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TRANSLATED BY Florina TUFESCU

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SCHOLAR ARCHITECT 2022
Research and implementation of new trends, innovations and experiments in architecture and related fields of education
Project financed by CNFIS-FDI-2022-0075

The English edition was translated from Romanian within the framework of the project

SCHOLAR ARCHITECT 2023
Promoting linkage to topical trends, technologies and issues in architectural and urban planning education
Project financed by CNFIS-FDI-2023-F-0436

The Institutional Development Fund, Domain 5:
Improving the quality of teaching, including the observance of professional and academic ethics.

contents

foreword

Already in its third edition, the *Scholar Architect* project establishes and specifies a trajectory of its own in the attempt to respond to the constant need, within the academic environment, of improving the quality of teaching. Through research as well as through promoting research, the project has moved beyond the (2020 and 2021) aim of improving the academic and didactic quality of architectural education to the (2022) aim of researching and implementing new trends, innovations and experiments in architectural and related education.

Within the framework of the *Scholar Architect* 2022 project, diverse materials have been presented and published, with many of these being also accessible to a broad audience. This openness is meant to bring closer the academic and professional discourses that promote innovative, experimental approaches and respond in an up-to-date manner to the needs and challenges raised by contemporary society. Webinars and podcasts are accessible via the Youtube channel (the *Scholar Architect* channel), virtual exhibitions can be viewed on the University webpage dedicated to the project (www.uauim.ro/cercetare/scholarh-2022) and all of these items are also visible on the Facebook page (www. facebook.com/scholarhuauim).

This publication offers details of some of these events while adding other materials developed within the framework of project research. Each chapter is related to one of the three project objectives below:

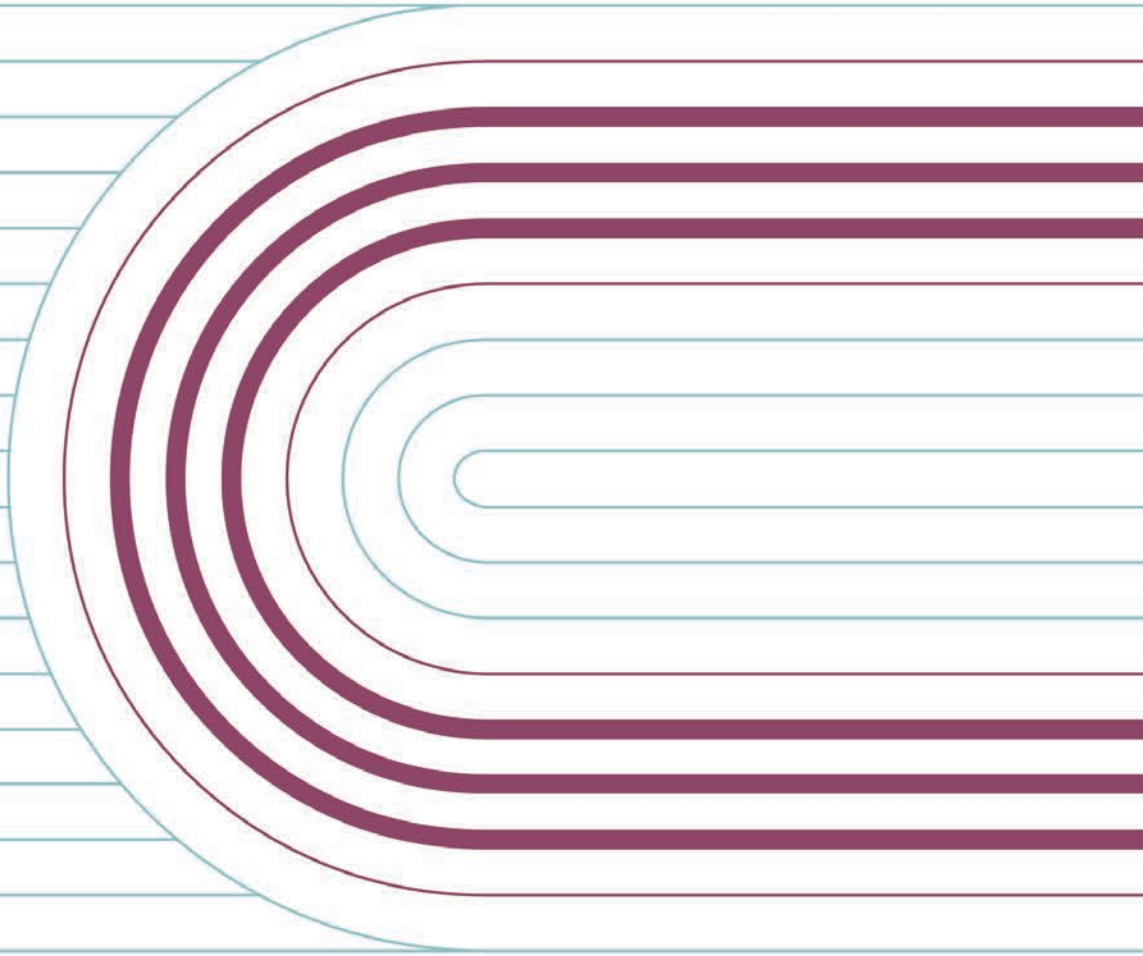
Objective 1: Developing UAUIM connectivity at the national and international level as a means of promoting adaptability and linkage to the latest trends in architecture, urban planning and related fields.

Objective 2: Promoting means of learning that rely on digital resources and technologies within an innovative, dynamic context while focusing both on the connection between the academic and professional environment, which is marked by the complexity of social, economic and technological relationships, and on the manner in which the latter influence the activities specific to the domains taught at UAUIM.

Objective 3: Evaluating and supporting the academic identity of UAUIM, in correlation with the visions, at the national and international level, on subject-specific education in architecture, urban planning and related fields and on the professions targeted by it.

We emphasize the fact that, as apparent from the formulation of the three objectives, the project aimed at alignment with national and international academic and professional trends without, however, losing sight of the identity of the University. This has been viewed here through the lens of the educational objectives developed by UAUIM over time but also through the particular and diverse ways in which the members of the academic community understand and apply these objectives in their own activities.

Anda-Ioana SFINTEȘ
Project coordinator



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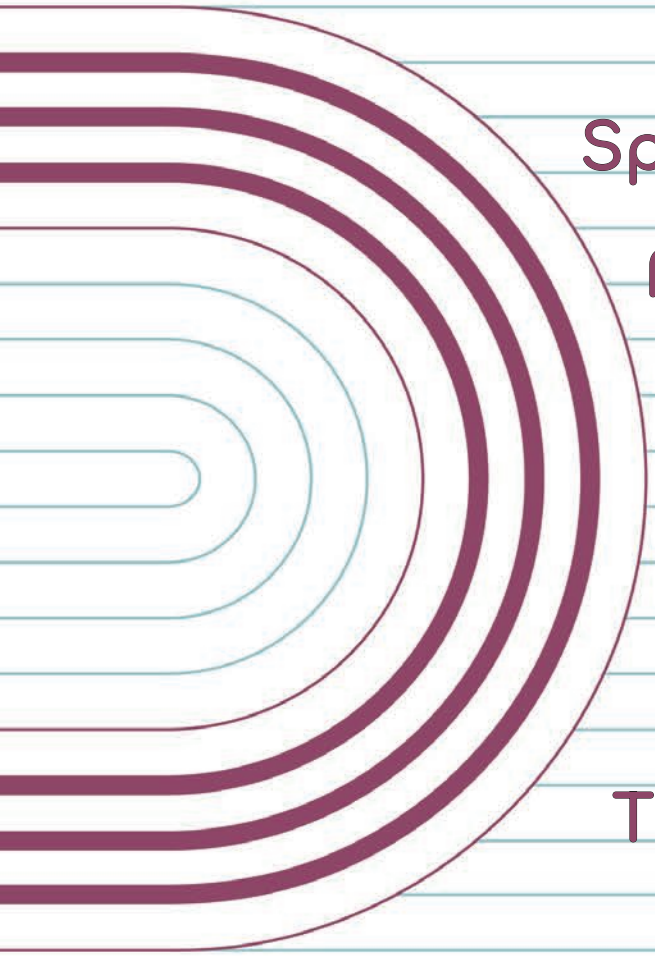
Magdalena STĂNCULESCU



Specificity, particularities and trends in tertiary architectural education. The design studio

Student motivation is that dimension whose true value needs to be recognised in order for it to be taken into consideration in research on the academic educational environment and for its explicit role to be acknowledged in the success of university studies as well as in the attainment of a high level of competence and professional achievement. Prompted by these initial considerations, we began the study with the aims of understanding the need for change in the teachers' visions and attitudes and of explaining the potential future needs of the students currently embarked on architectural studies.

The present-day academic environment must undergo transformations, under the influence of the constant challenges from the technological field (in particular digitalisation), which have an impact on almost all the areas that influence the architectural profession as well as the construction field. Other unexpected challenges, such as the recent pandemic wave, have led to major changes in the manner of conducting teaching, studio supervision and other design-related activities.

The obvious imperative of being a good teacher entails the capacity of being a tireless seeker whose critique can contribute to refinement, discoveries and guidance with a view to advancing in the domain of knowledge and in the understanding of the world we live in. A good teacher is, in many circumstances, seen as someone who is very knowledgeable and well-informed on the latest studies and research in their field. And more than this, a good teacher, in the current context, must be willing to learn constantly, to question and to think critically together with the students. The most appropriate support they can offer students is to give them confidence in their capacity to tackle diverse topics with the knowledge acquired up to that moment, to instil them with the courage to search for new ideas, solutions and opportunities, to train them to work or to lead work teams with a view to constant optimisation of the flow of information and of efforts.

The architectural design studio is that marvellous place where students, guided and supervised constantly by teachers, evolve gradually, over the course of the years of study, by perfecting various competencies and abilities, in order to become professionals who are capable of examining the project context in a multifaceted and exhaustive manner, of empathetically considering the different factors and categories of users involved in the project and of having the ability and the autonomy to create, on the basis of research-derived premises, viable architectural solutions for a sustainable future.

The trajectory of the research project that is developed and explained in this chapter contains a sequence of activities marked by the attempt to answer several questions connected to the practical activity of the design studio.

QUESTION 1 – How do we guide students in approaching the research of a particular theme and the presentation of its results, even when the themes are very different from the point of view of work duration, of complexity or of the degree of detailing?

ACTIVITY: WEBINAR
Teaching methods in the design studio

Fig. 1. Webinar poster. Design: Ioana Boghian-Nistor and Diana Rusu.

To answer this question, we organised an online discussion/roundtable with teaching staff from the architectural design and the urban planning studio (Scholar Architect, 2022). The first step of the research was to explore, via comparison, different teaching and supervision methods of studio work, together with the colleagues we invited from ETH Zürich: Ileana Apostol and Panayotis Antoniadis, as well as with colleagues from the "Ion Mincu" University of Architecture and Urban Planning - Bucharest (UAUIM): Vlad Eftenie, Dragoș Popescu, and Alexandru Brătescu and the undersigned, who takes this opportunity to renew her thanks for their participation and support. The discussions highlighted supervision and working methods employed for various student projects at the UAUIM Faculty of Architecture and at the ETH Zürich Department of Architecture (D-ARCH). Projects with a wide range of themes were presented: urbanistic approaches which propose something akin to designing a choreography of passersby's movements, thus determining urban public space; conceptual projects for the functional conversion of a disused water tower that is nevertheless significant to place memory; finally, projects where students were directly involved in designing and arranging the interior of the faculty work spaces.

Remodelling of a public space in Zürich

Concepts like place, site, context, regionalism must not merely be understood but also approached through practical study. It is necessary to find the optimal solutions, with an extremely wide register being available to those involved in implementing them. It is also necessary to infer the nature of these spaces in the future rather than attempt to define them in a precise, restrictive manner. In imagining spaces, the dimension given by movement over time is more important than their geometrical shape since this is in fact the dimension of the multiple configuration possibilities that generate a diversity of events. The proposed interventions must embody the special, essential "state" rather than a materialised physical space.

Based on free research methods derived from sociological studies, the project relies on interviewing passersby and the users of the chosen urban space in order to decide what would be optimal to implement in the studied place. The comparison of the students' initial design intentions with those derived from the questionnaires brings up the true value of design created for community beneficiaries.

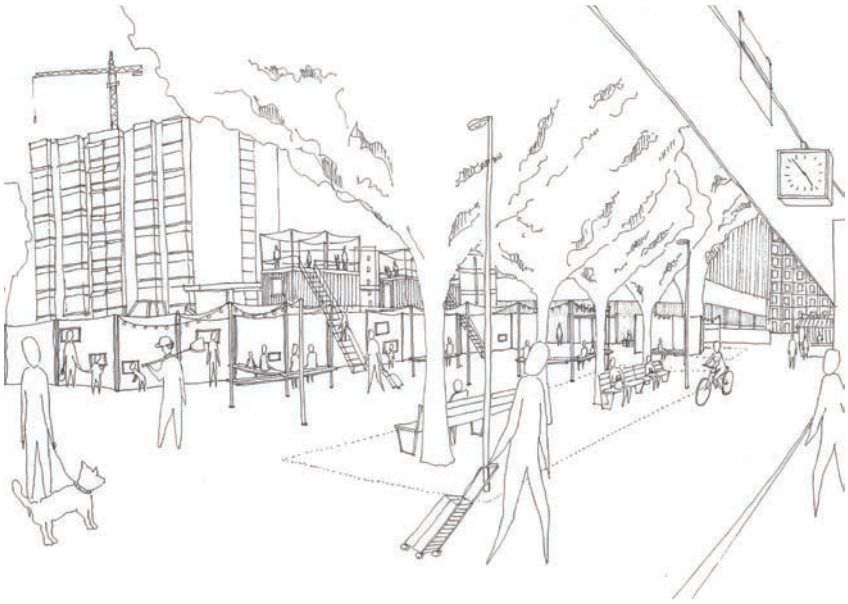


Fig. 2. Characteristic image of the urban space proposal.
(c) Olga Cobuscean, ETH Zürich Department of Architecture (D-ARCH)

Conversion of the "Favorit" water tower from Drumul Taberei, Bucharest

The vastly different solutions proposed by the students for this conceptual project demonstrate the benefits of not having a preset function at the initial stage. The initial moment is dedicated to the multiplicity of modes of looking at this stage of researching the context

before adapting the design to as many scenarios as possible: some feasible, viable, others bold but unlikely to be built. The way in which students decide upon the design and chosen functionality in completing the studio brief enables them to consolidate an independent position while also giving them the possibility to justify their choices on the basis of multiple criteria. Some of the project themes proposed by the students are shown below: vertical garden, interactive exhibition, memory tower, waterfall-instagrammable place, interactive educational space, gravity tower, etc.

Fig. 3. Field trip with the student group.

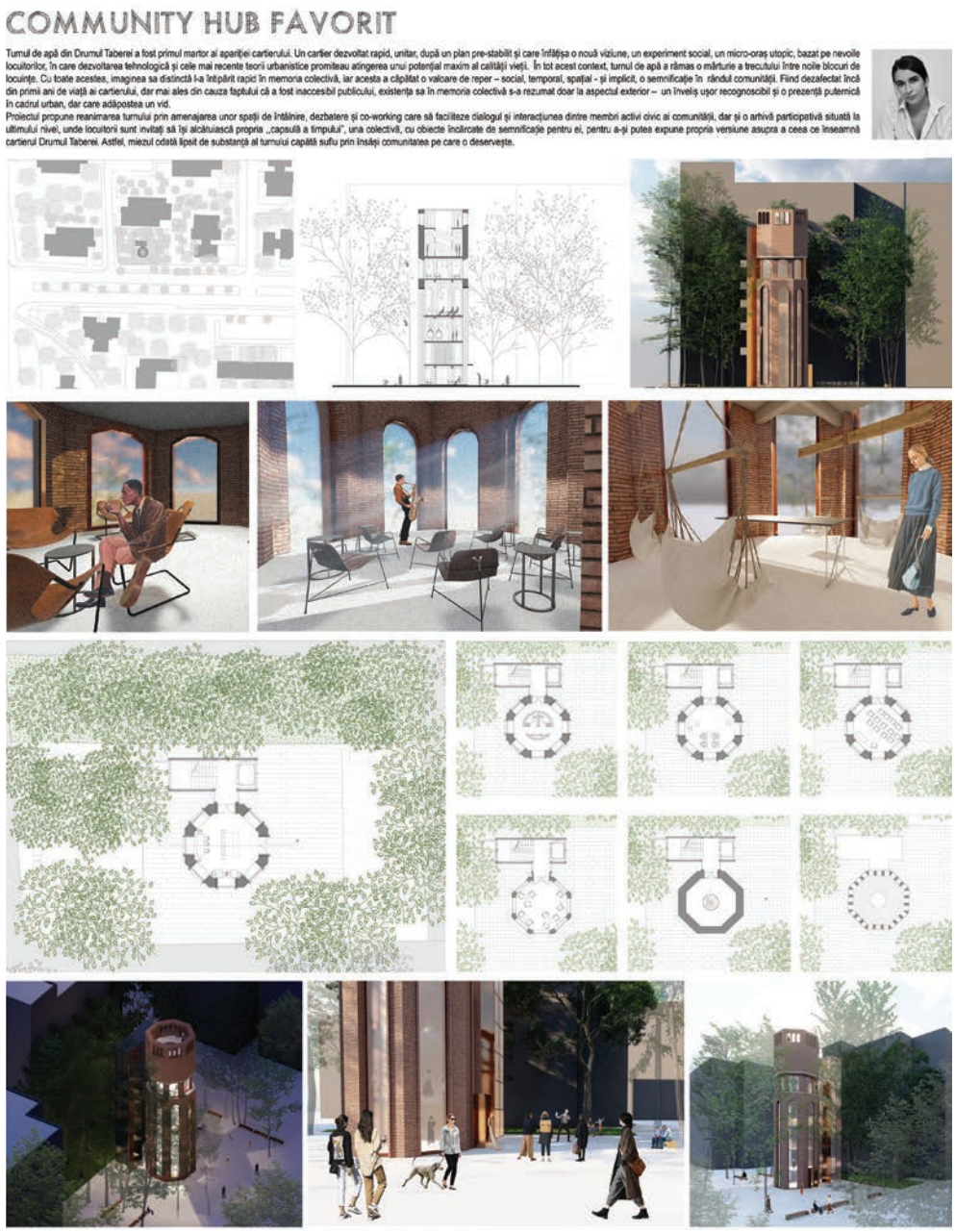


Fig. 4. Conversion proposal – Alexandra Ghiță.

Fig. 5. Conversion proposal – Mara Albescu.

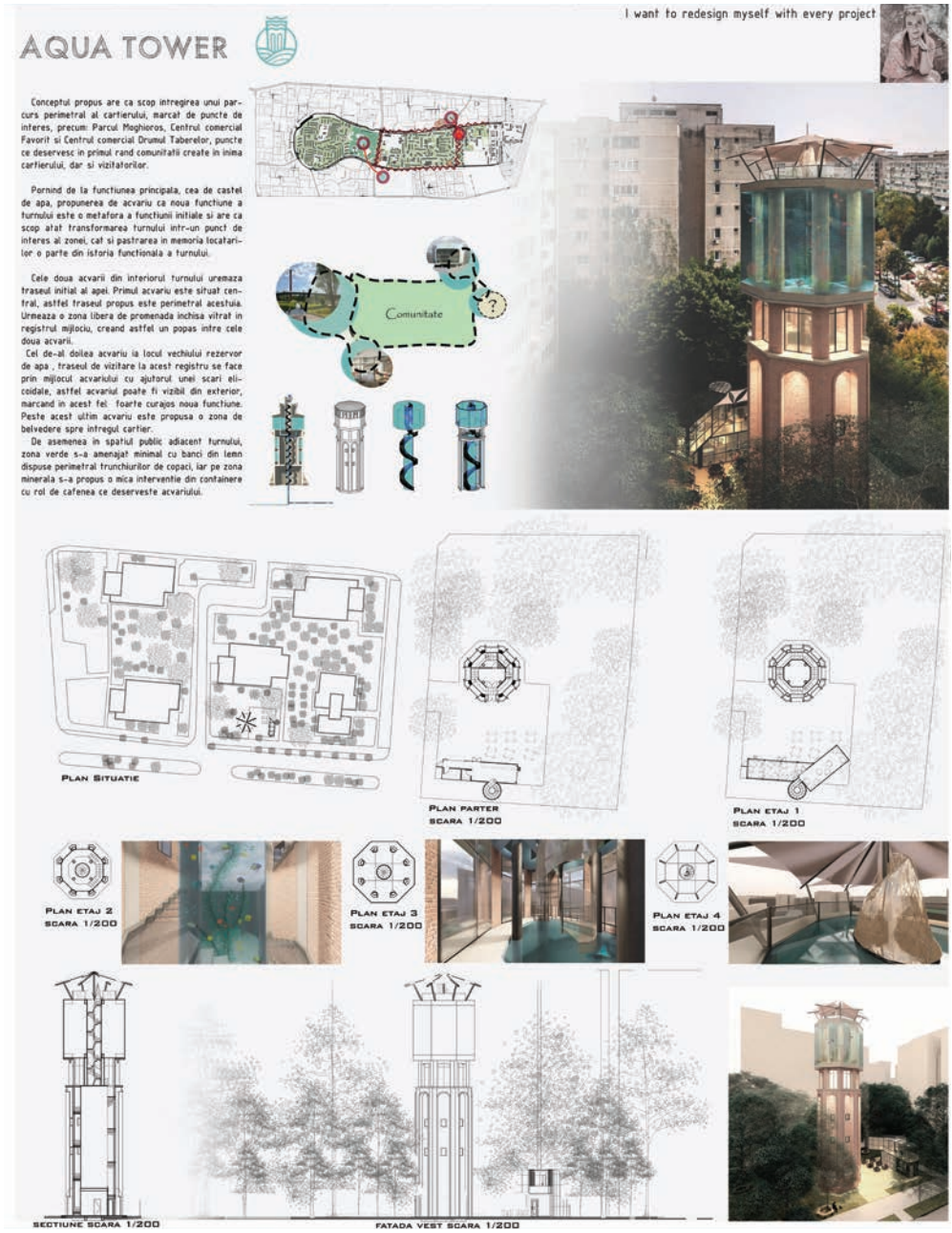


Fig. 6. Conversion proposal – Lavinia Erceanu.

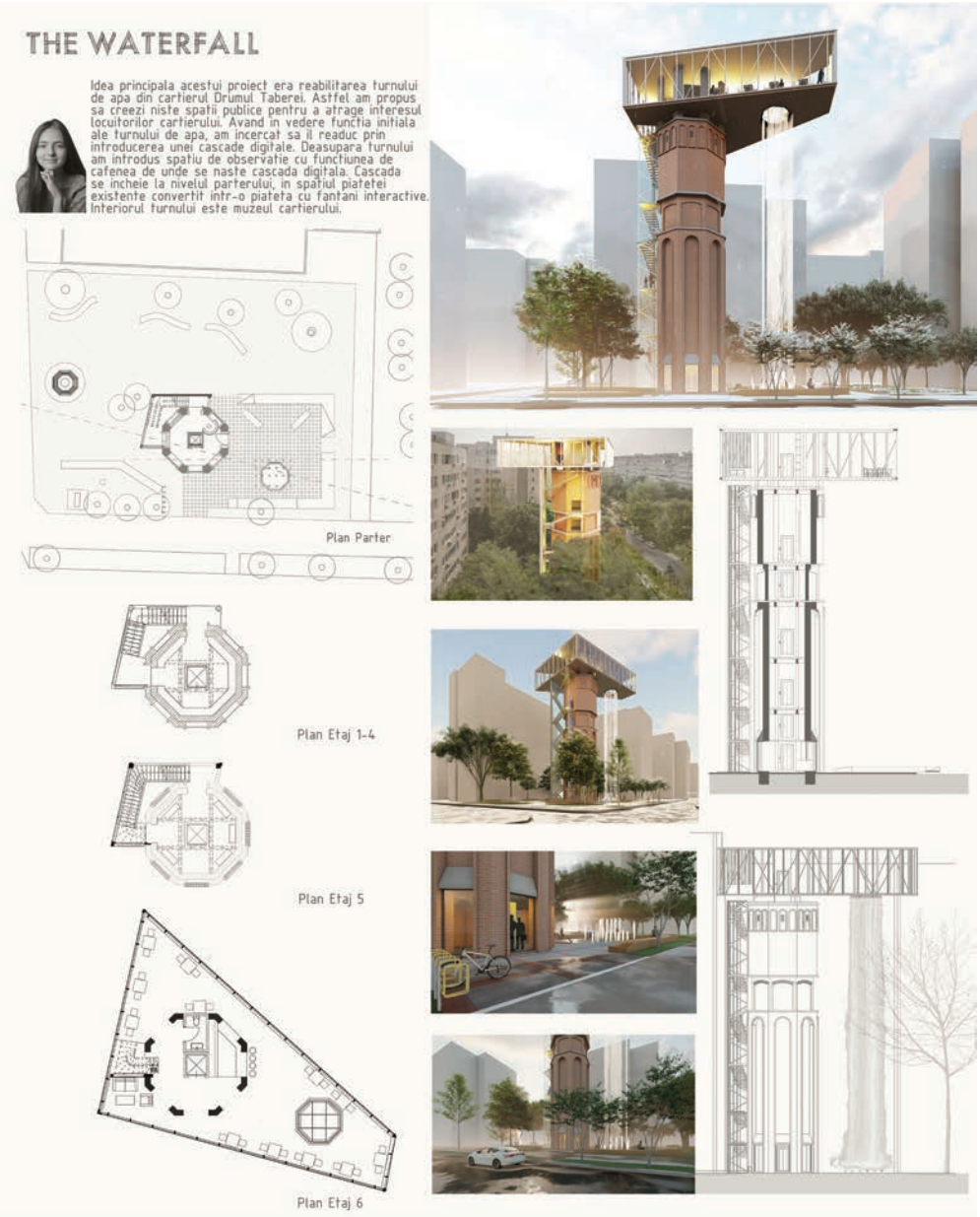


Fig. 7. Conversion proposal – Anastasia Shcherbak.

