včetně pozůstatku sudetského osídlení z meziválečného období. Mezi technické památky by bylo možno z dnešního pohledu zařadit, kromě kořekového rypadla, jemuž bude věnována samostatná kapitola v závěru článku, například i areál státní tepelné elektrárny v Ervěnicích (k. ú. Komořany u Mostu), zásobující hlavní město Prahu elektrickou energií vzniklou spalováním hnědého uhlí ze zdejších menších hnědouhelných lomů. K ní donedávna náleže-

¹ Důvodem bylo „Vzhledem ke skutečnosti, že v současné době je zcela vyloučeno obnovit a prezentovat plnohodnotnou strukturu funkčního uspořádání všech šesti památkově chráněných objektů a dvou technologických součástí (což bylo hlavním důvodem pro prohlášení za kulturní památku a následného zápisu do ústředního seznamu kulturních památek), podáváme tuto žádost o zrušení prohlášení vyšší části dolu Centrum.“ [12]

ly i pozůstatky první linky 110 kV velmi vysokého napětí, propojující ervěnickou elektrárnu s rozvodnou v pražských Holešovicích, z níž dnes zbývají poslední pozůstatky, pozvolna nahrazované moderními stožáry, lépe vyhovujícími potřebám současné přenosové soustavy. V Soupisu kulturních památek je dále evidována tepelná elektrárna Komořany a areál hnědouhelného dolu Fortuna z konce 19. století, včetně obslužné elektrárny. [14]



Obr. 3.: Pozůstatky jediné budovy Elektrárny Ervěnice, autor Petr Kinšt, 2014 (Zdroj: https://commons.wikimedia.org/wiki/File:Ervc4%9B-nick%C3%A1_elektr%C3%A1rna_2024_-_11_-_16_Budova_1.jpg, použito dle licence CC BY 4.0)

OBLAST LOMU BÍLINA

Těžební činnost v místech lomu Bílina započala v roce 1971, původně s názvem lomu Maxim Gorkij [15]. Na rozdíl od velkolomu ČSA, v němž již byla těžební činnost ukončena, se v případě Bíliny jedná o aktivní dobývací prostor s předpokladem těžby minimálně do poloviny 30. let tohoto století, jelikož zde byly vládou Bohuslava Sobotky v roce 2015 prolomeny těžební limity a nabývaly se i úvahy o dalším pokračování dobývání až do roku 2055, pokud by došlo k povolení rozšíření lomu blíže k existujícím městům a obcím [16].

V minulosti se na ploše lomu nacházelo 5 sídelních útvarů, dnes taktéž připomínaných názvy jednotlivých katastrálních území – Břežánky (zaniklé v r. 1972), Břešťany (1972), Jenišův Újezd (1972 – 74), Liptice (1976) a Libkovic u Mostu, které lze kvůli období



Obr. 4.: Kostel sv. Michala v Libkovicích v roce 1998, autor Nadkachna (Zdroj: https://commons.wikimedia.org/wiki/File:Libkovic_1998.jpg, použito dle licence CC BY 3.0)

vysídlení a zániku (1991 – 3) označit jako poslední sídlo v Československu, resp. dnešní České republice, vysídlené a zbourané kvůli povrchové těžbě uhlí. Při hlubším nahlédnutí do evidence kulturních památek nalezneme od roku 1958 na tomto území přesahující 33 km² jeden jediný záznam (mimo sloup Nejsvětější Trojice, transferovaný do Horního Litvínova): kostel sv. Michaela Archanděla v Libkovicích u Mostu, v jehož případě lze udělení památkové ochrany označit za symbolické gesto. Rozhodnutí o prohlášení za kulturní památku bylo vydáno 29. října 1993 s nabytím účinnosti 18. listopadu téhož roku – rozhodnutí o zrušení prohlášení objektu za kulturní památku bylo vydáno již 5. prosince 1993, kostel tak podléhal zákonné památkové ochraně pouhých 23 dní. Jeho existence nicméně dále pokračovala i po zrušení památkové ochrany, a to až do roku 2001/2, kdy byl srovnán se zemí jako poslední stavba v Libkovicích, sídla, které bylo z naprosté většiny zbouráno již téměř o deset let dříve [17].

OBLAST LOMU VRŠANY

Lom Vršany byl otevřen v roce 1978 započítáním první skryvkou, kterou následovala o 4 roky později přímá těžba hnědého uhlí se získáváním 6 milionů tun uhlí za rok během následujících čtyř let. Skryvková zemina byla z aktivního lomu až do roku 1994 nejprve ukládána do bývalého lomu Šmeral a na vnější výsypku Březno, dnes se ukládá stále do lomu Šmeral a na vnitřní výsypku v rámci lomu Vršany [18]. Na ploše lomu zanikly během 2. poloviny 20. století dva sídelní útvary, a to obce Vršany a Třebušice, v širším okolí pak z různých důvodů souvisejících s povrchovou hnědouhelnou těžbou ještě sídla Třebušice, Souš, Hořany a Slatinice.

Ze šesti výše zmiňovaných sídelních útvarů na ploše či v blízkosti dnešního lomu Vršany lze pouze u poloviny z nich nalézt záznamy o památkově hodnotných objektech, chráněných dle platné legislativy (a z části zaniklých po roce 1950). V případě obce Hořany se jednalo o areál zámku, chráněný mezi lety 1958 – 81, který byl tvořen čtyřmi součástmi (samotným objektem raně barokního, následně empírově přestavěného zámku, hospodářským objektem, zámeckou kaplí sv. Blažeje a bránou) [19], v blízkých Slatinicích byl mezi lety 1958 – 69 chráněn barokní jednolodní kostel sv. Šimona a Judy ze 30. let 17. století.

Zaniklou obec Souš, resp. důvod jejího zániku – povrchovou těžbu uhlí – naopak dodnes připomíná kulturní památka „kamenouhelného dolu JULIUS V/NEJEDLÝ I.“, areál tvořen třemi objekty: strojovnou, budovou bývalých koupelen a šaten a správní budovou, vystavěnými na konci 19., resp. počátkem 20. století. Všechny tyto objekty byly jako jeden areál prohlášeny kulturní památkou v roce 2000 a jedná se tak o jednu z prvních zapsaných kulturních památek, vztahujících se k nejmladším kapitol regionálních dějin – povrchové těžbě hnědého uhlí. Dalšími dvěma, naopak historicky transferovanými objekty jsou dvě sochy sv. Jana Nepomuckého a sv. Prokopa, dnes se nacházející v obci Bečov, resp. centru nového Mostu [20].



Obr. 5.: Obec Vršany přibližně kolem roku 1910, autor neznámý – soukromá sbírka (Zdroj: <https://commons.wikimedia.org/wiki/File:Vr%C5%A1any.jpg>, volné dílo)

OBLAST LOMU JAN ŠVERMA

Těžba v lokalitě pozdějšího lomu Jan Šverma započala v 60. letech 19. století, kdy byl v místech lomu založen hlubinný důl Robert I, v němž následně probíhala těžba až do II. světové války, kdy bylo dobývání uhlí dočasně v roce 1942 ukončeno, zatímco v povrchovém dolu Robert II, založeným roku 1918 těžba nadále pokračovala. V poválečném období dochází nejprve v roce 1945 k přejmenování povrchového dolu na "Doly Jan Šverma" s následným rozmachem dobývání v 50. letech a následujících desetiletích. V návaznosti na postup těžby a postupné vzájemné přibližování s lomem Vršany docházelo od roku 1995 k útlumu těžby a přesunu těžebních aktivit do vršanského lomu s ukládáním odkluzu tamějšího rypadla na výsypku lomu Jan Šverma [21].

Na ploše lomu historicky existoval jeden sídelní útvar, obec Holešice, v níž byly dle prvního památkového zákona od roku 1958 (konkrétně 3. května tohoto roku) chráněny tři objekty, zaniklé při likvidaci obce: areál usedlosti č. p. 22, který se skládal ze šesti součástí, areál fary se čtyřmi částmi a areál raně gotického kostela sv. Mikuláše, taktéž tvořený čtyřmi součástmi; další objekty (2x boží muka, socha sv. Vavřínce, socha sv. Felixe, socha sv. Jana Nepomuckého) byly přesídleny do sídel Mariánské Radčice a Most. Zatímco likvidace obce je doložena v průběhu roku 1976, všechny zapsané památky v holešickém katastru, zaniklé při demolici obce byly odprohlášeny až o 3 roky později, 11. května 1979 [22].



Obr. 6.: Holešice u Mostu přibližně kolem roku 1910, autor neznámý – soukromá sbírka (Zdroj: https://commons.wikimedia.org/wiki/File:Hole%C5%A1ice_u_Mostu.jpg, volné dílo)

OBLAST LOMU MOST – LEŽÁKY

Toto území, které dnes z části pokrývá jezero Most, bylo z velké části tvořeno historickým královským městem stejného jména, jehož osud včetně světoznámého přesunu děkanského kostela Nanebevzetí Panny Marie byl široké odborné i laické veřejnosti prezentován formou výstav a publikací, a jedná se tak o nejlépe zdokumentovanou oblast z hlediska osudu jednotlivých "objektů s památkovou hodnotou" na území severočeské uhelné pánve. Kromě samotného královského města Most se na ploše pozdějšího lomu Most – Ležáky nacházela ještě čtyři menší sídla – Konobřez, Střimice, Pařidla a Kopisty.

Zatímco na území zaniklých obcí Konobřez a Střimice nelze v Památkovém katalogu ani Soupisu vyhledat žádné zaniklé zapsané kulturní památky (pouze v prvním jmenovaném lze vyhledat transferovaný podstavec pod sochu, dnes v obci Vtelno), na ploše sídel Pařidla a Kopisty je situace odlišná. V prvním jmenovaném sídle byl po nabytí účinnosti prvního československého památkového zákona zapsán mezi kulturní památky areál zámku z 1. poloviny 19. století, sestávající ze dvou objektů [23]. Zatímco celá obec Pařidla zanikla již mezi lety 1967 – 1969 kvůli postupu povrchové těžby hnědého uhlí, celý areál zámku (prohlášen podobně jako řada ostatních dříve chráněných památkových objektů v mostecké uhelné pánvi k datu 3. května 1958) ztratil památkovou ochranu až 11. úno-

ra 2009, tedy téměř 40 let po srovnání stejnojmenné obce se zemí. Důvodem bylo nevydání rozhodnutí o zrušení památkové ochrany před či v době zániku obce² [23]. V případě obce Kopisty bylo v roce 1958 zapsáno celkem 5 památek – dům č. p. 63, areál tvrze (sestavující z prvků 0001 – tvrz, 0002 – přístavba a 0003 – dům), kostel Božího těla, pomník z roku 1920 na památku obětí tzv. prosincové stávky a soubor 6 domů v rámci hornické kolonie Julius, mimo zaniklou obec byla do Vtelna transferována pouze socha sv. Floriany [24].



Obr. 7.: Obec Konobřez přibližně v roce 1900, autor neznámý – soukromá sbírka (Zdroj: <https://commons.wikimedia.org/wiki/File:Konobrz%C5%BE.jpg>, volné dílo)

OBLAST LOMU JULIUS III

Tato oblast je poslední větší lokalitou s povrchovou těžbou hnědého uhlí v okrese Most, v níž lze dohledat informace o historicky zapsaných kulturních památkách, respektive řadě dalších "objektů s památkovou hodnotou", které z naprosté většiny jen neměly z historických, politických a řady dalších důvodů šanci na získání zákonné ochrany. K otevření dolu Julius III bylo přistoupeno na počátku 80. let 19. století, hlavním investorem vzniku tohoto dolu bylo rakousko – uherské mocnářství, které dalo již v roce 1881 příkaz k zahájení výstavby provozních budov a k přípravám pro zahájení těžby, k němuž následně dochází po dokončení všech přípravných činností ve druhé polovině roku 1884. K uzavření tohoto dobývacího prostoru došlo po roce 1990 v důsledku vyčerpání dostupných zásob dolu [25]. V blízkosti areálu dolu Julius III lze dodnes v mapách dohledat existenci tří katastrálních území, Růžodol, Lipětín a Dolní Litvínov, která všechna zanikla při postupu povrchové hnědouhelné těžby na konci 50. let 20. století (konkrétně mezi lety 1957 – 59). Zatímco na ploše bývalých sídelních útvarů Lipětín a Dolní Litvínov není v Památkovém katalogu ani Soupisu žádný záznam o zapsaných kulturních památkách či alespoň z tehdejšího pohledu hodnotných objektů (v případě Soupisu), v případě katastrálního území Růžodol existuje záznam o památkové ochraně areálu "důl Julius III. (část)", a to od 14. srpna 2001 [26]. V areálu tohoto částečně památkového industriálního komplexu dnes sídlí Podkrušnohorské technické muzeum, významně se angažující v oblasti zachrany industriálního dědictví z doby povrchové hnědouhelné těžby v regionu.



Obr. 8.: Kaple v obci Lipětín před zbořením, rok neznámý, autor: Hadonos (Zdroj: https://commons.wikimedia.org/wiki/File:Lip%C4%9Bt%C3%ADn_kapli%C4%8Dka.jpg, použito dle licence CC BY – SA 4.0)

² Toto rozhodnutí bylo nahrazeno dokumentem „č. 18681/2009, návrhem na zrušení prohlášení – rozhodnutí věcně nepřislusného orgánu o věci neexistující (hromadné podání)“. [23]

³ „Rozměry rypadla jsou: výška 35,6 m, šířka 33 m, délka 156,5 m. Váží 5500 tun, jeho pohyb zajišťuje kráčivý housenicový podvozek.“ [28]

⁴ „Přestože vyžadoval náročnou údržbu, za dobu jeho provozu byly provedeny pouze tři generální opravy. Během pravidelných údržbových prací byly měněny vyžilé části konstrukce a modernizován ovládací a hydraulický systém. V roce 2020 zde proběhly práce zabezpečovacího charakteru z důvodu zpřístupnění stroje pro veřejnost.“ [29]

KOREČKOVÉ RYPADLO RK5000

Informace dohledatelné k historii korečkového rypadla RK5000, nacházejícího se stále v dobývacím prostoru velkolomu ČSA jsou bohužel velmi kusé. Monumentální stroj³ začal být sestavován přímo ve velkolomu v roce 1980 s následným spuštěním zkušebního provozu v roce 1983 a plného zapojení do hnědouhelné těžby ještě o rok později. Rypadlo bylo aktivní přes 30 let až do roku 2016 [27], kdy došlo k jeho odstavení, zakonzervování a čekán na finální rozhodnutí o osudu tohoto stroje, o němž bylo doposud finální rozhodnuto. Ačkoliv získal stroj při svém vzniku pořadové číslo 2 (první rypadlo RK5000 těžilo skrývku v místech dnešního jezera Milada v Chabařovicích u Ústí nad Labem a po skončení těžby bylo rozřezáno a jednotlivé díly prodány do šrotu), je dnes posledním exemplářem svého druhu v Československu [28].

I z tohoto důvodu se v návaznosti na ukončování povrchové těžby v prostoru velkolomu ČSA rozproudily diskuse o možné záchraně stroje, jeho novému využití v rámci turistické infrastruktury regionu, a také kvůli výjimečným technickým hodnotám jeho zapsání mezi české kulturní památky. Ze souhlasných vyjádření Národního památkového ústavu lze citovat argumenty jako „Kráčející korečkové rypadlo RK5000/R10 představuje technické dílo, mimořádných rozměrů a kvalit, které dokládá technickou vyspělost československé technické konstrukce a produkce.“ [29], které dokazují i zachování většiny konstrukcí z doby vzniku stroje⁴ a významnou technickou hodnotu stroje.



Obr. 9.: Korečkové rypadlo RK5000 v současném umístění, autor: Mario Barra, 2023 (Zdroj: archiv autora)

Důvody, které jsou příčinou aktuálních diskusí o prohlášení či neprohlášení rypadla kulturní památkou, jsou různé. Kromě aktuální polohy rypadla, která je v místech budoucího obnovovaného Komořanského jezera je také posuzována například finanční náročnost přesunu stroje kráčivým způsobem na nové umístění, které by mělo být na okraji vyhlášené národní přírodní památky „lom ČSA“. Současně se ovšem nabízí otázka: je možné přiznat památkovou ochranu stroji, který se sám podílel na vymazávání stop po dřívějším osídlení území velkolomu ČSA a transformaci zdejší kulturní krajiny? Naopak pro záchranu a památkovou ochranu rypadla mluví skutečnost, že by měla být i pro budoucí generace zachována industriální vrstva v mnohavrstevnaté historii území, kdy většina území bude rekultivována a stop po její předindustriální či industriální minulosti zde příliš nezůstane.

ZÁVĚR

Na ploše okresu Most lze dohledat v rámci jednotlivých zaniklých sídelních útvarů jednotky záznamů o udělení zákonné památkové ochrany, z nichž většina prvků svou ochranu ve velmi krátké době – v horizontu maximálně 20 – 25 let – znovu ztratila a následně sama zmizela z povrchu zemského jako důsledek postupující povrchové těžby. V 90. letech 20. století a na

počátku nového tisíciletí lze spatřit nový nárůst počtu zapsaných kulturních památek, související s jistým časovým odstupem od období neintenzivnější a ne-jrozsaňlejší hnědouhelné těžby a zájmem na uchránění pozůstatku industriálních stop z těžební historie území.

V malém množství je též možné dohledat několik transferovaných památek především různých soch či sousoší nebo jiných objektů (boží muka, kamenná křtitelnice a podobně), které byly neznámými osobami či subjekty přemístěny ze sídel před jejich likvidací do lokalit mimo dobývací prostory. Přesto řada objektů na plochách povrchových hnědouhelných lomů, jakkoliv by z dnešního památkového pohledu byly památkově výjimečné a aspirovaly by na získání památkové ochrany, nenávratně zanikla a nám je připomínána pouze prostřednictvím archivní dokumentace či filmových a fotografických materiálů.

Vrstva starší historie území byla v důsledku intenzivní povrchové hnědouhelné těžby téměř vymazána z krajiny i paměti lidí. Dnešní návštěvníci regionu si velmi často, bez připomínky například formou naučných stezek, informačních tabulí a podobně, neumějí představit, jaké množství sídelních útvarů, obsahující řadu z dnešního pohledu objektů s památkovou hodnotou zde během přibližně 40 – 50 let zcela zaniklo. Jako by se ukázkově naplňovalo spojení „sejde z očí, sejde z mysli“. Současně se však velmi pomalu vytváří nová vrstva památek, zastupující industriální objekty a stavby, které dnes v národním památkovém fondu zastupují pouze jednotky prvků, velmi často jen z části zapsaných. Zůstává tak i nadále otázkou, zda se tento trend v následujících desetiletích promění a zda se jeho ikonou stane třeba korečkové rypadlo RK5000...

PRAMENY/POUŽITÉ ZDROJE

[1] Plus. (2018). Rok 1964: Co takhle zboutat město? Osudy starého Mostu, ze kterého se zachoval jen kostel. [online] Available at: <https://plus.rozhlas.cz/rok-1964-co-takhle-zboutat-mesto-osudy-stareho-mostu-ze-ktereho-se-zachoval-jen-7643958> [Accessed 16 Aug. 2025].

[2] Národní památkový ústav (2025a). Boží muka – Památkový Katalog. [online] Available at: <https://pamatkovykatalog.cz/bozi-muka-13980669> [Accessed 16 Aug. 2025].

[3] Národní památkový ústav (2025b). Kříž – Památkový Katalog. [online] Available at: <https://pamatkovykatalog.cz/kriz-13980498> [Accessed 16 Aug. 2025].

[4] Kounovský, I. and Jarošová, I. (n.d.). Strana 1 (celkem 10) SANACE A REKULTIVACE LOMU ČSA. [online] Available at: https://slon.diamo.cz/hpvt/2011/_Zahlaz/Z%2007.pdf [Accessed 17 Aug. 2025].

[5] Zdeňka Binterová (1996). Zaniklé obce Chomutovska. Okresní muzeum v Chomutově.

[6] Národní památkový ústav (2025). Památkový Katalog – vyhledávání Dřínov. [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&h=D%C5%99%C3%ADnov&hIObj=1&fulltext> [Accessed 17 Aug. 2025].

[7] Národní památkový ústav (2025). Památkový Katalog – vyhledávání Komořany. [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&h=Komo%C5%99any&hIObj=1&fulltext> [Accessed 17 Aug. 2025].

[8] Národní památkový ústav (2025). Památkový Katalog – vyhledávání Ervěnice. [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&h=Erv%C4%Bnice&hIObj=1&fulltext> [Accessed 17 Aug. 2025].

PODĚKOVÁNÍ

Tento článek, včetně prezentace a účasti na konferenci Architektura v perspektivě 2025 v Ostravě byl podpořen grantem Studentské grantové soutěže ČVUT v Praze č. SGS25/176/OHK1/3T/15.

j=1&fulltext [Accessed 17 Aug. 2025].

[9] Národní památkový ústav (2025). Památkový Katalog – vyhledávání Albrechtice [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&h=Ervc4%9B-nice&chranenoTed=1&hObj=1&fulltext> [Accessed 17 Aug. 2025].

[10] Národní památkový ústav (2025). Památkový Katalog – kostel Všechny svatých [online] Available at: <https://pamatkovykatalog.cz/kostel-vsechny-svatych-2171042t> [Accessed 17 Aug. 2025].

[11] Národní památkový ústav (2025). Památkový Katalog – kaple sv. Jana Nepomuckého, [online] Available at: <https://pamatkovykatalog.cz/kaple-sv-jana-nepomuckeho-2303458> [Accessed 17 Aug. 2025].

[12] Národní památkový ústav (2025). Památkový Katalog – důl Centrum [online] Available at: <https://pamatkovykatalog.cz/dul-centrum-1263671> [Accessed 17 Aug. 2025].

[13] Národní památkový ústav (2025). Památkový Katalog – Zámek Jezeří s arboretum [online] Available at: <https://pamatkovykatalog.cz/pravni-ochrana/zamek-jezeri-s-arboretum-25456574> [Accessed 17 Aug. 2025].

[14] Národní památkový ústav (2025). Soupis – Komorany u Mostu [online] Available at: <https://pamatkovykatalog.cz/soupis/podle-relevance/1/seznam/?lokalizaceZahranici=0&katOblast=Komorany+u+Mostu> [Accessed 17 Aug. 2025].

[15] as4u.cz, s.r.o (2019). Historie města – Infocentrum Bílina. [online] Available at: <https://www.icbilina.cz/cs/pruvodce-mestem/historie-mesta.html> [Accessed 17 Aug. 2025].

[16] Gordíková, M. (2019). Ministerská zelená pro další těžbu v dole Bílina s sebou nese 31 podmínek – iDNES.cz. [online] Available at: https://www.idnes.cz/usti/zpravy/prolomeni-limity-severoceske-doly-lom-bilina-ministerstvo-zivotniho-prostredi-hnede-uhli-ekologie-pr.A190801_492672_usti-zpravy_pakr [Accessed 17 Aug. 2025].

[17] Národní památkový ústav (2025). Památkový Katalog – kostel sv. Michaela Archanděla, [online] Available at: <https://pamatkovykatalog.cz/kostel-sv-michaela-archandela-19875422> [Accessed 17 Aug. 2025].

[18] admin (2011). Lom Vršany | Zdař Bůh.cz. [online] Available at: <https://www.zdarbuh.cz/reviry/mus/lom-vrsany/> [Accessed 17 Aug. 2025].

[19] Národní památkový ústav (2025). Památkový Katalog – Hořany [online] Available at: <https://pamatkovykatalog.cz/zamek-2303474> [Accessed 17 Aug. 2025].

[20] Národní památkový ústav (2025). Památkový Katalog – Souš [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&okres=425&h=Souvc5%A1&hObj=1&fulltext> [Accessed 17 Aug. 2025].

[21] Prehis.cz (2021). velkodůl Vršany. [online] Prehis.cz. Available at: <https://prehis.cz/turista/cechy/chomutov/p/sdul.html> [Accessed 17 Aug. 2025].

[22] Národní památkový ústav (2025). Památkový Katalog – Holešice [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&okres=425&h=Holevc5%A1ice&hObj=1&fulltext> [Accessed 17 Aug. 2025].

[23] Národní památkový ústav (2025). Památkový Katalog – Kopisty [online] Available at: <https://pamatkovykatalog.cz/uskp/podle-relevance/1/seznam/?kraj=42&okres=425&h=Kopisty&hObj=1&fulltext> [Accessed 17 Aug. 2025].

[24] Národní památkový ústav (2025). Památkový Katalog – Pařidla [online] Available at: <https://pamatkovykatalog.cz/zamek-2303490> [Accessed 17 Aug. 2025].

[25] Zdař Bůh.cz. (2024). Nástin dějin Dolu Julius III v Kopistech | Zdař Bůh.cz. [online] Available at: <https://www.zdarbuh.cz/reviry/shd-reviry/nastin-dejin-dolu-julius-iii-v-kopistech/> [Accessed 17 Aug. 2025].

[26] Národní památkový ústav (2025). Památkový Katalog – důl Julius III. (část) [online] Available at: <https://pamatkovykatalog.cz/dul-julius-iii-cast-14001151> [Accessed 17 Aug. 2025].