Fig. 8. Conversion proposal – Maria Claudia Matache.

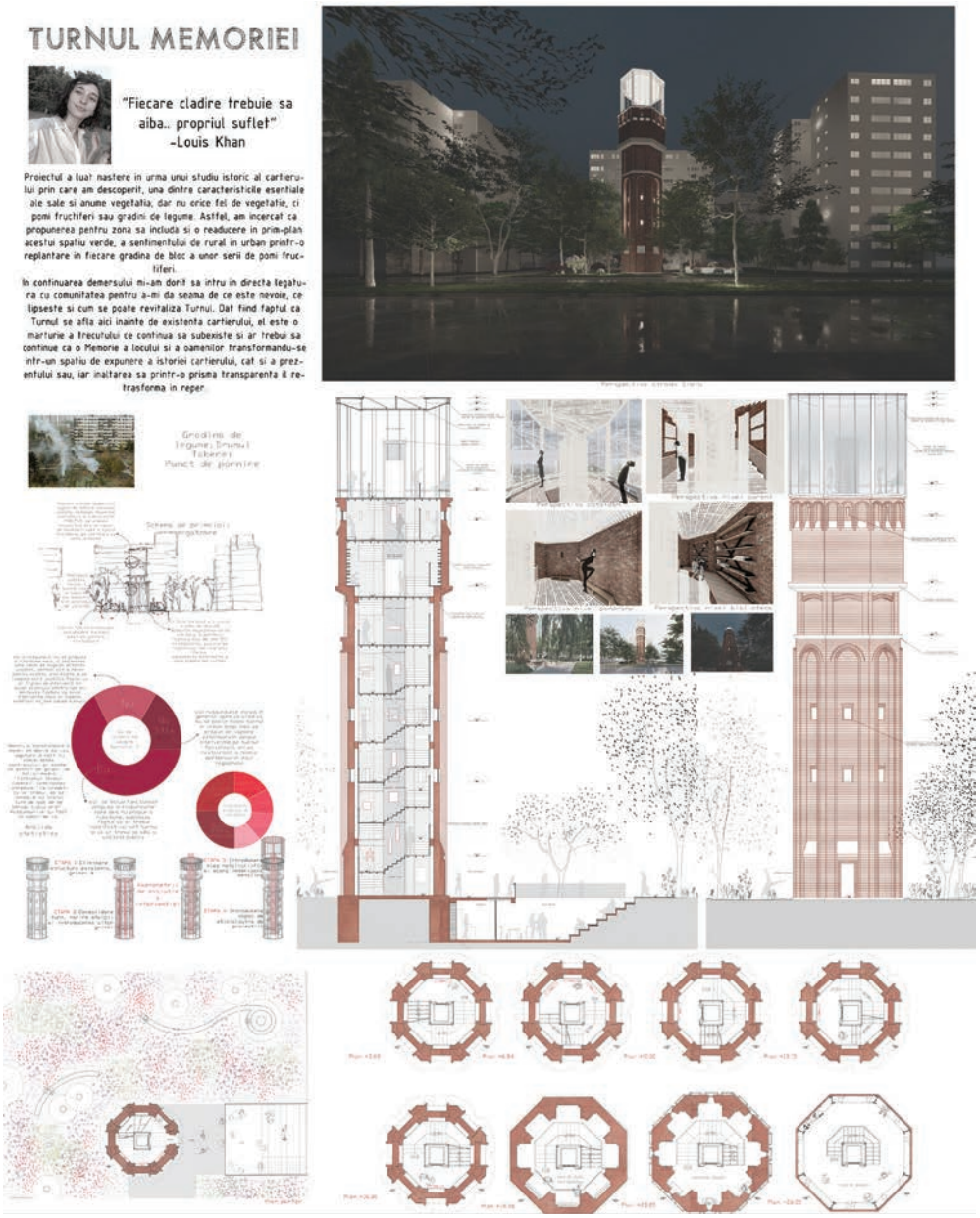


Fig. 9. Conversion proposal – Cristina-Ionela Nistor.

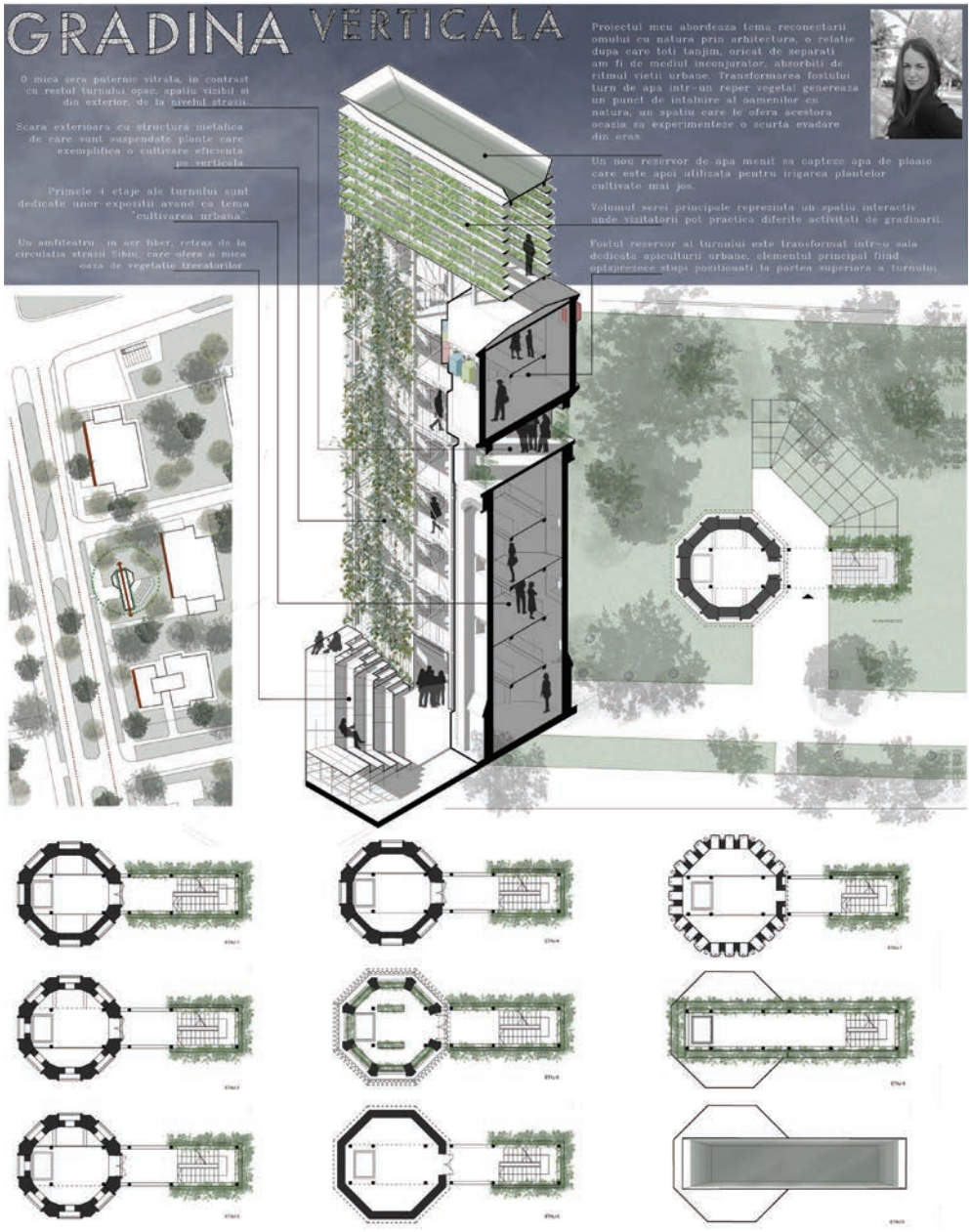


Fig. 10. Conversion proposal – Teodora Anghelache.

Fig. 11. Conversion proposal – Teodora Anghelache.

Remodelling and configuring the work studio of the Design Dialog LAB of the Faculty of Architecture at ETH Zürich

The aim of this project was to impress upon the students the fact that good results can be achieved even if less is built, that a maximum of comfort can be obtained with a minimum of effort. The study is a eulogy of the exceptional versatility of free space. New methods of space exploration via sensory perception such as sound listening or movement/dance were introduced into studio activities in place of traditional methods. The discussion/debate space was configured in the manner of an experimental theatre stage. The final presentation focused on summarising the work process and the experience gained by each student in the course of designing the interior.

Sketch-by-sketch brief of a real-life project at UAUIM

In this project, year 5 students came in contact with the reality of a call for proposals launched by the City Hall of District 6 of Bucharest, which asked for the detailing and functional compartmentalisation of interior space and the imagining of a landmark structure for the conversion of an abandoned underground tunnel into *Saltcave – a therapeutic and leisure space*. The students attempted to provide coherent answers to the multiple constraints of the linear subterranean space, with very disproportionate dimensions and lacking light and natural ventilation. This was an individual project without teacher guidance since the exercise was intended to simulate the real-life situations which require finding a quick answer to a design brief, in eight hours of intensive work.

Fig. 12. Sketch – Alexandra Ghiță.

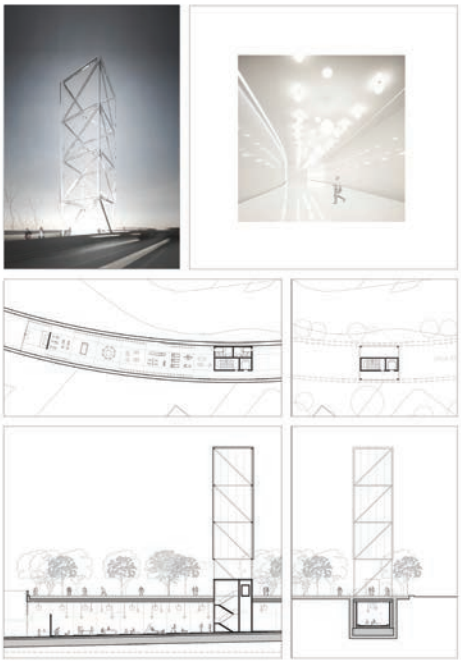


Fig. 13. Sketch – Diana Gosav.

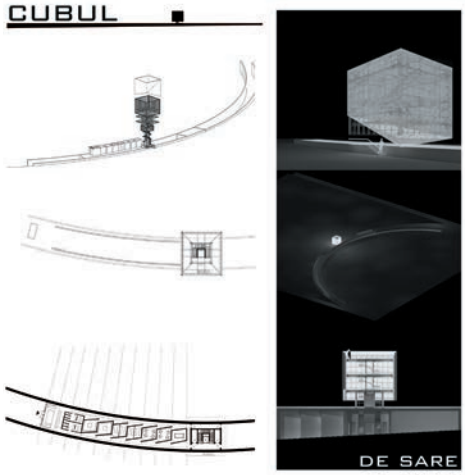


Fig. 14. Sketch – Sabina Sabotnicu.

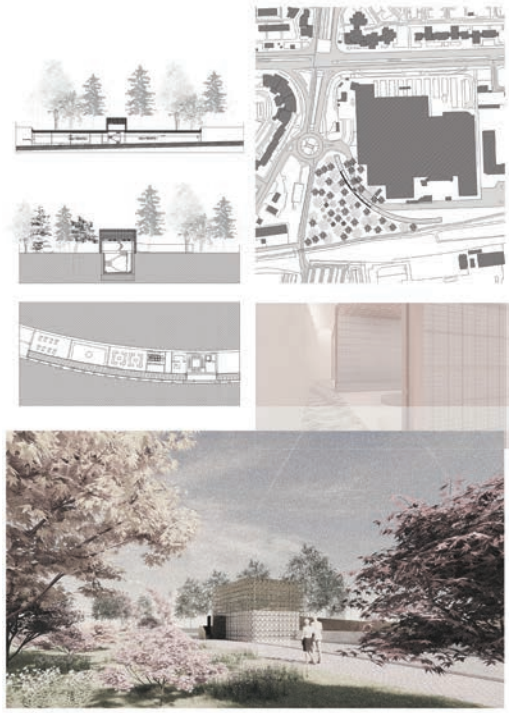


Fig. 15. Sketch – Nela Mihaela Andrieș.

The expansion of the Museum of Technology through the conversion of the Electric Power Plant, Bucharest

This is an example of a large project, studied over a semester and covering all study stages. In its initial stage, the research examined the urban, functional, volumetric, qualitative, legal, historical context, etc. before progressing to more sensitive analyses related, for example, to architectural image and reference points or routes linked to the nearby Carol Park. The architectural solutions proposed by the students also considered connecting the district to the park, reconfiguring car and pedestrian traffic as well as proposing a master plan for the unbuilt areas. The repurposing of the museum, which develops into several distinct volumes, has also led to different connecting solutions: underground, via a public urban space, or via skywalks. All proposals included detail-level solutions by technically explaining a bay. This type of project comes closer to real-life design through its complexity and multi-stage planning, but also through the combination of teamwork (in groups of four or two students) for certain parts of the project with individual work for some detailings.

Fig. 16. Analysis – Mara Albescu, Teodora-Andreea Anghelache, Florin Cătinaș and Claudia Maria Matache

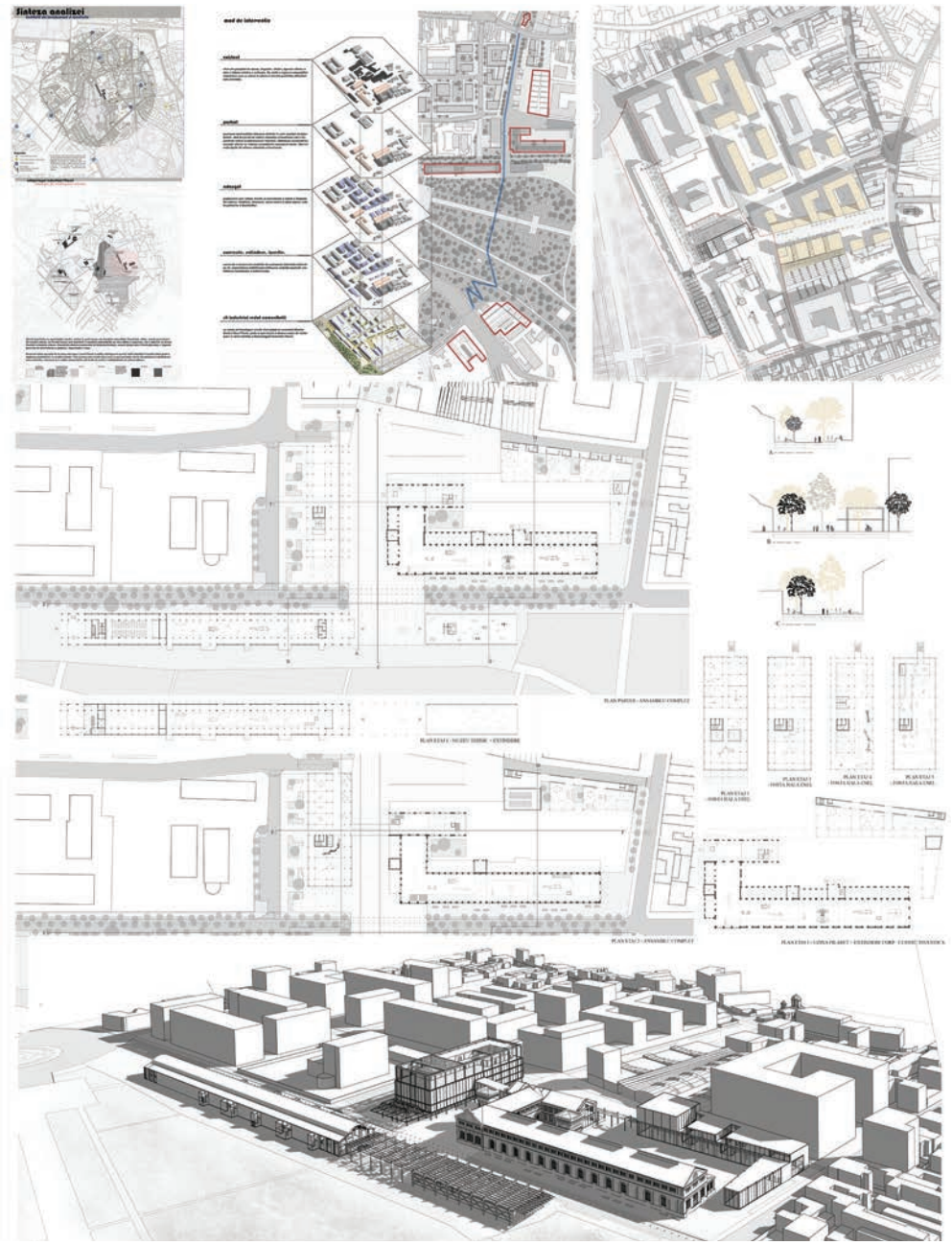


Fig. 17. Expansion proposal – Teodora-Andreea Anghelache and Florin Cătinaș.

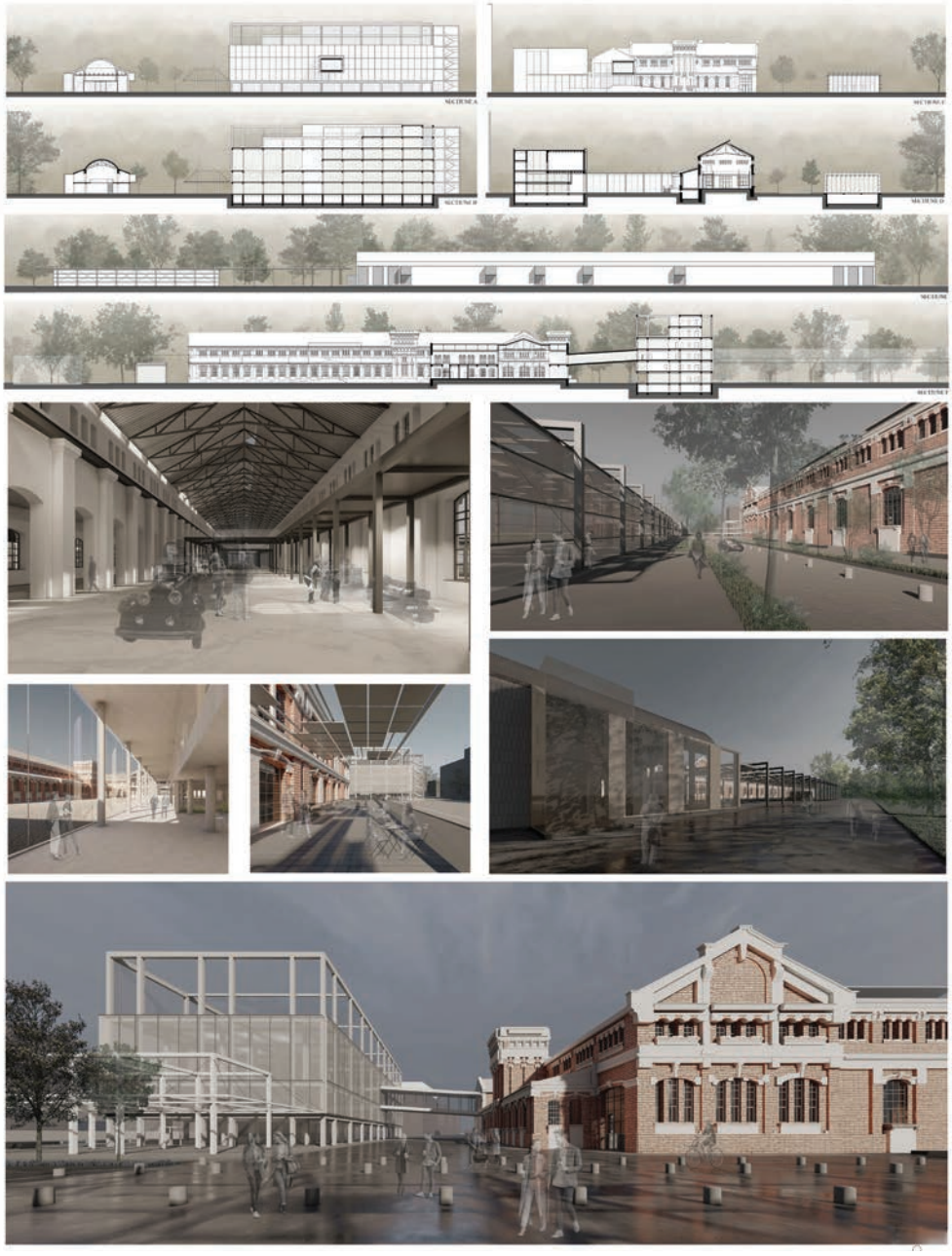


Fig. 18. Expansion proposal – Teodora-Andreea Anghelache and Florin Cătinaș.

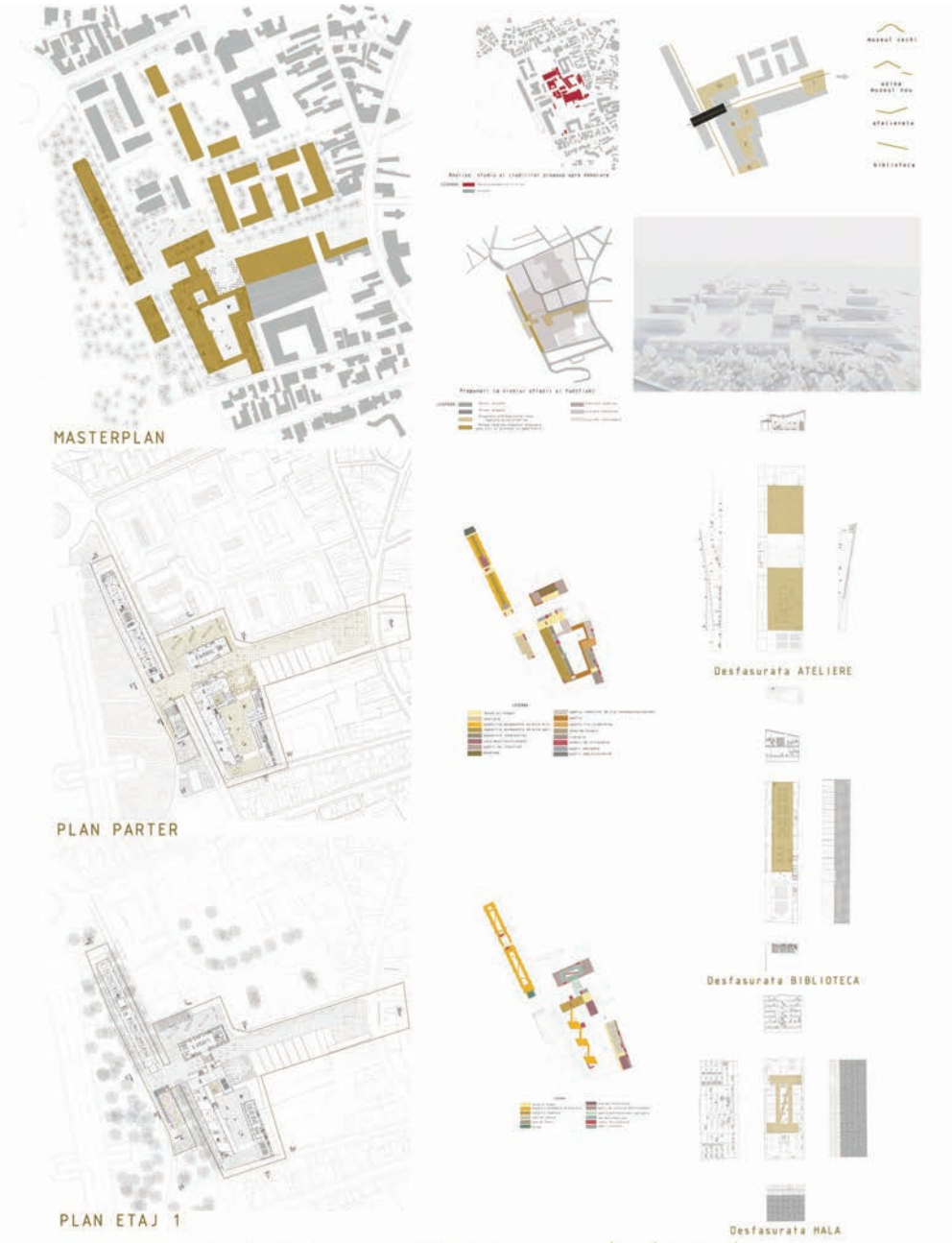


Fig. 19. Expansion proposal – Cristina-Ionela Nistor and Angeles Irene Pla Arenas.

Fig. 20. Expansion proposal – Cristina-Ionela Nistor and Angeles Irene Pla Arenas.

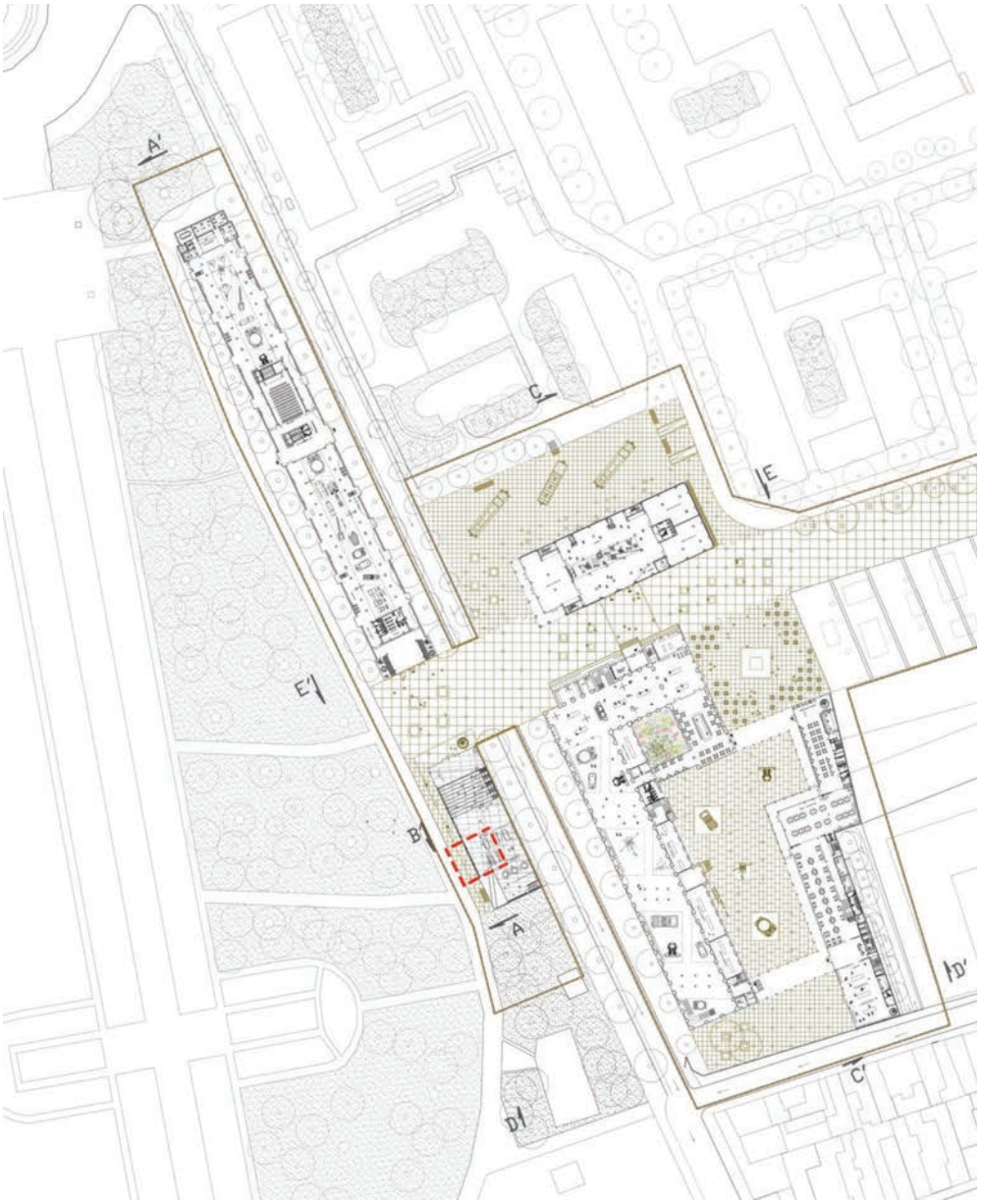


Fig. 21. Expansion proposal – Cristina-Ionela Nistor and Angeles Irene Pla Arenas.

The exchange of ideas at the roundtable was beneficial to the teaching staff of both universities as well as to the attending public.

QUESTION 2 – What kind of space is well-suited for the architectural studio, how can it be configured and how does it influence the way the activity is conducted?

ACTIVITY: WORKSHOP
Re(in)novating the workspace in the architectural design studio

Fig. 22. Workshop poster. Design: Ioana Boghian-Nistor and Diana Rusu.

To determine what those redesigns might look like, we need to understand how places, crowds, views, architecture, and ways of moving influence the way we feel. We need to identify the unseen systems that influence our health and control our behaviour. Most of all, we need to understand the psychology by which all of us comprehend the urban world and make decisions about our place in it. (Montgomery, 2013, p. 78)

Starting from this quotation and relating everything to the scale of a studio-shared space for a student group, we launched, via this workshop, the challenge of re-examining, renovating and innovating the space of the design studio. The workshop was organised by Magdalena Stănculescu and Alexandru Brătescu, who were joined by Vlad Eftenie, Dragoș Popescu and Paul Hîrtiescu as guest tutors.

Reinventing the familiar, we discussed in the workshop the fact that multiple activities benefit from game change, whenever necessary, provided this change is made easily and flexibly. The impact of design, of interior design and of furniture arrangement on user behaviour was discussed and tested in practice. Other topics, brought up for discussion in the brainstorming type of activity or proposed by the students

themselves, were: the sense of identification with the used space, the sense of control over its quality, enhancement through small doses of views and greenery, the adoption of sustainable design or the use of recycled materials.

The presentation of the activity and its results are the subject of the following chapter.

QUESTION 3 – How could the manner of working be improved from the perspective of the ideas presented in the previous activities?

ACTIVITY: EXPERIMENTAL PROJECT

INSIDE – OUTSIDE – IN BETWEEN. UAUIM – Public-private connections with the adjacent urban spaces

Fig. 23. The poster of the presentations session. Design: Ioana Boghian-Nistor and Diana Rusu.

> The cognitive error that may have had more influence than any other on the shape of our cities is known as presentism: we let what we see and feel today bias our views of the past. This commonly expresses itself as a tendency to assume that the ways we think and act will not change as time passes. (Montgomery, 2013, p. 98)

The current urban context of Bucharest city centre opens up opportunities for the regeneration of the historical area. "Reconquering" the historical centre should not be superficially understood through the lens of already completed operations – of the restoration of the street profile and of exclusive orientation towards the leisure/food supply function. Urban regeneration – via specific complex operations – brings out the potential of the studied area (from the historical, cultural, architectural and social point of view) through the re-examination of built heritage from a contemporary perspective, given that the city is

a perpetually evolving and transforming organism. The city must be given back to its residents and visitors; pedestrian or environmentally-friendly traffic can mark the beginning of an active, positive urban life, befitting a contemporary metropolis. The space of the city thus requires a lucid overall perspective since it is important to reconcile its spirit, characterised by apparently contradictory juxtapositions, with the necessity of its coherent organisation from the configurative-spatial and functional point of view.

The design brief proposed the spatial-functional investigation of the site of the "Ion Mincu" University of Architecture and Urban Planning and of all the adjacent public spaces. The project entailed handling concepts based on a complex system of spatial connections between existing and proposed functions, of different types, and the adjacent urban spaces. The aim was the study and creation of coherent configuration, use and connection scenarios of spaces of a public-private character, which determine organisation, ranking and the articulated spatial-functional correlation. At the same time, the specificity of the site, user needs as well as architectural-structural, aesthetic, legal and other constraints were taken into account.

The proposals developed by the student teams highlighted relationships and connections to recreate the architectural-urban image of the analysed site and they reinvented, (re)activated and conferred new attributes to the public-private space relationship.

In the context of sequential analysis, a well-argued and appropriate approach to the built environment was proposed – at the level of the facade, overall dimensions, style and function, via unitary treatment, coherent transition with an integrative aim, taking into account the historical significance of the area and of the buildings in the studied ensemble. The proposals aimed at the systemic reconsideration of the architectural and urbanistic framework – in its public/semi-public/private dimension – through rehabilitation/completion/construction of the built environment (defined by fronts/buildings) and of the unbuilt environment (defined by pedestrian areas, pavements, alleys, squares), as well as through the proposal of adequate urban furniture. The main learning objectives related to the project include: understanding the spatial complexity determined by the public-private correlation; the capacity of developing a system of coherent relationships between spaces and functions with specific purposes and dimensions and their clear transposition into an architectural concept; enabling students to adapt to working in larger and smaller teams as well as individually in the course of the same project.

The study relied on direct observation, on specialised background research, on photographic analysis at eye and aerial level, on surveys and questions addressed to passersby and to the users of the different spaces, referencing their positive and negative experiences in these contexts. The presentation consisted in screening the following elements:

_documentation and research notebook;

_list of criteria proposed in the context of site analysis;

_summary image of the proposal in context and of the public-private space relationship, *croquis*, spatiality sketches, photographs, 3D renderings, key images, collages, videos of movement in space, etc.;

_massing model or 3D conceptual renderings;

_photo/video montage – with the presentation of a pre- and post-intervention comparison.

The results were publicly presented by the students in the design studio and formed the subject of the joint exhibition proposed for the subsequent activity.

The tutoring group of the experimental project consisted of Magdalena Stănculescu, Vlad Eftenie, Dragoș Popescu and Alexandru Brătescu.

> Now it is possible to actively plan to reinforce life in the cities, or, at a minimum, to ensure that a public space is useable and pleasurable for urban inhabitants. (Gehl & Svarre, 2013, p. 159)

QUESTION 4 – How can the ideas and projects be disseminated?

ACTIVITY: JOINT EXHIBITIONS

Current studio work trends bring together a series of working methods, some of them considered old-fashioned at some point, yet rediscovered, reinvented in a contemporary key (clay and plaster models, polystyrene), and others in step with the avantgarde in relation to the latest digital developments (virtual exhibitions, 3D models visualised with VR sets, 3D printed models etc.).

Within the context of innovative activities, we propose the setting-up of virtual exhibitions to be co-hosted by the two universities involved in the "Methods of teaching in the design studio" webinar presented at the beginning – namely ETH Zürich and the "Ion Mincu" University of Architecture and Urban Planning Bucharest. We propose exhibitions featuring the conversion projects of the water tower in Drumul Taberei and the results of the experimental project INSIDE – OUTSIDE – IN BETWEEN. The spaces allocated for public presentation via projection are the exhibition hall of UAUIM and Space L200 in Zürich.

Finally, let us not forget that, for the strategic development process, regardless of study field, it is the people and the ideas that matter since they provide the infrastructure and the necessary resources for contributing in an appropriate manner to the building of a harmonious future.

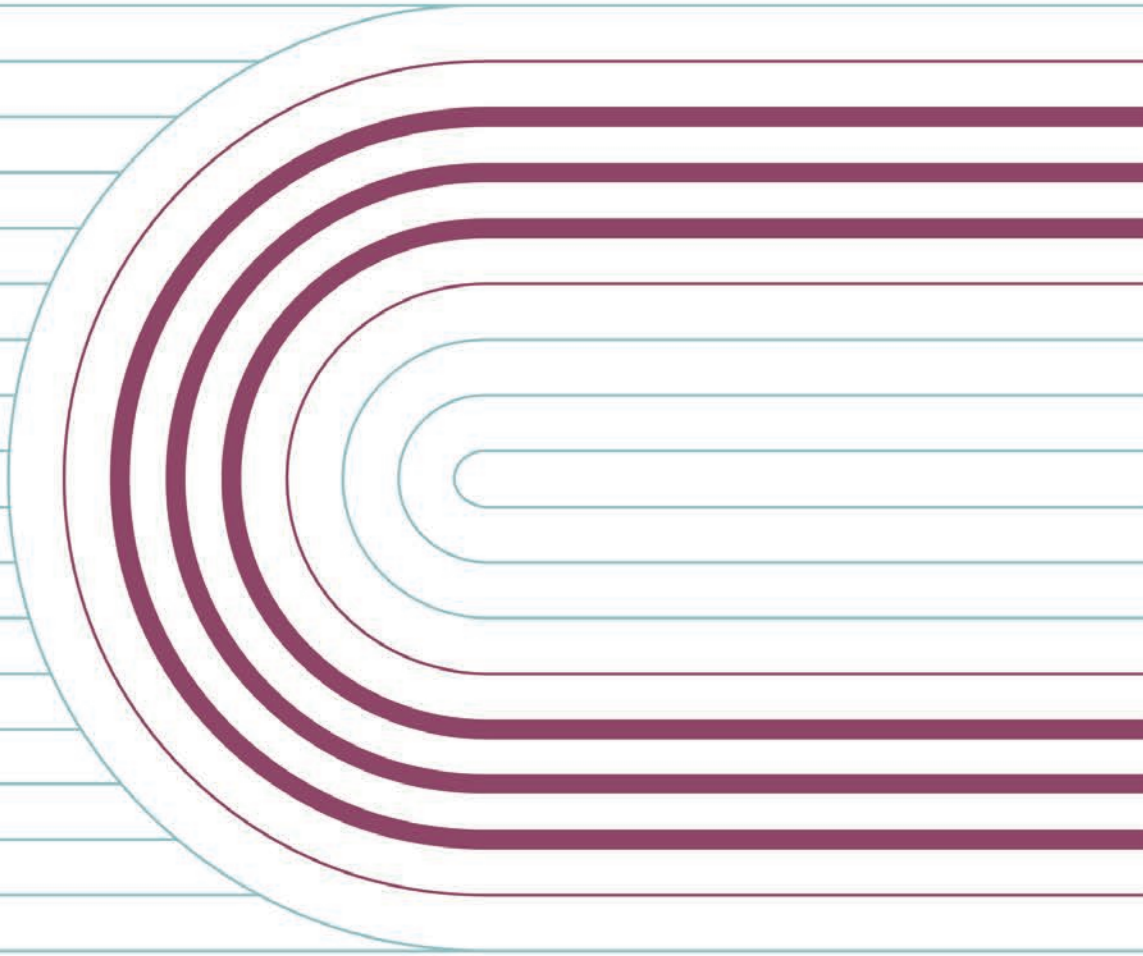
Fig. 24. Image from the exhibition.

References

Gehl, J., & Svarre, B. (2013). *How to Study Public Life.* (K.A. Steenhard, Trans.) Washington, Covelo, London. Island Press.

Montgomery, C. (2013). *Happy City. Transforming Our Lives Through Urban Design.* London. Macmillan.

Scholar Architect. (2022). *Teaching Methods in the Architectural Design Studio.* https://www.youtube.com/watch?v=cetmYUd2Fj0



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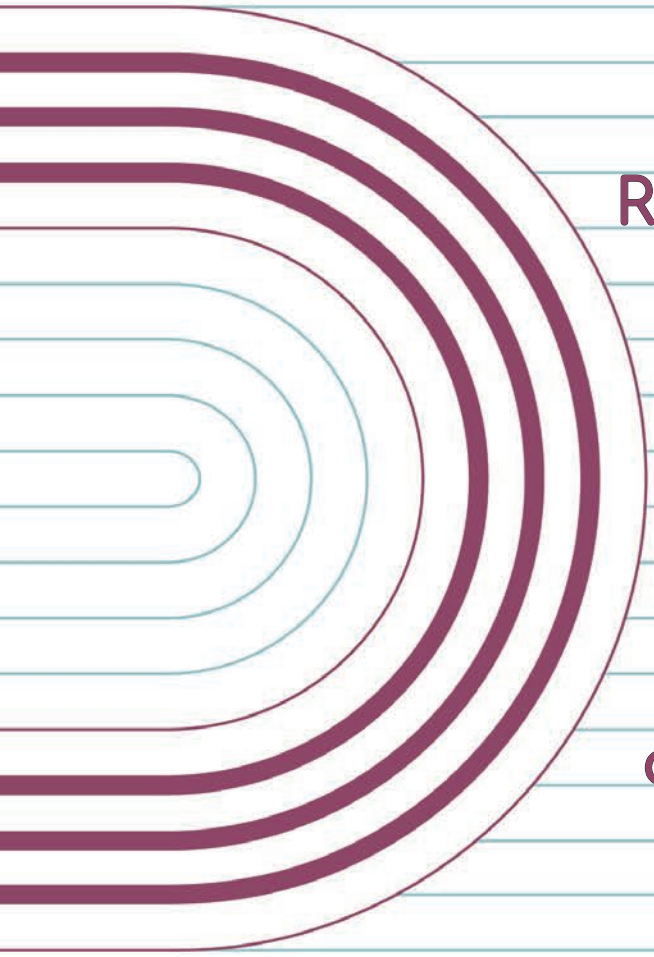
Alexandru BRĂTESCU



Re(in)novating the studio workspace to improve the quality of teaching

Fig. 1. Images from the beginning of the workshop.

Fig. 2. Images from the workshop in progress.

The “Re(in)novating the workspace in the architectural design studio” workshop, which took place between 26 and 30 September 2022 within the framework of the Scholar Architect 2022 project, had the following objectives:

_creating an inventory of the ways in which activity is conducted in architecture and urban planning studios;

_conducting a comparison and critical analysis of different working methods;

_capturing innovative trends and ideas on spatial configuration;

_identifying the ways in which bodies of furniture influence spatial configuration.

Coming after a period when studio activity was completely online, the rethinking of the organisational principles of on-site studio activities is well-timed. The work experiences gained during the pandemic can make a beneficial contribution to reviewing the activities and, implicitly, the spatiality of the design studio.

We emphasize in continuation a few aspects specific to studio work, which highlight how the results developed during the workshop respond to the needs generated by the activities.

Guidance in the design studio lays emphasis on criteria such as:

_the development of a constructive critical sense related to multiple relevant aspects, which vary from one case to another;

_the gradual increase of the student’s autonomy in relation to the tutor;

_consultation with potential beneficiaries and with the community in taking decisions related to the project;

_adaptation of the working method in larger or smaller teams versus individual work.

We can speak of a complex studio activity, of guiding and step-by-step capturing of the students’ evolution by means of:

_ individual iterative crits;

_digital or physical presentations;

_crit panels, marking key moments in the project trajectory (crits to which all the students of the studio participate);

_the possibility of working in larger or smaller teams in the course of the relevant, multi-criteria project analyses;

_finally, the assessment of the work with the participation of the entire student group and of the tutors, together with a number of external examiners.

Given the diversity of activities that unfold cyclically in design studios, the research topic chosen for the workshop projects focused on the interior spatiality of the studios of the "Ion Mincu" University of Architecture and Urban Planning of Bucharest (UAUIM), where it was proposed, through student contributions, to sketch a contemporary vision in relation to the different situations described above (individual work, group discussions, lectures, jury assessment, etc.).

The work environment, in this case the studio space, was explored via participatory methods, via performance and direct observation of specific activities and of the way in which they are conditioned by and condition the adjacent space in their turn. The development of roleplaying games, with a very high degree of similarity to real-life situations, led the participants' experiences towards partial conclusions. These were discussed by the students together with the organisers and assimilated into concurrent proposals/visions. Each team proposed a configuration adapted to the immediate reality as well as an ideal vision for the future.

The solutions are remarkable for accuracy of thinking and the highlighting of practical sense but also for the adopted attitude, free from current physical and financial constraints, an attitude which redefines spatiality, flexibility, sustainability, all of which are taken to a superior level. As the result of this approach, the students' sense of belonging to the spaces in which they conduct their activities has increased considerably.

We reproduce below representative projects developed in the context of the workshop, accompanied by brief presentations created by the authors. The proposals were worked on in groups of two students.

Andreea Nicoleta BORDEANU and Arina NICULESCU

The manner of configuring the studio precincts and the atmosphere they create inevitably influence the student experience, either positively or negatively. Thus, the studio, which is traditionally a rigid space, lacking in character, akin to a high school classroom, can induce a state of discomfort or monotony upon the user, becoming a space that limits possibilities and constrains the student's creative spirit. The greatest problem of the studio work environment is the existing furniture, which is fixed or difficult to move and reorganise in relation to the diversity of activities entailed by the design process.

The question is: how can we offer student architects a creative studio space? To answer this question, the students began the analysis of needs related to the possible situations encountered in the course of studio activity: interim crit panel, jury evaluation, presentations, etc. As a reconfiguration proposal, they opted for furniture flexibility: the replacement of the existing one with benches that can be easily assembled and disassembled to adapt to various activities, complemented by

lightweight chairs and also by the creation of a storage space for these in the event that the studio needs to be made available for use as an exhibition space.

To illustrate how modular furniture allows for flexibility in conducting different activities, the **scenario of a lecture** was chosen and it was decided that desks should be arranged so as to help students direct their attention by organising these in various shapes, which offered as good a view of the presentation as possible.

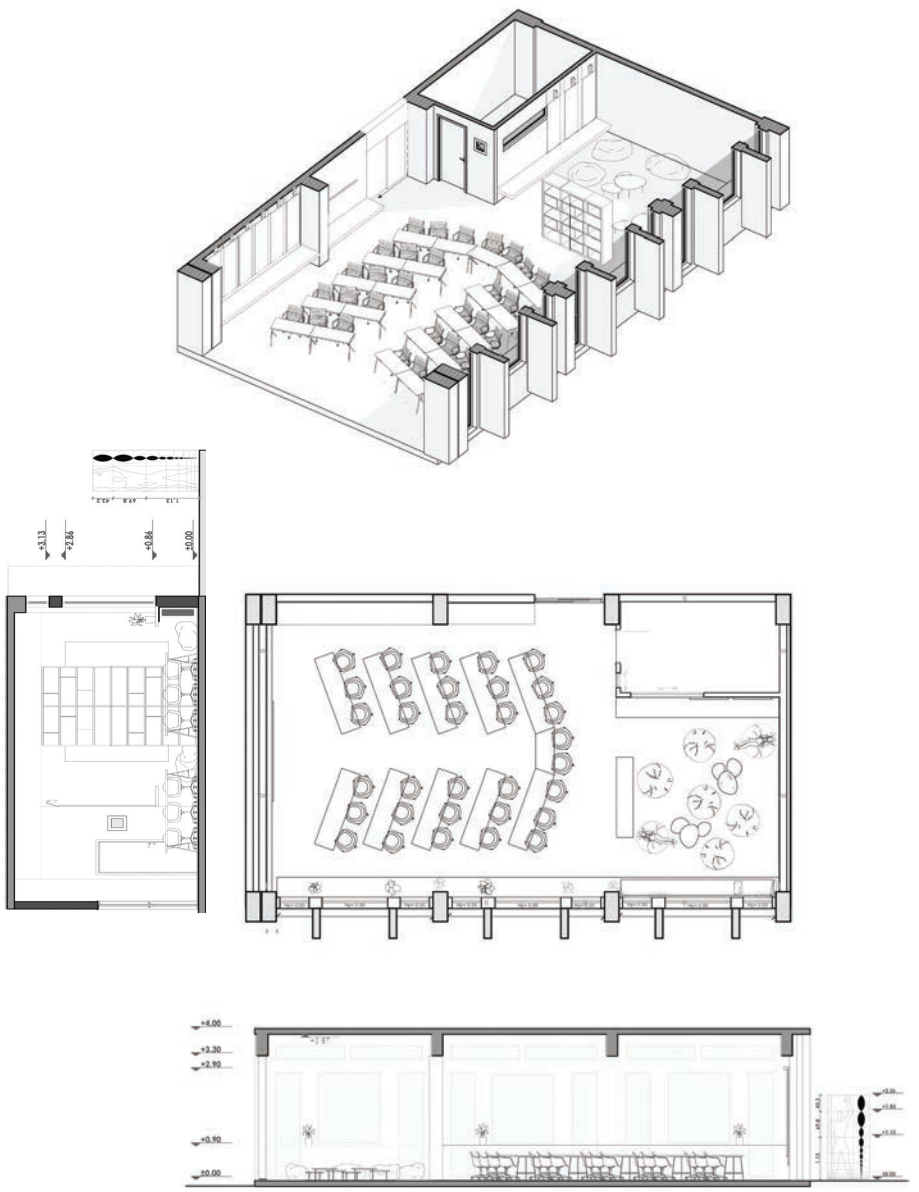


Fig. 3. Proposal – Andreea Nicoleta Bordeanu and Arina Niculescu.