[27] Stanovisko Regionální komise pro posuzování návrhů na prohlášení a zrušení prohlášení věcí za kulturní památku k návrhu na prohlášení věci za kulturní památku – korečkové rypadlo RK 5000/R 10. NPU – 351/5529/2022.

[28] Kam pojedeme? (2025). RK 5000/R10 (ERKÁČKO) [online] Facebook.com. Available at: <https://www.facebook.com/100090850856299/posts/rk-5000r10-erk%C3%A1%C4%8Dkostavba-rypadla-za%C4%8Dala-v-roce-1980-p%C5%99%C3%ADmo-v-lomu-a-jeho-tehdej%C5%A1%C3%AD/153692024335825/> [Accessed 17 Aug. 2025].

[29] Albrechtice, okres Most, Ústecký kraj, k. ú. Albrechtice u Mostu Korečkové rypadlo RK 5000/R10 – významná technická památka. NPU – 351 – 9417 – 2024.

VIZUÁLNÍ CHARAKTER KONVERZÍ STAVEB

FILIP SLIVKA, ING. ARCH., PH.D.

Katedra architektury Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech
Republic

filip.slivka@vsb.cz

ORCID ID: 0000-0003-1880-6988

Autor pracuje jako tajemník katedry
a odborný asistent na Technické uni-
verzitě v Ostravě, katedra architek-
tury, zaměřením výzkumu na průmyslové
budovy a stavební techniky. Autor
pracuje jako architekt v Ostravě.

KATEŘINA RIEDLOVÁ, ING. ARCH.,
PH.D.

Katedra architektury Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech
Republic

katerina.riedlova@vsb.cz

ORCID ID: 0000-0002-7853-5908

Autorka pracuje jako zástupkyně ve-
doucího a odborná asistentka na Kat-
edře architektury, Fakulta stavební,
VŠB-TUO.

LENKA VOLNÁ, ING. ARCH.

Katedra architektury Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech
Republic

lenka.volna@vsb.cz

ORCID ID: 0000-0002-2448-8608

Autorka je doktorandkou na Technické
univerzitě v Ostravě, katedra architek-
tury, se zaměřením na výzkum ope-
vnění a trendy v návrzích na výstavbu
a využití prostoru bývalých městských
opevnění. Autorka pracuje jako ar-
chitektka v Ostravě.

Slivka Filip - Riedlová Kateřina - Volná Lenka

ABSTRAKT: Konverze staveb představují specifický typ architektonické intervence, při které dochází ke změně původního účelu objektu. Tyto zásahy s sebou nesou celou řadu otázek, mimo jiné i tu, do jaké míry by měla být respektována původní podoba stavby. V rámci této práce je pozornost věnována zejména vizuálnímu charakteru těchto přestaveb. Cílem je obecně zhodnotit přístup k proměně exteriéru budov – tedy zda a jak architekti pracují s původními stavebními otvory, rytmem a členěním fasády. Metodou hodnocení je vizuální analýza vybraného souboru staveb doplněná o další parametry zjištěné při terénní obhlídce, které umožňují vytvořit přehledná grafická shrnutí. Výsledky mohou napomoci identifikovat různé přístupy ke konverzím a poskytnout základ pro úvahy o vztahu mezi historickou architekturou a současnými zásahy. Studie zároveň upozorňuje na důležitost citlivého přístupu při práci s existující strukturou v urbanizovaném prostředí.

KLÍČOVÁ SLOVA: Architektura; kompozice; konverze;

ÚVOD

Vývoj lidské společnosti je neoddelitelně spjat s utvářením prostoru a jeho zušlechťováním – od prvních sídel neolitu po současnost. Opakovaným problémem napříč dějinami zůstává otázka nového využití opuštěných staveb, často v důsledku změn politických, kulturních nebo ekonomických struktur. V minulosti šlo většinou o jednoduché zásahy do stávajících objektů, často motivované snahou efektivně využít dostupné materiály. Význam tohoto tématu výrazně narostl v období industrializace, kdy se do hry zapojily i ekonomické faktory a efektivita výrobních procesů. Z pohledu architektury je kromě prostoru a místa důležitým faktorem i čas – nejen jako fyzická životnost stavby, ale i její morální hodnota. Jak upozorňuje Edmund Vale (Beran, 2008), i ruina nese nenahraditelné stopy času a proměnlivého působení prostředí. Dnes hrají při rozhodování o nové výstavbě, rekonstrukci nebo konverzi klíčovou roli také náklady – jak investiční, tak provozní. Mnohé konverze proto usilují o zachování původní atmosféry a výrazových prvků (hmota, rytmus fasády, proporce), ale zároveň reagují na požadavky na energetickou efektivitu a principy udržitelnosti.

Předmětem výzkumu je sledování, jak určité typologické skupiny staveb procházejí změnami při konverzi. Zaměřuje se na vztah mezi původní kompozicí fasády a jejím novým ztvárněním, s cílem vytvořit systém hodnocení, který přispěje ke zvýšení estetické kvality těchto staveb.

Industriální stavby byly po dvě století hybnou silou ekonomického i urbanistického rozvoje. V posledních třiceti letech se však kvůli přechodu od průmyslu ke službám staly mnohé areály nevyužívanými. Nacházejí se často v blízkosti center měst a představují zátěž z hlediska hygieny, dopravy i ekologie. Konverze brownfieldů tak přináší příležitost k obnově městské struktury, ale zároveň vyžaduje mezioborovou spolupráci (dekontaminace, legislativa, ekonomika) a zapojení do územního plánování.

Při rozhodování o zachování či odstranění stavby je třeba posoudit její hodnotu v kulturním, technickém a ekonomickém kontextu. Konverze by měla vycházet z potenciálu objektu – zohledňovat jeho flexibilitu, vhodnost pro nové využití a možnosti adaptace. Technické požadavky (energetika, bezbariérovost, akustika) musí být řešeny citlivě, aby nebyl narušen původní architektonický výraz. Častým řešením je vložení nových objemů do původní konstrukce, které s ní nejsou fyzicky spojeny a využívají transparentních materiálů. Téma je zpracováno na základě statistických dat, urbanistických podkladů a porovnání realizovaných konverzí v městském i venkovském kontextu. Výzkum se snaží identifikovat efektivní přístupy ke konverzi a zhodnotit jejich přínos nejen z pohledu stavu konkrétních staveb, ale i širších vazeb v rámci sídelní struktury. Cílem je nalézt souvislosti mezi kvalitou konverze, výší investice a urbanistickým dopadem.

PRŮMYSLOVÁ ARCHITEKTURA JAKO KULTURNÍ DĚDICTVÍ

Krátký časový odstup od vzniku průmyslových staveb často vede k jejich podcenění. Přitom tyto objekty odrážejí výrazné historické a společenské proměny. Od pozdně barokních manufaktur přes monumentální železárny 19. století až po funkcionalistické tovární komplexy z období první republiky – průmyslová architektura je jedinečným svědectvím o vývoji technologie, urbanismu i estetických preferencí.

Podle Czumala (1992) tvořily 3 výškové dominanty obraz města – věž hradu, kostela a radnice, případně fortifikační systém, postupem času i vertikální tovární komíny. Předurčují dynamiku a prosperitu, stávají se novými orientačními body. Je proto žádoucí přistupovat ke konverzím s respektem k této vrstvě paměti. Architektonická hodnota může spočívat v materiálovém řešení (cihla, litina, ocel, beton), v rytmu a proporcích fasád, v detailech nebo ve vztahu ke krajině a okolní zástavbě. Zachování těchto kvalit není v rozporu s novým využitím – naopak může být základem identity místa.

Kompoziční principy v průmyslové architektuře

Průmyslové stavby, ačkoli primárně sloužily funkčním a výrobním účelům, vykazují často překvapivě promyšlenou architektonickou kompozici. I přes utilitární charakter byly mnohé z nich navrženy s důrazem na řád, proporce a vizuální vyváženost, a staly se tak významnými reprezentanty dobového estetického vnímání. Symetrie byla v průmyslové architektuře často uplatňována zejména u administrativních nebo hlavních výrobních budov, které měly reprezentativní charakter. Symetrická kompozice fasád s dominantním vstupem a osovým členěním odrážela racionální a systematický přístup k výrobě i společenský status tehdejších podniků. V půdorysech se symetrie projevovala například v souměrně uspořádaných halách, skladech či obslužných komunikacích.

Příkladem uplatnění symetrie je textilní továrna firmy Löw-Beer v Brně, dnes součást areálu Vlněna. Hlavní výrobní budova je komponována s osovým vstupem, pravidelnými okenními otvory a vyváženou hmotovou skladbou. Podobně stará elektrárna Štvanice v Praze, navržená Františkem Josefem Thomayerem, se vyznačuje symetrickou fasádou s centrální vstupní partií, jež odráží její veřejný význam. Asymetrie se prosazovala tam, kde symetrické řešení nebylo možné nebo potřebné – zejména v rozsáhlejších výrobních areálech, kde se jednotlivé provozy lišily technologickými nároky a rozměry. Asymetrická kompozice se zde stala nástrojem vyjádření rozdílnosti funkcí a technických procesů. Často byla podpořena rozdílnými výškami hmot, střechními formami nebo umístěním technologických prvků (např. komínů, sila, jeřábových drah apod.).

Krásným příkladem promyšlené asymetrie je areál Dolní oblasti Vítkovice v Ostravě. Jednotlivé části – vysoké pece, koksovna, plynovod, kompresorovna – jsou rozmístěny podle výrobní logiky, bez snahy o formální symetrii. Výsledkem je organická struktura s jedinečnou industriální estetikou. Dalším příkladem je plynovod v Berlíně-Schönebergu, kde asymetrické uspořádání konstrukčních prvků a různé výškové úrovně odráží technologickou funkci objektu.

Rytmus jako pravidelné opakování prvků je typickým znakem průmyslové architektury. Uplatňuje se především ve fasádách – například v řadách okenních otvorů, pilířů, světlíků či konstrukčních modulů. Rytmizace nejen zjednodušuje výrobu stavebních prvků a montáž, ale zároveň přispívá k estetické čitelnosti a unifikaci rozsáhlých fasádních ploch. V interiéru rytmus určuje opakování nosných prvků (sloupů, vazníků), které zároveň definují prostorové moduly výroby.

Výrazný rytmus najdeme na fasádě Baťovy továrny ve Zlíně – zejména typická železobetonová konstrukce skeletového systému udává pravidelné opakování sloupů, výplní a oken. Tento rytmus přechází z fasády do interiéru a vytváří čitelnou prostorovou logiku. Podobné řešení najdeme i u Fagus-Werk v Alfeldu od Waltera Gropia, kde rytmická kompozice oken a sloupů podporuje modernistickou formu.

Gradace – postupné zvětšování, zmenšování nebo změna intenzity určitého prvku – nachází své uplatnění především ve vývoji hmot a výškovém členění objektů. V některých případech jsou fasády komponovány tak, že jednotlivé části objektu gradují směrem k dominantnímu provozu, strojní hale nebo administrativnímu centru. Působivý vizuální efekt vytváří například stupňovitě navazující objemy nebo gradace okenních polí podle podlažnosti. Příklad gradace nabízí elektrárna Battersea v Londýně, kde čtyři ikonické komíny tvoří hmotovou dominantu, zatímco výška a členitost fasád graduje směrem ke středové části. V českém prostředí lze jmenovat například továrnu Zbrojovka Brno, jejíž postupně navazující hmoty podle podlažnosti vytvářejí efekt zvyšující se gradace od obvodových k centrálním částem areálu.

Uvedené kompoziční principy nejsou v průmyslové architektuře pouze estetickým nástrojem, ale často vycházejí přímo z logiky provozu, konstrukčního systému a technologických požadavků. Právě jejich propojení s funkcí dodává těmto stavbám architektonickou hodnotu, která je dnes často důvodem k jejich zachování a adaptaci v rámci konverzí. Tyto příklady nejen ilustrují uplatnění kompozičních principů, ale zároveň ukazují, že průmyslová architektura se pohybuje na pomezí účelnosti a výtvarného výrazu. Jejich znalost a rozpoznání těchto principů je důležitá zejména při navrhování konverzí, kdy je třeba zachovat nebo interpretovat původní architektonické kvality objektu.

Současná situace a důsledky opuštěných industriálních areálů

Konverze industriálních staveb je dnes aktuální výzvou, která spojuje aspekty ekonomické, urbanistické, kulturní i ekologické. Po ukončení provozu průmyslových objektů – často z důvodů hospodářských transformací, změn výrobních technologií nebo environmentálních limitů – zůstávají tyto stavby prázdné a chátrající. Výsledkem jsou brownfieldy (Zemánková, 2003), tedy zanedbaná a nevyužívaná území, která vytvářejí bariéry v městské struktuře a negativně ovlivňují její soudržnost i kvalitu života obyvatel. Tato území mají často strategickou polohu v blízkosti center a jejich nevyužívání představuje urbanistickou ztrátu. Vytvářejí dopravní i hygienické zátěže, znesnadňují rozvoj rezidenčního bydlení a přispívají k vyhlidňování městských částí. V mnoha případech jsou přítomny tyto areály výjimečné svou rozlohou, polohou i historickým významem.

Typologie a konstrukční hlediska

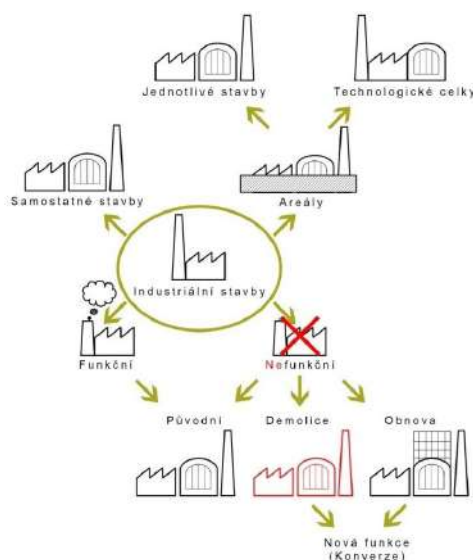
Při hodnocení potenciálu pro konverzi je zásadní typologické členění průmyslových staveb. To určuje míru využitelnosti objektu pro nové funkce – administrativní, kulturní, vzdělávací nebo rezidenční. Klíčovou roli hraje konstrukční systém, zejména rozpony, výška podlaží, typ nosné konstrukce a možnost změny dispozice. Halové objekty s pravidelným modulovým systémem (např. železobetonový skelet) umožňují větší míru přizpůsobení než provozní stavby s komplikovanou vnitřní strukturou. Právě konstrukční flexibilita rozhoduje o rozsahu nutných stavebních úprav a tím i o ekonomické efektivitě konverze. Součástí hodnocení by měly být i provozní a prostorové možnosti, např. orientace ke světovým stranám, výšková úroveň vstupů, možnost bezbariérového řešení nebo technický stav obálky budovy ve vztahu k požadavkům na energetickou náročnost.

KONVERZE

Konverze neboli „creative-use“ (Vorlík a Sigmundová, 2014) znamená nové využití stavby s cílem jejího oživení a integrace do městské struktury. Zvláštní výzvou jsou kulturní památky, kde je třeba zachovat hodnotné technologie a architektonické prvky. Příkladem úspěšné konverze je Dolní oblast Vítkovice a navazující Trojhalí Karolina. Mimo Ostravu lze zmínit například revitalizaci bývalé uhelny ve vnitrobloku budovy A VŠCHT v Praze. Současná problematika konverzí industriálních staveb vychází z několika vzájemně provázaných faktorů, které ovlivňují rozhodovací proces při jejich dalším využití. Příčiny vzniku opuštěných areálů jsou různé – od ekonomických změn a útlumu průmyslu po ekologické zátěže a morální zastarávání objektů.

Tato území narušují kontinuitu městské tkáně, přispívají k její fragmentaci a mohou zvyšovat míru sociální exkluze. Zároveň však představují potenciál pro zvýšení hustoty zástavby a obnovu vnitřních městských struktur, čímž se stávají klíčovými nástroji udržitelného rozvoje sídel. Dosavadní přístup ke konverzím byl často závislý na ekonomickém porovnání hodnoty brownfieldů a volných pozemků, přičemž se zohledňoval i technický stav, míra kontaminace a památková hodnota objektů. Významnou roli zde hraje i vlastnická struktura, která může celý proces výrazně zpomalit nebo zablokovat.

Pro úspěšnou konverzi je zásadní zhodnotit typologii původní stavby – její funkční i prostorové předpoklady – a především konstrukční systém a jeho variabilitu. Rozpony, nosné prvky a celková prostorová logika stavby určují míru možné adaptace. Flexibilita konstrukce je tak klíčová pro efektivní využití v nové funkci viz obrázek 1.



Obrázek 1 Schéma rozhodování o industriální stavbě (Zdroj: Filip Slivka)

Průmyslové stavby jsou často vnímány jako málo hodnotné kvůli své relativní novosti a utilitárnímu charakteru. Je však důležité si uvědomit, že i tyto objekty nesou hodnotu kulturní paměti – jsou svědky doby a součástí architektonického vývoje. Zanedbání jejich významu může znamenat ztrátu cenných prvků, které vypovídají o historii a identitě daného místa. Z tohoto důvodu je na místě nejen technická a ekonomická analýza, ale i kulturně-historická reflexe a pojmové ukotvení celého problému.

Zahraniční přístupy ke konverzím

Inspirativní jsou v tomto směru zahraniční přístupy, kde je práce s industriálním dědictvím často systematickou součástí městské politiky. Například projekt Zeche Zollverein v německém Essenu představuje přeměnu bývalého uhelného dolu na kulturní a výzkumné centrum. Klíčem zde bylo zachování ikonické struktury a doplnění nových funkcí v kontrastním architektonickém jazyce (Atelier OMA).

Dalším příkladem je Tate Modern v Londýně, kde došlo k proměně bývalé elektrárny na výstavní prostor galerie moderního umění. Projekt studia Herzog & de Meuron ukázal, jak může konverze masivní průmyslové stavby přispět k rozvoji celé městské čtvrti.

Ve Francii lze zmínit příklad Halles Alstom v Nantes, kde bývalé průmyslové haly byly adaptovány na kreativní kampus (École de design). V těchto projektech je společným rysem úcta k původní konstrukci, zachování materiálového charakteru a důraz na autenticitu místa.

Konverze průmyslových staveb je multidisciplinární výzvou, která kombinuje aspekty technické, kulturní, ekonomické a ekologické. Podmínky úspěšné transformace spočívají ve správném pochopení potenciálu stavby – konstrukčního, typologického i historického. Současně je nutné hledat nové koncepty využití, které budou v souladu s požadavky současné společnosti.

Zahraniční příklady ukazují, že i radikální transformace mohou být citlivé, pokud respektují původní architektonické kvality. Český přístup ke konverzím by měl být opřen nejen o znalost lokálních podmínek, ale i o širší porozumění významu industriálního dědictví.

Typy konverzí a přístupy k opuštěným objektům

Vhodnost konverze ovlivňuje řada faktorů. Klíčovými jsou urbanistické (umístění ve městě, na vesnici či v krajině), architektonické (kvalita stavby, kompozice, význam pro vedutu), politické (míra podpory a financování) a funkční (možnosti nového využití areálu z hlediska technického i ekonomického) (Pavlík, 1998).

U historických objektů (zejména před rokem 1940) může rekonstrukce obnovit původní estetické hodnoty. Důležitá je přitom rovnováha mezi kvalitativním (architektonická hodnota) a kvantitativním (rozsah stavebního objemu) přístupem.

Technické památky zahrnují výrobní, skladovací a energetické objekty, ale i stavby spojené s dopravou. Jejich hodnotu určují technické principy, historický význam a konstrukční řešení (Valchářová, 2005).

Původně situované na okraji sídel, jsou dnes industriální objekty často vtaženy do centrálních městských zón (Brotan, 2013). Jejich potenciál tak nespočívá jen v architektonické kvalitě, ale i v adaptabilitě na nové urbanistické kontexty. Výzkum identifikuje tři hlavní přístupy ke konverzím viz obrázek 2:

1. Bezzásahová obnova

Nejčastěji u objektů s dochovanou technologií a památkovou ochranou. Zachovává genius loci s minimálními náklady a stavebními úpravami. Brání vzniku nehomogenních prostor.

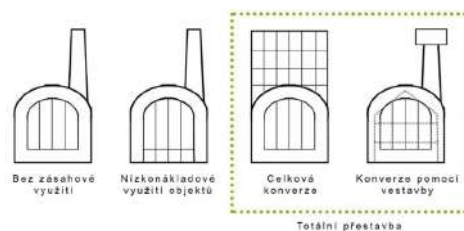
2. Nízkonákladové využití

Vhodné pro stavby s potenciálem adaptace. Dochází

k menším stavebním zásahům, doplnění konstrukcí, úpravám dispozic a přidání nové funkce (bydlení, kultura, pracovní prostory), při zachování původního hmotového řešení.

3. Totální přestavba

U objektů bez památkové ochrany. Zahrnuje zásadní stavební úpravy – demontáž, přístavby, nástavby, případně kompletní vestavbu (tzv. dům v domě). Často dochází k nevratným zásahům do původní struktury.



Obrázek 2 Principy využití a obnovy (Zdroj: Filip Slivka)

VÝZKUM

Náplní výzkumu je aplikace výše zmíněných poznatků zkoumané problematiky pro vyhodnocení výzkumných otázek a hypotéz. Samotný výzkum probíhal v několika časových etapách. Na počátku byly vytipovány vhodné stavby pro širší přehled a poté bylo provedeno třídění na základě zkoumaných kritérií. Velice důležité je totiž porovnání výsledných vzorků (podmnožiny) s počátečním počtem (množinou). Výzkum byl rozdělen na 3 fáze podle postupu. Na základě toho bylo možno uplatnit rozličné statistické a vědecké metody. Na teoretickou část navazuje výzkum, který si kladl za cíl nalézt odpovědi na výzkumné otázky. Uplatnění poznatků teoretické části souviselo s definováním hypotéz a tvorbou hodnotících kritérií.

První fáze

Na počátku bylo důležité jasně definovat problém. Poté bylo potřeba si položit otázku: „Proč mohl tento problém nastat?“ V první fázi výzkumu byly tedy vytvořeny na základě zjištěných informací základní hypotézy výzkumu a to: Konverze u staveb reaguje na původní kompozici stavby.

Druhá fáze

Ve druhé fázi výzkumu se přistoupilo ke sběru základních statistických dat pomocí kvantitativní metody. Kvantitativní metoda se uplatnila z důvodu její přehlednosti a možnosti rychlého zpracování velkého množství dat. Pro potřeby výzkumu byla vytvořena tabulka. Pro základní definování kategorií byly využity výsledky z teoretické části výzkumu. Počet zkoumaných vytipovaných vzorků dosáhl čísla 32, což už ze statistického hlediska může lépe odrážet objektivnější výsledky. Výzkumná oblast byla definována s ohledem na své místo v České republice, respektive na základě postindustriálních tendencí Moravskoslezského, Olomouckého a Zlínského kraje. Tyto kraje mají určitou míru koncentrace průmyslových staveb a brownfieldů viz graf 1.



Graf 1 Rozmístění zkoumaných staveb podle okresu (Zdroj: Autoři)

Tabulka 1 Tabulka pro kvantitativní metodu (Zdroj: Autoři)

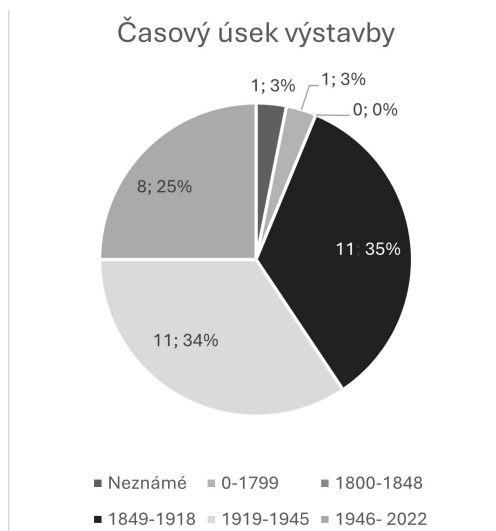
231

ANALÝZA A VÝSLEDKY

Primárním cílem výzkumu bylo ověřit výchozí hypotézu o vztahu mezi původní kompozicí industriálních staveb a kompozičním řešením jejich konverzí. Sekundárním cílem bylo identifikovat opakující se charakteristiky a formulovat modelové vzory využitelné při rozhodování o obnově opuštěných objektů.

Charakteristika původních staveb

Analýza ukázala, že většina zkoumaných objektů pochází z období 1849–1918 a 1919–1945, každé s podílem 34,5 % viz graf 2, což koresponduje s historickým průmyslovým rozvojem regionu. Z hlediska původního využití převládaly stavby potravinářského průmyslu (25 %), zatímco těžký průmysl (hornictví 13 %, hutnictví 22 %) byl zastoupen méně viz graf 3.