Andreea DĂNILĂ and Ioana SCĂRLĂTESCU

The reinvention of the work environment in the faculty of architecture supports project creativity by means of the technology used by the students. Innovative thinking, which combines artistic elements to create a new architectural vision, can reclaim the right of organising its own space.

The creation of an individual context of presentation can mean not only fonts, colours and images but also scenographic projection. The concretisation of this event can go beyond the usual limits, using new technologies based on holograms, music, reflections, shadows and light. Thus, a presentation of the experimental type, for assessment or crit, can appeal to all the five senses, which strengthens the architect's role as a smith of sensations and perceptions.

The main element of the project presentation may no longer be the model but the emotional experimentation that is scenographically and sensuously prompted, with the full support of a high-tech studio, capable of presenting the architectural project in a contemporary manner via the latest video technologies. It is possible to speak of a parallel between grand exhibitions and the arhitecture of the future, where the discussion space sets the tone of the project and becomes a space of information.

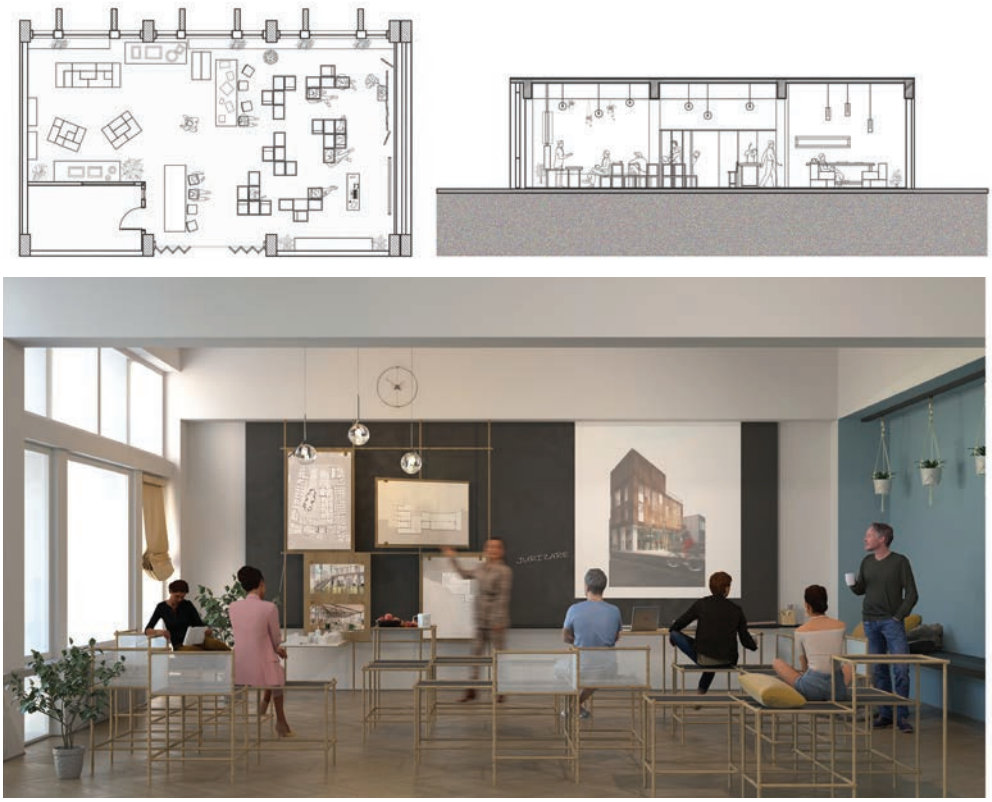


Fig. 4. Proposal (the ideal version) – Andreea Dănilă and Ioana Scărlătescu.

The reinventing of space is manifested first of all through comprehending the human psyche, the need for universal understanding, but also through the architect's need for self-expression as an artist. The atypical presentation of the project on a podium placed at the core of the studio grants total freedom of expression while gathering the collective at the same time.

Modular division is the key element in conceiving studio flexibility, expressed via two aspects: the creation of a module of sitting places or work spaces and of a module for the display of presentation boards, both horizontally, via the arrangement of workbenches in the open plan format and vertically, via the arrangement of signage elements at different heights. This entire modular network generates new versions of spatial organisation by directly involving the collective of users.

Fig. 5. Proposal (the feasible version) – Andreea Dănilă and Ioana Scărlătescu.

Daniela DONCIU and Andreea TOPOLOAGĂ

The proposed concept of an ideal work space consists of a versatile, flexible environment, achieved through the modularity of furniture that allows for the complete opening as well as for maximum occupancy rate of the work space in **the context required by an an exam or by an individual sketch session conducted by a student group.**

One of the first focus points was the compartmentalisation of the studio, depending on the different activities to be performed in parallel by the students.

A compartmentalisation achieved via furniture and moveable screens generates multiple possibilities of using the studio space, from simple areas of individual work to the grouping of several modules for team work, from the positioning of vertical panels to create an exhibition space to their use to delimit functional areas of the studio.

The chosen furniture illustrates the wish to move away from the rigidity of the existing and head towards a smart and flexible work space, capable of responding to the current needs of the profession.

Therefore, the proposal, through the flexibility of the space and of the furniture, fosters teamwork, communication and the students' open-mindedness. A welcoming atmosphere is created, leading to a sense of belonging to the work space, a space which is given a creative character through individualisation.

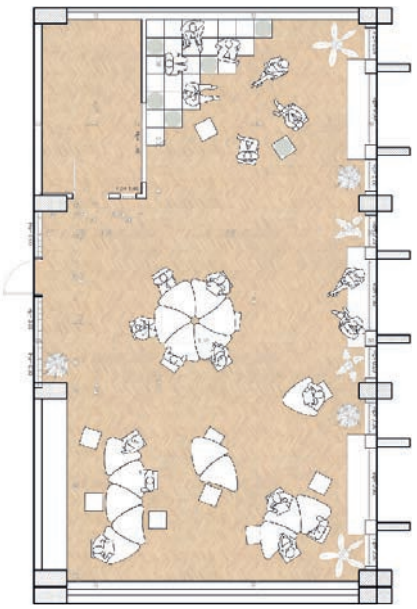


Fig. 6. Proposal (ideal version) – Daniela Donciu and Andreea Topoloagă.

Fig. 7. Proposal (feasible version) – Daniela Donciu and Andreea Topoloagă.

Arranging the studio for the scenario of crit and individual work required first of all the identification of clearly defined areas such as: the one destined for modelling (which includes a library of materials), an area for project crit organised on the roundtable principle (meant to encourage student-teacher dialogue), relaxation spaces placed near the windows, a creative corner and, finally, the study and work areas as such. In addition, the arrangement of the tables was intended to facilitate circulation in the studio, with the possibility of observing all the simultaneously unfolding types of activities.

The selected pieces of furniture can be adapted to different situations: the wooden boxes can be used as library shelves and as chairs or as support for the models while the tilted worktables can serve as exhibition panels.

The current requirements imposed by technology and by the studio working methods have inspired the arrangement of several special areas, with different attributes, meant to complete and emphasize the qualities of the projects. While it is true that computer-assisted work has simplified and accelerated the process of developing a project, comprehension and spatial exploration are still facilitated by mock-ups and 3D physical representations – models. Thus, the proposal also foregrounds the insertion of a workbench with modular areas for the storage of materials. These boxes can be taken out of the shelf support and used as chairs or as support for the models.

Again in the spirit of flexibility in arranging the work space, a multifunctional wall was proposed at the back of the studio, with a perforated plywood board into which different storage shelves can be inserted. The space can also be reconfigured as an exhibition area for models or presentation boards. In addition, it is a space that allows one to observe, analyse and improve the project, following the crit.

In direct connection to the multifunctional wall, there is a rest, relaxation, contemplation and reading space in the window area, meant as a naturally-lit chill-out room, beneficial after the hours spent in front of the computer. The bow window bench is framed by precast wood, which also encases the central window, generating a sense of comfort and protection while the remaining space above can be used to store various objects.

The entrance is conceived in a completely different manner, rejecting the previous door configuration and opting for a permeable boundary of translucid glass panels between the studio and the hallway. These harmonic panels can be folded for the complete opening of the studio towards the hall if desired for an exhibition or other events.

The proposed design aims to make the work space as pleasant as possible, comfortable from the physical and psychological point of view, full of objects and activities that inspire experimentation, innovation and creation.

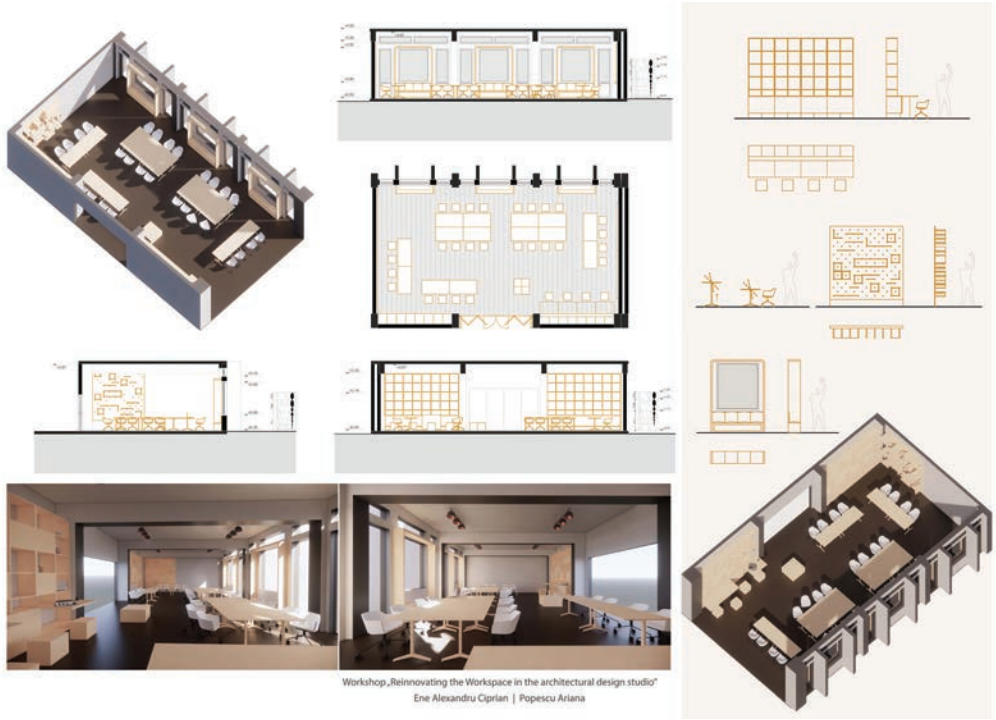


Fig. 8. Proposal (the ideal version) – Alexandru Ciprian Ene and Ariana Popescu.

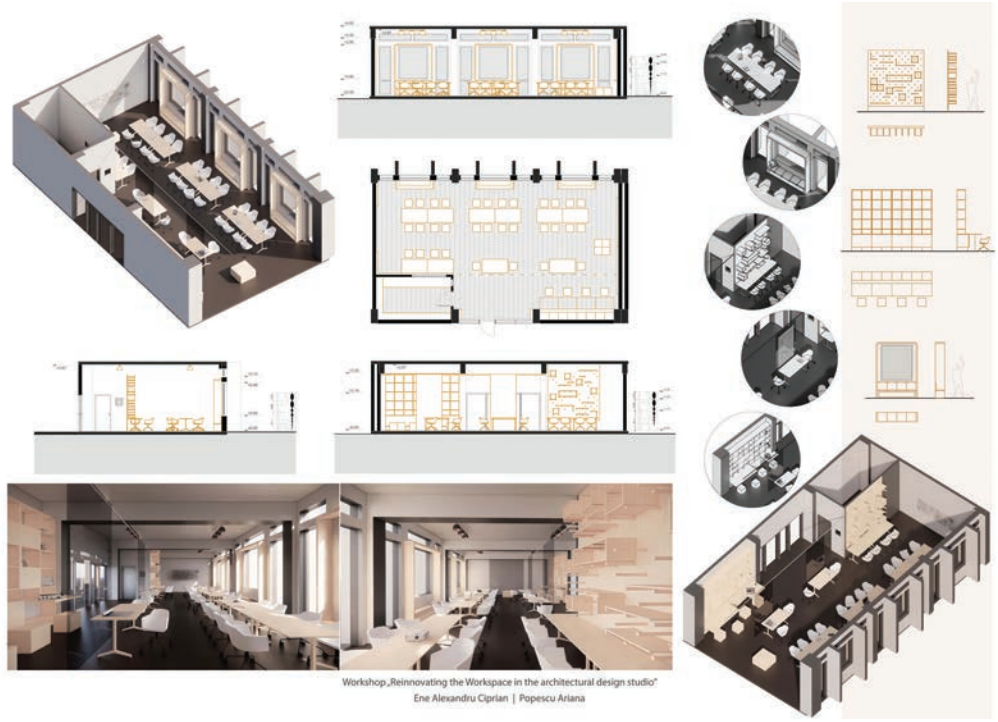
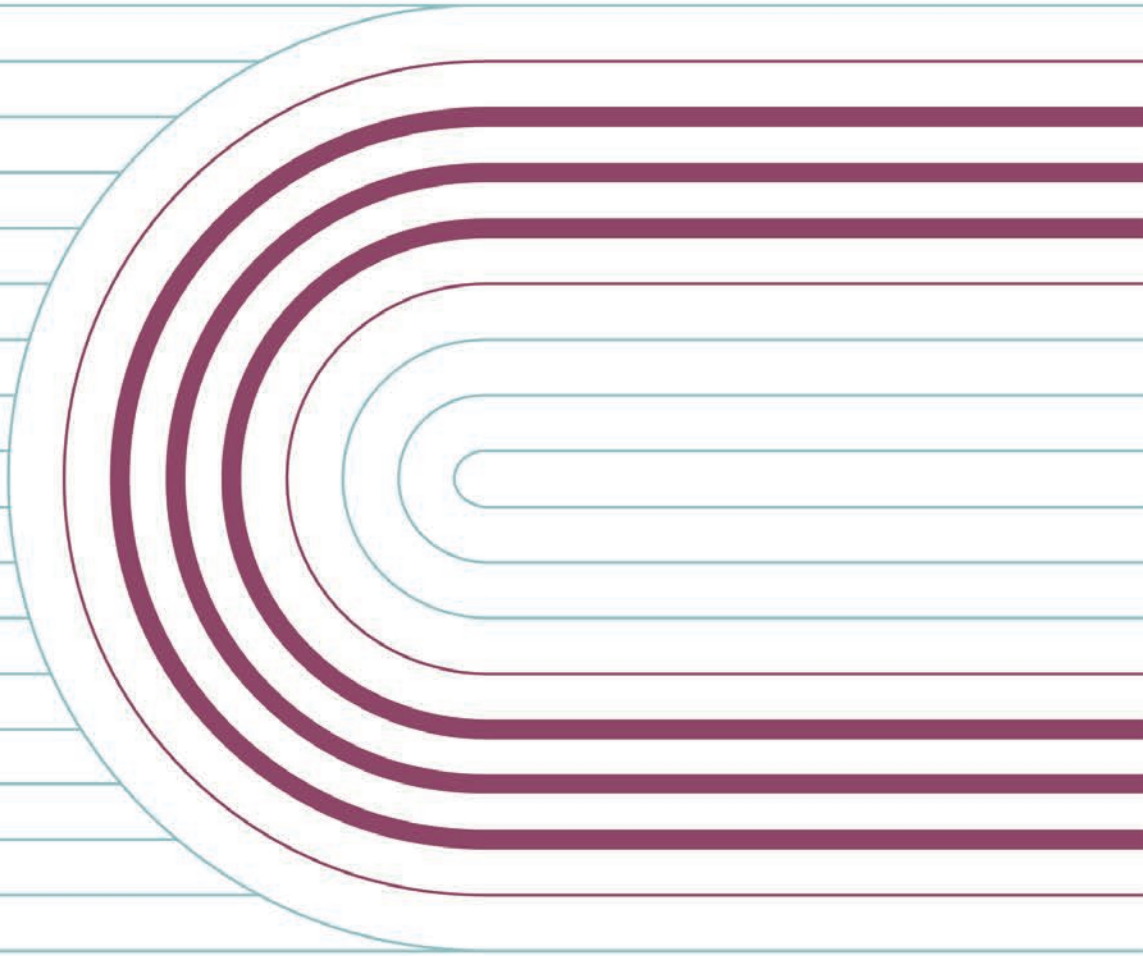


Fig. 9. Proposal (the feasible version) – Alexandru Ciprian Ene and Ariana Popescu.

Fig. 10. Image from the end of the workshop.

Fig. 11. Image from the end of the workshop.



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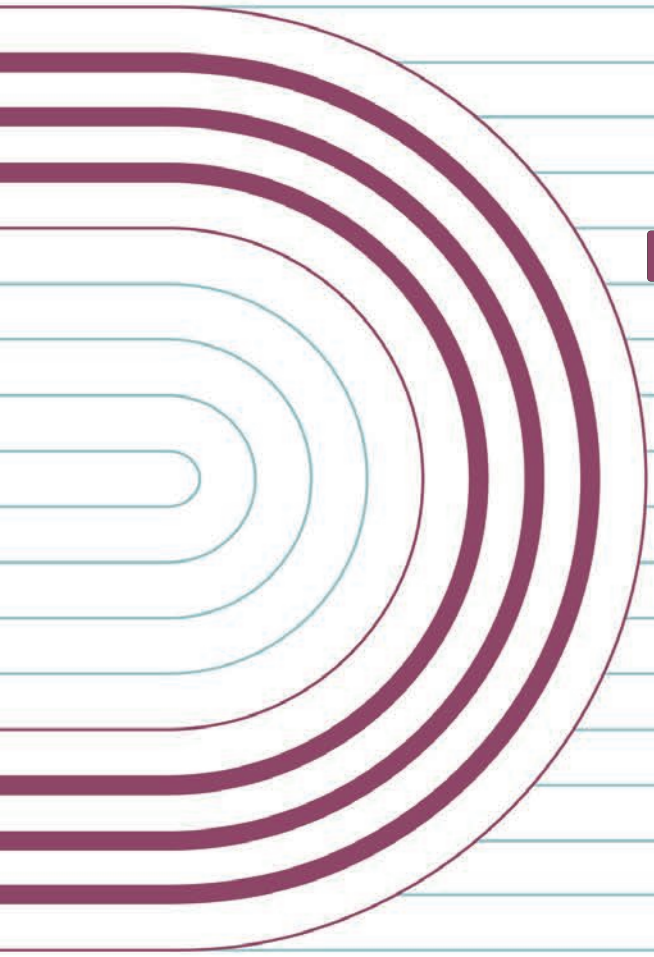


Digital craft in the architectural studio

This chapter deals with how digital fabrication tools and more specifically 3D printing can be included into the architectural educational process so as to complete the studio activity. The emphasis lies on materiality as a result of digital fabrication. We study where exactly, along the didactic process within the architecture studio, digital fabrication can intervene as a study tool.

We have researched how the pedagogical process can incorporate the new digital tools and tested methods of introducing students to new technologies from a critical perspective, thus enabling them to acquire new abilities that will be useful in their future architectural practice. Our aim has been to discover how architectural design can be adapted to the new digital tools, how we as architects can prepare ourselves in order to have an active role in an environment that tends to be oriented towards the digital and how architectural education can include these new tools in the learning process.

Digital fabrication

Digital tools, for both design and fabrication, are increasingly better known and they involve linking the design process to that of materialisation. Digital fabrication is now included in the design process, which takes up both conceptual aspects and aspects connected to the materialisation of a project. In technical terms, digital fabrication entails the production of physical objects using computer-controlled tools.

The focus of interest in current research is on adopting and challenging these digital technologies of materialisation, initially conceived for other purposes, in order to use them creatively in architectural design.

The primary tools with applications in digital fabrication are archaic and essentially similar to those used by craftspeople in traditional manufacturing.

These have been refined over time, changing the way they are set in motion and the method of control. What is new in digital fabrication is that the tool is no longer controlled variably by a human being or

repeatedly and precisely by a mechanised system, but variably and precisely by digital means. The movement of the digitally controlled tool is defined by precisely set spatial coordinates, via logical sequences.

Materiality is increasingly enriched by digital characteristics, which have a substantial impact on architecture. In the digital environment, "data and material, programming and construction are interwoven" (Gramazio & Kohler, 2008, p.7). This means that materiality is digitally determined and "evolves through the interplay between digital and material processes in design and construction [...]This synthesis is enabled by the techniques of digital fabrication, which allows the architect to control the manufacturing process through design data" (Gramazio & Kohler, 2008, p. 7). In conclusion, the material is strongly influenced by the digital, it is thus "enriched and [...] becomes 'informed'"(Gramazio & Kohler, 2008, p.7).

Redirecting designers towards materialisation, instead of the creation of a project, an image or a drawing, generates a process which encompasses both design and fabrication. It is no longer about programming constructive systems in the virtual environment, which can be endlessly reconfigured, but about connecting the constructive logic of programming to materialisation (Cache, 2004).

At present, any form can be generated in the tridimensional digital environment and almost any such object can be built. Within this context, digital fabrication has been regarded, until recently, only as the materialisation of digitally generated models. The latest research and contemporary practices start from the fabrication process, which is incorporated into the design already at the concept stage. Thus, the relationship between concept, computation and fabrication is reconfigured, turned into a continuous feedback process, which generates the final object determined by all these parameters.

Perceptions of the digital tool have changed, from a mere executor of standard tasks to a generator of the design process. The capacity of the digital tool to incorporate information which can influence the concept is thereby acknowledged. The tool becomes a creative resource when it provides the designer with the opportunity of using its logic as a generating factor, already from the first stages of the project.

The importance acquired by digital fabrication tools should not be understood as a unidirectional dependence of the object on the mode of materialisation given that digital tools should not limit the design process. These digital tools were not conceived for architectural practice, but they can be adapted to it. The challenge for today's architects is to transform the adopted tools, to use them in the architectural process and to make them their own in their practice. There has always been a connection between architectural and design practice and technological development. Nevertheless, these foreign objects, migrated from different industries and conceived for other processes, have yet to be assimilated and adapted to the creative environment of architecture.

3D printing

Over the last few years, 3D printing technologies have evolved beyond the areas of engineering where they were used to create prototypes or small series of objects with a complex geometry. At present, 3D printing extends to the production of consumer goods, having become highly accessible to the general public.

As a result of concentrating research resources on 3D printing methods, these have evolved considerably. The constantly improving aspects are printing resolution and the quality of the used materials. The performance of the materials used has increased to such an extent that the objects obtained by 3D printing have turned from prototypes into products. The move from rapid prototyping to materialisation has thus occurred.

Architectural education

The proliferation of digital fabrication tools brings up for discussion aspects linked to materials and materiality, which should also be addressed in architectural education. This is why it is important to explore how the pedagogical process can include these fabrication tools as a working instrument in the studio. Students work with bidimensional and tridimensional representations and with physical models. 3D printing can complete the repertoire of tools that students use during the developing of projects in the studio. However, 3D printing should not be simply another means of materialising a model, but should be regarded as a study instrument.

The transition from 3D models to the use of 3D printers should include a few new stages. It is necessary for the students to understand the process and become familiar with fabrication logic. It is important that they should learn to 3D model correctly for fabrication, how to prepare the model for 3D printing, how to generate the code for the printer, to predict what the printing resolution will look like – the thickness of the layer – and how this will influence the final object. They also need to find out the appropriate degree of detailing for the proposal and the scale at which it will be printed for these aspects to contribute to project development. There are also additional, more technical, aspects linked to saving printing time or material, which must be correctly managed. All these constraints linked to the fabrication method should be assumed and included in the project and they are part of the learning process. Only by understanding the fabrication process and its integration in the logic of the object to be materialised can the learning process be improved.

The 3D printed models could be study models from a project in progress, whose purpose is to test the concept. Through this process, especially at the proposal stages of projects, it is possible to produce models with a low level of detail so as to test the concept and its integration in the context – by creating a series of smaller models that can be inserted in turn into the model of the broad context, thus representing different typological or volumetric studies.

Studio 36

In the context of Studio 36, 3D printing was introduced as a study of the typologies proposed within the student group. Here, the produced models were of small dimensions, at the scale of the extended context model. The study aimed at a reading of the varied urban fabric and the proposal of an ensemble of collective dwellings. The result was a series of physical objects embodying this typological study, all generated at the same scale and symbolising the variation of volumetric solutions for a given urban setting.

Studio 36 tutoring team: Melania Dulămea, Ana Maria Vesa Dobre, Dana Anton, Cristian Beşliu

Students: Tamas Barabas, Andreea Bărbuceanu, Dan Chircă, Ioana Davidescu, Andrei Enache, Hoda Enayati, Alexandru Ene, Daniela Firicel, Bianca Hoaghea, Mirona Iancu, Beatrice Milea, Maria Neagu, Teodora Necula, Radu Onea, Andreea Petre, Valentina Popa, Ariana Popescu, Dragoș Punga, Alexandra Radu, Cristiana Roman, Adeline Sandu, George Stanciu, Stelian Șerb, Mara Șerban, Irina Tatomir, Ana Trutulescu, Alice Tulceanu, Sergiu Turlui, Andreea Vlad, Ana Vlaiculescu.

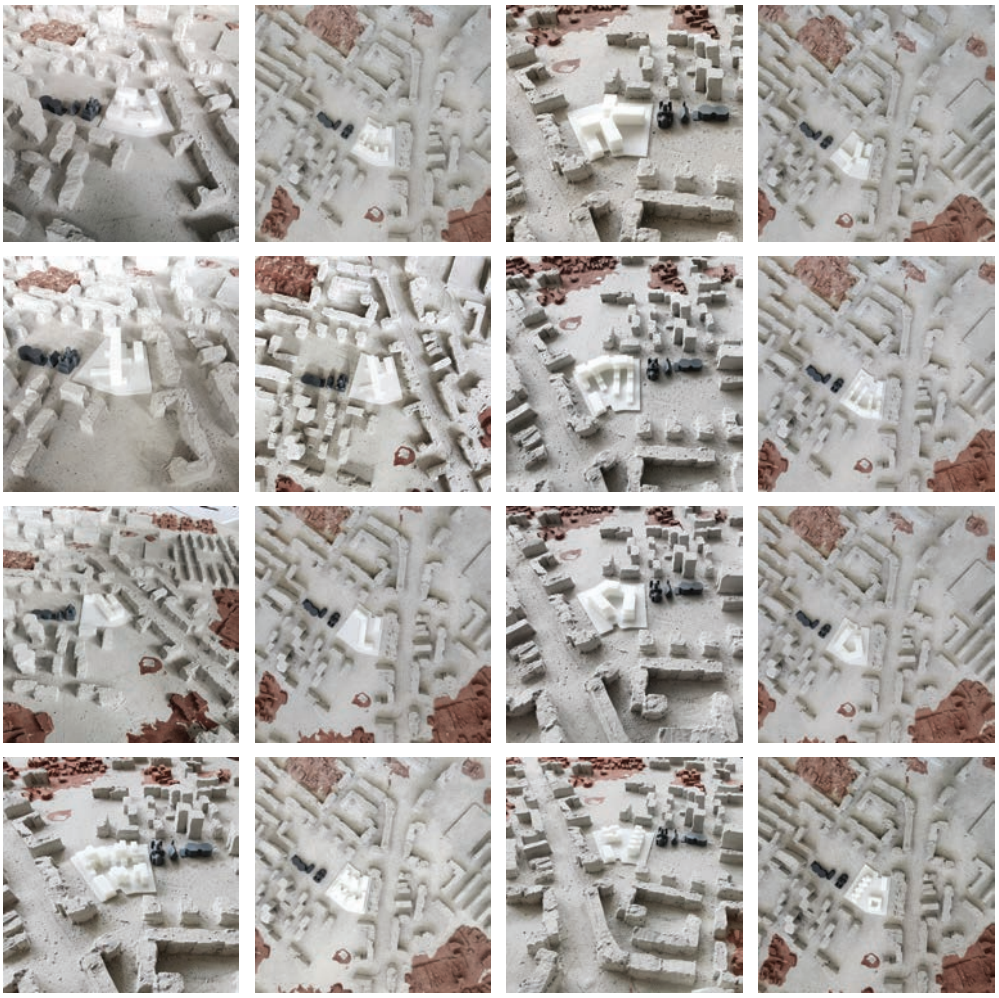


Fig. 1. Image from the exhibition.

Fig. 2. Models created by the students of Studio 36.

Studio 24

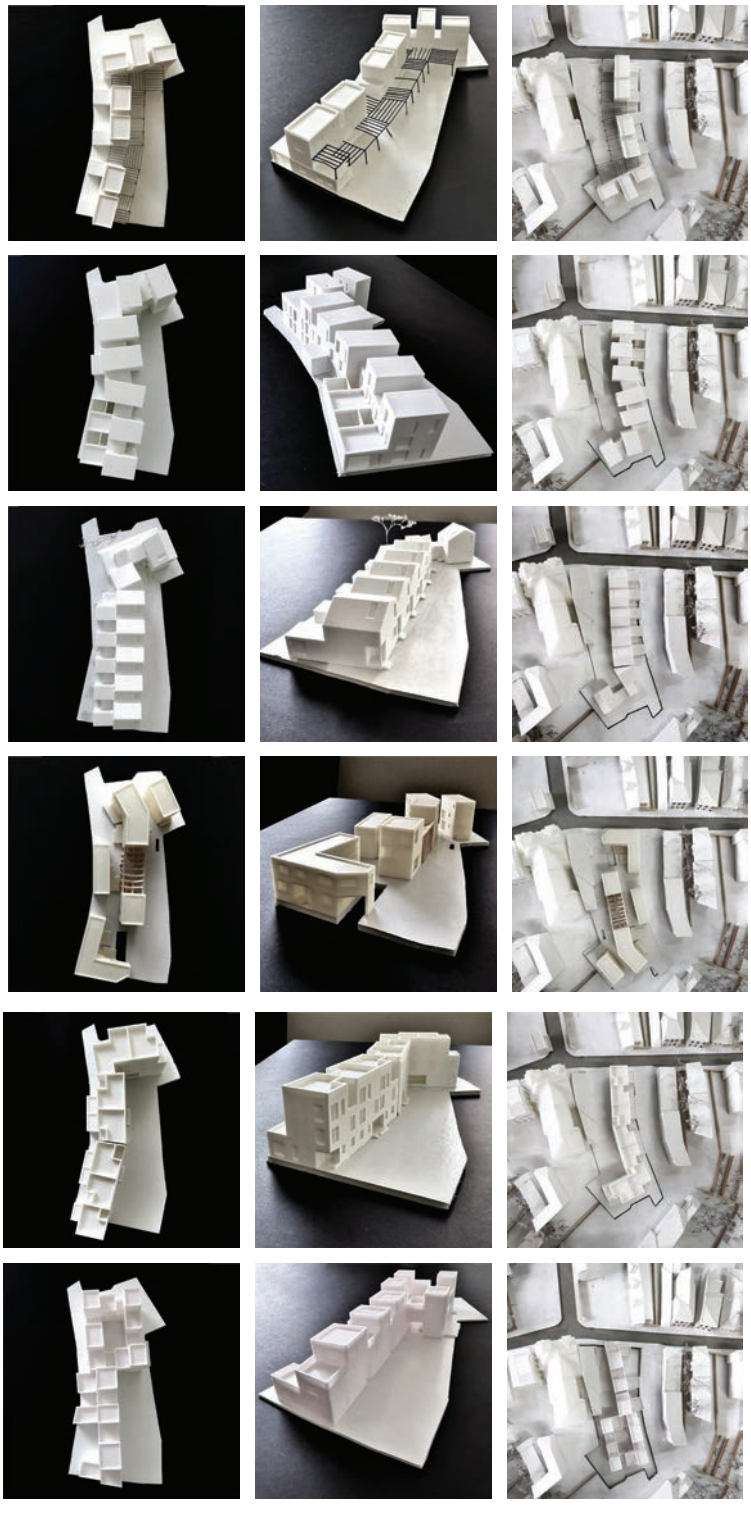


Fig. 3. Models created by the students of Studio 24.

The students of Studio 24 employed 3D printing as a compulsory stage in the use of digital tools, which started from mastering elements of bidimensional drawing and subsequently of tridimensional modelling before covering methods for the materialisation and visualisation of these virtually built spaces. The didactic process involved the presentation of additive manufacturing systems, the actual use of a 3D printer, as well as an iterative series of three-dimensional modelling that simplifies the architectural elements to optimize the geometric resolution to the requirements of 3D printing. Thus, the digital models developed in the course of a studio project were 3D printed as models of architectural objects, in order to illustrate the volumetric and architectural solutions in a coherence of the representation and materialisation technique.

Studio 24 tutoring team: Ionuț Anton, Vlad Nicolescu, Irina Florea

Students: Francesca Barangă, Nicoleta Bordeanu, Alexandra Budașcă, Iuliana Buturugă, Francesca Coman, Alexandra Constantin, Bogdan Costea, Vera Cozea, Carmen Cozma, Miruna Doniga, Cristina Drăghici, Elena Enache, Marina Iancu, Ioana Ionescu, Eliana Lacusta, Maria Marinoiu, Alexandra Matache, Arina Niculescu, Mihnea Oprescu, Bianca Ozkan, Mara Pauliuc, Antonia Roman, Denisa Rotaru, Diane Samaha, Yu Sang, Teodor Sarighioleanu, Ana Sîrbu, Luminița Tumurică, Georgiana Vasile, Andreea Vasile, Tudor Voroniuc.

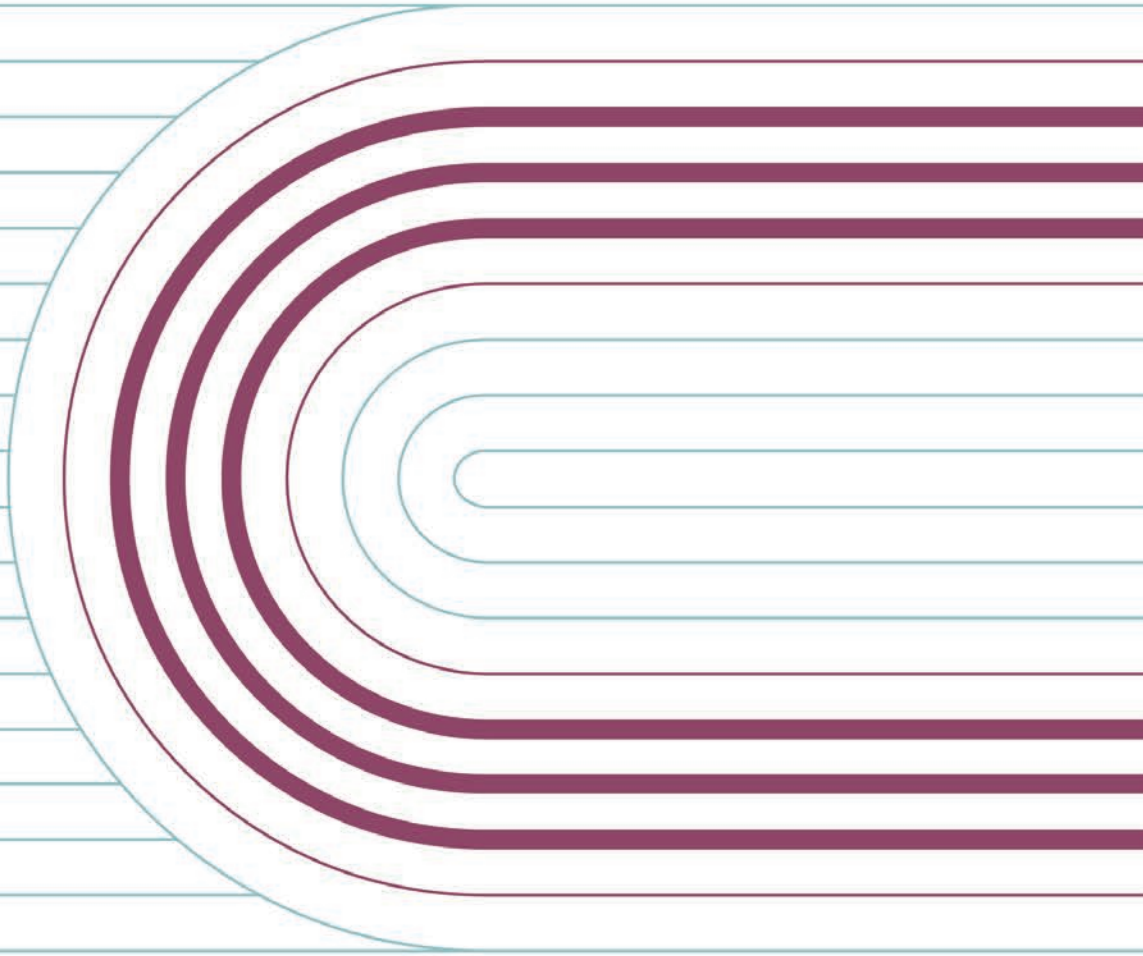
Fig. 4. Image from the exhibition.

Fig. 5. The posters of the two projects.

References

Cache, B. (2004). Towards an Associative Architecture. In *Digital Tectonics* (pp. 103-109). Wiley Academy.

Gramazio, F., & Kohler, M. (2008). Digital Materiality in Architecture. In *Digital Materiality in Architecture* (pp. 7-11). Lars Müller.



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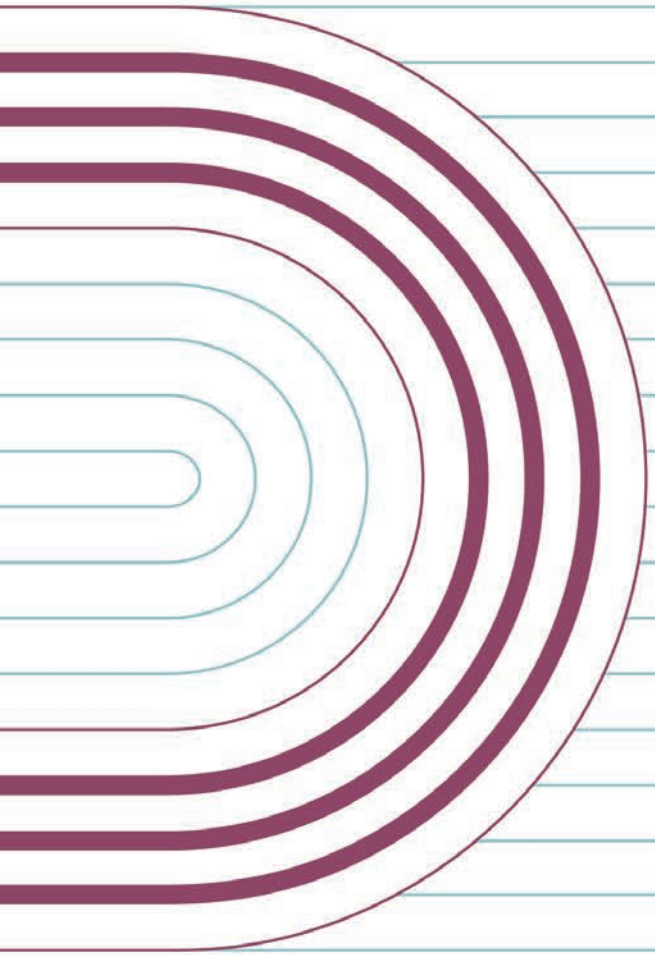
Adrian MOLEAVIN
Sergiu Cătălin PETREA
Gheorghe CLITAN



Architecture. Critical thinking

Critical thinking – a brief history

Critical thinking has been, for over a century, a widely accepted educational objective, which has revolutionised the teaching of university and school students regarding how to approach their intellectual formation in order to guarantee professional success, the appropriate capacity of analysis and argumentation and, from a broader perspective, the premises of exercising democratic citizenship.

The use of the "critical thinking" term to describe an educational aim originates with the North American philosopher John Dewey, who more frequently called it "reflective thinking", "reflection" or simply "thinking". He defined it as the active and attentive consideration of any belief or alleged form of knowledge in light of its foundational elements and of the conclusions it tends towards (Dewey, 1910). The complex trajectory of this approach can be identified with the structuring of a scientific attitude of the mind that has an educational aim, with Dewey supporting his hypotheses with the help of quotations from John Locke, Francis Bacon and John Stuart Mill in order to demonstrate the necessity of setting up this kind of process.

An exhaustive definition of the concept has not yet been accepted, but the partial definitions that are operational can be identified as different concepts of the same approach: *careful thinking oriented towards a goal*. Sharon Bailin (Bailin et al., 1999) supports this definition and argues that the educators who employ this method usually understand critical thinking as having at least three features:

> _it is performed with the aim of forming a person's mind so as to enable them to decide what to believe or how to act;
>
> _the person involved in this type of process attempts to follow the standards of appropriateness and accuracy specific to reflective thinking;
>
> _a person's thinking complies with certain standards, relevant up to a certain level.

These features seem applicable to all the examples of critical thinking identified by researchers, who add that this mechanism must be applied by excluding the immediate leap to conclusions, the suspension of judgement regardless of the strength of the evidence, the routine use of an algorithm to answer a question and the favouring of reasoning from an ideological or religious perspective that is considered indubitable. Yet if we admit that the essence of the process is *careful thinking oriented towards a goal*, we should also mention the fact that it has particularities which may vary depending on the presumed goal, on the criteria employed and the sphere of application, as well as on the specific thinking component involved. Thus, a person may be inclined to critical thinking only in relation to certain types of problems – for example, they might be open-minded about scientific issues but not about religious ones. Likewise, someone might be confident in a person's capacity to reason about the theological implications of the existence of

evil in the world but not about their capacity to reason about the virtues of sustainability in the architectural field or the appropriate design of a structure that withstands seismic shock.

Dewey (1933) analysed several mechanisms of action and identified a fundamental process, specific to critical thinking and universally applicable, which consists of five stages, initially called "action steps", a designation later discarded by the author to nuance their compulsory character:

> _the confrontation with *suggestions*, wherein a person's mind has the tendency to jump forward toward a possible solution;
>
> _the conceptualisation of the difficulty to know or of puzzlement as *a problem to be solved*, the identification of a question whose answer must be found;
>
> _the use of a flow of successive suggestions, which becomes a leading idea or *hypothesis*, to initiate and guide observation and other operations of collecting the factual material;
>
> _the mental formulation of the idea or presupposition as being the necessary idea or presupposition to solve the previously identified problem (*reasoning*, in the sense in which reasoning is a part, not the whole, of the inference);
>
> _testing of the hypothesis by *a direct procedure or by an imaginative action.*

The reflective thinking process, which always incorporates these stages, is in its turn preceded by a perplexed, troubled or confused situation – that lays the basis for action – and is followed by a clarified, unified, resolved situation – which concludes the process (Dewey, 1933). Completing this kind of cognitive process is meant to develop the individual's theoretical background and the abilities that make them think critically when necessary.

In addition to inclinations and abilities, critical thinking requires precise knowledge of the concepts and principles of critical thinking and of the phenomenon of reflective thinking. A short list of concepts whose understanding contributes to deeper assimilation of the methodology of critical thinking can be generated by means of a taxonomical procedure. *Observation abilities* require understanding the difference between observation and inference. *Question formulation abilities* require understanding the concepts of ambiguity and vagueness. *Inferential abilities* require understanding the difference between conclusive and cancellable difference (in traditional logic, between deduction and induction) as well as the difference between necessary and sufficient conditions. *Experimentation abilities* require understanding the concepts of hypothesis (including the null hypothesis concept), presupposition and prediction as well as the concept of statistical significance. They also require understanding the difference between an experiment and an observational study and especially the difference

between a randomised study, a prospective correlational study and a retrospective (case-control) study. *Argument analysis abilities* require understanding the concepts of argument, premise, presupposition, conclusion and counterargument.

Testing methods

Over the course of time, standardised tests have been designed to assess the degree to which a person possesses such inclinations and abilities. It has been demonstrated via experiments that school or university students can consolidate and train the faculty of reflective thinking through education, especially when the latter includes dialogue, concrete instructions and appropriate guidance, but controversies have arisen regarding the generalised use of the method in different fields and the validity of critical thinking as a universal problem-solving method.

The testing of professional competences is a fact currently confirmed, inter alia, by the use of different types of tests in recruitment or admission to the most prestigious higher learning environments (North American, Canadian, English, French, etc.). The following are among the most popular tests today in selecting applicants to higher education:

1. Tests of critical thinking or with a high percentage of critical thinking components (Watson-Glaser Critical Thinking Appraisal, MENO Thinking Skills Service, ACT – American College Testing, SAT – Scholastic Aptitude Test, GRE – Graduate Record Examinations, LSAT – Law School Admission Test);

2. Language tests (TOEIC, TOEFL and GRE – for English, TEF – for French, Daad – for German, etc.);

3. Computer tests (PCIE, CISCO CCNA certificate, MCSE Microsoft certificate);

4. Management/finance exams (CFA, CPA, CGPG certificate);

5. Admission tests to engineering, commerce and MBA schools (TAGE 2, TAGE-MAGE, GMAT).

Since these tests are often summarised in standardised fashion to assess the training of critical thinking and academic success respectively, admission to universities and colleges or access to programmes and scholarships is based on using special kinds of instruments: teachers' letters of recommendation, candidates' prior involvement in extracurricular activities or essay-building abilities.

In employing these instruments, critical thinking becomes focused on practical problems. Critical thinking teaches us to read, to deconstruct, to understand and to define arguments for the practical purposes of daily life, for a better discourse in public debates or for the organisation and structuring of scientific communication in certain disciplines (Hoaglund, 1999). Here are a few examples:

1. Critical thinking and orientation, guided towards debate. Learning how to debate a problem presupposes not only knowing how to build up arguments but also being able to "read" the opponent's arguments, to understand them quickly and be able to respond to them.

2. Critical thinking and the theory of argumentation, geared towards specific disciplines: e.g. legal argumentation in law schools (whose graduates must know how to plead in front of a jury).

3. "Research logic" – connected to specific disciplines.

4. Critical thinking and the introduction to logic, oriented towards the construction of arguments in philosophy and the critical examination of philosophical arguments.

The oldest and most famous critical thinking test is the Watson-Glaser Critical Thinking Appraisal (WGCTA), developed over a period of 85 years. The assessment performed with its help is considered a good predictor of productivity at work and is an effective instrument in identifying candidates with a fair potential of becoming managers or of occupying managerial positions.

Developed by Goodwin Watson and Edward Glaser, the Watson-Glaser test is preferred by law firms, eager to measure the individuals' ability to reason, to reach conclusions and to know when logical leaps are made. The questions in each of the five sections are aimed at evaluating the candidate's capacity to:

1. Draw correct inferences.

2. Identify the moment when a hypothesis was formulated.

3. Use deductive reasoning.

4. Draw logical conclusions.

5. Evaluate the effectiveness of the arguments.

This critical thinking test assesses critical thinking abilities from the five key areas by starting from a brief paragraph made up of a few short sentences or of a longer sentence. To perform at maximum capacity when taking the Watson-Glaser test, the following specifications must be borne in mind:

_no prior knowledge is required – The key point is that critical thinking tests measure reasoning capacity or the method used to reach a conclusion. Thus, no prior knowledge is required to answer the questions, which are formulated so as not to depend on subject expertise. For example, the assessed individual is not expected to know mathematical formulae or laws of nature and to answer questions using this type of information. If they are given the formula and its description in words, they must use this information to obtain the answer.

_*following instructions* – There are five sections in all versions of the test administered to candidates, but each version assesses a slightly different ability. It is recommended that the instructions should be read and that one should understand what is expected in order to answer the questions of a particular section. There is a fairly large difference between the "Hypotheses" and the "Deductions" sections, for example. Applying the rules of one section to another would lead to merely guessing the answers and thus to the appearance of additional errors.

_*observing the allocated time* – These tests are complex and a situation may arise where the examinee becomes stuck on an answer, allotting it more time than necessary. An analysis of the complexity of the test and a uniform distribution of time between all the questions are thus required. The time management aspect is relevant to all tests but is especially important in critical thinking tests since many people think they have ample time to solve all the test items and thus underestimate the number of questions they need to answer.

_*logical errors* – Identifying logical errors holds the key to many aspects of these tests and researching the difference between healthy and erroneous thinking will prove useful in a critical thinking test. An error is an error of reasoning due to a wrong concept or presumption and an argument which uses a sophistic or linguistically deceptive error or an inductive or deductive logic error in its reasoning becomes invalid. Research into the different types of errors can be helpful in finding or recognising them in the test, leading to correct answers to the questions.

Industrial society expressed itself through standardisation of production, consumption and work as well as of the human being as such; in this context, education was mostly confined to acquiring abilities for physical work and for the manipulation of various machines or assembly lines, this being a period when the field of logical reasoning, of critical thinking, was not a central concern for the majority of educational institutions.

The importance of critical thinking in the field of architecture

In the post-industrial information society, where physical work is transferred to machines and robots, human work is, to an ever-increasing extent, made valuable by critical thinking, analysis, creativity and problem-solving. Following the research conducted by the *World Economic Forum* (2020) on the Linkedin and Coursera platforms, *problem-solving* emerged as the most important of the key abilities required by employers. It encompasses five of the top ten competences in the ranking: analytical thinking and innovation; solving complex problems; critical thinking and analysis; creativity, originality and

initiative; reasoning, problem-solving and ideation (*World Economic Forum*, 2020).