Graf 2 Časový úsek výstavby průmyslových staveb (Zdroj: Autoři)



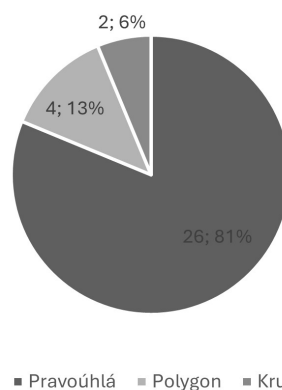
Graf 3 Původní odvětví průmyslových staveb (Zdroj: Autoři)

V kompozičním řešení 81 % objektů vycházelo z pravoúhlé půdorysné základny viz graf 4. Přibližně dvě třetiny (64 %) vykazovaly symetrickou hmotovou kompozici viz graf 5 a kolem 60 % fasád pracovalo s rytmem a gradací viz graf 6. Nejčastější kombinací byla symetrie–rytmus–gradace a symetrie–rytmus po 28 % graf 7, přičemž tato řešení souvisejí s dobovými požadavky na efektivní uspořádání výrobních provozů a s převahou městského umístění z 91 % graf 8.

Charakteristika konverzí

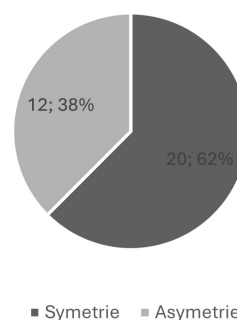
U analyzovaných konverzí převládala strategie „totální přestavby“ z 63 %, zatímco „bezzásahová obnova“ nebyla zastoupena viz graf 9, což odráží zaměření vzorku

Geometrie původních staveb

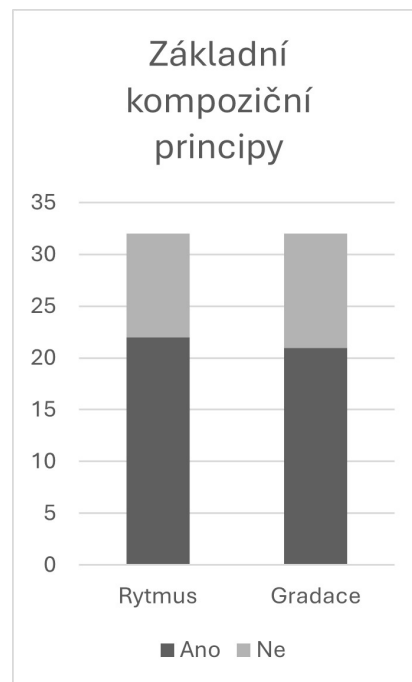


Graf 4 Geometrie původních staveb (Zdroj: Autoři)

Základní kompoziční principy hmoty stavby

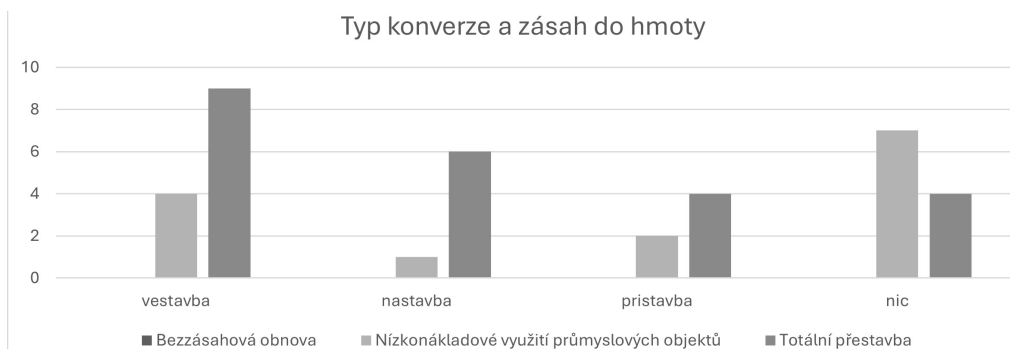


Graf 5 Základní kompoziční principy hmoty stavby (Zdroj: Autoři)



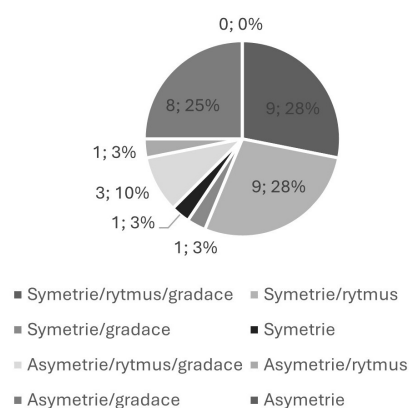
Graf 6 Základní kompoziční principy (Zdroj: Autoři)

na případy s výrazným zásahem do hmoty. Nejčastěji šlo o vestavby do původních dispozic z 35 %, méně o nástavby či přístavby viz graf 10 a 11.



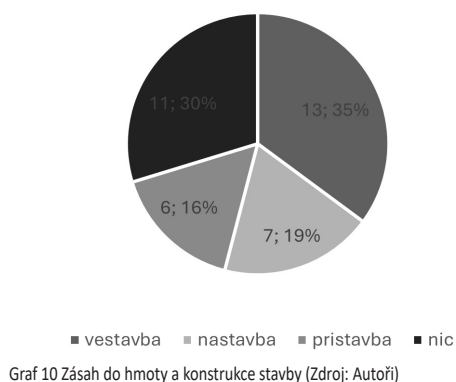
Graf 11 Vztah mezi typem konverze a prací s hmotou staveb (Zdroj: Autoři)

Kombinace základních kompozičních principů



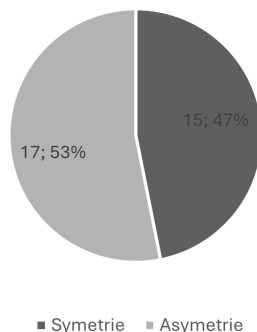
Graf 7 Kombinace základních kompozičních principů (Zdroj: Autoři)

Zásah do hmoty a konstrukce



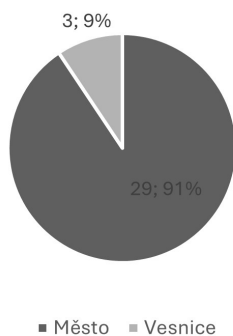
Graf 10 Zásah do hmoty a konstrukce stavby (Zdroj: Autoři)

Základní kompoziční principy hmoty stavby po konverzi



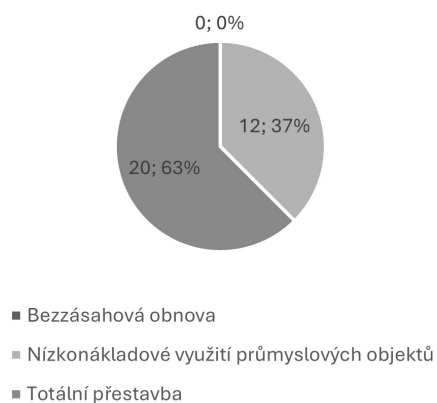
Graf 12 Základní kompoziční principy hmoty stavby po konverzi (Zdroj: Autoři)

Situování podle typu sídla



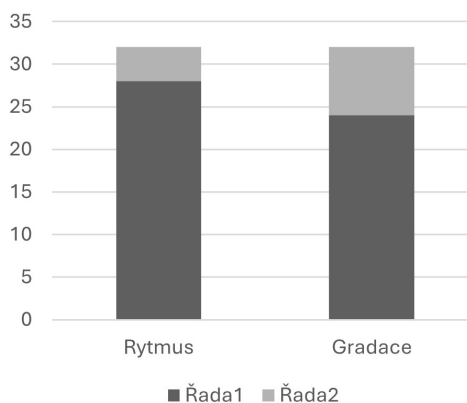
Graf 8 Typ sídla situování původních staveb (Zdroj: Autoři)

Typ konverze



Graf 9 Typ konverze (Zdroj: Autoři)

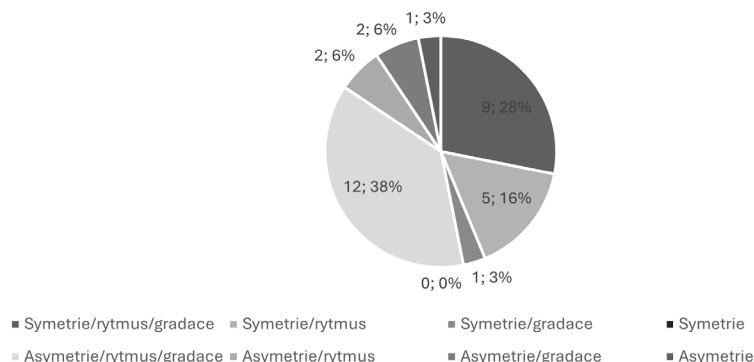
Základní kompoziční principy po konverzi



Graf 13 Základní kompoziční principy po konverzi (Zdroj: Autoři)

Z kompozičního pohledu po konverzi převažovaly asymetrické hmoty z 53 % podle grafu 12, přesto více než polovina fasád pracovala s rytmem a gradací viz graf 13. Nejčastější kombinací byla asymetrie–rytmus–gradace z 38 % podle grafu 14, což představuje významný odklon od původního stavu.

Kombinace základních kompozičních principů po konverzi



Graf 14 Kombinace základních kompozičních principů po konverzi (Zdroj: Autoři)

Srovnání původního a nového řešení

Porovnání kompozičních principů před a po konverzi (tabulka 1) ukázalo dvě hlavní tendence. Zachování stejné kompoziční kombinace (např. symetrie–rytmus–gradace před i po konverzi, 7 případů). Doplnění původně méně strukturovaných (asymetrických) hmot o rytmus v nové vrstvě (6 případů asymetrie–gradace → asymetrie–rytmus–gradace).

Tento trend naznačuje, že architekti často využívají rytmus jako sjednocující prvek pro kompozičně nevyvážené fasády.

Vyhodnocení hypotézy

Na základě provedené analýzy lze hypotézu o existenci vztahu mezi původní a novou vrstvou stavby spíše potvrdit. Data ukazují, že při konverzích dochází k vědomé práci s původní kompozicí, přičemž zásahy často sledují snahu o sjednocení a harmonizaci vizuálního charakteru objektu prostřednictvím rytmických prvků a gradace.

ZÁVĚR

Primárním cílem výzkumu bylo nalézt odpovědi na hypotézu sestavenou během teoretického poznání zkoumané problematiky. Jednotlivé kapitoly představují určitá kritéria pro správné pochopení problematiky a její komplexnosti v průběhu času. Z nich se vykrystalizovaly jednotlivé metody výzkumu a jejich fáze.

Výzkum prokázal, že kompoziční principy původních průmyslových staveb mají přímý vliv na podobu jejich konverzí. Analýza 32 vybraných objektů ukázala, že i přes časté zásahy do hmoty a změnu funkce zůstávají v řadě případů zachovány základní vizuální prvky, zejména rytmus a gradace fasád, které napomáhají sjednocení původní a nové vrstvy stavby. Nejčastější shodou mezi původní a konvertovanou podobou byla kombinace principů symetrie, rytmu a gradace, přičemž u staveb s asymetrickou kompozicí byla nová vrstva často doplněna o rytmus pro dosažení větší vizuální soudržnosti. Tato zjištění potvrzují hypotézu, že konverze reagují na původní kompozici, a ukazují význam citlivého zacházení s architektonickým dědictvím. Studie tak poskytuje praktický rámec pro rozhodování o vhodných přístupech k adaptaci průmyslových objektů, které respektují historickou identitu a zároveň reflektují požadavky současného využití.

ZDROJE

[1] BERAN, Lukáš, 2008. Průmyslové dědictví: [sborník příspěvků z mezinárodního bienále Industriální stopy] = Industrial heritage : [conference proceedings from the international biennial "Vestiges of Industry"]. Praha: Výzkumné centrum průmyslového dědictví Českého vysokého učení technického v Praze ve spolupráci s Kolegiem pro technické památky ČSSI & ČKAIT. ISBN 978-80-01-04067-6.

[2] BROTON, Aleš, 2013. Nový život opuštěných staveb: průmyslové dědictví : stavební kniha 2013. Praha: Informační centrum ČKAIT. ISBN 978-80-87438-36-7.

[3] CZUMALA, V. (1992). Průmyslová architektura v obrazu města. In: Sborník přednášek celostátního semináře se zahraniční účastí, Ostrava '92. Ostrava: Památkový ústav, s. 28-32.

[4] PAVLÍK, Milan, 1998. Regenerace historických budov, sídel a krajiny, ochrana památek. Praha: Vydavatelství ČVUT. ISBN 80-01-01797-4. Dostupné také z: <http://krameriusndk.nkp.cz/search/handle/uuid:b8465610-9196-11e9-8fdf-005056827e52>.

[5] VALCHÁŘOVÁ, Vladislava (ed.), 2005. Meziválečná průmyslová architektura. Stavební kniha. Brno: EXPO DATA. ISBN 80-7293-137-7. Dostupné také z: <http://kramerius4.nkp.cz/search/handle/uuid:597cc6a0-1874-11e4-8f64-005056827e52>.

[6] VORLÍK, Petr a SIGMUNDOVÁ, Anna, 2014. Železobeton a fénix modernismu – konverze průmyslové architektury. Zlatý řez. Roč. 37, č. Zima, s. 34-45. ISSN 1210-4760.

[7] ZEMÁNKOVÁ, Helena, 2003. Tvořit ve vytvořeném: nové funkční využívání uvolněných objektů. Brno: Vysoké učení technické. ISBN 80-7204-281-5. Dostupné také z: <http://krameriusndk.nkp.cz/search/handle/uuid:48b6f480-07ba-11e6-a5b6-005056827e52>.

SOUDOBÉ DOSTAVBY HISTORICKÝCH BUDOV V KONTEXTU HISTORICKÉHO PROSTŘEDÍ MĚSTA

Schwarz Veronika - Kantorová Michaela - Večeřová Jana - Peřínková Martina

ABSTRAKT: Současná architektonická tvorba vznikající v těsné návaznosti historických budov je stále více využívanou formou adaptace nevyužívaných a chátrajících historických budov. Dostavby, nástavby, vestavby a rekonstrukce památkově hodnotných budov však musí zachovat historickou hodnotu a zároveň musí splňovat současné potřeby dnešní doby. Problematika vhodnosti dostaveb k památkově chráněným stavbám představuje náročný úkol, který vyžaduje podrobné plánování a pečlivou realizaci. Tento výzkum se snaží analyzovat způsoby adaptivního přístupu a specifikovat vhodnost realizovaných řešení. Analýza proběhla na vybraných stavbách z historických center měst Evropy.

KLÍČOVÁ SLOVA: Historické prostředí, moderní dostavby, rekonstrukce, kompozice, Evropa

ÚVOD

Architektura má velmi bohatou historii, vypovídající o životních etapách lidstva. Každá stavba je odrazem své doby a zrcadlí ducha minulosti pro současné i budoucí generace. Historické stavby často chátrají a důvodem jsou nejčastěji ekonomické faktory a s tím spojený nedostatek údržby, opomenutí a zanedbání, dále sociální a kulturní faktory, technologické, environmentální faktory a v neposlední řadě právní a administrativní překážky. Zachování historické hodnoty staveb je podstatné pro udržení ducha minulosti, a proto je potřeba s nimi pracovat i ve chvíli kdy pozbyly své funkčnosti a krásy. Většina evropských metropolí disponuje historickými centry, která jsou systematicky chráněna a udržována jako důležité součásti kulturní identity města. V rámci těchto oblastí se však vyskytují případy, kdy dochází k realizaci současné architektury. Tyto zásahy často vyvolávají výraznou společenskou odezvu – jak ve fázi návrhu, tak v průběhu samotné výstavby. Vysoká míra emoční i intelektuální angažovanosti veřejnosti v těchto případech poukazuje na význam historického kontextu a na citlivost vůči zásahům do kulturně hodnotného prostředí.[1]

Rekonstrukce a dostavby upadajících historických budov, vyžadují citlivý a komplexní přístup stavebních odborníků. Tím vzniká otázka, jakým způsobem začlenit moderní přístavbu v rámci historického a urbanistického kontextu, tak, aby nedegradovala historickou hodnotu. Při adaptivním opětovném použití historické budovy je nutné vyřešit mnoho problémů s různými stavebními odborníky a také musí být řešeny s ochrannými organizacemi památkové péče. Současné zásahy do historických objektů představují příležitosti pro inovace v oblasti ekologie a udržitelného designu.

„Výzvou architekta při navrhování exteriérového doplňku je tedy vytvořit a rozvinout přístup, který nepoškodí ani nenaruší historický charakter jak stávající stavby, tak jejího okolí a zároveň vytváří identitu, která je reprezentativní pro současné období.“ [2] Moderní konstrukční systémy a materiály mohou být velmi nápomocné při rekonstrukcích historických budov, ale také při výstavbě nových budov v těsné blízkosti historické stavby.

Tento článek se zaměřuje na zkoumání různých přístupů realizovaných dostaveb v historickém prostředí. Zkoumání spočívá ve vytvoření přehledu staveb a jejich porovnání a zhodnocení vhodnosti zásahu. Aby bylo zhodnocení objektivní, jsou hodnotící faktory převzaty z doporučení a požadavků z mezinárodních listin a dohod o architektuře a památkové péči.

ROZBOR PROBLEMATIKY

Problematika soudobých dostaveb historických budov v kontextu historického prostředí města je předmětem intenzivního zájmu odborníků i veřejnosti, již několik desetiletí. Již od druhé poloviny 19. století začalo docházet k uvědomění si historické a kulturní hodnoty starší zástavby i městské struktury. Památkově chráněné objekty začaly být vnímány nejen jako architektonické artefakty, ale také jako nositelé identity, která hraje zásadní roli v utváření vztahu jedince i komunity k danému místu. [3] Současná architektonická praxe se v oblasti dostaveb historických budov pohybuje mezi dvěma základními póly: mezi konzervací a inovací. Každý zásah do historického prostředí nese etický i estetický rozměr, který musí být vyvážen respektem k původní substanci a zároveň potřebou reagovat na aktuální sociální, ekonomické a technické podmínky.

V současné době se v České republice, ale i v zahraničí stále častěji dostavují a obnovují historické stavby, tak aby se přizpůsobily moderním potřebám. Ochrana historických objektů prostřednictvím konzervacních zásahů představuje preventivní opatření proti jejich degradaci nebo zániku. V řadě případů je však pro udržení jejich funkčnosti nezbytné doplnění o nové architektonické prvky, které reagují na současné nároky uživatelů. [4] Tyto dostavby historických objektů se však dostávají do styku s organizacemi zabývajících se památkovou péčí, které mají často velmi omezující podmínky.

Problematika ztvárnění moderní dostavby je náročným úkolem, který vyžaduje pečlivé plánování a provedení. „Historické památky a místa jsou složité artefakty, jejichž význam a ocenění závisí na čitelnosti a autenticitě jejich součástí. Považovat tyto komponenty za méně důležité vyměnitelné prvky pouze snižuje historický význam celku.“ [5] Historické budovy v sobě nesou stopy dob minulých a odhalují dávnou historii místa. Architekti by měli najít rovnováhu mezi zachováním autenticity památky a zároveň vložením nové funkční části pro budoucí existenci objektu. Vzhledem k vysokým nárokům na čas a finance bývá proces konzervace zpravidla aplikován pouze na objekty s mimořádnou historickou hodnotou. Alternativní přístup představuje adaptivní znovuvyužití, které umožňuje zachovat vybrané autentické prvky stavby a zároveň ji funkčně přizpůsobit současným požadavkům. [6] V širším kontextu se problematika dostaveb historických objektů dotýká otázky udržitelnosti. Zásadním problémem historických budov je jejich mnohaleté opotřebení a z toho vyplývající nutnost údržby, aby však bylo možné ekonomicky uchovávat historické budovy, musí být zajištěna jejich kontinuita užívání. Adaptivní znovuvyužití budov představuje nejen ekonomicky

VERONIKA SCHWARZ, ING. ARCH.

Katedra architektury Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech Republic

veronika.schwarz@vsb.cz

ORCID iD: 0009-0006-7877-1069

Ing. arch. Veronika Schwarz je studentkou doktorského studia na VŠB – Technické univerzitě Ostrava. Zabývá se výzkumem moderních dostaveb historických staveb a tento výzkum aplikuje na téma své disertační práce Výzkum možností použití moderních konstrukčních systémů v kombinaci s tradičními historickými konstrukcemi v oblasti soudobé architektonické tvorby v historickém prostředí.

MICHAELA KANTOROVÁ, ING. ARCH.

Katedra architektury Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech Republic

michaela.kantorova@vsb.cz

ORCID iD: 0009-0006-8578-8387

Je studentkou doktorského studia na Vysoké škole báňské – Technické univerzitě v Ostravě. Zabývá se výzkumem drobných staveb při stavbě měst a krajiny moravskoslezského kraje. Dále se zabývá návrhem novostaveb pro občanskou či bytovou výstavbu. Návrhem interiéru či rekonstrukcí bytů.

JANA VEČEŘOVÁ, ING. ARCH.

Katedra architektury Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech Republic

jana.vecerova@vsb.cz

ORCID iD: 0009-0009-8537-7264

Ing. arch. Jana Večeřová je studentkou doktorského studia na Vysoké škole báňské – Technické univerzitě Ostrava. Ve studiu se zabývá tématem – Urbanistická úloha artefaktů versus městský mobiliář ve struktuře veřejného prostoru lokalit obcí a měst.

MARTINA PEŘÍNKOVÁ, PROF. ING., PH.D.

Katedra architektury Fakulty stavební
VŠB – TUO, Ludvíka Podéště 1875/17,
708 33 Ostrava - Poruba, Czech Republic

martina.perinkova@vsb.cz

ORCID iD: 0000-0002-1005-899X

efektivní řešení, ale i ekologicky odpovědný přístup, který minimalizuje potřebu nové výstavby. Zachování historických staveb a jejich integrace do soudobého života města přispívá k dlouhodobé stabilitě urbanistické struktury i k posílení identity místní komunity. Nové dostavby mohou vrátit život do historických center měst, které zatím převážně slouží jako kulisy pro turisty. Zásady respektující správnou praxi v oblasti intervencí do historického prostředí zdůrazňují, že nová architektura by měla s historickým kontextem harmonicky koexistovat, aniž by jej napodobovala. Zdánlivý rozpor mezi požadavkem na kompatibilitu a odlišnost se ve skutečnosti doplňuje a umožňuje vytvoření kvalitního dialogu mezi minulostí a současností. [7] Cílem moderní architektonické tvorby v historickém prostředí by tedy nemělo být nahrazování minulosti, nýbrž její interpretace a rozvíjení prostřednictvím současného jazyka architektury. Otázkou je, jak přistoupit k dostavbám, aby byly kompatibilní a zároveň odlišné? Celkově se tedy jedná o komplexní problematiku, která vyžaduje multidisciplinární přístup a pečlivé zvážení všech relevantních faktorů. Literatura ukazuje širokou škálu názorů a přístupů, což odráží různorodost historických a kulturních kontextů, ve kterých jsou tyto otázky řešeny.

METODY ZKOUMÁNÍ

Výzkum zahrnuje prvotní sběr dat a výběr lokalit. Je důležité vybrat různé typy historických prostředí z různých období vzniku a s rozdílnou úrovní ochrany. Zároveň se v lokalitě musí nacházet integrace současných konstrukčních prvků dostaveb. Tento úzký výběr umožňuje přímé pozorování a analýzu úspěšnosti a dopadů těchto intervencí. Samotný výzkum spočívá z osobního navštívení vytipovaných lokalit. Terénní šetření představují nezastupitelný nástroj pro komplexní vyhodnocení statické stability a konstrukční integrity objektu. Současně umožňují identifikovat potenciální technické či materiálové nedostatky, které je nutné reflektovat při následném architektonickém návrhu a procesu rekonstrukce či dostavby. [6] V rámci osobních návštěv různých lokalit byly vytvořeny vizuální podklady určené pro rozbor kompozic nových i historických fasád. Historická fasáda odráží kulturní rysy doby vzniku, stejně tak i fasáda moderní dostavby bude zrcadlit dnešní dobu. Fasáda je tvořena souborem architektonických a konstrukčních prvků, zahrnujících zejména střešní konstrukce, okenní a dveřní otvory a výplně, plastické či ornamentální detaily a další výrazové komponenty. Tyto prvky se odlišují svou morfologií, materiálovým řešením i barevností, čímž spoluutvářejí celkový estetický a kompoziční charakter objektu.

Analýza spočívá v kompozičních principech a použitím povrchového materiálu, protože materiál a barva dostavby je důležitá z hlediska její velké viditelnosti a měla by být určena s ohledem na strukturu a barvu budovy historické. Metoda výzkumu je založena na posouzení kompatibility moderních konstrukcí dostaveb k historickým tradičním objektům. Tato vhodnost je hodnocena dle dodržení principů mezinárodních listin a dohod. Byla využita komparativní analýza vybraných případových studií. Pro zkoumání byly použity požadavky a poznatky z Athénské charty (1933), Benátské charty (1964), Charty ICOMOS (2003), Vallettských principů (2011) a metodiky NPÚ. Vybrané intervence u historických budov jsou samostatně posouzeny a vyhodnoceny.

LISTINY A DOHODY SVĚTOVÉHO DĚDICTVÍ

Principy uvedené v chatách a mezinárodních listinách, kladou důraz na respektování původního charakteru historických objektů. Athénská charta (1933) požaduje, aby byly architektonické hodnoty uchovány a také za žádných okolností nepodporuje používání minulých

stavebních slohů při výstavbě nových budov v historickém prostředí. Dále nabádá k používání zdrojů moderní techniky pro obohacení stavebního umění. [8] Benátská charta (1964) zdůrazňuje, že doplňky lze připustit, pokud respektují všechny části budovy, její tradiční prostředí, vyváženost kompozice a vztahy s okolím. Náhrady za chybějící části historické stavby se musejí harmonicky začlenit, ale nové části musí být jednoznačně rozlišitelné od originálu, aniž by ji napodobovali. Nesmí být měněno dispoziční uspořádání a výzdoba historické budovy. Nesmí být stavěny nové stavby, které by změnily poměr hmoty a barev. [9] Charta ICOMOS (2003) poukazuje na celistvost všech částí historického objektu a neuznává odstranění vnitřních konstrukcí s pouhým zachováním fasád. Každý zásah do objektu by se měl omezit na minimum, aby nebyla poškozena památková hodnota. Upřednostňuje opravy konstrukcí než její náhrady, techniky však musí být zváženy a musí být vybrána méně invazivní metoda kompatibilní s historickými hodnotami. [10] Podobně i Vallettské principy (2011) respektují historické hodnoty. Nové dostavby by podle těchto principů neměly být formálně imitující, nadměrně kontrastní a působit roztržštěně. Vzájemná kompozice nové i historické části by měla být plynulá a tvořit jeden soudržný celek, zároveň respektuje měřítko lokality. [11]

Český přístup, formulovaný v metodikách Národního památkového ústavu (NPÚ), vychází z principu zachování autenticity a kontinuity historického prostředí při respektu k jeho přirozenému vývoji. Posuzování novostaveb v památkově chráněných územích musí být založeno na odborných kritériích vycházejících z urbanistického, architektonického a historického kontextu dané lokality. Zásadní je respekt k měřítku, výšce, hmotové skladbě a materiálovému charakteru zástavby. Nové objekty mají být čitelné jako soudobé, avšak navržené s ohledem na harmonické začlenění do prostředí bez napodobování historických forem. NPÚ rozlišuje různé přístupy – od kopie a parafráze zaniklé stavby až po novou autorskou tvorbu – přičemž všechny vyžadují individuální přístup a citlivé zohlednění kontextu. Metodiky zároveň podporují dialog mezi památkáři, architekty a investory a usilují o vyvážený vztah mezi ochranou kulturního dědictví a současnou architekturou, čímž navazují na principy mezinárodních chart. [12] Všechny tyto dokumenty nabádají k citlivým zásahům a respektu k historické hodnotě objektu a prostředí.

PŘÍPADOVÁ STUDIE

Louvre Pyramid, Paříž

Pyramida v Louvru od architekta Ieoha Minga Pei je jedna z neznámějších příkladů moderní dostavby historické budovy. V původní historické budově kapacitně nepostačoval vstupní prostor, proto se musel vytvořit nový větší vstup. Jedná se o typ dostavby, která je situována na stejném pozemku jako původní objekt, avšak s ním není stavebně propojena nad úroveň terénu. Tato nová část respektuje původní fasádu, do níž fyzicky nezasahuje. [13]

Pyramida, postavená v roce 1989, je tvořena ocelovou prostorovou příhradovou konstrukcí a skleněným pláštěm z trojúhelníkových modulů. Proporce pyramidy respektují zlatý řez, který se objevuje i v architektuře paláce. Přístavba je umístěna v osově symetrické kompozici, v centru nádvoří. Tím je vytvořen subtilní geometrický dialog mezi historickou symetrií Louvru a moderní transparentní formou. Historický Louvre je vystavěn z pískovcového kamene s plastickou fasádou, rustikou a sochařskou výzdobou. Naproti tomu pyramida využívá minimalistický jazyk moderní architektury v kombinaci oceli a skla, bez dekorativních prvků. Tento materiálový kontrast je v tomto případě záměrný. Sklo funguje jako neutrální materiál, který agresivně nereflektuje své okolí, ale zrcadlí a propouští obraz. Čirost skel pyramidy podporuje lehkost objektu a příliš nekonkuruje historické části. Konstrukce je samostatná,

bez přímého kontaktu s historickou stavbou, čímž respektuje princip reverzibility a nezávislosti moderního zásahu v památkovém kontextu. Pyramida a její moderní pojetí je v kontextu celého prostoru jasně čitelná a její forma neimituje historický styl. Hodnotová kompatibilita respektuje hierarchii prostoru a doplňuje funkční a symbolickou rovinu areálu.

Stavbou pyramidy vznikl jasný komunikační uzel bez nutnosti větších zásahů do historických konstrukcí. Zároveň působí jako přechodová hmota mezi masivní architekturou paláce a otevřeným veřejným prostorem. Symbolicky se stavba stala živým symbolem Paříže, který láká veřejnost. Tato síla přístavby však přinesla i riziko změny vnímání památky, jelikož současné generace vnímají Louvre právě prostřednictvím symbolu pyramidy a tím přístavba překrývá původní historickou identitu paláce. Samotné umístění pyramidy na nádvoří je vůči hlavní ose paláce dominantní, takže vzniká riziko vizuální dominance novostavby.



Obr. 1.: Louvre, Paříž, autoři (Zdroj: web, dostupný z <https://www.isic.cz/clanek/kultura/nejslavnejsi-muzea-a-galerie-evropy/...>)

Museum of Military History, Drážďany

Museum vojenské historie v Drážďanech prošlo radikální přestavbou rukou amerického architekta Daniela Libeskinda v roce 2011. Původní historickou budovu rozřezal masivním klínem z betonu a oceli jako poukázání na kruté vojenské dějiny, které se nemohou odehrávat pouze mezi čtyřmi stěnami. Tato struktura přináší radikální kontrast v přímém kontaktu k historické budově. Přístavba je v tomto případě fyzicky připojena a prostoupěna historickou budovou, toto spojení nevyhnutelně skrývá část fasády a mění vnitřní uspořádání. Zásahy jsou v tomto případě v rozporu s doporučenými principy a požadavky mezinárodních listin a dohod světového dědictví. Z hlediska principu reverzibility, jak jej definuje Benátská charta (1964) a pozdější teorie památkové péče, Libeskindův zásah představuje nereverzibilní intervenci. Ocelová struktura klínu proniká skrz historické zdivo a stává se konstrukčně i prostorově neoddělitelnou součástí objektu. Porozumění v této přístavbě se skrývá v hodnotách, které bylo nutné zdůraznit právě dekonstruktivistickou přístavbou. Podobně jako u dalšího díla Daniela Libeskinda v Torontu lze konstatovat, že odvážné a zcela odlišné architektonické doplnění historické stavby nenarušuje její hodnotu. Naopak, kontrast mezi novou a původní částí zdůrazňuje autenticitu historické budovy a zřetelně odlišuje přístavbu od původní hmoty. [4] Vložení, dostavby klínu, do osově symetrické historické fasády zastíňuje jednu část objektu, která je však při pozorování nahraditelná druhou půlkou. Zachování historické hodnoty je umožněno, díky představě člověka si zrcadlově domyslet druhou zastíněnou část. Rozlišitelnost je přítomna v maximální míře, historická hmota muzea zůstává zřetelně čitelná díky zachování původních fasád, proti tomu vystupuje ostře vyhraněný klín z oceli a skla jako diagonální forma, která narušuje původní klidnou symetrii. Z hlediska významové kompatibility však dochází k hluboké integraci, kdy nová architektura doplňuje a zároveň přetváří historickou funkci a transformuje muzeum z nástroje militaristické reprezentace v platformu kritické reflexe a paměti. Takto silně konceptuální architektura nese riziko, že bude čtena pouze jako

gesto, nikoli jako nositel hlubšího architektonického dialogu. Přínosem této intervence je nový návštěvnický komfort, zlepšení funkční a provozní kvality muzea. Nová architektura není pouhou formou, ale médiem sdělení, jelikož symbolicky ukazuje špičku klínu k místu bombardování Drážďan, tím propojuje dějinný fakt se současnou etickou interpretací.



Obr. 2.: Museum of Military History, Drážďany, autor: Veronika Schwarz

Greyfriars Charteris Center, Edinburgh

Bývalý kostel z roku 1912, získal při rekonstrukci novou funkci komunitního centra. Za přeměnou stálo uzavření kostela a vypsání architektonické soutěže. Studio Konishi Gaffney Architects respektovalo původní hmotové rozložení a všechny nové doplňky od původní struktury odlišili. V průčelí kostela došlo k protažení oken a uvnitř se prostor rozdělil do několika úrovní. Dostavba mezi kostelem a kancelářskou budovou historickému kostelu i kancelářské budově nekonkuruje, má podobné měřítko i proporce. Zásah není plně reverzibilní, ale respektuje původní konstrukci v podstatné míře. Primárně se zasahovalo do interiéru kostela a přidávaly se provázané funkční prvky schodiště, vstupního prostoru a recepce v nové přístavbě mezi objekty. Čitelnost nové a staré části jsou jasně vizuálně i konstrukčně oddělené, avšak fungují ve vzájemném dialogu. Z hlediska hodnotové kompatibility zásah rozšířil původní hodnoty budovy o nové užitečné a společensky významné funkce, aniž by znehodnotil historický charakter. Centrum slouží komunitě, poskytuje prostory pro kulturu, vzdělávání, setkávání a sociální aktivity. Byl vyřešen problém přístupu bez bariér. Vzniklo riziko jisté ztráty autenticity, jelikož adaptace do nové funkce může vést k tomu, že interiér již nebude vnímán jako historický kostel, ale spíše jako komunitní prostor, což změnilo původního ducha místa.



Obr. 3.: Greyfriars Charteris Center, Edinburgh, (Zdroj: web, dostupný z <https://www.archdaily.com/986204/greyfriars-charteris-center-konishi-gaffney-architects>)

Mercat de Santa Caterina, Barcelona

Mercat de Santa Caterina se nachází v historickém srdci Barcelony a patří mezi nejvýznamnější a nejcharakterističtější trhy ve městě. Historická část z roku 1848 prošla rozsáhlou rekonstrukcí, kterou vedlo renomované architektonické studio Enric Miralles a EMBT Ar-

quitectes Associats a byla znovu otevřena v roce 2005. Ikonická vlnitá střecha je hlavním rysem přestavby, dynamický a živý vzhled sympatizuje s ruchem a energií samotného trhu. Interiér je otevřený a prosvětlený skrze velké množství prosklených ploch. Moderní dostavba umožnila optimalizaci vnitřního prostoru trhu, zlepšení provozní efektivity a vytvoření lepšího prostředí pro prodejce i návštěvníky. Revitalizace trhu reaguje na současné potřeby uživatelů a posílila jeho společenskou i kulturní funkci v rámci města. Nový zásah doplňuje historický objekt nejen formálně, ale smyslově, kulturně a funkčně. Trh se v tomto případě stal symbolem města a nová střecha dodala tomuto prostoru na atraktivitě. Kombinace tradičních a moderních materiálů představuje harmonickou dialog. Průčelí objektu není nijak zvlášť zastíněné a nové zastřešení respektuje a obohacuje původní strukturu. Původní historické prvky, jako jsou kamenné zdi a dřevěné nosníky, jsou pečlivě obnoveny a zachovány. Tyto historické komponenty byly doplněny moderními materiály skla, oceli.

Výsledné řešení tak vytváří vyvážený kontrast mezi historickou kontinuitou a současným architektonickým výrazem, aniž by došlo ke ztrátě původního charakteru místa. Z pohledu rozlišitelnosti jednotlivých historických vrstev je však nová stavební část jasně identifikovatelná a od původní struktury zřetelně oddělená. Architektura nového zásahu vyjadřuje soudobý charakter, zároveň však vytváří vizuální a významové propojení se starší částí prostřednictvím převzatých a reinterpretovaných charakteristických prvků. Z hlediska principu reverzibility zásah není plně reverzibilní – významné části historické struktury sice byly zachovány a nová konstrukce je do jisté míry samostatná, avšak vzhledem ke změnám funkce, vnitřní reorganizaci a integraci podzemních částí intervence narušuje uspořádání stavby. Trh ve své nové podobě lépe slouží svému účelu, stal se atraktivnější a zapříčinil kulturní posílení historické stavby. Zásah však zapříčinil ztrátu části původní struktury, nové parkování a vnitřní přestavba způsobily nenahraditelnou ztrátu původního interiéru. Fasáda původního objektu je vizuálně potlačena dominující střešní konstrukcí.



Obr. 4.: Mercat de Santa Caterina, Barcelona, autor: Veronika Schwarz

Fara u kostela sv. Gotharda, Praha

Rekonstrukce barokní fary v Praze Bubenči nechala vyniknout původní barokní budovu a očistila ji od nánosů nevzhledných přístaveb z 20. století. Architekt Jan Kazimour nechal upravit stávající přístavby a nové je obložil béžovým mramorem, který harmonicky ladí k barokní části. Dostavby jsou přímo napojené na fasádu historické stavby, svou hmotou však nekonkurují a splyývají s ní. Zásah byl navržen s důrazem na minimalizaci zásahů do hlavní historické hmoty objektu. Intervence spočívala především v očištění původní struktury a doplnění přístaveb, které se historické části pouze „dotýkají“, čímž je zajištěna určitá míra technické reverzibility. Přestože je možné některé nové prvky v budoucnu odstranit bez zásadního poškození původní konstrukce, vnitřní úpravy a způsob kotvení nových částí do stávajícího objektu plnou vratnost omezují. Lze tedy hovořit

o částečné, respektive restrukturované reverzibilitě. Přesto jde jasně poznat nový zásah od historického objemu. Z hlediska rozlišitelnosti jednotlivých epoch je zásah koncipován tak, aby nově vložené prvky byly formálně i materiálově čitelné. Použitím soudobých materiálů a konstrukčních prostředků došlo k jednoznačnému odlišení nových intervencí od historické struktury, aniž by docházelo k jejich napodobování či stylizaci do historického výrazu. V rovině hodnotové kompatibility přináší zásah objektu nové funkční, sociální i architektonické kvality, čímž přispívá k posílení jeho památkové hodnoty. Volba decentních materiálů a zachování přiměřeného měřítka nových přístaveb respektují kompoziční hierarchii původní stavby a podporují harmonické soužití historické a soudobé vrstvy. Přínosem projektu je zachování autenticity a integrity, která spočívá v zachování původní hmoty i dispoziční struktury s přiznáním nových prvků, které nepřehlaušují charakter historického objektu. Potenciálním rizikem v jemné kontinuitě je budoucí omezená čitelnost rozlišitelnosti epoch.



Obr. 5.: Fara u kostela sv. Gotharda, Praha (Zdroj: web, dostupný z <https://www.archiweb.cz/b/rekonstrukce-fary-u-kostela-sv-gotharda>)

Červený kostel, Olomouc

Původní luteránský Červený kostel byl od roku 1959 uzavřen a využíván jako depozit knih. Pro uskladnění knižního fondu vznikla nová budova a objekt se uvolnil pro novou funkci. Rekonstrukce objektu se ujalo architektonické studio atelier-r. Nové využití kostela pro kulturní účely vyžadovalo i nutné provozní zázemí, proto vznikla nová hmota umístěná mezi hlavní lodí kostela a objektem ředitelství knihovny a vytváří jejich spojnici. Z pohledu hodnotové kompatibility představuje realizovaná intervence výrazný přínos k uchování i rozšíření hodnot objektu. Historická a architektonická hodnota kostela zůstává zachována a není potlačena novými zásahy, naopak došlo k posílení jeho kulturní, symbolické, společenské i funkční role. Projekt tak proměnil památku z pouhého statického historického objektu v živé kulturní centrum, které aktivně slouží současné společnosti. Dostavba respektuje dostatečný odstup od historických částí a připojuje se pouze v nutném rozsahu propojujících vstupů. Tvar hmoty vychází z půdorysného členění kostela a ředitelství. Červený kostel dosahuje vysoké míry rozlišitelnosti epoch – nová přístavba je jasně od historické části oddělena, stylově neimituje; materiály i měřítka respektují historický objekt jako dominantu. Přestavba Červeného kostela je částečně reverzibilní. Velká část nových zásahů je provedena citlivě a s ohledem na uchování hlavní historické struktury; nicméně některé vnitřní a konstrukční úpravy představují trvalé změny, které v praxi reverzibilitu omezují.

Projekt umožnil návrat dlouhodobě opuštěné památky do aktivního veřejného prostoru. Přestavba prodloužila životnost objektu a rozšířila kulturní infrastrukturu města. Tím naplňuje princip udržitelnosti kulturní památky prostřednictvím nové funkce. Vzniklo riziko optické dominance nového vstupu, protože nový objem s večerním nasvícením může v určitých pohledech konkurovat vertikální kompozici původní věže. Konver-

ze z kostela na kulturní objekt nenávratně proměnila duchovní charakter místa. Přestože prostor zůstal pietní, změna funkce ovlivnila původní sakrální identitu.



Obr. 6.: Červený kostel, Olomouc (Zdroj: web, dostupný z <https://www.earch.cz/architektura/clanek/z-kulturni-pamatky-moderni-kulturni-centrum-olomouce-cerveny-kostel-ziskal-po-rekonstrukci-odvaznou-pristavbu>)

Corso Karlín, Praha

Podobně jako v jiných městech Evropy pozbyla průmyslová hala z roku 1890 své využití. O proměnu se zasloužil Ricardo Bofill Taller de Arquitectura, Ricardo Bofill Levi a Jean Pierre Carniaux. Opuštěná budova je přeměněna na kancelářskou budovu. Původní zděná historická část je doplněna o vzdušnou a lehkou nadstavbu ze skla a oceli. Štít haly byl zachován v původním stavu, ale boční stěny se maximálně otevřely a vnitřní prostor se tím výrazně prosvětli. Do objemu haly je vybudována vestavba čtyřpodlažní budova se suterénem. Corso Karlín lze označit za částečně reverzibilní intervenci. Zásahy byly navrženy s vysokou mírou citlivosti a respekt k původní konstrukci objektu. Nová část je vložena jako samostatná, avšak vizuálně i konstrukčně propojená hmota, která zůstává v principu oddělitelná od historické struktury. Některé úpravy otvorů a způsoby kotvení nových prvků však omezují plnou vratnost zásahu, a proto lze hovořit pouze o částečné reverzibilitě. Z hlediska principu rozlišitelnosti epoch je nová část jednoznačně oddělena od původní historické hmoty. Nová část svou jednoduchou hmotou respektuje členění a rytmus původní haly. Architektonické řešení se záměrně vyhýbá napodobování historického stylu, čímž vytváří vědomý, kontrastní, a přitom harmonický dialog mezi starým a novým. Tento přístup zajišťuje čitelnost obou vrstev a umožňuje jejich vzájemné porozumění bez ztráty autenticity. V rovině hodnotové kompatibility představuje Corso Karlín vyvážené doplnění historického objektu po stránce funkční i estetické. Nová architektura nenarušuje identitu původní stavby, naopak ji posiluje a rozvíjí v rámci současného urbanistického a kulturního kontextu města. Projekt tak významně přispívá k obnovení životaschopnosti historické struktury a k jejímu smysluplnému začlenění do soudobého městského prostředí. Nová funkce zachránila historickou průmyslovou halu od zapomnění.

Projekt Corso Karlín byl přínosem pro celou čtvrť, jelikož se stal urbanistickým katalyzátorem proměny celé čtvrti. Jeho úspěch inspiroval následné revitalizace brownfieldů a proměnil Karlín v jednu z nejžádanějších pražských lokalit. Rizikem zůstává ztráta části autenticity a tlak komerčního využití. Vložením nových horizontálních konstrukcí a kancelářských modulů došlo

k částečnému zániku prostorové velkorysosti původní haly, a tím došlo ke zmenšení původního industriálního měřítka.



Obr. 7.: Corso Karlín, Praha, autor: Veronika Schwarz

Sídlo firmy Lasvit, Nový Bor

Dva historicky chráněné objekty doplnilo architektonické studio Ov-a, o další dva nové objekty vycházející z proporcí a měřítka původních objektů. Doplnění areálu harmonicky sjednotilo kompozici celého bloku. Princip rozlišitelnosti epoch je u nového objektu zřetelný. Materiálově a formálně je od historických domů odlišený, ale zároveň proporčně a urbanisticky respektuje historický kontext. Jednoduchá forma skleněného domu s valbovou střechou nahrazuje původní propojovací krček historických budov a vzniká nový centrální prostor firmy. Druhý objekt je hmotově podobný, jedná se o černý dům, jelikož je pokryt černými cementovými šablonami. Oba nové objekty používají na obklad šablony tvaru břidlicových tašek typických pro lokalitu. Historické objekty byly renovovány, očištěny a citlivě adaptovány pro provoz firmy. Projekt sídla Lasvit vykazuje relativně vysokou míru reverzibility, jelikož novostavby jsou do značné míry samostatné a zásahy do historické budovy jsou drobného charakteru. Projekt silně komunikuje s tradicí sklářství v regionu a design nových částí je výrazem současného řemesla i inovace. Sídli zde prezentace výroby, výstavní prostory, což dává veřejnosti možnost nahlédnout do sklářského řemesla a tím propojit řemeslo a kulturu. To pozitivně zvyšuje kulturní hodnotu a identitu místa. Přístavba a rekonstrukce podpořila udržitelnost památky prostřednictvím aktivního užití, což zvýšilo šance na její udržení i v budoucnosti. Zároveň zásah zvýšil vizuální atraktivitu a architektonický standard veřejného prostoru.



Obr. 8.: Sídlo firmy Lasvit (Zdroj: web, dostupný z <https://www.archiweb.cz/b/nove-sidlo-spolecnosti-lasvit-v-novem-boru>)

DISKUZE

Použití společných kompozičních principů často znamená úspěšnou integraci, avšak není to pravidlem. Existují i dostavby, které jsou v kontrastním rozporu s původní historickou stavbou, a přesto jí negativně neovlivní. Tyto integrace musí splnit jiné estetické a

ochranářské požadavky, které alespoň nedegradují historickou hodnotu. Moderní dostavby mohou výrazně zlepšit funkčnost historických budov a jejich adaptaci na současné potřeby, jako je zvýšení kapacity nebo zlepšení přístupnosti. Etické aspekty zahrnují respekt k historii a kulturní hodnotě budov, což je zásadní pro jejich dlouhodobou udržitelnost.

ZÁVĚR

Moderní dostavby historických budov představují jedinečný způsob, jak harmonicky propojit historii s přítomností v jedné architektonické struktuře. „Řada historických budov, které ztratily své původní funkce relevantní v době jejich výstavby, dnes podléhá procesu „adaptace pro opětovné použití“ s novou funkcí nebo přístavbou.“ [14] Tento přístup umožňuje nový život chátrajícím historickým budovám, a navíc vytváří symbolické spojení minulosti a současnosti, čímž posiluje kulturní dědictví a obohacuje architektonický kontext měst a obcí. Integrace současných konstrukčních prvků do historických staveb je však nesmírně náročným úkolem, který klade vysoké nároky na dovednosti a citlivost architektů a urbanistů. Tato výzva vyžaduje hluboké pochopení historické hodnoty a kontextu budovy, stejně jako kreativní schopnost navrhnout moderní prvky, které nenaruší estetiku a autentičnost původní struktury.

Výsledky našeho výzkumu ukazují, že úspěšné přístupy k integraci těchto prvků jsou založeny na respektu k původní architektuře a na dodržování pravidel a zásad stanovených mezinárodními dohodami a listinami, jako jsou Athénská charta, Benátská charta, a další. Celkově lze říci, že moderní dostavby historických budov představují složitý, ale inspirující proces, který vyžaduje citlivý a informovaný přístup. Úspěšná integrace současných prvků může výrazně přispět k ochraně a oživení historických staveb, což je zásadní pro zachování kulturního dědictví a jeho přenos do budoucnosti. Tento proces vyžaduje nejen technické a estetické dovednosti, ale také hluboký respekt k historii a její roli v dnešním světě. Klíčem k úspěšné integraci je využívání společných kompozičních principů, které zajišťují harmonii mezi starým a novým. Příklady z různých projektů po celém světě demonstrují, že takový přístup může vést k vynikajícím výsledkům, kde moderní dostavby nenarušují historickou hodnotu budov, ale naopak přispívají k jejich revitalizaci a současnému využití.