If the XVIIIth, XIXth and XXth centuries were marked by the Cartesian dualism between mind and body, physics and metaphysics, which laid the foundations of an ontology and epistemology of a materialist character, the current moment of the maturing of the information society towards a knowledge society compels us, via patterns like the one described above, towards the recovery of an integrated vision of the human being, the scientifically based restoration of the balance between body and mind. Yet three centuries of support, debate, development and implementation of patterns specific to materialist and mechanistic thinking represent a heritage that is difficult to overcome, which is why, in addition to the evolution of educational theories and practices, models of thinking and practice were sought, whose study would lay the foundation for new models meant to lead to the development of the abilities required by XXIst-century industries. The domain of architectural practice has become perhaps the most interesting example:

> Sciences are more and more interested in the ability of architects to connect and to integrate, by designing and building, different disciplines, diverse scales and various points of view ... The operation method of architects, in the planning of a building, should be to connect the countless information of the different disciplines without losing sight of the whole. (Ganshirt & Stapenhorst, 2016, p. 55)

Architectural practice is, exceptionally, an interdisciplinary field, where critical thinking has always been at the centre of the concerns of the great practicing architects and/or theoreticians. Already in the first architectural treatise, written in 50 BCE, Vitruvius asserts: "The architect should be equipped with knowledge of many branches of study and varied kinds of learning, for it is by his judgement that all work done by the other arts is put to test" (Vitruvius, 1914, p. 5). Vitruvius thus emphasizes two components of architectural practice, which he considers vital: knowledge from a very wide range of fields, both architectural and non-architectural, and judgement, critical thinking, both necessary for the architect "so as to leave a more lasting remembrance in his treatises" (Vitruvius, 1914, p. 6). Perception psychologist Rudolf Arnheim, referring to the fields of art and architecture, defined this form of transdisciplinary practice typical of architecture as "productive thinking" (Arnheim, 1969). For Christian Norberg-Schultz (1966), *the ability to judge* is essential to the architectural design process since it influences any decision taken in the conceptual and design process.

Architectural practice is obviously at the intersection of artistic and scientific fields, to which it pays epistemological tribute while retaining its individuality. "I tell them (the universe of authorities) that an architect is a specialist in non-specialisation, but they cannot take that not even as a joke", Alvaro Siza asserted (cited by Keneth Frampton in Lizondo Sevilla, 2012). Likewise, Christian Norberg-Schultz observed

that "the real task of the architect consists in the unification of several factors taken from different fields" (1966, p. 203). This positioning as an integrative and coordinating factor has naturally favoured the architects' adoption of critical thinking patterns. Even here, the influence of mechanistic standardisation was a levelling and oppressive factor, yet at present and concurrently with the development of complexity sciences and the emergence of transdisciplinary research and fields of study, the field of architecture and in particular that of architectural education are being ontologically reinvented through the conscious integration of processes specific to critical, analytical and logical thinking into architectural production processes. "Taste, judgment and criticism are therefore immovable components of the aesthetic understanding", philosopher Roger Scruton stated in his book *Architectural Principles in an Age of Nihilism* (1997, p. 205). Thus, the architect becomes a "reflective practitioner" (Schon, 1992), and architecture a reflective practice.

"Critical reflection", "critical thinking", "critical engagement", "critical views", "critical reflection", "critical activity", "critical eye", "critical debate", "critical activity", "critical reactions", "critical analysis", "critical analysis skills", "self-evaluation" are the frequently repeated phrases in the *Changing Architectural Education* book (Nicol & Pilling, 2000), published more than 20 years ago, which highlights the importance that editors and authors attribute to the capacity of logical reasoning, both during the period of academic studies and of professional practice.

Similar approaches can also be discerned in the preoccupations of university teachers of architecture, in connection to the work methodologies employed in the design studios, which seek to use and develop the students' abilities of logical reasoning, i.e. critical thinking, logical thinking and comprehensive thinking, via specific exercises. *Laboratoire de la production d'architecture* – LAPA, represents such an example of an interdisciplinary approach to architectural projects, implemented by the architect and professor Harry Gugger at the École polytechnique fédérale de Lausanne (EPFL). The working method is exploratory, pursuing the development and diversification of design processes which are based on a very intense research period and a two-stage critical approach, first of the context and subsequently of the architectural project, with the primary aim of developing the students' integrative thinking ability (Ganshirt & Stapenhorst, 2016).

The importance of developing critical thinking in architectural education and practice is perhaps best expressed by Rudolf Arnheim, who describes any artistic practice, implicitly also the architectural, as a form of reasoning: "All perceiving is also thinking, all reasoning is also intuition, all observation is also invention" (Arnheim, 1974, p. 5). Arnheim argues for this by indicating the relationship between visual perception and cognitive operations: "Visual perception is visual thinking" because "the cognitive operations called thinking are not the privilege of mental processes above and beyond perception but the essential ingredients of perception itself" (1974, p. 13). He expands upon this assertion by providing a list of processes specific to cognition as well as perception: "active

exploration, selection, grasping of essentials, simplification, abstraction, analysis and synthesis, completion, correction, comparison, problem-solving, as well as combining, separating, putting in context" (1974, p. 13), all of these being also found in the above-noted list of abilities specific to critical thinking. It is important to note and remember the fact that all these processes are simultaneously characteristic of the patterns of critical thinking and of the design and architectural design processes.

Conclusions

While the importance of critical thinking has been recognised as essential to architectural work since antiquity, it was long considered to be more of an innate ability and less of a trained, learned one. Yet at present, a switch of focus is noticeable in architectural education, from the final product, i.e. the architectural object, to the design process, taking into account the fact that a well-grounded and well-argued design process automatically leads to valuable results.

The ever-increasing complexity of the problems tackled by architecture has led to the development of new methods in architectural education, whereby training in the above-presented processes specific to critical thinking becomes an integral, indispensable component of high-quality architectural education. Increasingly, the development of critical thinking abilities is becoming a major criterion in assessing the quality of architectural education (Spiridonidis, 2010).

As previously discussed, critical thinking abilities can be trained by means of specific exercises, whether or not they are part of the architectural problems the students are required to solve, and they can be measured by tests with architecture-specific content, thereby contributing to the continual updating of the educational model through adapting methodologies, updating content and measuring the quality of the educational process.

References

Arnheim, R. (1969). *Visual Thinking*. University of California Press. Berkley.

Arnheim, R. (1974). *Art and Visual Perception. A Psychology of the Creative Eye*. University of California Press. Berkley.

Bailin, S., R. Case, J. R. Coombs, & L. B. Daniels. (1999). Conceptualizing Critical Thinking, *Journal of Curriculum Studies*, 31(3). (pp. 285–302).

Dewey, J. (1910). *How We Think*. Boston. D.C. Heath.

Dewey, J. (1933). *How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process*. Lexington, MA. D.C. Heath.

Ganshirt, C., & C. Stapenhorst. (2016). *Concept. A Dialogic Instrument in Architectural Design*. Jovis Verlag GmBH.

Hoaglund, J. (1999). *Critical Thinking*. Hilton. Tidewater Community College. 3rd ed.

Lizondo Sevilla, L. (2012). Conversando con... Kenneth Frampton. *EGA Expresión Gráfica Arquitectónica*. 17(20). (pp. 24–33).

Nicol, D., & S. Pilling (Eds.). (2000). *Changing Architectural Education*. E&FN SPON. Taylor & Francis Group. London and New York.

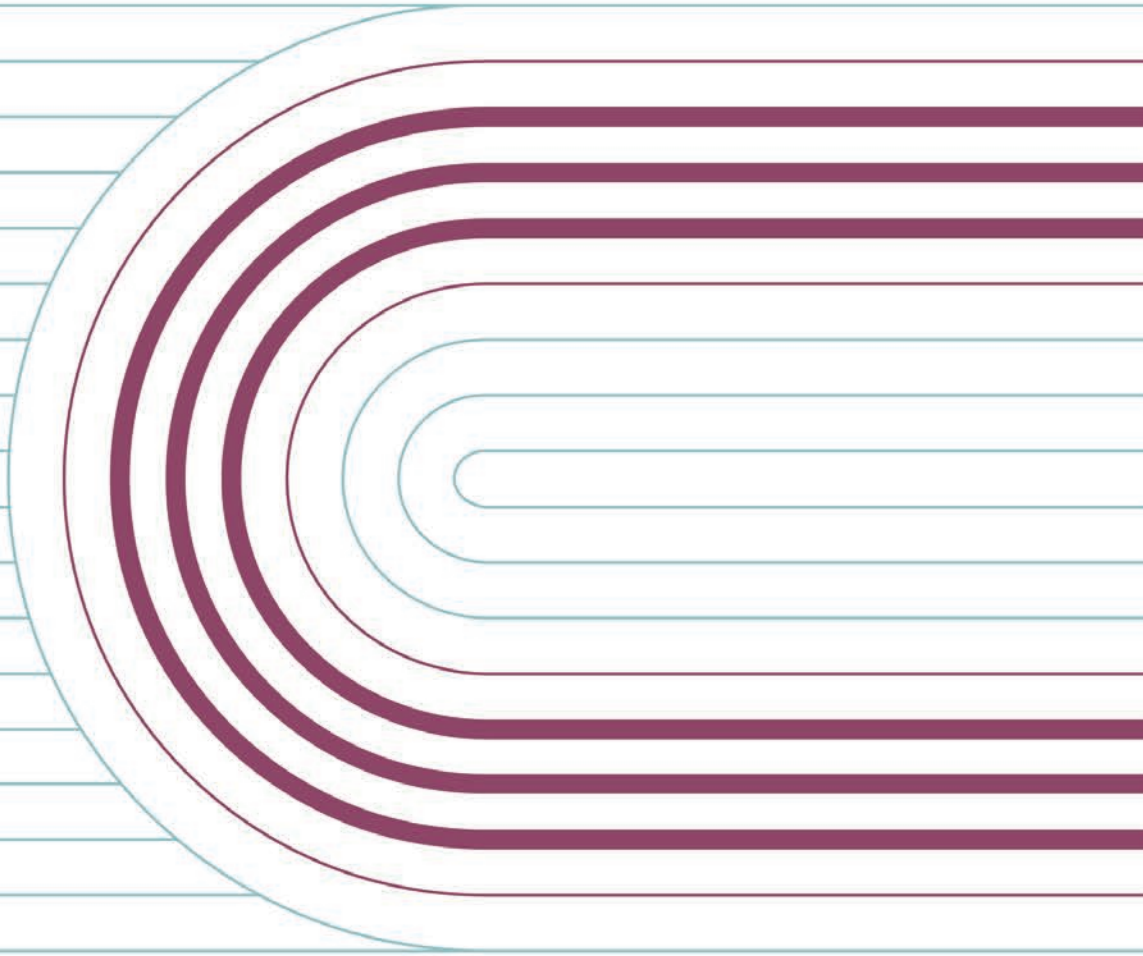
Schon, D. A. (1992). *The Reflective Practitioner. How Professionals Think in Action*. Routledge. London.

Scruton, R. (1997). Architectural Principles in an Age of Nihilism. In C. Jencks & K. Kropf. (Eds.). *Theories and Manifestos of Contemporary Architecture*. West Sussex: Academy Editions. (pp. 203-206).

Spiridonidis, C., & M. Voyatzaki (Eds.). (2010). Educating Architects towards Innovative Architecture. *EAAE Transactions on Architectural Education*. no. 50.

Vitruvius. (1914). The Education of an Architect. In *Ten Books on Architecture*. (M.H. Morgan, Trans). Harvard University Press. Cambridge. (pp. 5-12).

World Economic Forum. (2020). Future of Jobs Report, https://www.weforum.org/reports/the-future-of-jobs-report-2020/



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Oana Anca ABĂLARU OBANCEA
Claudia-Gabriela PIPOŞ-LUPU

Portfolio design: an exercise in self-presentation and representation

Rationale

The "Portfolio design" workshop took place at the "Ion Mincu" University of Architecture and Urban Planning - Bucharest (UAUIM), in the interval 17-20 June 2022 as part of the activities within the framework of the SCHOLARH 2022 project. The event had as its target audience UAUIM students from all years of study.

Conceived as a creative exploration of the acquired academic and professional knowledge in multiple areas related to architecture, the workshop took the form of a self-evaluation and summarising exercise of the abilities and skills gained over time, graphically illustrated through architectural projects.

Objectives

The activity proposed in the workshop corresponds to objective 3 of the SCHOLARH 2022 project – "Evaluating and supporting the academic identity of UAUIM, in correlation with the visions, at the national and international level, on subject-specific education in architecture, urban planning and related fields and on the professions targeted by it through the development of support materials and the discovery and detailing of elements of UAUIM identity derived from the learning and teaching objectives".

Specifically, "Portfolio design" sought to familiarise students with an instrument which is essential to the profession and reflective of the continuous learning process that accompanies students and practitioners in this field. Furthermore, connecting the portfolio to the complexity, visions and trends in education and on the architectural market motivates initiating this kind of undertaking at an early stage of the academic trajectory. Thus, the workshop aimed to be a small component of the natural process of constant perfecting of means of learning and of supporting innovation in the educational process in relation to current trends in the professional and academic architectural environment.

The objectives of the proposed activity were:

_defining the aim of the portfolio and adapting its contents accordingly;

_familiarising students with the specific structure of the architectural portofolio;

_creating awareness of the complementarity of the portfolio within the context of the academic trajectory;

_understanding the necessity of adaptability and flexibility in the architectural portfolio;

_familiarising students with certain principles and their application in the selection and editing of support materials;

_conceiving the portfolio as a coherent design element in its entirety;

_understanding and applying graphic design principles.

Coordinators and participants

The "Portfolio design" workshop was coordinated by Oana Anca Abălaru Obancea (from the Synthesis of Architectural Design Department) and Claudia Gabriela Pipoș Lupu (from the Basics of Architectural Design Department).

The event was open to all students of the Faculty of Architecture at UAIM, starting from the first year of study. Participation required enrolment prior to the selection process. This preliminary stage enabled us to get to know the participants and to adapt the working method and content to the target audience. The aim was thus to collect data regarding the year of study, self-evaluation of prior experience of portfolio development, the participants' motivation, their level of software competence and readiness to use their own hardware and software resources for the event.

The workshop gathered 20 participants from all years of study, 90% of whom managed to complete all the proposed stages and to deliver the requested content. Participant distribution by year of study is shown in the diagram below (Fig. 1).

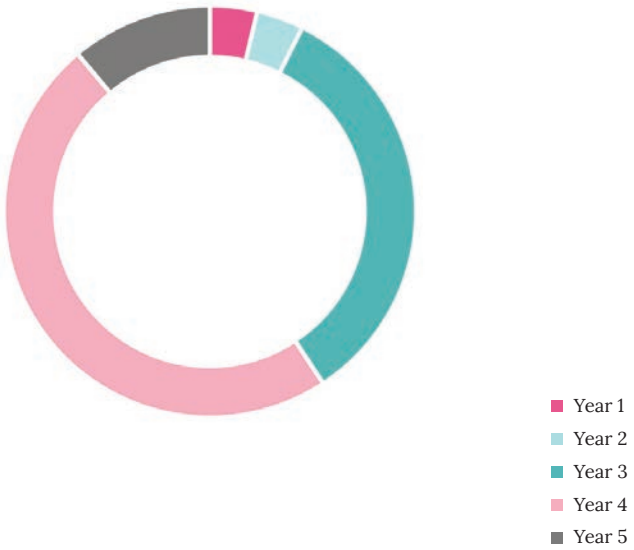


Fig. 1. Participant distribution by year of study.

With regard to the experience of architectural portfolio development (Fig. 2), the preliminary data revealed that the portfolio is a topic of interest in individual study especially for students in the final years of the degree.

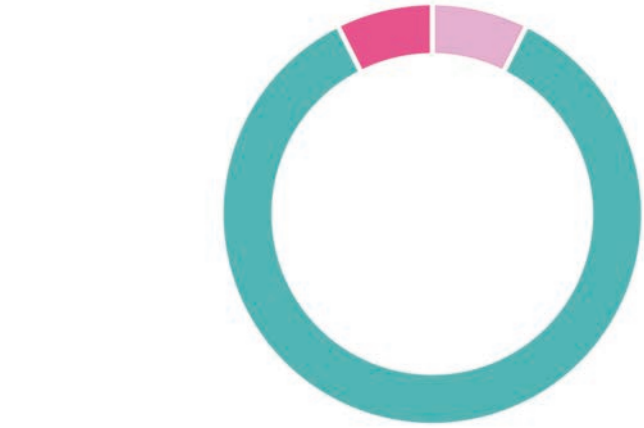


Fig. 2. Experience in developing a portfolio.

Regarding the reasons for enrolment in the workshop, the main reasons mentioned include: the need to complete and develop graphic design skills; better presentation of personal abilities in a summary and appealing manner; finally, the necessity of developing a project portfolio for job interviews, which highlights the academic trajectory as well as personal interests. At the same time, the participants aimed to expand their abilities of using domain-specific software.

Method

The "Portfolio design" workshop took place in the interval 17-20 June 2022, in a hybrid format, encompassing an online meeting and three work sessions held in UAUIM spaces.

The launching session of the workshop took place online and covered the introduction of the proposed theme, of the method and of the work schedule as well as the objectives of the event. In addition, the lecture on the architectural portfolio aimed to familiarise the target group with study questions regarding the aim of the portfolio, its content and the stages of processing the materials, principles for the development and organisation of the portfolio and its main structural elements.

The agenda proposed for each of the three meetings included a brief lecture, the actual work session as well as individual unguided activities for the preparation of the following session on the basis of the provided feedback.

Fig. 3. Workshop poster. Design: Ioana Boghian-Nistor and Diana Rusu.

Fig. 4. Images from the workshop.

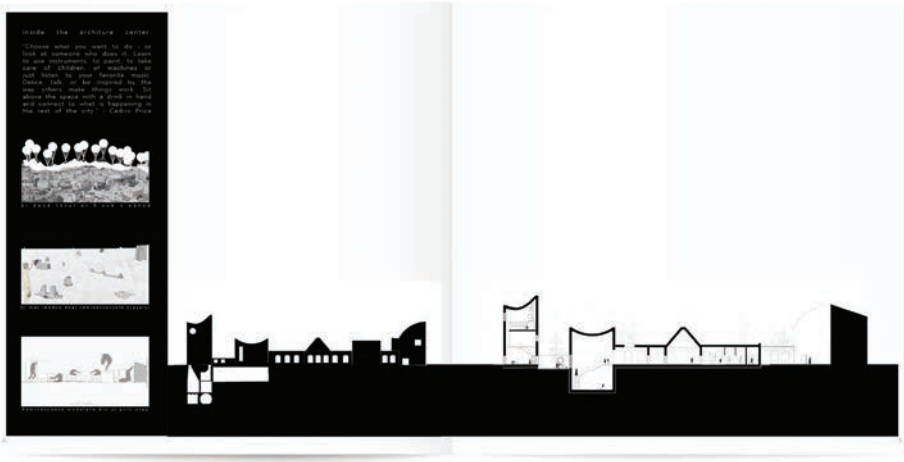
Results and conclusions

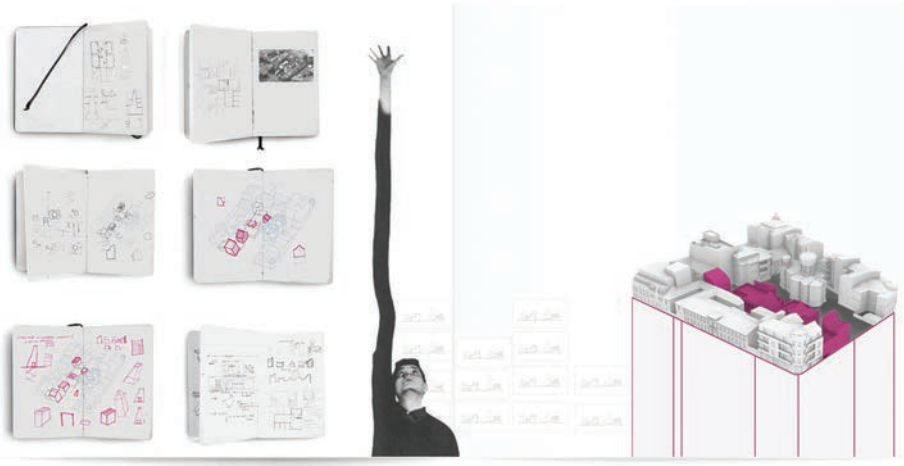
Each of the participants developed a portfolio based on specific projects and extracurricular activities. The results of the workshop were disseminated in a virtual exhibition containing a selection of six portfolios of UAUIM students who participated in the event.

From an overall perspective, the event was an opportunity to initiate students into the process of developing a portfolio, which proves to be indispensable to graduates' competitivity in relation to the requirements of the national and international architectural market.

Fig. 5. Covers of the portfolios created by students in the course of the workshop.

Fig. 6. Portfolio – Andreea Elena Istrate.


inside the architure center:
"Choose what you want to do - or look at someone who does it. Learn to sew instruments, to paint, to take care of children, of machines or just listen to your favorite music. Dance, talk, or be inspired by the way others make things work. Sit above the space with a drink in hand and connect to what is happening in the rest of the city." - Cedric Price



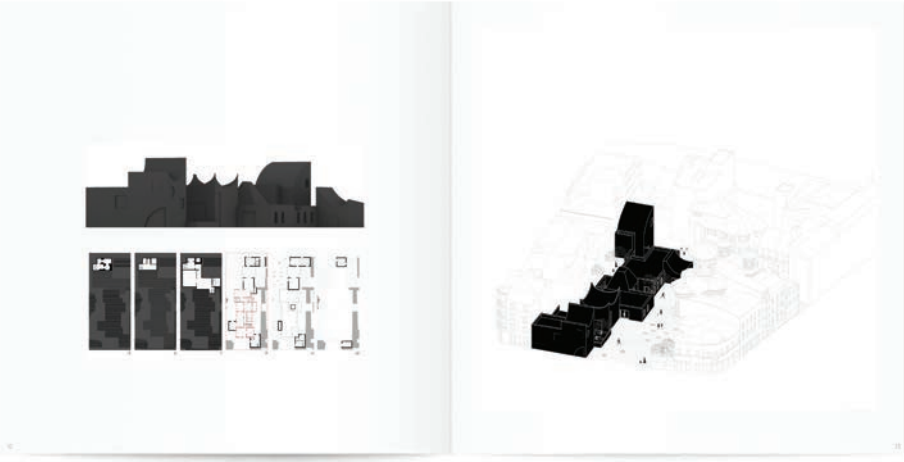
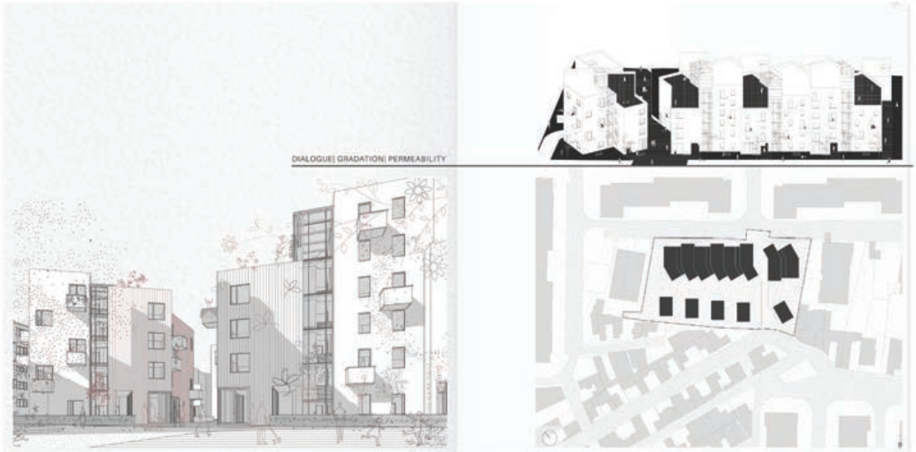
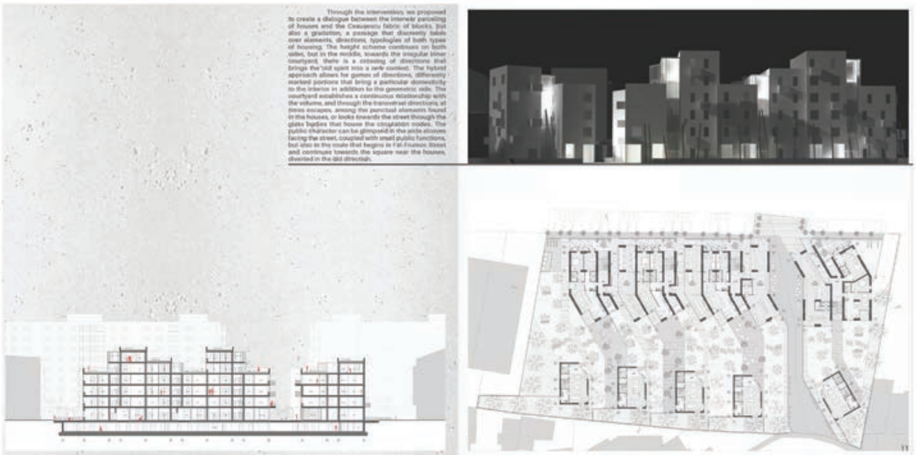
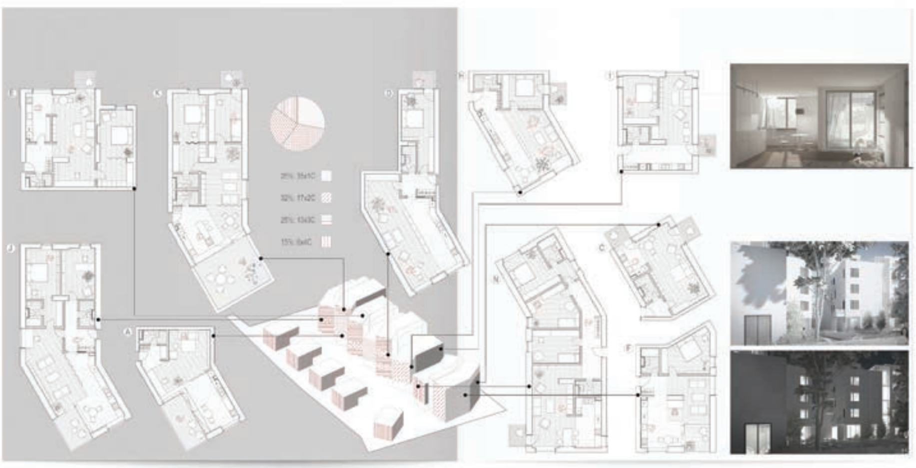


Fig. 7. Portfolio – Ana Neacșu.