PRAMENY/POUŽITÉ ZDROJE

- [1] Taraszkiewicz, A., Grębowski, K., Taraszkiewicz, K., & Przewłócki, J. (2021). Contemporary Architectural Design in the Context of Historic Remains: The Case of the Old City of Gdańsk. *Heritage & Society*, 14(1), 1–19. <https://doi.org/10.1080/2159032X.2021.2016051>
- [2] Yüceer, H., & İpekoğlu, B. (2012). An architectural assessment method for new exterior additions to historic buildings. *Journal of Cultural Heritage*, 13(4), 419–425. doi:10.1016/j.culher.2011.12.002
- [3] Elsorady, D. A. (2014). Assessment of the compatibility of new uses for heritage buildings: The example of Alexandria National Museum, Alexandria, Egypt. *Journal of Cultural Heritage*, 15(5), 511–521. doi:10.1016/j.culher.2013.10.011
- [4] Letzter, J., & Neuman, E. (2022). Přístavba k historické budově: Hermeneutický výklad. *Cogent Arts & Humanities*, 9 (1). <https://doi.org/10.1080/23311983.2022.2079587>
- [5] Matero, F. G. (1993). The Conservation of Immovable Cultural Property: Ethical and Practical Dilemmas. *Journal of the American Institute for Conservation*, 32(1), 15. doi:10.2307/3179648

- [6] Michael F. Hein MS, PE & Katie D. Houck BS (2008) Construction Challenges of Adaptive Reuse of Historical Buildings in Europe, *International Journal of Construction Education and Research*, 4:2, 115-131, doi: 10.1080/15578770802229466

- [7] Khalaf, R. W. (2016). Distinguishing new architecture from old. *The Historic Environment: Policy & Practice*, 7(4), 321–339. <https://doi.org/10.1080/17567505.2016.1252492>

- [8] Congrès International d'Architecture Moderne (CIAM). (1933). The Athens Charter. Retrieved from chrome-extension://efaidnbmnnnibpcajpcgiclfndmkaj/https://portal.uur.cz/pdf/athenska-charta-2003.pdf

- [9] International Council on Monuments and Sites (ICOMOS). (1964). The Venice Charter: International Charter for the Conservation and Restoration of Monuments and Sites. Retrieved from chrome-extension://efaidnbmnnnibpcajpcgiclfndmkaj/https://www.icomos.cz/images/dokumenty/benatska-charta.pdf

- [10] International Council on Monuments and Sites (ICOMOS). (2003). ICOMOS Charter - Principles for the Analysis, Conservation and Structural Restoration of Architectural Heritage. Retrieved from <https://www.icomos.org/en/about-the-centre/179-articles-en-francais/ressources/charters-and-standards/165-icomos-charter-principles-for-the-analysis-conservation-and-structural-restoration-of-architectural-heritage>

- [11] International Council on Monuments and Sites (ICOMOS). (2011). The Valletta Principles for the Safeguarding and Management of Historic Cities, Towns and Urban Areas. Retrieved from chrome-extension://efaidnbmnnnibpcajpcgiclfndmkaj/https://civvi.h.icomos.org/wp-content/uploads/2022/03/Valletta-Principles-GA-EN_FR_28_11_2011.pdf

- [12] KUČA, Karel; KIBIC, Karel a KUČOVÁ, Věra, 2004. Novostavby v památkově chráněných sídlech. Národní památkový ústav – ústřední pracoviště. ISBN 80-86234-54-1.

- [13] Jonathan Letzter (2023) Additions to historic buildings: between parasite and prosthetic architecture, *Journal of Architectural Conservation*, 29:1, 63-83, DOI: 10.1080/13556207.2022.2095803

- [14] Cenik, I., & Sirel, A. (2022). Importance of International Treaties and Declarations for Adaptive Reuse in Historical Buildings: Berlin Parliament Building and Santral Istanbul Examples. *Journal of Education, Society and Behavioural Science*, 35(8), 67–84. <https://doi.org/10.9734/jesbs/2022/v35i830449>

5/ Venkovský prostor a architektura venkova

NOVÉ VÝZVY SOCIALISTICKÉ VESNICE

Vicherková Veronika

VERONIKA VICHKOVÁ, MGR., PH. D.

Faculty of Architecture, CTU, Prague,
Thákurova 9, Praha 6, Czech republic

vichever@cvut.cz

ORCID ID: 0009-0005-6329-1559

Veronika Vicherková působí na Fakultě architektury ČVUT jako členka skupiny pro poválečnou architekturu. Momentálně je spoluřešitelkou výzkumného úkolu Stavoprojekt 1948–1953. Kolektivizace projekční činnosti a její otisk v paměti české krajiny a měst (NAKI DH23P03OVV004). K dlouhodobě sledovaným tématům patří památková péče, výtvarné umění v architektuře a ekologie.

ABSTRAKT: Následující text pojednává o pojetí problematiky vesnice a venkova v práci architektů v Československu po druhé světové válce. Československo se ocitlo ve sféře sovětského vlivu, a rostoucí preference levice vedly v roce 1948 k převzetí státu komunistickou stranou. Od roku 1945 postupující vlna znárodnění po roce 1948 zasáhla i stavebnictví a architektonickou praxi, když byly znárodněny stavební firmy a posléze i architektonické ateliéry. Nicméně řada levicových architektů se prostřednictvím BAPS, bloku architektonických pokrokových spolků podílela na organizaci státu, i reorganizaci architektonické praxe do státního projekčního podniku Stavoprojekt. Stavebnictví a architektura se v tu dobu staly důležitou součástí národního hospodářství a jeho plánování. Socializace venkova a kolektivizace zemědělské práce přinesla pro architekturu řadu nových úkolů. Text přináší přehled architektonického přemýšlení o venkovu a jeho modernizaci v Československu v meziválečném období, a především v ranných 50. letech, představuje výrazné dobové fenomény, jako regionální plánování, typizaci, a důraz na krajový charakter.

KLÍČOVÁ SLOVA: Stavoprojekt; Kolektivizace; Urbanismus venkova; Architektura 50. let; Vesnice; Typizace; Regionální plánování; Krajový charakter

ÚVOD

Podnětem ke vzniku tohoto textu byl výzkumný úkol zabývající se hlouběji československou architekturou raných 50. let. Výzkumný úkol s názvem Stavoprojekt 1948–1953. Kolektivizace projekční činnosti a její otisk v paměti české krajiny a měst (DH23P03OVV004) je řešen na Fakultě architektury ČVUT v Praze ve spolupráci s Národním archivem, který spravuje archivní fond ústředí Stavoprojektu z let 1948–1953 (NAD 1182 Československé stavební závody n. p. Stavoprojekt, Praha). Tento fond poskytuje množství pozoruhodných informací, týkajících se organizace státní projektové činnosti v přelomovém a formativním období 1948–1953. Obraz instituce a jejího působení, který vykreslují dochované archivní dokumenty zmíněného fondu, je ovšem značně fragmentovaný, a vyžaduje pečlivé doplnění publikovanými dobovými texty, kontextem obecných dějin (politických, hospodářských i kulturních), i poznatky dnes již četných badatelů. Ve shodě s nimi je nutno konstatovat, že přes zřejmé historické milníky (druhé světové války, obnovení československého státu i politického převratu r. 1948), kontinuita práce Stavoprojektu s tématy a vývojem meziválečného období je značná a potvrzuje ji i tento příspěvek, zaměřený na problematiku venkova v poválečné architektonické praxi.

STAVOPROJEKT JAKO INSTITUTE

Stavoprojekt¹ jako instituce vznikl v září 1948 jako projekční složka Československých stavebních závodů. Tento podnik byl výsledkem druhé vlny znárodnění, kdy se po největších podnicích znárodnění dotklo i firem podstatně menších². Kolektivní projektová organizace znamenala do značné míry uskutečnění vizí levicově smýšlejících architektů, vizí, jejichž kořeny sahaly až do 30. let 20. století. Prostřednictvím BAPS – Bloku pokrokových architektonických spolků se architekti už od počátku obnoveného Československa významně angažovali na organizaci a řízení státu. Svou odborností a technokratiem zasahovali do mnoha oblastí, zejména ve sféře plánování národního hospodářství, a svými poradními hlasy zasahovali až do sféry zákonodárství³.

Hlavním posláním Stavoprojektu bylo zabezpečit po projektové stránce náročné úkoly hospodářského plánu. Architektonická práce se tedy stala jednou z centrálně plánovaných položek, proto pro ni byl převzat organizační model, inspirovaný tovární výrobou. Jmenovitým vzorem se stal úspěšný management firmy Baťa⁴. Proto byl do čela nové organizace povolán architekt Jiří Voženílek, který nedávno předtím ve Zlíně zaujal post vedoucího znárodněné Baťovy projekční kanceláře, kde vystřídal Vladimíra Karfíka. Ste-

jně jako v Baťově koncernu, i ve Stavoprojektu byla zřízena „výrobní střediska“, která plnila výrobní úkoly podle plánu, a byla podřízena centrálnímu ředitelství, se sídlem v Praze. Podnik měl celostátní působnost, krajově příslušná střediska – návrhové ateliéry a inženýrské kanceláře, ta však mohla pracovat i na zakázkách i v ostatních krajích. Vedle krajských středisek, byla zřízena i odborná pracoviště s celostátní působností, Studijní a typizační ústav v Praze a Ústav pro územní plánování v Brně. Ta měla za úkol dokumentaci a výzkum, syntézu poznatků a přípravu podkladů pro „výrobu“. Právě druhá zmíněná instituce měla pro problematiku venkova a vesnic v rámci Stavoprojektu mimořádný význam, jak později uvidíme. Stavoprojekt podstoupil už během prvních let své existence dílčí organizační úpravy, aby byl nakonec v roce 1953 transformován do decentralizovaných podniků. Tak vznikla krajská střediska, Státní ústavy pro výstavbu měst a vesnic, a další specializované projektové organizace. Už z tohoto velmi strohého popisu organizace Stavoprojektu je patrná hluboká návaznost na předchozí vývoj a kontinuita na mnoha místech i personální. Teprve postupně, vlivem politických událostí docházelo k další restrukturalizaci a k nástupu nových kádrů, často již plně kovaných v novém režimu. Ale ani ti vždycky nestáli zcela mimo diskurs svých předchůdců a k jejich práci se vztahovali, i když někdy negaci a popřením.

ZÁJEM O VENKOV

Chceme-li se zabývat vývojem venkova po druhé světové válce, je bezesporu třeba zmínit už dobu první republiky. Právě tehdy se totiž situace venkova poprvé významně problematizovala započatou pozemkovou reformou⁵, sociálními změnami ve společnosti i technologickým pokrokem. Venkov stál dlouhou dobu mimo zájem architektů, teprve období národního probuzení s vlnou folklorismu a etnografických studií zaměřilo pozornost na národní svéráz, dobře zhmotněný v tradiční lidové architektuře. Pro řadu moderních architektů venkov představoval prostředí pro transformaci, byť i zčásti ovlivněnou Howardovou myšlenkou zahradních měst⁶. Ale pozemková reforma zbrzdila odliv obyvatel do měst a posílila uvědomění identity venkova, a zároveň mírně zlepšila i jeho ekonomickou situaci. Pod vlivem tohoto vývoje začala vznikat řada okrašlovacích a osvětových spolků, které měly za cíl zlepšení stavu zaostalého venkova⁷.

V těchto intencích s jistotou budoucího nevyhnutelného rozvoje se problematika venkova začala pomalu stávat architektonickým tématem, nebo lépe řečeno tématem architektonickým, urbanistickým, inženýrským. Už koncem 20. a ve 30. letech 20. stol. se proto i v souvislosti s majetkovými přesuny půdy

¹ S První badatelkou, která otevřela téma československé kolektivizované architektonické praxe byla americká historička Kimberly Elman Zarecor. Její disertační práce vyšla pod názvem *Manufacturing the socialist modernity* (2011), česky *Utváření socialistické modernity: bydlení v Československu v letech 1945–1960*. 2015. Dále k organizaci Stavoprojektu: TÓTHOVÁ Lucia M. – ULLMANNOVÁ Klára, *The Ambition for Centralized Control, Architektura a urbanismus* 59, 2025, č. 1–2, s. 140–155.

² Zákon 121/1948 O znárodnění ve stavebnictví. Zákon se dotýkal podniků, které kdykoliv od roku 1946 přesáhly počet 50 zaměstnanců (třeba i dočasně). Kimberly Elman Zarecor (cit. dok.) dokládá, že ke znárodnění projekční praxe došlo na popud samotných architektů.

³ BAPS vznikl v roce 1934, jako „federace“ pěti architektonických spolků a svoji činnost rychle obnovil v roce 1945. Blíže ke spolupráci architektů s ústředními orgány: Oldřich Starý, *Spolupráce architektů na výstavbě státu. Architektura ČSR V*, 1945, č. 1. s. 2; sine, *Návrh BAPS na vymezení působnosti ministerstva techniky a organizace jeho jednotlivých oborů. Architektura ČSR VII*, č. 3, s. 67; ZARECOR Kimberly Elman, *Utváření socialistické modernity: bydlení v Československu v letech 1945–1960*. 2015, s. 45–53.

⁴ ULLMANNOVÁ Klára – BRŮHOVÁ Klára – TÓTHOVÁ Lucia, *Projekt jako obrobek, Stavoprojekt 1948–1953 / Praxe*, 2025, s. 95 (rukopis v tisku); NOVÝ Otakar, *Nová organizace projekční práce, Architektura ČSR VIII*, č. 1, 1949, s. 53–56.

⁵ „Klofáčova“ pozemková reforma 1919–1935, zahájená záborovým zákonem č. 215/1919 Sb., měla za cíl vyvlastnění velkostatků a přerozdělení půdy drobným rolníkům, zmírnit sociální nerovnosti, stabilizovat osídlení a posílit národnostní charakter v regionech.

⁶ Spis britského stenografa Ebenezer Howarda z přelomu století, vyšel poprvé v češtině právě ve 20. letech (1924), i když jeho principy byly běžně známé a aplikované dávno předtím, např. Janem Kotěrou.

⁷ K tomu např. RYPAR Vít, *Východiska proměn hodnoty venkovského prostředí ve 20. století, Proměny hodnoty architektonického díla v čase*, Praha 2016, 64–86.

objevilo volání po řízení rozvoje venkovských sídel a potřeba pořízování upravovacích (regulačních) plánů pro malé obce po vzoru velkých měst. Při nezbytném širším pohledu na zemědělskou krajinu a její sídla, a s reflexí dobových holistických teorií, i například s myšlenkou na úpravy pro větší efektivitu využití pozemků např. jejich scelováním (arondací), poprvé postupně vystupovala celá komplexnost této problematiky. I se zahraniční inspirací se odpovědí stalo regionální plánování, tj. plánování širších územních celků, podložené širokou analýzou (což jsou de facto zásady formulované později Athénskou chartou), jehož agenda zůstala aktuální po celé 20. století.

PÉČE O ZDRAVÍ VENKOVA A REGIONALISTICKÉ HNUTÍ

První systematictější pozornost venkovu věnovali odborníci z Masarykovy akademie práce (MAP). Ta byla r. 1920 zřízena jako expertní poradní instituce pro hospodářský rozvoj republiky s technickými obory, ale i ekonomik a sociologií, která doplňovala činnost České akademie věd a umění. Od roku 1922 zde na Ústavu pro stavbu měst působil urbanista Vladimír Zákřejs⁸, který zde položil prvotní základy regionálního plánování. Byl průkopníkem idey Velké Prahy, a autorem mnoha uspořádaných regulačních plánů. Dlouhodobě, leč marně usiloval o pořízení územně plánovacích podkladů, tzv. „národního plánu“ pro celý stát, a zahrnutí územního plánování do stavební legislativy. V rozvíjení disciplíny územního i regionálního plánování⁹ na MAP pokračovali i jeho další kolegové, např. Alois Mikuškov-ic, či Emanuel Hruška. Agilní aktivita akademie měla v mladé republice poměrně významný dopad, kterému ještě přispíval od roku 1927 nově vydávaný časopis Stavba měst a obcí venkovských, hojně propagující právě regionalistické úvahy. V roce 1932 pak vyšla první komplexní metodika pro tvorbu upravovacích plánů pod redakcí Josefa Karla Říhy a Otakara Fierlingera¹⁰, s přispěním řady odborníků různých oborů, publikovaná pod titulem „Město a upravovací plán“, a to i přesto, že stále neexistovala závazná legislativa, která by obce (vyjma Prahy a okolí) k pořízování plánů zavazovala. Právě Josef Karel Říha věnoval problematice venkova asi největší pozornost a o jeho aktivitách se ještě zmíníme.

Alois Mikuškov-ic se k problematice venkova dostal prostřednictvím urbanismu městského, při úkolu hledání regulačního plánu hlavního města Prahy¹¹. Zvažoval problémy přelidnění a nezdravého prostředí měst a podobně jako Zákřejs, zkoumal i možnosti desurbanisace a rovnoměrnější distribuce obyvatel i výroby a dalších funkcí. Tak došel k přesvědčení, že plán každého sídla je třeba řešit direktivně, ale v kontextu jeho širšího okolí, dnes bychom řekli aglomerace, a podložené bytelnou analýzou jeho souvislostí. Takové pojetí města měl zanedlouho možnost sledovat i v praxi, jako místopředseda protektorátní Plánovací komise pro Prahu a okolí, která právě pojímala velkoměsto jako jeden celek s rozsáhlým okolím. Tyto principy jsou znovu silně akcentovány i dnes, např. v integraci systému dopravy i dalších služeb v aglomeračním pásmu.

Asi nejvýraznější osobností českého regionalismu byl nicméně architekt Emanuel Hruška. I on působil na MAP, ale později i spolu Bohuslavem Fuchsem a Jiřím Kumpoštem v brněnském Zemském ústavu plánovacím. Hruškova koncepce územního plánování našla inspiraci nejen v teziích Le Corbusiera a Athénské charty, Miljutinova pásového města, ale i v teorii centrálních míst (Zentralorte) Waltera Christallera, nebo „organickým“ krajinným plánováním Alwina Seiferta. Seifert proslul jako ochránce přírody, a m. j. prosazoval, stejně jako Hruška, harmonické zasazení lidských výtvorů (infrastruktury a sídel) do krajinného organismu¹². Hruška ve svém pojetí regionalismu neváhal, ve prospěch vyššího zájmu (plánu), sáhnout

po metodách značně totalitářských, jako například rozsáhlé vyvlastňování, přesuny obyvatel nebo řízené využití území, a nejen v tom předjímal nedalekou budoucnost. Vedle prosazení střediskového systému osídlení (o němž ještě bude řeč), věřil i v nutnost přechodu k družstevnímu zemědělství a kolektivní práci, které podle jeho názoru, jediné mohly pomoci překonat krizi venkova¹³. Zároveň ale hájil přírodní i historické památky, krajinný ráz i požadoval malebnost venkovských obcí a připouštěl i zachování tradičních stavebních forem, v případech, kdy ideální (z funkce odvozená) forma soudobá nebyla dosud nalezena. "Proto tedy, poněvadž dnešní doba neumí ještě vytvořit nový útvar, jen fragmenty a pokusy – chráníme naši starou vesnici jako celek i v detailu tam, kde ještě převážně nerozrušeným celkem zůstala." ¹⁴

Zatímco právě zmíněné přístupy mohly mít v dalších letech potenciál rozvoje, výrazná koncepce obytné krajiny Ladislava Žáka (publikována v úplnosti teprve 1947), byla pro svůj idealismus podrobena tvrdé kritice už jeho současníky. I když i Žák pracoval s metodou zónování a prosazoval například kolektivní bydlení, a ideálním cílem společnosti měla být specifická forma socialismu (přirozenistický socialismus), jeho vize „blahobytu“ nespočívala v zajištění dostatku, ale v omezení (s)potřeby. Jeho kritika ekonomismu a pragmatických zásahů do krajiny proto byla v přímém rozporu s nastupující ideologií. I Ladislav Žák, podobně jako Hruška i mnozí další, touto cestou dospěl k ocenění tradičních forem venkovských staveb a sídel, které se svým urbanismem, formou, i použitým materiálem přizpůsobují krajině, z níž vzešly. Přitom zůstávají věrné přiměřenosti svého účelu, aniž by právě v tomto ohledu nemohly být překonány soudobými formami, přiměřenými současným potřebám.

Významným střediskem regionalistických úvah se staly i moravské metropole. V Brně prostřednictvím Městské stavební kanceláře, Masarykovy akademie práce i brněnské Vysoké technické školy a později Zemského studijního a plánovacího ústavu. V souvislosti se vznikem Velkého Brna (1919) se možnostmi úprav brněnského regionu zabývali Jindřich Kumpoš a Bohuslav Fuchs. V roce 1933 zvítězili v soutěži na regulaci města Brna s projektem, který zahrnoval i krajinný plán. Své myšlenky později shrnuli v publikaci „Cesta k hospodářské obrodě ČSR“ (1935). Věřili, že kvalitní plánování, zejména dopravní sítě a distribučních center, může vést k hospodářské prosperitě celé země, a stát se základem pro skloubení hospodářských i demografických potřeb s přírodními i historickými hodnotami území. Uplatňovali funkcionalistickou zásadu předběžné analýzy území a k zachycení vztahových souvislostí užívali progresivní vizualizaci pomocí kartodiagramů. Prezentace jejich komplexní syntetické metody sklidila roku 1947 mezinárodní úspěch na první poválečné konferenci CIAM v Bridgewater. ¹⁵

Ještě podrobnějšímu výzkumu byla podrobena zlínská oblast, na jehož základě vypracovali Fuchs, Kumpoš a Karel Zapletal podrobný regionální plán. Tato studie se stala inspirací k rozvinutí hospodářsko-plánovací koncepce na území celé ČSR, kterou Jan Antonín Baťa spolu s týmem architektů firemní kanceláře publikoval pod názvem „Budujeme stát pro 40 000 000 lidí“ (1938). Autoři navrhovali rozsáhlou dopravní síť, včetně dálnice z Chebu do Velkého Bočkova, a zdůrazňovali potřebu všestranného technologického pokroku a komplexních reforem, direktivně řízených státní správou. Jen jako dovětek ke zlínskému případu je třeba říci, že po znárodnění Baťových podniků pokračovalo technokratické řízení kraje. Na post vedoucího někdejší Baťovy projekční kanceláře nastoupil Jiří Voženílek, který pokračoval v rozvíjení programu decentralizace pásových měst. I v zemědělství byla sledována linie masivní technické racionalizace, automatizace a velkovýroby, s využitím umělých hnojiv a masivních zásahů do krajiny. ¹⁶

⁸ Vladimír Zákřejs (1880-1948), ochránce památek a přírody, člen domácí rady Klubu Za starou Prahu. V roce 1922 významně přispěl k založení zmíněného Ústavu MAP, a byl dlouholetým propagátorem i tvůrcem regulačních plánů. Regulačním plánům se věnoval již od počátku století, působil v Čechách i na Moravě, i jako profesor brněnské Techniky. O národním plánu m. j. zde: ZÁKREJS Vladimír, Vědecké základy stavby měst. Stavba, 1922, roč. 1, s. 6-11; DOSTALÍK Jan, Organická modernita: Ekologicky šetrné tendence v československém urbanismu a územním plánování (1918-1968). disertační práce, Brno VUT 2016.

⁹ Myšlenky regionálního plánování jako nástroje státního intervencionismu se významně rozvíjely na západě a následně i v Sovětském svazu. Formulace zásady širokého záběru územního plánování a předběžné analýzy zazněla už na prvním kongresu CIAM v La Sarraz (1928) a později se stala součástí Athénské charty. Více PRAŽANOVÁ Eva, Česká urbanistická tvorba 1938-1948: regionalismus a činnost Zemského studijního a plánovacího ústavu v Brně, disertační práce, Brno VUT, 2015; MALINOVÁ Sandra, Regionální plánování v Československu ve třicátých a čtyřicátých letech, diplomová práce, Praha KTF, 2013; ¹⁰ Otokar Fierlinger (1888-1941) v počátcích své kariéry působil na Moravě, a od roku 1919 Ministerstvu veřejných prací, kde byl v roce 1934 jmenován přednostou oddělení pro plánování a výstavbu měst, byl rovněž členem Mezinárodní federace pro bydlení a stavbu měst v Londýně, díky čemuž mohl českému publiku zprostředkovat informace o zahraničních trendech v urbanismu a příbuzných oborech. Věnoval se zejména zahradní a krajinářské práci, v roce 1938 stihl vydat knihu „Zahrada a obydlí“, bohužel zemřel r. 1941.

¹¹ V roce 1920 v souvislosti se vznikem Velké Prahy vznikla Státní regulační komise s posláním vypracovat jednotný regulační plán pro Velkou Prahu a okolí. Tento počín byl iniciační i pro řadu dalších měst a měl dopad i na rozvoj venkova. MIKUŠKOVIC Alois, Od pražského plánu ku plánování pražské oblasti, Stavba. Měsíčník pro stavební umění XIII, 1934-35, roč. 13, s. 155-156.

¹² DVORÁKOVÁ Dita, Česká debata o regionálním plánování v letech 1945-1948. Architektura & Urbanismus II, 2017, č. 3-4, s. 144-161.

¹³ Např. HRUŠKA Emanuel, Krajina a osídlení: úvaha o soudobé a budoucí urbanizaci krajiny. Praha 1944; týž, 3 kapitoly o technickém plánování, Praha 1945,

¹⁴ HRUŠKA Emanuel, 3 kapitoly o technickém plánování, 1945, s. 39.

¹⁵ Pražanová 2015.

¹⁶ MAŠLÁN Pavel, Zemědělství firmy Baťa, in: František Čapka et al. ed., Hospodářské dějiny Moravy a Slezska: vybrané kapitoly z 20. století = The history of Moravian and Silesian economy: selected chapters from 20th century. Brno, 2016, s. 36-48.

¹⁷ Aktivními členy byli např. profesor ČVUT Theodor Petřík (vedoucí Ústavu staveb zemědělských), Alois Mikuškovice později místopředseda protektorátní Plánovací komise pro Prahu a okolí, Otto Fierlinger, průkopník urbanismu malých obcí, zahradní a krajinářský architekt, architekt a urbanista Josef Karel Říha.

¹⁸ Říha Josef Karel, ed. Vesnice, půda a plán. Praha: Knihovna péče o zdraví venkova, 1937

¹⁹ sine, Úprava vesnic: výňatkový soubor z prací, počtených cenou a zakoupených v literární soutěži České akademie technické, Praha, 1941.

²⁰ 288/1941 Sb. Vládní nařízení ze dne 26. června 1941 o opatřování plánů polohy (upravovacích) obcí a o jeho finanční podpoře

²¹ MACHONĚ Ladislav– SUCHARDA Stanislav, Regionalismus v soutěži na krajové (regionální) stavební typy, Architektura III, 1941, s. 32–33.

²² HRUŠKA Emanuel, Soutěžní návrh ze soutěže na regionální typy lidového stavebnictví, Architektura: spojené časopisy Stavba, Stavitel, Styl III, 1941, s. 32.

²³ Více DVOŘÁKOVÁ Dita, Regionální plánování jako instrument sociálního státu. In: Hubert Guzik et. al. ed., Architektura v přerodu, Praha 2019, 122–151.

²⁴ ŠUBRTOVÁ Anna, Regulační plán Lito-myšle Ladislava Machoně (1946–1948), aneb Kolektivní vize nového města, Zprávy památkové péče LCCVI, 2016, s. 603–609.

²⁵ MÜLLEROVÁ Augusta, Brigáda architektů pro obnovu Benešovska, Architektura ČSR V, 1945/1946, s. 156; též, Plánová příprava pro obnovu Benešovska a Sedlčanska hotova, Architektura ČSR VI, 1947, č. 4, s. 101 a dále.

²⁶ Hradecký program obsahoval téměř dvě desítky opatření navrhovaných na jaře 1947 komunistickou stranou pro resort zemědělství. Vedle zákonného práva na drůžbu zemědělské půdy do 50 ha, v něm figurovala také jednotná zemědělská daň, pojištění pro samostatné hospodařící rolníky, zemědělský úvěr, podpora strojních stanic a družstev...; Zákon č. 46/1948 Sb., O nové pozemkové reformě (trvalé úpravě vlastnictví k zemědělské a lesní půdě). Zákon přinesl dokončení konfiskací a přerozdělování půdy mezi drobné rolnictvo, majetkovými převody s okamžitým zaknihováním nových vlastníků.

²⁷ Hradeckým programem slibovaný volný prodej přebytků povolen nebyl, ale probíhal stěně.

²⁸ Zákon č. 55/1947 Sb., O pomoci rolníkům při uskutečňování zemědělského výrobního plánu a doplněná znění č. 132/1948. Mj. nařizoval povinnost obdělání půdy nebo jejího poskytnutí k zemědělským účelům, stejně jako povinnost poskytnutí/propuštění pracovních sil či mechanizace pro takovoto práce.

²⁹ Ministerstvo informací, Eduard Outrata, Průběh plnění hospodářského plánu za I. čtvrtletí 1948, s. 65–74. Klement Gottwald, Kupředu, zpátky ni krok! 1948, s. 75–77. Karel Jech a Antonín Václavů, Některé problémy československého zemědělství v letech 1944–1948, in: LACINA Vratislav (ed.), Československá revoluce v letech 1944–1948: Sborník příspěvků z konference historiků k 20. výročí osvobození Československa. Praha, Academia 1966, s. 233–247. Uvádí se, že zemědělství přišlo až o 400 tis. pracovních sil oproti předválečnému stavu.

³⁰ PERNES Jiří, Specifická cesta KSČ k socialismu, Soudobé dějiny, 2016, 1–2, s. 12–52. Pernes dokládá, že idea specifické československé cesty k socialismu v nejvyšších špičkách KSČ skutečně krátkou dobu 1946–1947 směřovala domácí vývoj. Zhoršení mezinárodní politické situace ale tento vývoj rychle ukončilo a nahradilo ostrým prosazováním transformace k systému socialismu sovětského typu.

PRO APLIKACI V PRAXI

S Masarykovou akademií práce, především v osobnosti Josefa Karla Říhy, ale i dalších, souvisela Společnost pro ozdravení venkova¹⁷. Osobnosti v ní sdružené si vytýkly za program usilovat o komplexní zlepšení stavu venkova i v praxi. Od roku 1928, kdy byla založena, společnost každoročně pořádala osvětové akce (Týden zdraví venkova, vždy tematicky zaměřené), vydávala naučné a metodické brožury, pořádala přednášky a výstavy. Nejúspěšnější z nich byla v roce 1936 výstava Vesnice – půda – plán, organizovaná mj. Josefem Karlem Říhou, propagující plánovitý rozvoj území a úpravu obcí za pomoci regulačních plánů.¹⁸ Cílem bylo popularizovat a prosadit regionální plánování jako novou urbanistickou techniku, která by řídila rozvoj celých krajů, na základě přirozených krajinných celků a v souladu s národohospodářským plánem. Důležitým aspektem bylo také řízení osídlení a určení nezastavitelných ploch a z toho vyplývající plán rozvoje infrastruktury, což shrnovaly klíčové studie Vesnice, půda a plán Josefa K. Říhy a Vliv měst na venkovské oblasti Aloise Mikuškovice. Kampaň završila v jubilejním roce 1938 soutěž o úpravu vesnic, zaštitěná Ministerstvem školství a osvěty a Ministerstvem zemědělství. Činnost společnosti ukončila okupace, a rozpracovaná agenda byla předána Českému zemskému ústředí obcí, které v ní slíbilo pokračovat.¹⁹

Přes veškeré snahy se v době existence svobodného státu stavební legislativu modernizovat nepodařilo, což se do jisté míry změnilo až pod protektorátní správou, zákonem o pořizování plánů polohy/upravovacích plánů obcí.²⁰ I když byla problematika plánování v tomto zákoně chápána poněkud užěji, dala zapravdu dlouhodobému úsilí a léta precizovaná metodika územních výzkumů mohla být, a jak ještě uvidíme, byla, v příštích letech jen výhodou.

SOUTĚŽ NA REGIONÁLNÍ TYPY STAVEB

Regionalismus v dnešním i dobovém pojetí je často vnímán i v užším pojetí, jako studium formálních projevů architektury (kultury) v dané oblasti. K takovému chápání se přiklonila i hojně oblesaná soutěž, vypásaná roku 1940 Ministerstvem školství a osvěty. Komitét odborníků precizně připravený program soutěže měl za cíl získání návrhů a ideových námětů široké škály regionálních stavebních typů pro venkov. Cílem bylo vytvořit architektonické návrhy, které by respektovaly tradiční venkovský ráz a zabránily vnášení nepromyšlených městských prvků do krajiny.

Až na několik výjimek soutěž nepřinesla očekávané výsledky. Přes dobře formulovaný stavební program, většina soutěžících rezignovala na řešení nevyzkoušených typů (obecní dům, vesnické kino apod.), a volili zdánlivě snazší cestu zemědělských usedlostí různé velikosti. Jak však shrnul Ladislav Machoň a Stanislav Sucharda²¹, mnoho odevzdaných návrhů se soustředilo pouze na formální vzhled, místo aby se zabývaly hlubší analýzou sociálních a hospodářských struktur venkova. I proto recenzenti vyzdvihli příspěvek Emanuela Hrušky, který pojal soutěž jako komplexní regionalistickou studii. Na příkladu vesnic v povodí Sázavy ukázal, že urbanistické řešení musí vycházet z podrobného průzkumu celého regionu, do kterého jsou zapojeni různí odborníci (technici, sociologové, historici atd.). Jeho metodologie zdůrazňovala postup "od celku k detailu", a podle přípisu měla za cíl "zjistit skutečné stavební potřeby" vybrané lokality.²²

POVÁLEČNÝ VÝVOJ A KRAJINNÉ PLÁNOVÁNÍ

Rok 1945 nepředstavoval pro regionální plánování v Československu zásadní zlom, poválečná situace přinesla nové úkoly a příležitosti k jeho roz-

voji.²³ Společenská a ekonomická transformace, která zahrnovala přechod na centrální hospodářské plánování, rezonovala s dlouhodobými záměry architektů. Ti vnímali regionální plánování jako nepostradatelný nástroj pro obnovu válkou zasažených území a jejich budoucí sociální reformu. Celospolečenský zájem o venkov posílili i za války nevydané knihy, např. Tvorba životního slohu Karla Honzika, ale i celonárodně sledované úkoly, jako třeba obnova Lidic a Ležáků. Střediskem dalšího expertního rozvoje zůstalo i nadále Brno, kde od r.1945 fungoval Zemský studijní a plánovací ústav (ZSPÚ). Emanuel Hruška, který vedl nově založené plánovací oddělení usiloval o vytvoření dlouhodobého hospodářského a územního plánu pro Moravu a Slezsko. Tento plán měl sloužit jako podklad pro celostátní plánování a Hruška se bohužel neúspěšně pokoušel prosadit vznik jednotné státní organizace pro regionální plánování.

Podobné úsilí vyvíjel i pražský Zemský národní výbor, resp. jeho referát pro územní plánování vedený architektem Ladislav Machoň. Machoňova vize spočívala v komplexní modernizaci postižených regionů. Jeho specifickým byla snaha o uplatnění demokratických postupů. Pomocí metody tzv. „vstřícného plánování“ chtěl prostřednictvím dotazníkových šetření s pod. zapojit místní obyvatele do rozhodovacího procesu.²⁴

Léta předchozí metodické práce se konečně zúročila po roce 1946. Jedno z prvních legislativních opatření, Zákon o stavební obnově (86/1946) podmiňoval dotace obcím existencí upravitelských plánů, což vyvolalo zvýšenou poptávku po práci urbanistů. I díky Machoňově působení na ZNV, poskytl ústřední orgán zvláštní subvenci, právě pro pořízení plánovacích podkladů pro rozsáhlou oblast Benešovska a Sedlčanska, vysídleného a zdevastovaného někdejšího výcvikového prostoru SS.

Hromadného úkolu se pod vedením Augusty Müllerové ujala skupina architektů BAPS, a architekti se tak poprvé ve velkém zapojili do obnovy státu. Během jediného roku vznikl ucelený soubor analytických studií a směrných plánů pro téměř dvě stovky obcí a osad, a přispěla významně i k formulaci legislativy a metodiky územního plánování (právní ukotvení a obsah směrných plánů).²⁵ Ve valné většině si ale architekti ve svých elaborátech počínali velmi radikálně, s velkým podílem asanací a náhradní výstavby, jaký se v poválečném nedostatku jen stěží mohl prosadit. Velký objem navrhovaných novostaveb se patně nikde neuskutečnil, a v některých případech, jako třeba u obce Zvírotice, byly zanedlouho plány řešeny nanovo, tentokrát již v režii Stavoprojektu.

INTERMEZZO: KOLEKTIVIZACE

V roce 1948 probíhající reformy zemědělství nijak nenaznačovaly další vývoj. Hradecký program²⁶ ministra zemědělství Julia Ďuriše vytyčil obrys zemědělské politiky pro další léta a zřejmě počítal s dalším zachováním zemědělské malovýroby. Nová pozemková reforma omezila drůžbu polností nejvýše na 50 ha, pozemky nad tuto výměru stát vykupoval a prostřednictvím Pozemkového fondu rozděloval mezi další rolníky, případně přiděloval státním statkům. V zemědělství ve dvouletce přetrvával válečný systém povinných odvodů²⁷, stát podporoval mechanizaci a mechanizačních družstev²⁸ a zřizoval státní strojné traktorové stanice (STS). Jako v dalších odvětvích, i v zemědělství byla cílem maximální mobilizace pracovních sil a využití všech dostupných zdrojů. Přes veškerou snahu ale výsledky nebyly uspokojivé a zaostávaly za výkony předválečného období. Nedostatky v rostlinné výrobě dlouhodobě limitovaly i produkci živočišnou, přetrvávala nízká míra mechanizace a k tomu se v sezónách 1946 a 1947 přidalo ničivé sucho. Zemědělství trpělo i dlouhodobým nedostatkem pracovních sil, ve velké míře přesunutých do těžkého průmyslu a stavebnictví.²⁹ Podle Jiřího Pernese³⁰ proměny českého venkova, de facto započaté už za první repub-

liky, generovaly v poválečném období novou vrstvu vesnického proletariátu a zvláštní stav zemědělského socialismu, který vedoucí špičky KSČ považovaly za dobrý základ „specifické cesty ČSR k socialismu“. Teprve další politický vývoj, především roztržka mezi Titem a Stalinem, ale ukončily Stalinovu toleranci k „národním odchylkám“ a ve většině zemí sovětského bloku se začala tvrdě prosazovat socializace sovětského typu. V Československu to znamenalo vyhlášení kolektivizace zemědělství, pro které komunistická strana, právě kvůli dlouholeté (až do 70. let 19. století sahající) historické tradici družstevnictví, zvolila formu jednotných zemědělských družstev.³¹

Kolektivizace měla nastartovat přechod k velkovýrobě, v prvním kroku měla JZD pohltnout všechna dosud existující zemědělská družstva, včetně majetku a členské základny, a současně byla zahájena kampaň za získání všech dosud samostatně hospodařících rolníků, kteří vstupem do družstva odevzdávali svůj majetek – pozemky, dobytek i stroje, do společného fondu. Zákon o JZD³², ani vzorové stanovy direktivně neurčovaly, že by mělo jít o výrobní družstva podle sovětského vzoru, s úplným společným hospodařením a výrobou, a v prvních letech v Československu dokonce převládala družstva tzv. 1. a 2. typu, kde byla zachována velká míra soukromého vlastnictví i práce, sdílená byla strojní základna a špičkové sezónní práce³³. Od roku 1951 však již nižší typy družstev nebyly tolerovány, a prosadily se pouze dva vyšší typy, se scelenými pozemky, společnou výrobou. Proces kolektivizace, přes prvotní představy špiček KSČ, postupoval velmi nevyrovnaně. Po počátečním úspěchu zejména v pohraničí, a vzniku skoro 4 tisíc JZD během prvního roku, další rozvoj narážel na nezáměr i odpor. Tvrdě prosazování socializace s mnoha násilnými praktikami cílilo hlavně na rodové sedláky. Ti byli označeni za zárodek kapitalistického živlu na venkově a měli být potlačeni jako třída³⁴. Násilná fáze kolektivizace 1951–1953 probíhala na pozadí ve vyostřené atmosféře politických procesů, při nedostatku základních potravin i zboží na vázaném i volném trhu, způsobeném odlivem investic i pracujících do těžkého průmyslu.³⁵ Celospolečenská krize vyvrcholila v závěrečném roce první československé pětiletky smrtí J. V. Stalina, Klementa Gottwalda, které završila měnová reforma. Kampaň proti vesnickým boháčům kulakům postihla jen vystěhováním na 4000 rodin³⁶ a byla zastavena teprve intervencí prezidenta Zápotočského v srpnu 1953.³⁷ Zlepšení situace zemědělství v socialistickém sektoru se stalo tématem podzimních jednání ÚV KSČ, kde bylo mj. rozhodnuto o okamžitých dotacích pro nákup strojů, osiv a hnojiv, i o zpomalení procesu kolektivizace a celkové dlouhodobé podpoře zemědělství v dalším období.

NOVÉ VÝZVY SOCIALISTICKÉ VESNICE A ZEMĚDĚLSKÉ KRAJINY

Postupná strukturální proměna venkova, i přechod k socialistické velkovýrobě samozřejmě generovaly potřebu nových řešení stavebních typů, ať už šlo právě o výrobní sektor, nebo o sociální vybavenost obcí podle doktríny o smazávání protikladů mezi venkovem a městem. Technické hledisky jednotlivých výrobních objektů se dlouhodobě zabývaly specializované architektonické ateliéry, vývojové oddělení Ministerstva zemědělství (Agroprojekt), i oddělení Studijního a typizačního ústavu Stavoprojektu (STÚ)³⁸. Novou otázkou však byla organizace provozu a vývojové perspektivy velkých zemědělských komplexů, i jejich zapojení do organismu stávajících venkovských sídel. Právě tyto konkrétní aspekty územního plánování venkova a urbanismu vesnice stály dlouhou dobu zcela mimo pozornost odborných kruhů a dotkli se jich okrajově snad jen práce Josefa Karla Říhy nebo Emanuela Hrušky. Hruška však odešel r. 1948 na Slovensko a Zemský studijní a plánovací ústav v Brně byl roku 1950 zrušen. Jeho agendu do určité míry převzal Ústav architektury územního plánování Stavoprojektu (UAUP).³⁹

ZELENÉ KNÍŽKY 40

Nově vzniklé pracoviště Stavoprojektu, „kvůli dlouholeté urbanistické tradici“ situované do Brna mělo za úkol řešení komplexních urbanistických problémů a jejich syntézu pro potřeby návrhových středisek v první linii plnění plánu. V knižní řadě interních publikací Sběrka původních prací vědeckých pracovníků ÚÁUP vycházely příručky, urbanistické směrnice a metodiky, rozesílané do příručních knihovniček pracovišť ve všech krajích. Ústav zpracoval celou škálu základních témat, od ekonomiky stavby měst, přes vybavenost sídel, zásad zónování a distribuce funkcí, komunikační sítě, urbanistické kompozice, struktury osídlení, až po otázky ekologie či historie. I díky předepsanému studiu zahraničních zdrojů se mnohá z témat i naznačených řešení objevila v českém prostředí vůbec poprvé, a ne jednou i v náležitém předstihu před praxí.

VESNICKÁ SÍDLA A VÝROBNÍ JEDNOTKY

Studijní úkol pro „přípravu socialistické přestavby a výstavby venkova“, měl vycházet ze studia sovětských zdrojů a v rámci zmíněného ústavu byl svěřen Aleši Viklickému a jeho týmu⁴¹. Ač není pracovní metoda výzkumu nikde zcela přesně popsána, autoři patrně vycházeli z široké rešerše domácích i zahraničních textů, i z konzultací s praktiky, uživateli i odborníky z dalších ústavů (technických a zemědělských) i oborů (např. sociologie, lékařství a hygiena, zootechnika a agronomie, dopravní specialisté, historici, památkáři, etnografové...) Z aplikace sovětských postupů na specifické domácí podmínky měl být formulován metodický návod pro široké využití v praxi.⁴² Úvodní průzkum technického stavu a vybavenosti našich venkovských sídel, došel k závěrům, které se přibližně lišily od poznatků, získaných ve 30. letech při průzkumu J. K. Říhy. Až 30 % zástavby vykazovalo značnou chátřalost i jiné závady, bránící řádnému užívání. Častým jevem byla přelidněnost venkovských bytů, naopak spíš výjimečně obce disponovaly vodovodem, nebo krytou společnou kanalizací. Závažné hygienické nedostatky provázely obydlí i zemědělské stavby, a vyšší vybavenost vesnic (sportoviště, kulturní dům, distribuce) většinou teprve čekala na své zřízení. Potřebný náklad ke zlepšení nejhorších nedostatků jen v bytové otázce odhadoval řešitelský tým na 8,5 miliardy na jeden kraj. Pro získání prostředků na asanaci obcí mělo výhledově (jak navrhoval už i Hruška) velmi pomoci zavedení socialistického hospodářství, a tím i zvýšení výrobní produkce.

Právě proměněný způsob hospodaření byl vnímán jako první stupeň k pozvednutí životní úrovně venkova. Zavedením socialistické výroby se totiž mění tradiční distribuce funkcí na vsi. Hospodářství bývalo dříve bezprostředně spojené s obydlím. Jeho vymístěním vzniká v rámci usedlosti prostorová rezerva pro adaptaci, přístavbu, či jinou úpravu obydlí a s tím i přiležitost ke zlepšení obytného standardu, například zřízení koupelny. Z hlediska měřítka celé obce přináší požadavek na kvalitativní proměnu sdíleného prostoru a infrastruktury. Společné hospodářství je pak umístěno do vhodné polohy v katastru obce, což umožňuje výrazně lepší hygienické řešení i dostatek místa pro všechny nezbytné funkce, manipulační plochy i možnost budoucího rozvoje. V rámci obce se tak uplatňuje zónování. Vzniká výrobní a společensko-obytná sféra, které se takto mohou rozvíjet v návaznosti, aniž by se však navzájem příliš rušily. Autoři dopodrobna zpracovali tabulky⁴³ potřebné občanské vybavenosti i kapacit výrobních ploch pro rozmanité zemědělské provozy (stáje, výběhy, garáže strojů, přípravný krmiiva, sklady...). Zabývali se kompozicí sídla, jeho siluetou a usazením v krajině, aspekty zásobování vodou i energií, dopravou, i ekonomikou prostorového uspořádání vesnice. Výrobním jednotkám, jejich sestavám a příkladům jejich navázání na vesnické sídlo autoři kvůli velkému zájmu věnovali zvláštní doplňující díl jejich příručky⁴⁴, kde formulovali zásady připojení výrobních

³¹ JZD sice vznikala s odkazem na §157 Květnové ústavy o lidových družstvech, nespĺňovala však zde formulované základní parametry družstevnictví, tj. právní subjektivitu, dobrovolnost a podílnictví.

³² Zákon č. 69/1949 Sb., O Jednotných zemědělských družstvech. A prováděcí zákon č. 75/1949 Sb.

³³ V družstvech druhého typu byla sdílena rostlinná výroba, a často docházelo ke scelování pozemků, u III. a IV. typu byla společná rostlinná i živočišná výroba, s rozdílem odměny dle velikosti vloženého podílu (ad III), nebo bez ohledu na vstupní vklad jen za vykonanou práci (ad IV). Václav Průcha a kol., Hospodářské a sociální dějiny Československa 1918–1992, II. díl, 2009, s. 358–359.

³⁴ JECH Karel, Soumrak selského stavu 1945–1960, 2001. K běžným represivním opatřením proti tzv. vesnickým boháčům patřilo neúměrné zvyšování odvodových dávek, nucený odprodej strojního zařízení, přesun na méně úrodné pozemky...a konečně i trestní postihy a nucené práce, vysídlování celých rodin, nebo rodinných příslušníků postiženého hospodáře.

³⁵ Uvádí se úbytek pracovních sil ze zemědělství v průběhu pětiletky až 34 %. Drahomíra Kopejtková, Počátky socialistického družstevnictví v Československu 1948–1953, 1987, S. 37 a dále.

³⁶ PERNES Jiří, Kolektivizace zemědělství v Československu v letech 1948–1960, Fórum Historiae, 2016, roč. 10, č. 1, s. 5–34.

³⁷ Zápotočkové přehradly se dotkl i rozpadu některých JZD, který patrně způsobil jak nátlak při jejich vzniku, tak zátěž způsobená měnovou reformou. Viz. pozn. 10, s. 33, a pozn. 9, s. 110. Kopejtková píše o rozpadu 7 % JZD za bod. 06. 1953–06. 1954, a snížení počtu zapojených závodů téměř o 25 %.

³⁸ Stať Zemědělské stavby Jana Zikmunda v publikaci Stavoprojekt 1948–53/Praxe, Praha 2025 (v tisku) popisuje peripetie typizace zemědělských staveb, které po roce 1948 trpěly razantním omezením předepsaných rozpočtů i materiálové skladby. Taková omezení, ruku v ruce s nekázní v realizaci i v užívání nakonec vedly ke značné degradaci zemědělských staveb a vzniku neutěšených a nezdavých areálů velkochovů, které na mnoha místech dodnes zůstávají ekologickou zátěží, čekající na rekultivaci.

³⁹ Více k Ústavu územního plánování/později VUVA/ a jeho historii viz ŽÁČKOVÁ Markéta, Historie a činnost urbanistického pracoviště Výzkumného ústavu výstavby a architektury v Brně, disertační práce, VUT Brno, 2014.

⁴⁰ Podle Markéty Žáčkové byl tento termín interním označením pro edici metodických pomůcek, o níž je dále řeč.

⁴¹ Ing. Arch. Věra Vyšínková–Sládečková, Ing. Arch. Jiří Krčál, Dagmar Matoušková, Josef Melenovský, jsou uvedeni pouze v tiráži jedné z publikací; post vedoucího celé skupiny územního plánování zastával Evžen Škarda, externí konzultace v rámci úkolu poskytl prof. Jaroslav Vaněček z pražské ČVUT, Ing. Bedřich Košťatka z Ministerstva zemědělství a specialisté z dalších středisek Stavoprojektu.

⁴² VIKLICKÝ Aleš, Urbanistické problémy vesnice a zemědělské krajiny, Brno 1952, předmluva.

⁴³ VIKLICKÝ Aleš a kol. Urbanistické směrnice pro venkovské sídliště, předběžný otisk k připomínkovému řízení, Brno, 1951.

⁴⁴ VIKLICKÝ Aleš, Urbanistické problémy vesnice a zemědělské krajiny. Doplňek, II. díl, Brno 1954.

⁴⁵ Viz. například neúspěch výstavby slovenského HUKO.

⁴⁶ Zákon č. 84/1958 Sb. o územním plánování, §5.

⁴⁷ VIKLICKÝ Aleš a kol., Urbanistické problémy vesnice a zemědělské krajiny, Brno 1953, s. 217 a dále.

⁴⁸ MÁČEL Otakar a kol., Základní problematika urbanistické struktury vesnice v Čechách a na Moravě, Brno 1954.

⁴⁹ Tamtéž, s. 211.

⁵⁰ Tedy např. kritiku přenášení cizorodých krajových charakteristik napříč státem, jako byly vzory jihočeské renesance u staveb pro Ostravsko.

⁵¹ Typisací sborník 1952: doplňky a opravy. Praha: Státní nakladatelství technické literatury, 1953. Podíl Augusty Müllerové ovšem nespočíval pouze v té výzdobě. Za moravsko-slováckým typem stojí brněnské pracoviště, patrně Ing. Zdeněk Láznicka, u dalších variant se prozatím podrobnosti nepodařilo zjistit.

areálů k obcím, jejich ekonomické dopravní propojení, ergonomické rozložení jednotlivých provozů v areálu, i vhodné velikosti obhospodařovaných ploch, potřebných melioračních či hygienických opatření apod.