DIALOGUE| GRADATION| PERMEABILITY


Through the intervention, we proposed to create a dialogue between the interwar parceling of houses and the Ceausescu fabric of blocks, but also a gradation, a passage that discreetly takes over elements, directions, typologies of both types of housing. The height scheme continues on both sides, but in the middle, towards the irregular inner courtyard, there is a crossing of directions that brings the old spirit into a new context. The hybrid approach allows for games of directions, differently marked portions that bring a particular domesticity to the interior in addition to the geometric side. The courtyard establishes a continuous relationship with the volume, and through the transversal directions, at times escapes, among the punctual elements found in the houses, or looks towards the street through the glass bodies that house the circulation nodes. The public character can be glimpsed in the wide alcoves facing the street, coupled with small public functions, but also in the route that begins in Făt-Frumos Street and continues towards the square near the houses, diverted in the old direction.



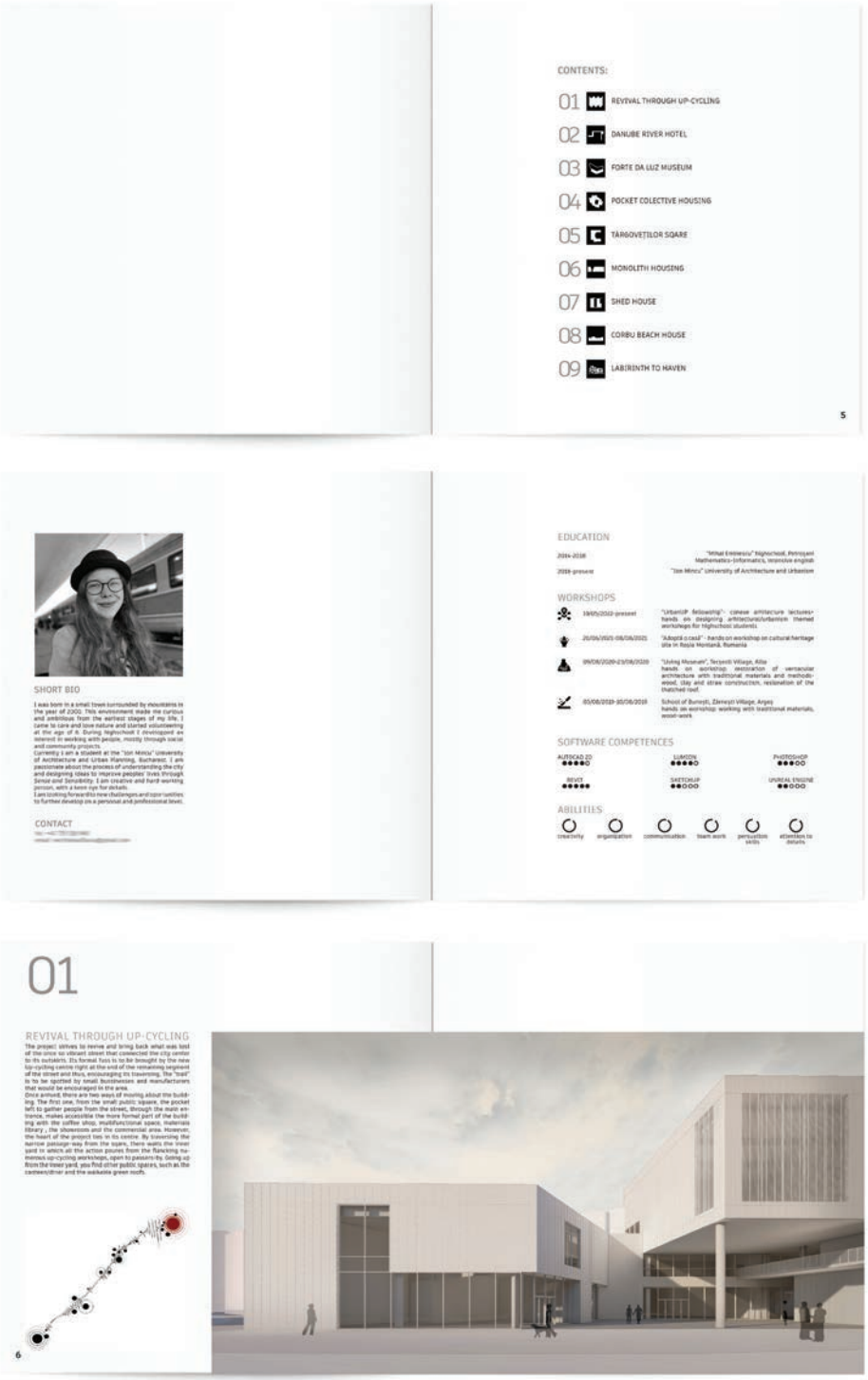
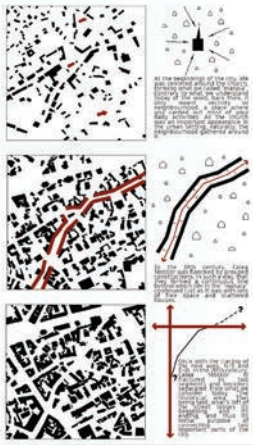


Fig. 8. Portfolio – Flavia-Mihaela Nechițelea.



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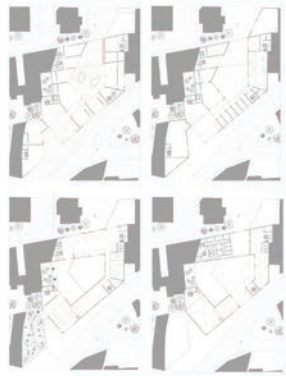

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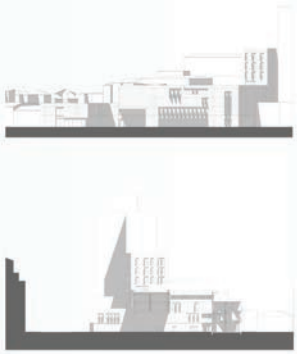

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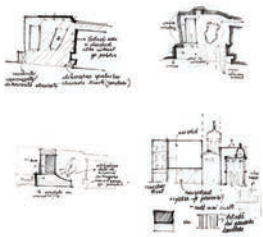
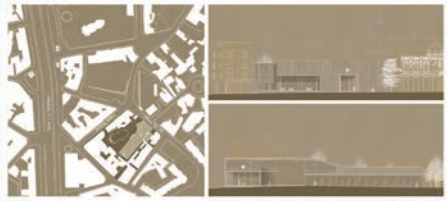
Fig. 9. Portfolio – Andreea Călin.





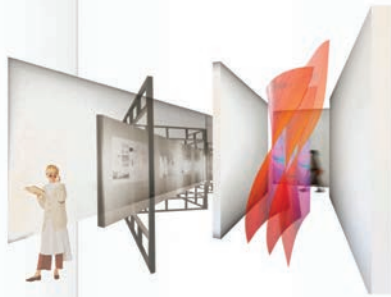
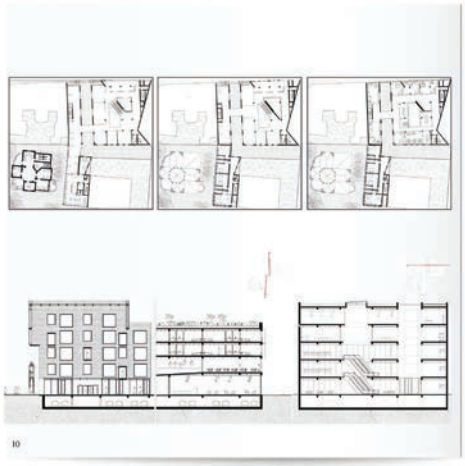


Fig. 10. Portfolio – Alexandra Ghiță.



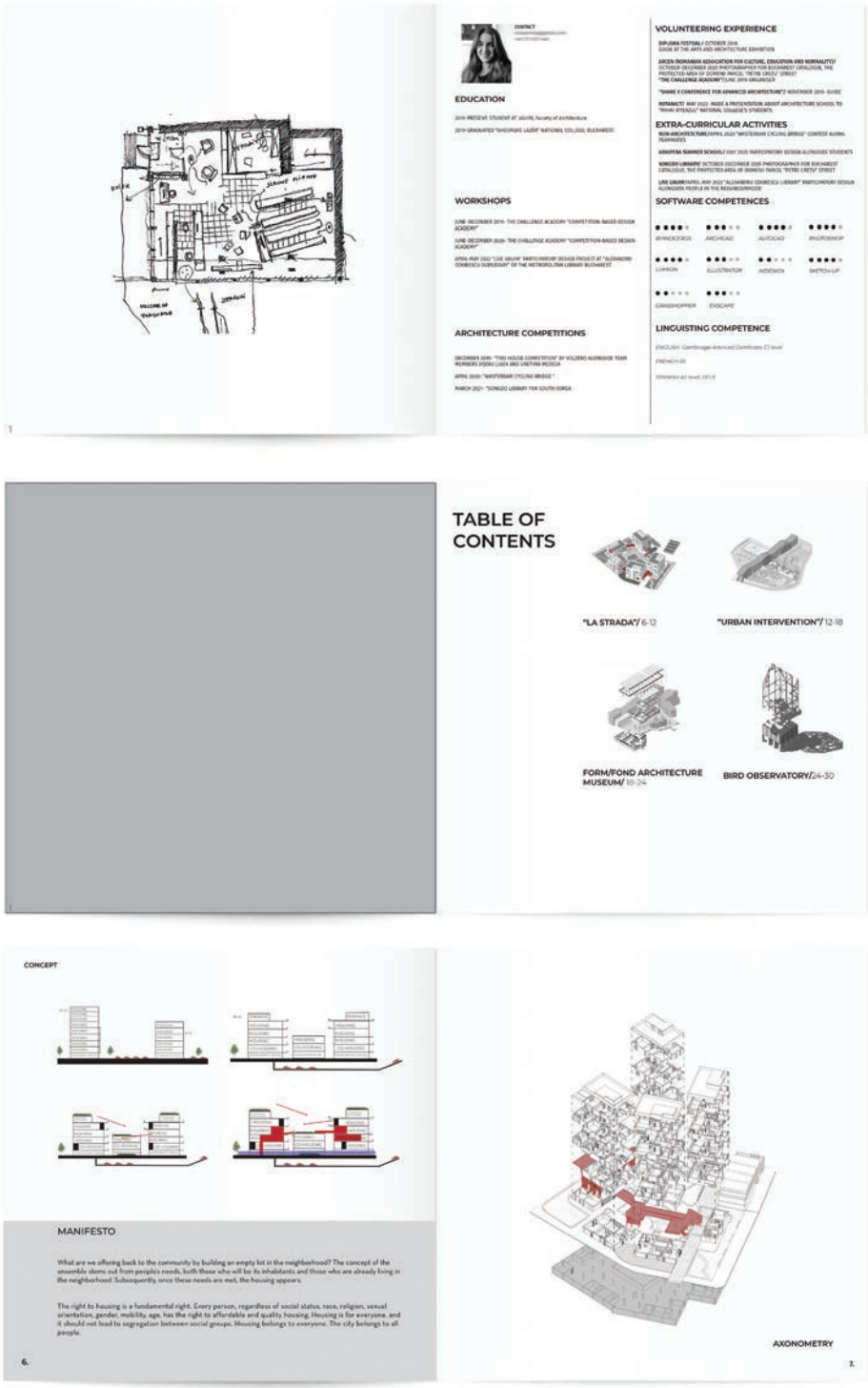
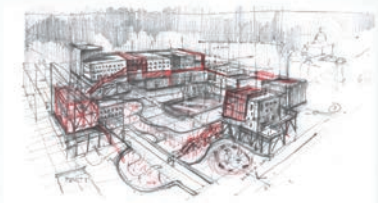


Fig. 11. Portfolio – Irina Ursea.

"La Strada"proposes an interpretation of the blocks of flats in the area: taking the same level of height, with an austere, modest vocabulary. The parallelepipeds are indistinguishable from the surrounding blocks - we did not want to emphasize the idea of housing, but of what can a neighborhood bring to its inhabitants, that is different from housing.

The proposal increases the degree of privacy to the upper levels: on the ground floor there are community public spaces, the first floor has mostly co-housing, while on the upper levels there are house apartments. The inner, red street, treated differently from the built blocks, connects the community spaces with each other, and runs in 3 directions: height, depth, length. The street has access to both housing and service spaces.



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The ensemble proposes the integration and friendship of community members through the use of different levels of public space: from the ground floor - cafe, flower shop, community library, charity store (where residents can bring second-hand items), performative space, improvisation space, shoe repair shop,
co-working space; on the upper floors - tailoring, space dedicated to children, walkable

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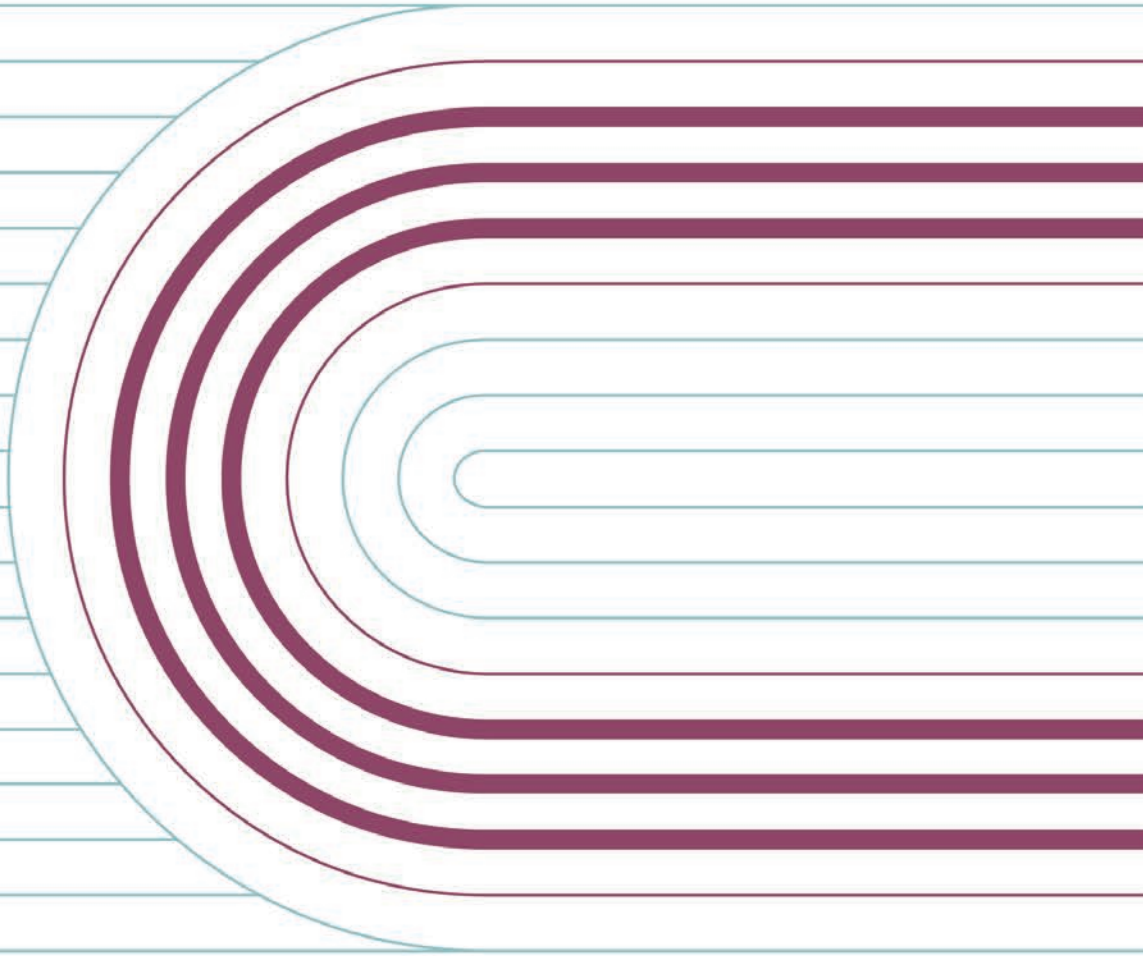

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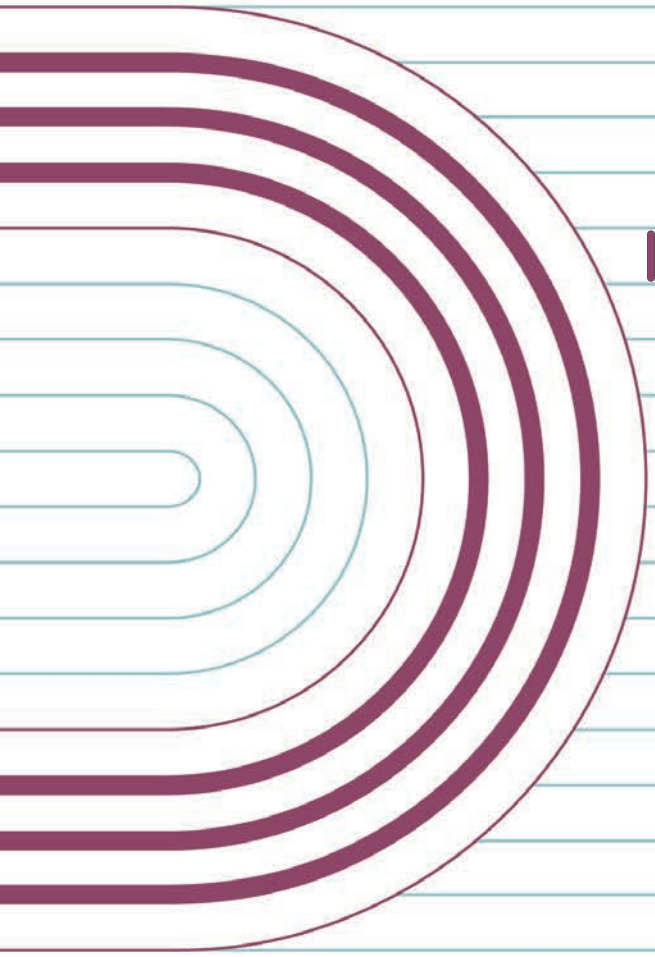
Andrei MITREA
Dana MILEA



Introduction to urban planning: the structure of a modular course

The proposal below is the preliminary outline of a modular introductory course on urban planning, which is based on our teaching experience to date. The structure is a modular one and the modules can be combined depending on student needs and tutor preferences. In addition, each module can be expanded or explored in greater depth in the senior years of study, when project performance level increases.

Furthermore, each module will be supported by memo cards, meant to build a controlled vocabulary, useful for defences and debates.

Learning and teaching objectives

The course presents introductory information on the theory and practice of urban planning from a critical perspective. It is thus aimed at a public that is only slightly or not at all familiar with urban planning[1]. For this reason, both the lectures and the learning materials must obey two conditions:

1. Present the essential information, clearly structured.
2. Use controlled, easy to understand vocabulary.

On completing the course, the students will be able to:

1. Understand the role played by urban planning and why it is necessary.
2. Understand the main challenges faced by an urban planner.
3. Formulate and assess urban planning problems.
4. Discuss urban planning themes with a specialised public as well as with a broad audience.

Course structure

The course is organised by starting from a few recurrent themes in urban planning theory and practice. Each theme is associated with a module. If necessary, the modules can be expanded and studied in greater depth as project performance increases.

Thus, the course operates with two types of modules: core and complementary[2]. The core modules consolidate fundamental knowledge

1 The course is mainly directed at first-year students of urban planning, i.e. recent high school graduates. The majority of these have graduated from a high school with an academic profile and have not completed any specialised training for admission to the Faculty of Urban Planning. In Romania, there are as yet no high schools with an urban planning specialisation, while in the high schools with an architectural vocational option urban planning is only studied in passing.
The course is also useful to students of architecture. Their interest in urban planning grows in the later years of study with the help of the urban planning project and of the diploma project. They usually have some knowledge of urban planning, but it is incomplete, insufficiently structured and difficult to exploit in projects.

2 It is worth noting that the modules can be adapted for senior years of study so as to transform student projects from simple answers to a design brief into small research projects.

and are subsequently used in the complementary modules as a basis for the development of a professional culture.

Certainly, the structuring of content into modules has some advantages:

1. Modules hide the complexity of a situation. Modularity helps students deconstruct a complicated situation into components they understand and can work with.

2. The modules of the same type are independent. Understanding the information in a core module does not require for the student to have previously covered another core module. This is also true of the complementary modules. In addition, the tutor can adapt the order of introducing modular information to student needs.

3. Modular information can be (re)assembled in different fashions. By creating new connections between known elements, modularity encourages students to think in a structured and creative manner.

The number and breadth of the complementary modules can vary depending on available resources, on curriculum or programme requirements and on the students' ability to assimilate knowledge. Table 2 shows a few examples of complementary modules that can be used to develop the students' knowledge of urban planning theory and practice.

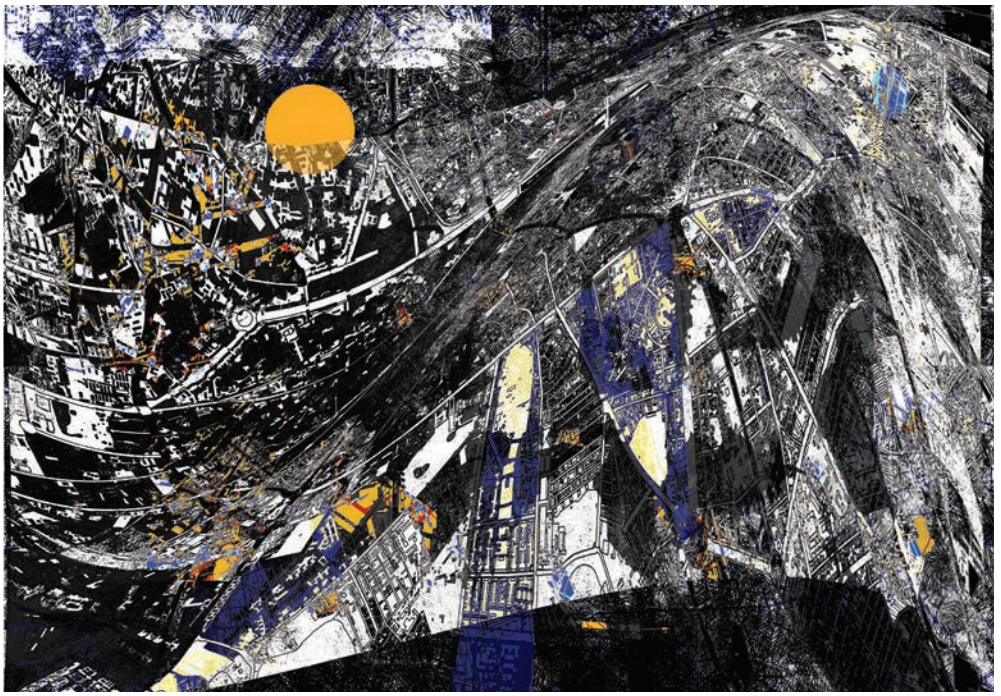


Fig. 1. Map overlay (c) Ioana Boghian-Nistor.

Table 1. Core modules of the course

	Core modules	Research questions	Comments
1.	**Critical thinking**	• How does an urban planner think? • How do we build an argument? • What is an urban planning problem? • How do we build the solution to a problem? • How do we assess the solution to a problem?	
2.	**People**	• Why are we interested in people when we discuss urban planning? • What do we need to know about people when working on urban planning problems? • How do we study people?	
3.	**Activities**	• Why are we interested in activities when we discuss urban planning? • What do we need to know about activities when we work on urban planning problems? • How do we study activities?	
4.	**Places**	• Why are we interested in places when we discuss urban planning? • What do we need to know about places when we work on urban planning problems? • How do we study places?	
5.	**Glossary**	• What are the terms we need to understand professional literature? • What about the terms needed to communicate?	The glossary features only as supporting material, in the form of memo cards. Thus each card includes a working definition for a concept, some concise explanations, as well as a series of relevant definitions from other fields. It ends with an open thematic bibliography.