Zdaleka nejvýraznějším přínosem této práce, je ale uplatnění metody rájového plánování a střediskové soustavy obcí (přičemž ovšem jména některých možných předchůdců v těchto úvahách nikde zmíněna nebyla.) Plnohodnotné plánování obce v otázkách výroby i vybavenosti musí totiž vycházet ze širší územní rozvahy a průzkumu. Ekonomická situace bezesporu neumožní distribuci všech nezbytných služeb do nejmenších obcí, proto je třeba v každém územním celku provést kategorizaci sídel a z daného svazku obcí zvolit středisko koncentrace služeb a vyšší vybavenosti, které budou k dispozici i přidruženým obcím. Širší územní rozvaha může být mimořádně výhodná i při distribuci socialistického výrobního sektoru, protože jednotlivá družstva mohou podle místních podmínek některé vyšší provozy sdílet, nebo svou produkci výhodně provázet ve výrobním řetězci (návažnost rostlinné a živočišné apod.)

Postup výhledového plánování širších územních celků nebyl u nás zásadně nový, přesto ve však jeho zavedení v praxi dlouhodobě opomíjelo, z čehož plynuly značné hospodářské ztráty.⁴⁵ Po mnohastranné kritice nedostatku rajonových plánů na první konferenci Svazu architektů v r. 1953, vznikl při Státní plánovací komisi v následujícím roce specializovaný ústav pro rájové plánování Terplan. Jako součást hierarchie plánovacích podkladů ale rajonové plány potvrdil až zákon územním plánování na sklonku padesátých let.⁴⁶ Střediskovou soustavu obcí, navrhovanou brněnskými urbanisty za alternativu sovětských Agorodů, ustavil teprve zákon č. 283/1971. Princip přirozené spádovosti a vysoká hustota sídel ovšem tento systém do značné míry suplovaly i v předchozím období.

KRAJOVÝ CHARAKTER

Ve snaze o skutečně komplexní uchopení problematiky venkovských sídel, neponechali autoři metodiky stranou ani estetickou úroveň sídel. Jako hlavní zásady pro jejich utváření, vytkli především jasný střed se shromažďovací funkcí (včetně propočtu potřebné plochy na obyvatele), páteřní komunikaci a siluetu sídla, komponovanou vždy s ohledem k harmonickému zapojení do krajiny. Nevyhnu-li se ani možné asanaci tzv. druhotných objektů, které svým umístěním narušují strukturu či provoz sídla, nebo staveb příliš zchátralých, jejichž oprava by se z hospodářských důvodů nevyplatila. V takovém případě při uplatnění náhradní výstavby zdůrazňovali důležitost zachování charakteristické struktury zástavby obce – uliční sítě, i sdružování objektů a jejich orientace. Tím se dotkli i uplatnění typizovaných staveb, konkrétně tzv. JZD-domků.

JZD-domky neboli typové domky pro zemědělské obyvatele zpracoval Státní typisací ústav a v typizačním sborníku STÚ pod označením T72/52. Existenci jediného takového typu zemědělského domku proto vyvolala kritiku, jelikož tento typ s jasně předepsanou orientací nebylo možné přizpůsobit různorodým charakteristickým krajovým variantám půdorysů obcí, z nichž některé vyžadují štitovou orientaci zastavění, jiné podélnou apod. "Sídliště, která jsou charakterizována podélným souvislým zastavěním vzhledem k ulicím, byla by použitím tohoto typu prostorově narušena," shrnul celý problém Aleš Viklický.⁴⁷

Z potřeby zachování charakteristických krajových rysů venkovských sídel i jednotlivých budov se na brněnském pracovišti urbanistů VÚVA postupně vyvinul ambiciózní badatelský projekt regionalistických studií, s cílem dokumentace a kategorizace typů prostorového utváření a tradiční výtvarné kompozice vesnic ve všech krajích, včetně zachycení typů jednotlivých domů, i charakteristických výzdobných prvků. "Po-

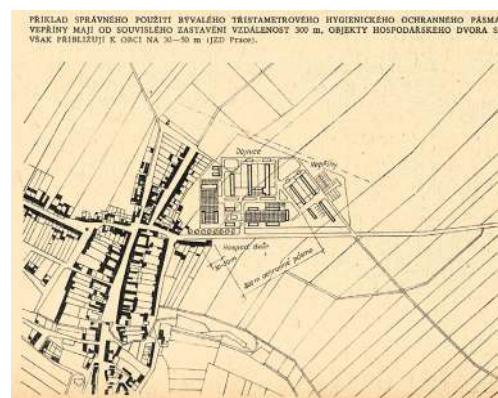
drobný a úplný dokumentační obraz o struktuře a charakteru našich vesnic v každé oblasti z hlediska prostorové a tradiční výtvarné kompozice i jednotlivé stavby lidové, umožní vymezení podrobných zásad pro typizaci lidových staveb z hlediska urbanistického a kompozičního, a odvození zásad pro kompozici a architektonické řešení souborů i jednotlivých staveb ve vesnicích jednotlivých oblastí." Ačkoliv tento ambiciózní program patrně zůstal nedořešen, i samotná úvodní studie Základní problematika urbanistické struktury vesnice v Čechách a na Moravě⁴⁸ představuje pozoruhodný soubor dokumentace vernakulární architektury a zavedené taxonomie prostorových typů venkovských sídel zůstává platná dodnes. V dobovém diskurzu socialisté ho realismu poněkud omšelá idealizace lidovosti v architektuře tady získává faktický obsah, a autoři se netajili vírou, že jejich práce bude podkladem a pomůckou pro urbanisty i typisací ústav. Sami se pokusili navrhnout i některé "krajové úpravy" typových staveb, nebo vhodný způsob jejich zapojení do organismu tradiční vesnice. "Jde jen o pružné s citlivě zacházení s typem. Musí se mít na zřeteli celý prostor obce, respektovat prostory a stávající zástavby. Nelze mechanicky šablonovitě a beze změn typu používat. Z celého hnutí o vytvoření typu lidového domu (u nás i v cizině) jasně vidíme, že neúspěch vyplynul právě ze strnulosti skladby a strnulosti formové podstaty."⁴⁹

TYPIZAČNÍ DOPLNĚK

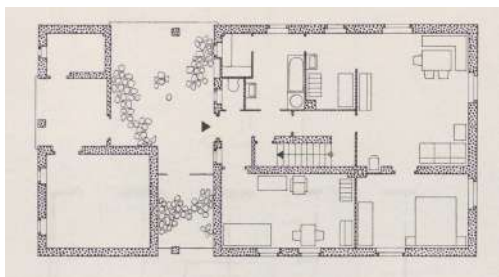
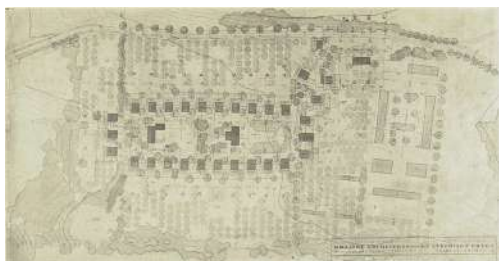
Jen pro zajímavost zbývá uvést, že s Viklického kritika vystihla jen okamžik mezistavu. Nuancovanější vnímání krajových specifik v raných padesátých letech bylo ve společnosti patrně více běžné, možná i díky „národnímu aspektu“ socialistického realismu⁵⁰, a Státní typizační ústav v závěru roku 1951 rozpracoval celou řadu krajových variant zemědělských domků, konkrétně T 73/52 jihočeský, typ T 74ab/52 moravsko-slovácký podélný/štitový či T75/52 pojizerský a dále typ středoslovanský a východoslovanský. Na půdě STÚ se venkovské problematice se tu znova po několika letech vrátila architektka Augusta Müllerová, která obohatila soubor užitých typů o návrhy v praxi snadno realizovatelné, typům odpovídající výzdoby domovních štítů pro jihočeskou variantu⁵¹.

ZÁVĚR

Patrně jediným uceleným příkladem nově vystavěné vesnice z padesátých let je v Čechách obec Zvírotice Hany Peškové, Jiřího Kándla a Jiřího Staška, která dokládá, že právě urbanismus (malých) obcí je klíčový pro jejich charakter, což je poučka, která silně platí dodnes, kdy vesnice znovu čelí invazi druhotné (typové) výstavby.



Obr. 1.: Správné umístění výrobní jednotky ve vztahu ke stávajícímu osídlení. Aleš Viklický, 1953, 300 m ochranného pásma sídla vedlo zpočátku k budování zemědělských provozů příliš vzdálených od vesnic, a tím i ke zbytečným nákladům. (zdroj: VOŽENÍLEK Jiří, VÚVA (1957), Stavba měst a vesnic: urbanistická příručka, s. 521)

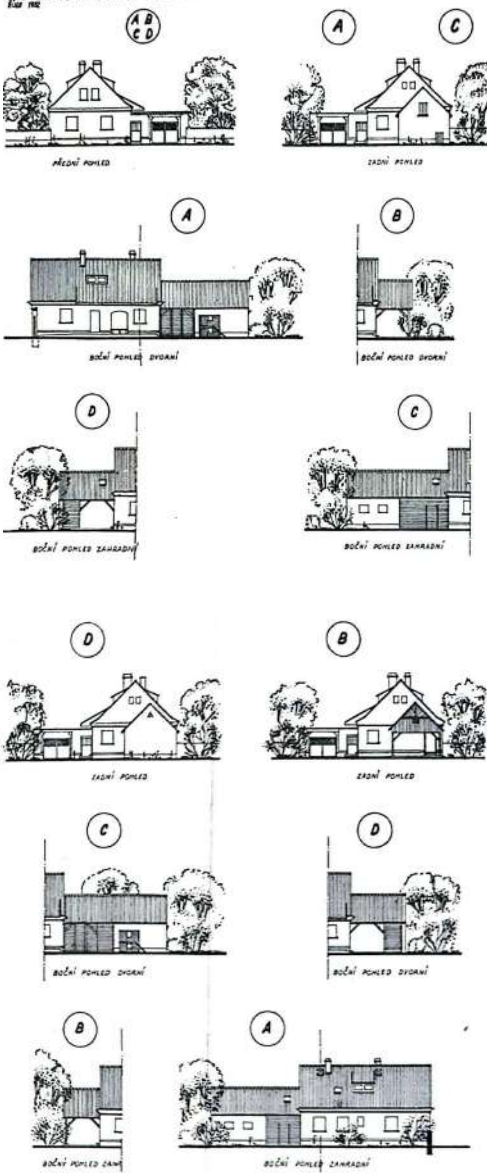


Obr. 2. – 4: Zvírotice. Příklad náhradní výstavby vesnice.

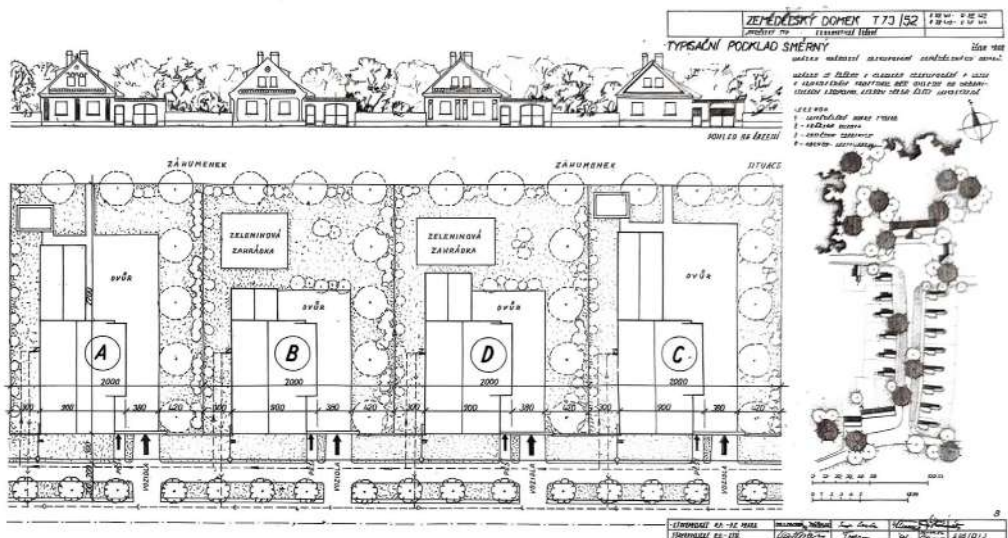
Hana Pešková, Jaroslav Kándl, spolupráce Jiří Stašek, 1951–1954

Osadou Zvírotice ve středním Povltaví se architekti zabývali poprvé v rámci plánovací brigády 1947 (Richard Ferdinand Podzemný, Václav Hlinský, Antonín Tenzer a Bohumil Holý), kdy počítali s novým založením obce, kvůli vzestupu hladiny budované Slapské přehrady. Nová výstavba však se však realizovala podle zcela nových plánů. Zajímavý pokus o inovaci v dispozici bytů s hospodářským zázemím se v praxi tak docela neosvědčil, a kritizován byl i rigidní urbanismus. Pozitivní ohlas naopak získal malebný vzhled domků (zdroj: Architektura ČSR VIII, 1954, č. 1. s. 8; VOŽENÍLEK Jiří (1958), Bydlení v Československu: přehled bytové výstavby od roku 1945, s. 84)

TYPISÁČNÍ PODKLAD SMĚRNÝ

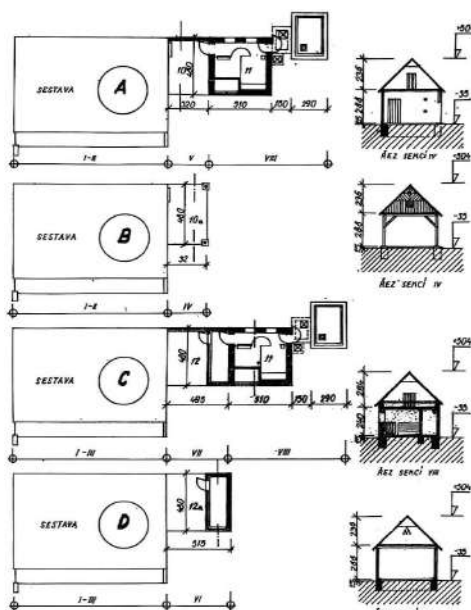


Obr. 5. – 8: Typizační podklady pro výstavbu vesnic. Zemědělský domek (JZD-domek) T 73/52, Jihočeský typ. (zdroj: Typizační sborník 1952: doplňky a opravy. Praha: Státní nakladatelství technické literatury, 1953.)

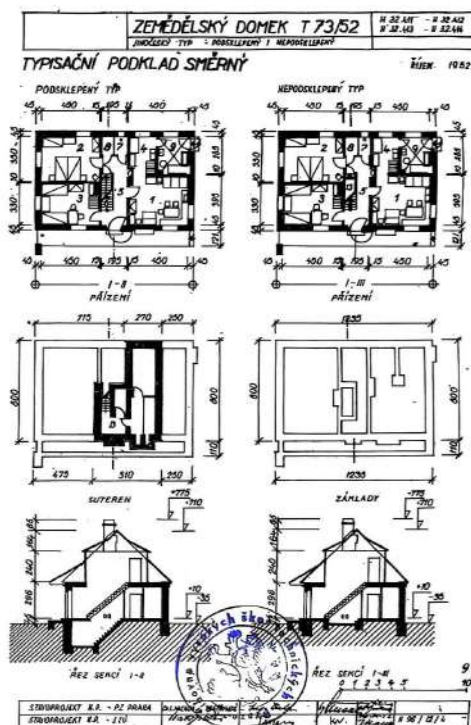


Čís. místnosti	SESTAVA				ÚČEL MÍSTNOSTI		POČET MÍST	PLOCHA M ²			VÝŠKA
	A	B	C	D				PLOCHA KUCHYNĚ	PLOCHA MÍSTNOSTI	PLOCHA PRŮJEDU	
1	A	B	C	D	OBYTNÍ POKOJ		1	17,51			
2	A	B	C	D	LOŽNICE		1	15,75			
3	A	B	C	D	LOŽNICE - VÝHNEK		1	14,57			
4	A	B	C	D	KUCHYŇSKÝ KOUT		1	5,97			
5	A	B	C	D	PŘEDSÍŇ		1	7,79			
6	A	B	C	D	SCHODY		1	2,82			
7	A	B	C	D	ZÁCHOD		1	1,85			
8	A	B	C	D	SPÍŽ		1	1,33			
9	A	B	C	D	HOSPODÁŘSKÁ KUCHYŇ-KOUPELNA		1	6,51			
10	A	-	-	-	KÚRNA - SECE V		1		14,78		
11	A	-	-	-	KÚRNA - SECE V		1		15,60		
12	A	-	-	-	HOSPODÁŘSKÝ PŘÍSLUŠENSTVÍ - SECE V		2		16,49		
13	A	-	-	-	ROZŠÍŘENÁ KÚRNA - SECE V		1		21,04		
14	A	-	-	-	ROZŠÍŘENÁ KÚRNA - SECE V		1		22,14		
								47,63	25,58	31,27	19,81
								47,63	25,58	15,80	10,81
								47,63	25,58	36,03	24,6
								47,63	25,58	22,4	24,6

Čís. místnosti	SESTAVA	PŘEDNĚT	POZNÁMKA
1	A B C D	POMALÁ KANNA	1 "CLUB" NEBO "PETER"
2	A B C D	LIT.	
3,4	A B C D	SPORÁK UHELNÝ	2-
4	A B C D	DŘEZ DVOUHLINÝ	1
5	A B C D	PRAMENÍK	1
7	A B C D	KLOSETOVÁ MÍSA SE SPLACH. ZAŘÍZENÍM	1
8	A B C D	POLICE DO SPÍŽE	1
9	A B C D	VANA VOLNÁ	1
9	A B C D	UMÝVADLO FAYANCOVÉ	1
9	A B C D	KANNA "BRUTAR F"	1
11	A - C -	ŽAB KAMENNÝ	2



PŘI NEBEZPĚČÍ VYHÁŠENÍ SPONNÍ VODY A PŘI ZVÝŠENÉ VLHDKOSTI PŮDY JE NUTNO VOLIT VARIANTU BEZPODKLADNÍ (SECE I-III).



PRAMENY/POUŽITÉ ZDROJE

[1] Národní archiv, fond ČSSZ Stavoprojekt, 1948–1953 (NAD 1182 Československé stavební závody n. p. Stavoprojekt, Praha), nezprac. Architektura ČSR V–VII (1945–1948)

[2] DOSTALÍK Jan (2016) Organická modernita: Ekologicky šetrné tendence v československém urbanismu a územním plánování (1918–1968). disertační práce, Brno VUT 2016.

[3] DVOŘÁKOVÁ Dita (2017), Česká debata o regionálním plánování v letech 1945–1948. Architektura & Urbanismus LI, 2017, č. 3–4, s. 144–161.

[4] DVOŘÁKOVÁ Dita, Regionální plánování jako instrument sociálního státu. In: Hubert Guzik et. al. ed., Architektura v přerodu, Praha 2019, 122–151.

[5] HRUŠKA Emanuel (1941b), Soutěžní návrh ze soutěže na regionální typy lidového stavebnictví, Architektura: spojené časopisy Stavba, Stavitel, Styl III, 1941, s. 32.

[6] HRUŠKA Emanuel (1944), Krajina a osídlení: úvaha o soudobé a budoucí urbanizaci krajiny. Praha 1944; týž, 3 kapitoly o technickém plánování, Praha 1945,

[7] HRUŠKA Emanuel (1945), 3 kapitoly o technickém plánování, 1945, s. 39.

[8] JECH Karel, Soumrak selského stavu 1945–1960, 2001.

[9] KOPEJTKOVÁ Drahomíra, Počátky socialistického družstevnictví v Československu 1948–1953, 1987. S. 37 a dále.

[10] LACINA Vratislav (ed.), Československá revoluce v letech 1944–1948: Sborník příspěvků z konference historiků k 20. výročí osvobození Československa. Praha, Academia 1966, s. 233–247.

[11] MÁČEL Otakar a kol. (1954), Základní problematika urbanistické struktury vesnice v Čechách a na Moravě, Brno 1954.

[12] MACHOŇ Ladislav– SUCHARDA Stanislav (1941), Regionalismus v soutěži na krajové (regionální) stavební typy, Architektura III, 1941, s. 32–33.

[13] MALINOVÁ Sandra (2013), Regionální plánování v Československu ve třicátých a čtyřicátých letech, diplomová práce, Praha KTF, 2013

[14] MAŠLÁN Pavel (2016), Zemědělství firmy Baťa, in: František Čapka et al. ed., Hospodářské dějiny Moravy a Slezska: vybrané kapitoly z 20. století = The history of Moravian and Silesian economy: selected chapters from 20th century. Brno, 2016, s. 36–48.

[15] MIKUŠKOVIC Alois, Od pražského plánu ku plánování pražské oblasti, Stavba. Měsíčník pro stavební umění XIII, 1934–35, roč. 13, s. 155–156.

[16] MÜLLEROVÁ Augusta (1945), Brigáda architektů pro obnovu Benešovska, Architektura ČSR V, 1945/1946, s. 156.

[17] MÜLLEROVÁ Augusta (1947), Plánová příprava pro obnovu Benešovska a Sedlčanska hotova, Architektura ČSR VI, 1947, č. 4, s. 101 a dále.

[18] PERNES Jiří (2016), Specifická cesta KSČ k socialismu, Soudobé dějiny, 2016, 1–2, s. 12–52.

[19] PERNES Jiří, Kolektivizace zemědělství v Československu v letech 1948–1960, Fórum Historiae, 2016, roč. 10, č. 1, s. 5–34.

- [20] PRAŽANOVÁ Eva (2015), Česká urbanistická tvorba 1938-1948: regionalismus a činnost Zemského studijního a plánovacího ústavu v Brně", disertační práce, Brno VUT, 2015
- [21] PRŮCHA Václav a kol. (2009), Hospodářské a sociální dějiny Československa 1918–1992, II. díl, 2009, s. 358–359.
- [22] RÝPAR Vít, Východiska proměn hodnoty venkovského prostředí ve 20. století, Proměny hodnoty architektonického díla v čase, Praha 2016, 64-86.
- [23] ŘÍHA Josef Karel, ed. (1937), Vesnice, půda a plán.
- [24] SINE (1941), Úprava vesnic: výňatkový soubor z prací, poctěných cenou a zakoupených v literární soutěži České akademie technické, Praha, 1941.
- [25] ŠUBRTOVÁ Anna, Regulační plán Litomyšle Ladislava Machoně (1946–1948), aneb Kolektivní vize nového města, Zprávy památkové péče LCCVI, 2016, s. 603–609.
- [26] Typisací sborník 1952: doplňky a opravy. Praha: Státní nakladatelství technické literatury, 1953.
- [27] ULLMANNOVÁ Klára – BRŮHOVÁ Klára – TÓTHOVÁ Lucia, Projekt jako obrobek, Stavoprojekt 1948–1953 / Praxe, 2025, s. 95 (rukopis v tisku)
- [28] VIKLICKÝ a kol. (1951), Urbanistické směrnice pro venkovské sídliště, předběžný otisk k připomínkovému řízení, Brno, 1951.
- [29] VIKLICKÝ Aleš (1954) Urbanistické problémy vesnice a zemědělské krajiny. Doplněk, II. díl, Brno 1954.
- [30] VIKLICKÝ Aleš a kol. (1953), Urbanistické problémy vesnice a zemědělské krajiny, Brno 1953, s. 217 a
- [31] VIKLICKÝ Aleš, Urbanistické problémy vesnice a zemědělské krajiny, Brno 1952
- [32] VOŽENÍLEK Jiří, VÚVA (1957), Stavba měst a vesnic: urbanistická příručka, s. 521
- [33] VOŽENÍLEK Jiří (1958), Bydlení v Československu: přehled bytové výstavby od roku 1945, s. 84
- [34] ZÁKREJS Vladimír (1922), Vědecké základy stavby měst. Stavba, 1922, roč. 1, s. 6-11
- [35] ZARECOR Kimberly Elman (2011), Manufacturing the socialist modernity
- [36] ZARECOR Kimberly Elman (2015), Utváření socialistické modernity: bydlení v Československu v letech 1945–1960. TÓTHOVÁ Lucia M. – ULLMANNOVÁ Klára (2025), The Ambition for Centralized Control, Architektúra a urbanizmus 59, 2025, č. 1–2, s. 140–155.
- [37] ZIKMUND Jan (2025), Zemědělské stavby, in: VORLÍK Petr ed. (2025) Stavoprojekt 1948-53/Praxe, Praha x (v tisku)
- [38] ŽÁČKOVÁ Markéta (2014), Historie a činnost urbanistického pracoviště Výzkumného ústavu výstavby a architektury v Brně, disertační práce, VUT Brno, 2014

6/ Ekologické aspekty v architektuře

INTEGRACE PRINCIPŮ UDRŽITELNÉ VÝSTAVBY DO NOVÉHO STUDIJNÍHO PROGRAMU FAKULTY STAVEBNÍ, VŠB – TECHNICKÉ UNIVERZITY OSTRAVA

Skotnicová Iveta - Tymová Petra - Galda Zdeněk

IVETA SKOTNICOVÁ, DOC. ING., PH.D.

Katedra TZB, Fakulta stavební, VŠB – TU Ostrava, Ludvíka Poděště 1875/17 708 00, Ostrava-Poruba

iveta.skotnicova@vsb.cz

ORCID ID: 0000-0001-8442-5791

Iveta Skotnicová působí jako vedoucí Katedry prostředí staveb a TZB Fakulty stavební VŠB-TUO. Ve výuce se zaměřuje na oblast vnitřního prostředí staveb, zejména na stavební tepelnou techniku a energetickou náročnost budov, denní osvětlení a stavební akustiku. Dlouhodobě spolupracuje s projekční praxí, především v oblasti odborných světelných technických posudků.

PETRA TYMOVÁ, ING., PH.D.

Katedra TZB, Fakulta stavební, VŠB – TU Ostrava, Ludvíka Poděště 1875/17 708 00, Ostrava-Poruba

petra.tymova@vsb.cz

ORCID ID: 0000-0003-2340-3630

Petra Tymová působí jako pedagoga na Katedře prostředí staveb a TZB Fakulty stavební VŠB-TUO. Ve své výuce se zaměřuje především na oblast technických zařízení budov, zejména na zdravotně technické instalace, hospodaření s vodou, vytápění budov a využívání obnovitelných zdrojů energie.

ZDENĚK GALDA, ING., PH.D.

Katedra TZB, Fakulta stavební, VŠB – TU Ostrava, Ludvíka Poděště 1875/17 708 00, Ostrava-Poruba

zdenek.galda@vsb.cz

ORCID ID: 0000-0001-9561-6219

Zdeněk Galda působí na částečný úvazek jako pedagog na Katedře prostředí staveb a TZB Fakulty stavební VŠB-TUO. Ve výuce se zaměřuje především na oblast technických zařízení budov, zejména na vzduchotechniku a klimatizaci, vytápění budov a využívání obnovitelných zdrojů energie. Současně pracuje ve Státní energetické inspekci v Ostravě.

ABSTRAKT: Stavebnictví prochází v posledních letech dynamickými proměnami, které vyžadují adaptaci na nové technologie, společenské požadavky a environmentální výzvy. Stále větší důraz se klade na ekologii a udržitelnost budov, což zahrnuje využívání šetrnějších stavebních materiálů, zvyšování energetické efektivity budov, maximální využití obnovitelných zdrojů energie a tím snižování uhlíkové stopy, zlepšení kvality vnitřního i vnějšího prostředí budov. Současně narůstají národní i evropské legislativní požadavky na stavby, stejně jako roste význam mezinárodních certifikačních systémů pro environmentální hodnocení kvality budov. Všechny tyto trendy ve stavebnictví zvyšují nároky na odborné kompetence absolventů stavebních fakult. Firmy stále více hledají projektanty, inženýry a architekty s orientací na energetickou efektivitu, cirkulární ekonomiku a zelené technologie. V návaznosti na tyto klíčové změny v oblasti navrhování a realizace staveb, otevírá Fakulta stavební VŠB – Technická univerzita Ostrava v akademickém roce 2025/26 nový tříletý bakalářský studijní program „Chytré a zelené budovy v cirkulárním stavitelství“. Cílem studijního programu je připravit odborníky, kteří budou schopni zpracovat návrh stavební koncepce energeticky efektivní budovy s ohledem na využití ekologických a udržitelných materiálů, environmentálních a chytrých technologií, zelených prvků a minimalizaci negativních dopadů stavby na životní prostředí. Příspěvek představuje přehled hlavních inovací v novém studijním programu, zaměřených na rozšíření odborných znalostí a dovedností absolventů v oblasti udržitelné výstavby.

KLÍČOVÁ SLOVA: Udržitelná výstavba; energetická efektivita; cirkulární ekonomika; zelené technologie; stavební vzdělávání.

ÚVOD

Udržitelné stavitelství je dnes jedním z hlavních témat v oblasti ochrany klimatu. Budovy jsou v Evropské unii zodpovědné za 36 % emisí skleníkových plynů a spotřebují až 40 % veškeré energie. Vzhledem k tomu, že dopady emisí se projevují po desetiletí, je nutné se také připravit na jejich důsledky. V budovách totiž trávíme většinu života, a proto je zásadní zajistit zdravé vnitřní prostředí a klimatický komfort [1]. Přístup k udržitelnému stavitelství vychází ze zásad šetrného využívání přírodních zdrojů, snižování emisí skleníkových plynů a důsledného zohlednění celého životního cyklu stavby – od návrhu přes realizaci až po odstranění či recyklaci. Klíčovou roli zde hraje koncept cirkulární ekonomiky, který podporuje opětovné využívání materiálů, minimalizaci odpadů a zavádění inovativních technologií s nízkou ekologickou stopou. Mezi konkrétní principy udržitelného stavebnictví patří například: návrh energeticky úsporných a pasivních domů, využívání obnovitelných zdrojů energie (solární a geotermální), hospodaření s dešťovou a šedou vodou, volba materiálů s nízkou uhlíkovou stopou a adaptace budov na projevy změny klimatu, například přehřívání městských oblastí. Směřování k udržitelným řešením vyžaduje nejen technické inovace, ale i změnu myšlení a hodnot, které musí být součástí přípravy budoucích odborníků. Jedním z hlavních problémů současnosti je nízká informovanost o udržitelnosti mezi stavebními profesionály. Ačkoli povědomí o nutnosti dekarbonizace roste, odborníci často nemají přístup k dostatečně kvalitním informacím o praktickém dosažení udržitelných stavebních řešení. Chybí také systém celoživotního vzdělávání, který by architektům, projektantům a stavitelům pomohl orientovat se v rychle se měnících normách a technologiích [1]. Proto je nezbytné systematicky začleňovat principy udržitelnosti již do výuky a vzdělávání stavebních inženýrů. Jen tak lze vychovat generaci profesionálů schopných navrhovat a realizovat stavby, které jsou nejen technicky funkční a ekonomicky efektivní, ale zároveň ohleduplné k životnímu prostředí a potřebám společnosti.

ZÁKLADNÍ PRINCIPY UDRŽITELNÉHO ROZVOJE

Udržitelný rozvoj je založen na rovnováze tří pilířů – environmentálního, ekonomického a sociálního (definice ze Světového summitu k udržitelnému rozvoji v Johannesburgu, 2002). Udržitelnost je chápána jako vyvážený rozvoj mezi těmito pilíři, tj. mezi ekonomikou, životní úrovní obyvatel a zátěží životního prostředí. Cílem je zajistit, aby rozvoj v jednom pilíři neprobíhal na úkor ostatních [2].

Udržitelnou výstavbu lze definovat jako soubor technických postupů a řešení, díky nimž mají stavby nižší dopad na životní prostředí během celého životního cyklu – od návrhu přes výstavbu a provoz až po demolici. Udržitelná výstavba se zaměřuje zejména na optimalizaci využití energie, vody a materiálů a na omezení produkovaného odpadu [3].

Mezi základní principy udržitelné výstavby patří: udržitelný design, trvanlivost, energetická účinnost, omezení odpadu, kvalita vnitřního ovzduší, šetření vodou a využívání udržitelných stavebních materiálů [4].

1) **Udržitelný design** – známý také jako „zelený design“, zahrnuje navrhování staveb s cílem minimalizovat nebo úplně odstranit negativní dopad na životní prostředí.

2) **Trvanlivost** – klade důraz na použití materiálů odolných vůči povětrnostním vlivům, korozi, degradaci a dlouhodobému používání.

3) **Energetická účinnost** – zahrnuje strategie a techniky návrhu, které minimalizují spotřebu energie během plánování, výstavby a průběžné údržby budovy nebo projektu.

4) **Omezení odpadu** – zahrnuje procesy a strategie minimalizující odpad během celé výstavby, podporuje recyklaci a používání recyklovaných materiálů, a řídí se hierarchií nakládání s odpady: snížit – znovu použít – recyklovat – likvidovat.

5) **Kvalita vnitřního ovzduší** – udržitelný návrh a výstavba by měly zlepšit kvalitu vnitřního ovzduší a podporovat zdravé a komfortní prostředí pro uživatele budovy.

6) **Šetření vodou** – stavební sektor je známý vysokou spotřebou energie i vody. Je nezbytné minimalizovat spotřebu vody již při výrobě materiálů a během samotné výstavby.

7) **Udržitelné stavební materiály** – zahrnují produkty, které jsou vybírány, vyráběny a integrovány tak, aby jejich dopad na životní prostředí byl co nejnižší.

POTŘEBA INTEGRACE PRINCIPŮ UDRŽITELNÉ VÝSTAVBY DO VZDĚLÁVÁNÍ

Jak vyplývá z různých studií a statistických výzkumů, ve stavebnictví stále chybí tisíce odborníků, přičemž zájem o studium stavebních oborů výrazně neroste [5]. Téma nedostatku absolventů trápí dle analýzy CEEC Research většinu firem působících ve stavebnictví – konkrétně 89 % dotázaných [6]. Mezi hlavní příčiny patří nízká atraktivita odvětví, omezená spolupráce firem se vzdělávacími institucemi a nízká motivace studentů vstoupit do stavebnictví. Ve srovnání s jinými obory, jako jsou IT, marketing či finance, stavebnictví studenti nevnímají jako atraktivní, což dokládá pokles počtu zájemců o technické obory spojené se stavebnictvím o více než 40 % oproti roku 2010, a to i přes celkový nárůst vysokoškolských studentů. Nevyužitý potenciál pro zatraktivnění odvětví spočívá jak v popularizaci digitalizace a modelování staveb v BIM, tak i v progresu v oblasti udržitelnosti, neboť právě mladí lidé jsou na tuto problematiku citlivější [5].

Tradiční inženýrské vzdělávání dlouhodobě kladlo důraz zejména na technické kompetence, často na úkor širších aspektů udržitelnosti. Od současných inženýrů se však stále více očekává, že budou posuzovat dlouhodobé dopady na životní prostředí, náklady životního cyklu a spolupracovat s různými zainteresovanými stranami – dovednosti, které jsou v mnoha akademických programech stále nedostatečně zastoupeny [7]. Udržitelnost vyžaduje kvalitativní a interdisciplinární spolupráci, která umožní integraci různých znalostí pro udržitelnější řešení. Přesto jsou inženýrské programy většinou stále příliš specializované a nepodporují širší mezioborovou spolupráci [7].

Zvýšení informovanosti o problematice udržitelné výstavby znamená začlenit povědomí o environmentálních, sociálních a ekonomických aspektech do vzdělávání budoucích stavebních inženýrů. Již během výuky je nezbytné zaměřit se na vytváření řešení, která reflektují aktuální technické i ekonomické potřeby a zároveň podporují dlouhodobou ekologickou rovnováhu a sociální blahobyt. Vzhledem k tomu, že inženýrské obory ovlivňují velkou část zastavěného prostředí a průmyslových operací, je integrace principů udržitelnosti do učebních osnov klíčová pro přípravu inženýrů schopných řešit globální výzvy, jako jsou změna klimatu, vyčerpávání zdrojů a etika rozvoje [7].

NOVÝ BAKALÁŘSKÝ STUDIJNÍ PROGRAM FAKULTY STAVEBNÍ VŠB-TECHNICKÁ UNIVERZITA OSTRAVA

Výše uvedené důvody vedly k návrhu rozšířit stávající nabídku studijních programů na Fakultě stavební VŠB-TUO o nový bakalářský program, který reaguje na dynamický rozvoj stavebnictví v posledních letech, zohledňuje požadavky udržitelného rozvoje, více podporuje mezioborovou spolupráci mezi fakultami a zároveň posiluje přímou vazbu na praxi prostřednictvím odborných stáží studentů. Věříme, že koncepce nového programu bude pro uchazeče atraktivní.

Příprava a akreditace nového programu byla úspěšně dokončena a v akademickém roce 2025/26 Fakulta stavební VŠB – Technická univerzita Ostrava otevírá tříletý bakalářský program „Chytré a zelené budovy v cirkulárním stavitelství“. Realizace programu byla finančně podpořena z projektu Národního plánu obnovy

pro VŠB-TUO, specifický cíl B: Akademicky zaměřený bakalářský studijní program „Chytré a zelené budovy v cirkulárním stavitelství“, registrační číslo NPO_VŠB-TUO_MSMT-16605/2022. Projekt probíhal v letech 2022–2024. Jeho cílem bylo připravit a akreditovat nový bakalářský program v prezenční formě a původní čtyřleté délce studia. Po důkladném zvážení však bylo rozhodnuto zkrátit studium na tři roky, což se ukázalo jako velmi prozíravé rozhodnutí, neboť v současnosti všechny čtyřleté bakalářské programy v oblasti stavebního inženýrství na vysokých školách v ČR procházejí transformací na tříleté.

Fakulta stavební VŠB-TUO Ostrava se při tvorbě nového studijního programu inspirovala zkušenostmi ze zahraničí [8, 9, 10] a obdobně zaměřenými studijními programy, které jsou nabízeny na univerzitách v České republice a dalších zemích Evropské unie. Např. Fakulta stavební VUT Brno nabízí 4letý bakalářský studijní program Environmentálně vyspělé budovy a 3,5letý bakalářský studijní program Environmentální inženýrství. Fakulta stavební ČVUT v Praze nabízí 3letý bakalářský studijní program Stavby, krajina a životní prostředí. Rovněž technické univerzity v rámci zemí Evropské unie zahrnují principy udržitelné výstavby do vzdělávání prostřednictvím studijních programů – např. University of Natural Resources and Life Sciences, Vienna (BOKU) nabízí 2letý magisterský studijní program Green Building Engineering.

Inovativním přínosem studijního programu Chytré a zelené budovy v cirkulárním stavitelství na Fakultě stavební VŠB-TUO Ostrava není pouze zkrácená doba studia, ale především rozšíření „klasické“ nabídky výuky stavebních předmětů o disciplíny reflektující aktuální trendy ve stavebnictví a principy udržitelného rozvoje. To znamenalo nejen inovaci či tvorbu nových předmětů na Fakultě stavební, ale i zapojení předmětů z dalších fakult a institucí VŠB-TUO. K inovativním prvkům patří také zavedení výuky jednoho odborného předmětu v angličtině.

Jak již bylo zmíněno, teoretické znalosti v oblasti udržitelného stavitelství jsou pro studenty klíčové, avšak stejně důležité jsou i praktické dovednosti. Ty studenti získají především řešením konkrétních projektových úloh ve spolupráci se stavební praxí. Proto program zahrnuje zapojení stavebních firem do výuky i povinné odborné stáže studentů v délce 160 hodin. Do spolupráce byly vybrány jak projekční, tak realizační firmy, zaměřené na pozemní stavitelství, technická zařízení budov, BIM projektování, energetické a environmentální hodnocení budov, zelené fasády a interiérovou zeleň, úpravu a čištění vod či hospodaření s dešťovou vodou.

Rozvoj praktických dovedností studentů bude dále podpořen využitím nových interaktivních modelů, moderního softwarového vybavení a nově zrekonstruované učebny.

Profil absolventa

Studijní program je z hlediska své skladby i cílů zaměřen na navrhování energeticky efektivních a udržitelných budov se zdravým vnitřním prostředím. Absolvent bude schopen vypracovat návrh architektonické a stavební koncepce energeticky efektivní budovy s ohledem na využití ekologických a udržitelných materiálů, environmentálních a chytrých technologií, zelených prvků a na environmentální dopad stavby v průběhu přípravy, výstavby, provozu i likvidace budovy. Součástí studia je také rozšíření znalostí v oblastech digitalizace projektování (BIM), využívání virtuální reality a umělé inteligence při návrhu a realizaci staveb. Důraz je kladen i na rozvoj měkkých kompetencí, zejména jazykových dovedností a základů behaviorální ekonomie. Pro zvýšení uplatnitelnosti absolventů v praxi jsou do výuky zařazeny povinné odborné stáže studentů (160 hodin) ve stavebních firmách. Absolvent tříletého bakalářského studijního programu může dále pokračovat ve studiu na Fakultě stavební

VŠB-TUO, a to buď v nově akreditovaném dvouletém navazujícím magisterském studijním programu Chytré a zelené budovy v cirkulárním stavitelství, nebo v navazujícím magisterském programu Stavební inženýrství – BIM inženýring. Ostatní navazující magisterské studijní programy na Fakultě stavební budou v příštím roce nově transformovány a akreditovány ze současné délky 1,5 roku na standardní dvouleté studium.

Multioborová skladba výukových předmětů

Jak již bylo zmíněno, nový studijní program zahrnuje jak základní „klasické“ teoretické a odborné stavební předměty, tak i modernizované či nově vytvořené předměty. Program je koncipován jako multidisciplinární – na jeho výuce se kromě Fakulty stavební VŠB-TUO podílí také Fakulta elektrotechniky a informatiky, Fakulta materiálově technologická, Ekonomická fakulta, Fakulta bezpečnostního inženýrství a Centrum energetických a environmentálních technologií. Rozšířená nabídka předmětů se zaměřuje především na oblasti udržitelné výstavby, obnovitelných zdrojů energie, cirkulární ekonomiky, chytrých a environmentálních technologií, ekologických a udržitelných materiálů, zelené architektury, hospodaření s vodou v rámci budov, minimalizace negativních dopadů stavebních projektů na životní prostředí a také na digitalizaci projektování (BIM) či využití virtuální a rozšířené reality při návrhu a realizaci staveb. Součástí výuky jsou rovněž základy tradiční, behaviorální a cirkulární ekonomie. Celkem studenti během tříletého studia absolvují 51 předmětů, z toho 43 povinných a 8 povinně volitelných.

Podpora výuky

Jak již bylo zmíněno, díky finanční podpoře přípravy nového bakalářského studijního programu z projektu NPO bylo možné realizovat několik investičních akcí na podporu výuky. Nejnákladnější z nich byla rekonstrukce stávající učebny na tzv. „Chytrou laboratoř pro výuku využití umělé inteligence pro management budov“. Jedná se o moderní počítačovou učebnu doplněnou o interaktivní modely pro výuku odborných předmětů. Rekonstrukce zahrnovala nejen stavební úpravy, ale i kompletní výměnu elektroinstalací a datových rozvodů, instalaci nuceného větrání s rekuperací a vytvoření chytrého systému řízení osvětlení a větrání včetně monitorování parametrů vnitřního prostředí – teploty, relativní vlhkosti a koncentrace CO₂ a VOC (těkavých organických látek). Všechny použité technologie budou sloužit jako praktické ukázky řešení obdobných „chytrých“ prostorů v rámci výuky. Při výběru stavebních materiálů byl kladen důraz také na vytvoření zdravého a příjemného prostředí pro studenty – jako obkladový materiál stropu a stěn byly použity heraklitové desky, které zároveň přispěly ke zlepšení akustiky učebny. Autorem architektonické studie rekonstrukce učebny byl Ing. arch. Josef Řezníček (Obr. 1).



Obr. 1.: Rekonstrukce a modernizace učebny na Fakultě stavební VŠB-TUO (Zdroj: foto autor, architektonický návrh: Ing. arch. Josef Řezníček)

Z interaktivních modelů, pořízených pro nový studijní program, lze uvést například výukovou měřicí stěnu TZB umístěnou v nově rekonstruované učebně. Studenti si zde mohou v rámci cvičení vyzkoušet například hydraulické vyvážení otopné soustavy, tedy nastavení správného průtoku topné vody do jednotlivých otopných těles. Tím se zajišťuje rovnoměrná distribuce tepla, potřebný tepelný komfort v místnostech, a zároveň dochází ke snížení spotřeby energie i provozních nákladů (Obr. 2).



Obr. 2.: Výukový interaktivní model – měřicí stěna TZB (zdroj: foto autor)

Dalšími výukovými modely jsou retenční nádrž na dešťovou vodu a zelená fasáda. Nádrž byla vybudována u objektu dřevostavby v pasivním standardu v areálu Fakulty stavební VŠB-TUO a slouží především k zavlažování nově realizované zelené stěny na severní fasádě budovy. Systém fasády je modulární („síťový“ nebo „košový“) a tvoří jej speciální čedičová vata v modulárních koších, do kterých se osazují rostliny. Ty lze předpěstovat a následně snadno umístit do systému. Zálava je řešena automatizovaným kapkovým systémem napojeným na čerpadlo v retenční nádrži. Studenti se mohou seznámit s principy fungování systému, zapojit se do jeho údržby a sledovat spotřebu dešťové i doplňkové pitné vody. Výzvou je zejména provoz v suchých obdobích, kdy je třeba doplňovat nádrž ručně, a také v zimě, kdy je nutné systém odstavit kvůli nízkým teplotám (Obr. 3).

Jedním z významných cílů nového studijního programu je rozvoj dovedností v oblasti digitalizace 3D projektování (BIM), vizualizace, využití virtuální reality a umělé inteligence při návrhu a realizaci staveb. Tyto kompetence budou podporovány novým počítačovým vybavením a softwarem pořízeným z projektu NPO. Součástí výuky bude i praktické využití virtuální a rozšířené reality v odborných předmětech.



Obr. 3.: Výukový interaktivní model – zelená fasáda a retenční nádrž na dešťovou vodu (zdroj: foto autor)

ZÁVĚR

Stavebnictví v posledních letech prochází dynamickými změnami, které vyžadují adaptaci na nové technologie, společenské požadavky i environmentální výzvy. Zvyšování povědomí o základních principech udržitelné výstavby je proto důležité nejen mezi odborníky z praxe, ale zejména mezi budoucími stavebními inženýry prostřednictvím výuky a studijních programů. Od absolventů stavebních oborů se dnes stále více očekává schopnost navrhovat a realizovat stavby, které jsou nejen technicky funkční a ekonomicky efektivní, ale zároveň šetrné k životnímu prostředí a odpovídající potřebám společnosti.

Fakulta stavební VŠB – Technické univerzity Ostrava na tuto výzvu reaguje novým tříletým bakalářským programem Chytré a zelené budovy v cirkulárním stavitelství, který doplňuje tradiční stavební disciplíny o předměty zaměřené na aktuální trendy v oboru a principy udržitelného rozvoje. Silný důraz na spolupráci s praxí by měl navíc přispět k lepší uplatnitelnosti absolventů v budoucnu. Fakulta stavební VŠB-TU Ostrava očekává, že konkrétním přínosem nového studijního programu bude zvýšený zájem studentů o studium a také zájem odborných firem o budoucí absolventy.

PRAMENY/POUŽITÉ ZDROJE

[1] DUŠKOVÁ, Markéta (2024). Budoucnost stavebnictví: Jak řešit výzvy udržitelnosti? [online] Ekolist.cz. Available at: https://ekolist.cz/cz/publicistika/civilizace/budoucnost-stavebnictvi-jak-resit-vyzvy-udrzitelnosti#google_vignette [Accessed 31 Aug. 2025].

[2] [online] Available at: <https://mmr.gov.cz/cs/ministerstvo/regionalni-rozvoj/informace,-aktuality,-seminare,-pracovni-skupiny/psur/uvodni-informace-o-udrzitelnem-rozvoji/zakladni-pojeti-konceptu-udrzitelneho-rozvoje>.

[3] AIBLOVÁ, Sára (2024). Udržitelná výstavba: Jaké jsou principy a životní cyklus. [online] CzechTechnology. Available at: <https://czechtechnology.cz/stavebnictvi/udrzitelna-vystavba-jake-jsou-principy-a-zivotni-cyklus/> [Accessed 31 Aug. 2025].

[4] Theaccessgroup.com. (2025). Complete Guide To Sustainability in Construction | Access Coins. [online] Available at: <https://www.theaccessgroup.com/en-gb/construction/resources/sustainability-in-construction-industry/#heading5> [Accessed 31 Aug. 2025].

[5] BARIČ, Karolína. Jaké bude české stavebnictví v roce 2030? Zelené nebo žádné. [online] RETHINK ARCHITECTURE. Available at: <https://www.rethinkarchitecture.cz/publikace>.

[6] CEEC Research - (2025). Kvartální analýza českého stavebnictví Q1/2025 - CEEC Research. [online] Available at: <https://ceec.eu/analyzy/kvartalni-analyza-ceskeho-stavebnictvi-q1-2025/> [Accessed 31 Aug. 2025].

[7] SABRI, Omar K. (2025). Rethinking sustainability in engineering education: a call for systemic change. *Frontiers in Education*, 10. doi: <https://doi.org/10.3389/feduc.2025.1587430>.

[8] OPOKU, Alex, GUTHRIE, Peter (2017). Education for sustainable development in the built environment. *International Journal of Construction Education and Research*, 14(1), 1–3. <https://doi.org/10.1080/15578771.2018.1418614>.

[9] LEE, Sanghyo, LEE, Joosung, AHN, Yonghan. Sustainable BIM-Based Construction Engineering Education Curriculum for Practice-Oriented Training. *Sustainability* 2019, 11, 6120. <https://doi.org/10.3390/su11216120>.

[10] OPOKU, Alex (2016). SDG2030: A sustainable built environment's role in achieving the post-2015 United Nations Sustainable Development Goals. In P. W. Chan & C. J. Neilson (Eds.), *Proceedings of the 32nd Annual ARCOM Conference* (Vol. 2, pp. 1149–1158). Manchester, UK: Association of Researchers in Construction Management. 2016, September 5-7.

NOTES

POZNÁMKY