Table 2. Examples of complementary modules

	Complementary modules	Research questions	Comments
1.	**Rules**	• Why do we need rules in urban planning? • How are relationships between people, activities and places turned into rules? • Who imposes the rules and who has to follow them?	
2.	**Instruments**	• What instruments does the urban planner have at their disposal? • How do we choose the appropriate instruments? • How do we create working instruments?	
3.	**Communication**	• How do we talk to a partner? • How do we negociate with a beneficiary? • How do we present the results of a project?	This module is important because it familiarises students with teamwork methods and with project presentation techniques.

The modular structure is reflected both in the lectures and in the learning material.

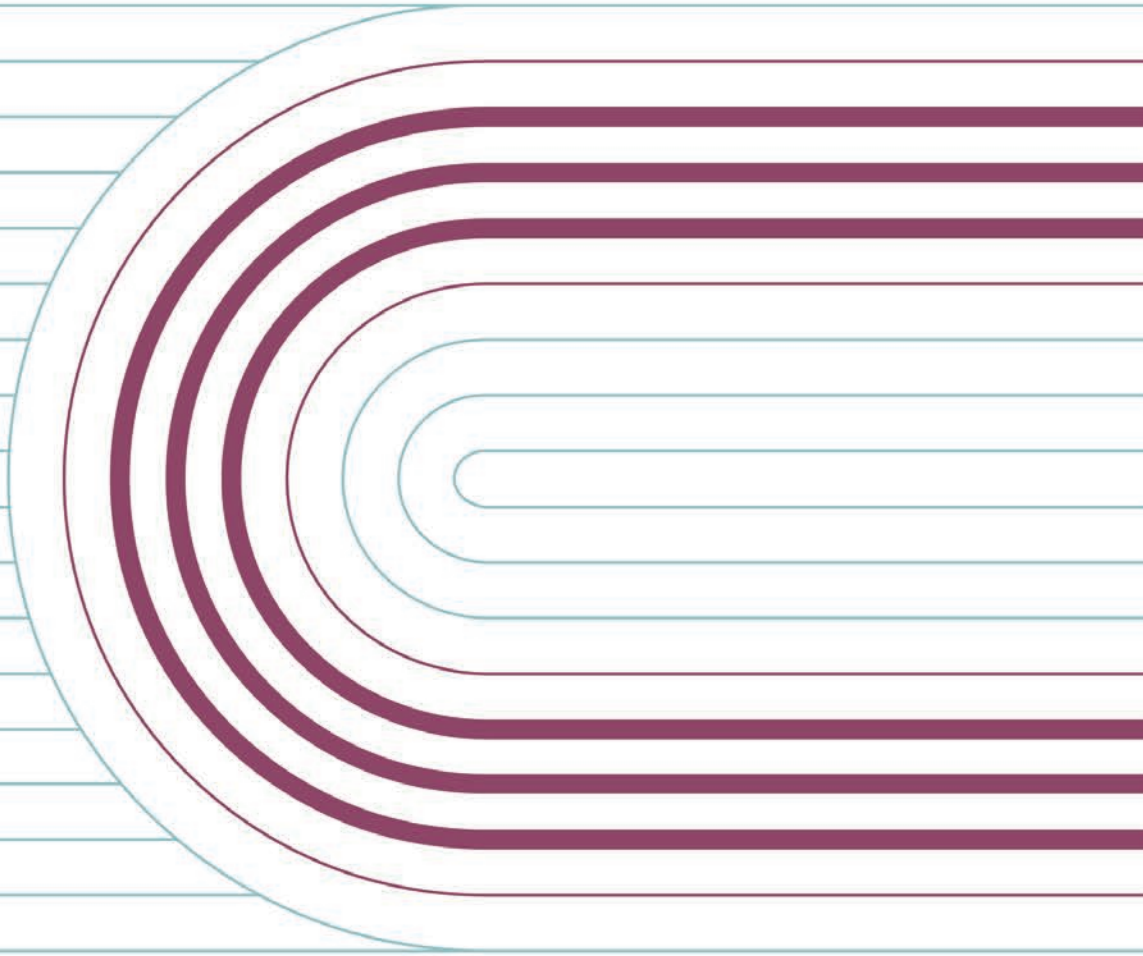
In the learning material, each module deals with a theme, supported by a series of cards. Each card brings up for discussion a topic related to the module theme. The topics can be of very different types. For example, a card can represent a state, a process, a problem, a way of solving a problem, a working instrument, etc. The discussion is structured by starting from a research question to which an answer is sought. In most situations, the structure of the cards is the following:

1. Research question.
2. Summary answer to the research question.
3. A series of arguments, which underpin the summary answer.
4. A series of examples which illustrate the argument.
5. References to other cards, which can add to the understanding of the subject.
6. An open bibliography.

Regarding the memo cards, the structure is slightly different since the role of this module is to define the working terms used by an urban planner. Thus, the discussion no longer starts from a research question to which an answer is sought, but from the working definition of a term. The cards will therefore have the following components:

1. Working definition.
2. Explanations dedicated to the usage of the term.
3. Definitions used in other professional fields.
4. An open bibliography.

All the cards are written in simple language that can be easily understood by anyone, regardless of whether or not they have any knowledge of urban planning. In addition, the structure of the cards clarifies the meaning and usage of key terms from urban planning practice. Thus, the cards can be read in any order.



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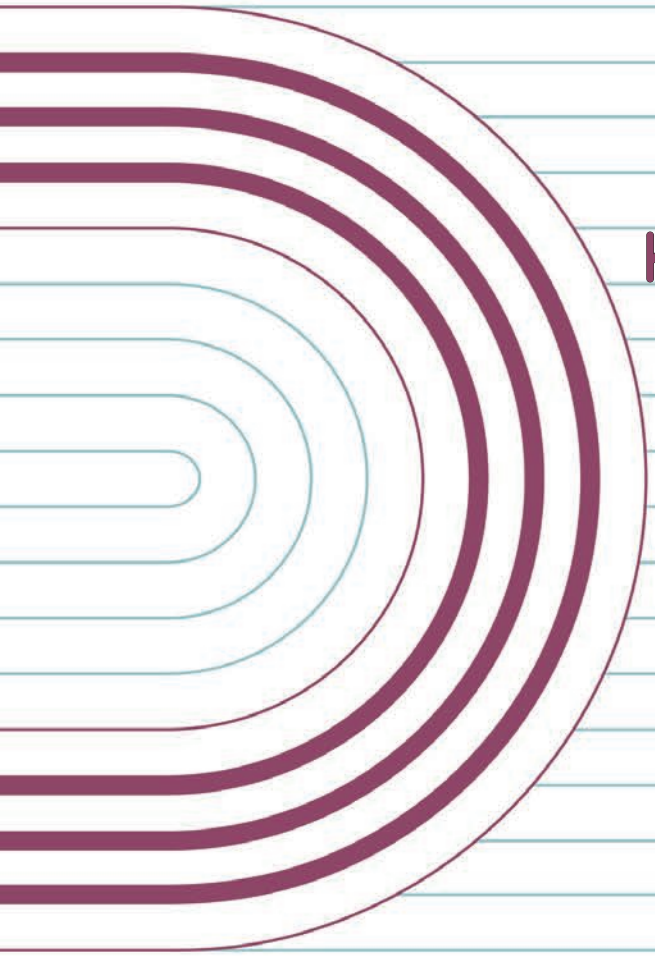

Key concepts in urban planning

The problem

01

1. Working definition

The problem is a deficiency of a group of people, an activity or a place.

In urban planning design, the anatomy of a problem is given by the following equation[1]:

$$P = A[-] \rightarrow M? \rightarrow B[+]$$

where:

_A[-] represents the initial unsatisfactory situation[2]:

> By definition, a deficient state exists if somebody suffers from something. If[,] for a given problem, the objective is to filter out a precise A[-], i.e. to recognise what the matter at hand actually is, it is recommended to ask the following question: "WHO IS SUFFERING?" (Schönwandt et al., 2013, p. 25)

1 Some of the following paragraphs were previously published in Mitrea and Milea, 2020.

2 The problem is the main product of the diagnosis.

_B[+] represents the final satisfying solution. In urban planning, B[+] is called an objective[3] :

> By defining a goal[,] we devise and determine the course of action. So far, so good. At the same time, however, we tend to completely mask out other, potentially promising search vectors [,] which may lead to improved solutions. (Schönwandt et al., 2013, p. 27)

_M? represents the measures that must be taken to improve the initial situation. The question mark indicates the fact that these are not known when the problem is being formulated. Otherwise, the formulated problem could be solved by following a predetermined procedure.

> The recipe for success is: think further, beyond the first idea that comes along and beyond the limits of your own professional field... (Schönwandt et al., 2013, p. 28)

2. Explanation

The problems that are relevant for urban design must meet three conditions (Maurer, 1973):

_the knowledge, even imperfect, of the relations between community well-being and the built environment;

_the existence of some mechanisms for influencing the built environment, which can be used to benefit community well-being;

_the chosen problem must not be possible to solve through direct interventions in a single area (social, economic, legal, etc.);

A clear problem obeys two conditions:

_it is well-defined;

_its formulation includes the conditions that must be met by the solution.

This raises three verification questions:

_have we clearly formulated the problem that must be solved? Or, in other words, how do we recognise the problem when we encounter it?

_can we discover a more important problem than the one we have just formulated?

_what conditions must the proposed solution fulfil in order to solve the formulated problem?

3 The objectives must be clear and possible. In other words, their fulfilment must be easy to verify.

Fig. 1. People in public space - collage.
(c) Ioana Boghian-Nistor

Selective bibliography

Manolache, A., Muster, D., Nica, I., & Văideanu, G. (Coord.) (1979). *Dicționar de pedagogie*. București. Editura Didactică și Pedagogică.

Maurer, J. (1973). *Grundzüge einer Methodik der Raumplanung*. Zürich. Institut für Orts-, Regional- und Landesplanung.

Mitrea, A., & Milea, D., (2020). Abordare urbanistică. In A.-M. Dabija, A.-I. Sfinteș, and R. Sfinteș (Coord.), *Spații uitate – Spații pierdute – Spații recuperate/Forgotten Spaces – Lost Spaces – Reclaimed Spaces*. București. (pp. 180-191). Ed. Universitară „Ion Mincu".

Popescu-Neveanu, P. (1978). *Dicționar de psihologie*. București. Editura Albatros.

Schönwandt, W. L., Voermanek, K., Utz, J., Grunau, J., & Hemberger, C. (2013). *Solving Complex Problems. A Handbook*. Berlin. jovis Verlag.

Trebici, V. (Coord.) (1985). *Mică enciclopedie de statistică*. București. Editura Științifică și Enciclopedică.

The analysis

02

1. Working definition

Analysis deconstructs the study area into people, activities and places, which it describes, classifies and summarises in diagrams. Each analysis explicitly deals with a problem[1].

It is worth bearing in mind that the study area is derived from the overlap of the minimal surfaces that need to be analysed to formulate the problem to be addressed by the project.

In its turn, the intervention area is the specific plot of land on which the solution to the problem discovered in the study area is built.

1 See the memo card dedicated to the "problem".

2. Explanation

The analysis answers the following research questions (see Pólya, 2004):

_what is the problem?

_what do we know about it?

_what do we not know about it?[2]

_what data do we work with?

By means of activities, the analyses connect people to places while at the same time creating a hierarchy of the encountered problems. Each analysis thus ranks the problems encountered by people in their activities, from the most to the least serious.

Here we work with three verification questions:

_what are the analyses we can perform and what data do we need for these?

_can we derive from each analysis at least one viable argument in support of our project?

_how many analyses do we need to perform? Can we reduce their number by reordering them?

2 But we need to find out.

Selective bibliography

Bârsănescu, Ș. (Coord.) (1969). *Dicționar de pedagogie contemporană*. București. Editura Enciclopedică Română.

Manolache, A., Muster, D., Nica, I., & Văideanu, G. (coord.) (1979). *Dicționar de pedagogie*. București. Editura Didactică și Pedagogică.

Pólya, G. (2004). *How to Solve It*. Princeton & Oxford. Princeton University Press.

Popescu-Neveanu, P. (1978). *Dicționar de psihologie*. București. Editura Albatros.

Sommer, R., Tomoioagă, R., & Vaida, P. (Coord.) (1969). *Mic dicționar filozofic*. București. Editura Politică.

Zamfir, C. și Vlăsceanu, L. (Coord.) (1993). *Dicționar de sociologie, urmat de indicatori demografici, economici, sociali și ecologici*. București. Editura Babel.

The diagram

03

1. Working definition

The diagram encapsulates one or several analyses in a single image. In urban planning design, we work with two types of diagrams:

_state diagrams (or structural diagrams);

_process diagrams (or logical schemas).

State diagrams show the characteristics[1] of people, activities and places from the study area and from the intervention area.

Process diagrams show interactions between people, activities and places[2].

1 In other words, state (structural) diagrams include the characteristics of the different types of people (children, older people, maintenance staff, etc.) and their actions (playing, walking, maintenance, etc.), as well as the characteristics of the area or of the studied amenities (localisation, total area, accessibility, etc.).

2 Thus, they usually include activities (playing, sports, walking, etc.), decisions (if the weather is good, if there is an event, if there is free access, etc.) as well as the order in which they occur (indicated by arrows). In addition, they show the decisions people make: for example, if the weather is good, they walk down the alleys of the park; if not, they find shelter in the park pavilions.

It is worth bearing in mind that the study area is derived from the overlap of the minimal surfaces that need to be analysed to formulate the problem to be addressed by the project.

In its turn, the intervention area is the specific plot of land on which the solution to the problem discovered in the study area is built.

2. Explanation

Each state diagram must answer the following two research questions:

_what are the relevant traits[3] of the people, activities and places in the study area?

_what are the relationships between people, activities and places?

In its turn, each process diagram must answer the question:

_how does interaction unfold between people and the places they use?

Two verification questions arise here as well, one for the state diagrams and the other for the process diagrams:

_how coherent (convincing) is the description of the people, activities and places in the study area and of the relationships between them?

_how complete is the picture of the interactions between people and places in the study area?

3 Or attributes.

Selective bibliography

Manolache, A., Muster, D., Nica, I., & Văideanu, G. (Coord.) (1979). *Dicționar de pedagogie*. București. Editura Didactică și Pedagogică.

Popescu-Neveanu, P. (1978). *Dicționar de psihologie*. București. Editura Albatros.

Trebici, V. (coord.) (1985). *Mică enciclopedie de statistică*. București. Editura Științifică și Enciclopedică.

The synthesis

04

1. Working definition

The synthesis shows the functioning of the study area.

It is worth bearing in mind that the study area is derived from the overlap of the minimal surfaces that need to be analysed to formulate the problem to be addressed by the project.

In its turn, the intervention area is the specific plot of land on which the solution to the problem discovered in the study area is built.

2. Explanation

The synthesis answers the following research question:

_how does the study area function?

In other words, the synthesis represents the series of arguments (the argumentation) which show the functioning of the study area. Thus, the statements based on the conclusions of the analyses must be clear and linked together into a convincing argument. The synthesis therefore supports the solution proposed in the project.

Two verification questions arise here:

_is there a clear link between the conclusions of the analyses and the argumentation in the synthesis?

_is the argument built in the synthesis conclusive? Or, in other words, is the presented case convincing?

It is worth recalling that the synthesis ranks the problems of the study area according to their seriousness, showing why and to whom they matter. At the same time, it can also include a preliminary version of intervention priorities.

Selective bibliography

Bârsănescu, Ș. (Coord.) (1969). *Dicționar de pedagogie contemporană*. București. Editura Enciclopedică Română.

Manolache, A., Muster, D., Nica, I., & Văideanu, G. (Coord.) (1979). *Dicționar de pedagogie*. București. Editura Didactică și Pedagogică.

Popescu-Neveanu, P. (1978). *Dicționar de psihologie*. București. Editura Albatros.

Sommer, R., Tomoioagă, R., & Vaida, P. (coord.) (1969). *Mic dicționar filozofic*. București. Editura Politică.

The diagnosis

05

1. Working definition

The diagnosis explains the functioning of the study area.

It is worth bearing in mind that the study area is derived from the overlap of the minimal surfaces that need to be analysed to formulate the problem to be addressed by the project.

In its turn, the intervention area is the specific plot of land on which the solution to the problem discovered in the study area is built.

2. Explanation

The diagnosis answers the following research question:

_why does the study area function in this manner?

In other words, the diagnosis shows the causes and effects that produce the problem discovered in the study area, which the project will subsequently address. Thus, the diagnosis is a demonstration.

Two verification questions arise here as well:

_do we have a clear explanation (demonstration) for each argument in the synthesis?

_how many explanations do we need to offer? Can we support several arguments by a single explanation?

Selective bibliography

Popescu-Neveanu, P. (1978). *Dicționar de psihologie*. București: Editura Albatros.

Zamfir, C. & Vlăsceanu, L. (Coord.) (1993). *Dicționar de sociologie, urmat de indicatori demografici, economici, sociali și ecologici*. București: Editura Babel.

https://doi.org/10.54508/9786066383004.08

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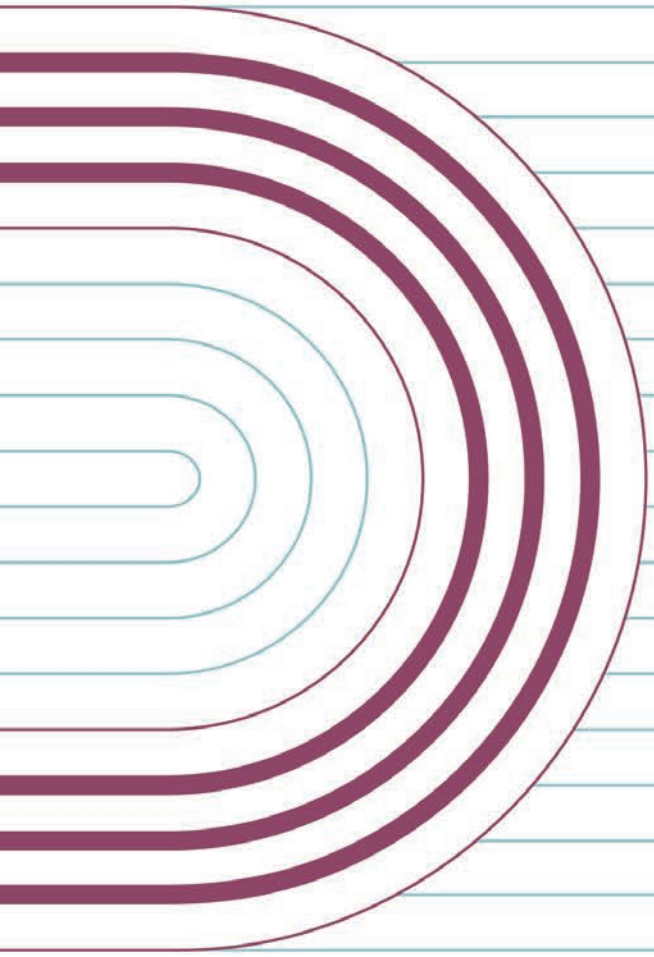


The urban planning basis of projects

Fig. 1. Texture mapping. (c) Ioana Boghian-Nistor

What is the purpose of the urban planning component of a project?

Regardless of the type of architectural project we work on, it is useful to understand the functioning of the urban fabric of the studied site and its surroundings, focusing mainly on how communities interact with the built environment they use. Thus, we can systematically examine the following two themes, both fundamental to urban planning practice:

1. The relationships between plots, buildings and exterior spaces, both public and private, which together constitute the urban fabric.

2. The relationships between the functioning of the urban fabric and the quality of life of the residents.

The project thus launches the urban planning thinking process, which is essentially based on the following four stages:

1. Analyses of the existing situation.

2. Synthesis of the analyses.

3. Minimal diagnosis.

4. Intervention proposals.

The four stages are closely interrelated, regardless of project type and complexity.

By the end of the diploma project, the students should demonstrate the following abilities:

_UA1: Effective and productive documentation, using specialised literature written in all the languages they know and master.

_UA2: Performance of a series of precise analyses which provide a framework for the observations made on the site and its surroundings. The analyses must be sufficiently clear so as to be understood by the jury as well as by tutors and colleagues.

_UA3: Drafting a clear and effective synthesis, based on the above-mentioned series of analyses. The synthesis should clearly show how the urban fabric is used by the residing communities, depending on the parameters set by the student. In addition, the synthesis must provide a logical foundation for a minimal diagnosis of the area.

_UA4: Building of a minimal diagnosis of the area, i.e., a series of explanations, called "causal mechanisms", which clarify the functioning logic of the synthesis.

_UA5: Understanding of the role and logic of urban planning documentation: general urban plan (PUG), zonal urban plan (PUZ) and detailed urban plan (PUD) as well as the related local urban planning regulations (RLU). The information included in these documents must also be understood.

_UA6: Accurate and eloquent identification, measurement and representation of a series of urban indicators, characteristic for the studied area.

_UA7: Creating alternative proposals to address the identified issues in the studied area.

_UA8: Designing a coherent master plan that adresses a pre-established set of intervention priorities.

_UA9: The proper subdivision of plots, with both regular and irregular shapes, occupied by individual or collective dwellings, as well as other facilities, whether complementary to housing or not.

_UA10: Building study models, which are constantly used in the design process, as well as presentation models that showcase the proposed solution.

_UA11: Producing high-quality graphic materials.

_UA12: Delivery of a coherent, consistent and concise presentation.

_UA13: Effective negotiation and the ability to arrive at clearly and expressively formulated resolutions.

_UA14: Creating intuitive work instruments, capable of capitalizing fundamental urban planning knowledge.

_UA15: Creating a design brief, which clearly formulates the problem to be solved and the minimal conditions for validating a solution.

All these abilities except UA9 and UA10 must also be demonstrated in solving the pre-diploma project. As a matter of fact, the project introduces and supports a continuous process of documentation, conceived so as to develop the students' curiosity and abilities of solving urban planning problems elegantly and efficiently.

How do we structure the project?

Starting from the urban planning thinking process described above, we propose to structure the solving of the project into a series of complementary stages:

_the first is a critical analysis of the existing situation on the site and in its surroundings;

_the second is a synthesis, derived from the preceding critical analysis;

_the third is a diagnosis which exploits the synthesis. We understand "diagnosis" to mean a set of sentences of the cause—effect type, which explain the conclusions of the synthesis. These explanations become working hypotheses in determining the development potential of the area as well as the conditions under which this potential can become reality via the proposals of the architectural project;

_the fourth stage consists in a critical study of the urban planning documentation approved in the study area. The study of the urban planning documentation identifies the regulations of that area, which directly influence its possibilities of development. The three types of relevant documentation are the following: the general urban plan (PUG) and the zonal urban plan (PUZ), together with the related local urban planning regulations (RLU), as well as the detailed urban plan (PUD);

_the fifth stage is a design brief, which clearly formulates the problem to be solved;

_the sixth stage is a set of design principles, which guide the creation and validation of the solution to the problem defined in the design brief;

_the seventh stage is a series of operations used in building the intervention proposals;

_the eighth stage is a study for intervention proposals, with different options. The study will eventually determine the optimal solution for the architectural object by considering the development of the area. The intervention options will be generated with the help of principles and operations. While responding to the design brief, the proposed options will also be related to the diagnosis and to the critical study of the urban planning documentation approved for the area. To complete this stage, at least two different scenarios for solving the problem are needed.

What are the minimal requirements that must be met by the project solution?

Critical analysis responds to the following five requirements:

1. The understanding of the wider context of the study area.
2. The careful study of the residing communities, based on direct observation as well as on the discovery of personal micro-histories, representative of the area and of its history.

3. The understanding of land use in the study area and of the flows generated by the different uses.
4. The analysis of the urban fabric and of the built environment.
5. The analysis of the urban landscape.

In its turn, the synthesis must obey the requirements below:

1. Filter all the analyses conducted in the previous stage.
2. Order the conclusions of the conducted analyses by their importance so as to generate a clear, coherent and logically consistent synthesis.
3. Establish intervention priorities.
4. Describe the links between the functioning of the urban fabric and the quality of life of the communities from that area.

The diagnosis takes into account the following two requirements:

1. The set of sentences of the cause—effect type contains clear statements. Each sentence must explain a conclusion from the synthesis.
2. Each sentence must be transposed into a clear and eloquent graphic scheme.

The critical study of urban planning documentation covers the following:

1. The reading of Law 350/2001 regarding land management and urban planning, in its consolidated form, i.e. encompassing all the changes and updates since its enactment in 2001. Law 350/2001 explains the relationships between different urban planning documents. Therefore, section 3, titled "Urban planning documentation", from chapter IV, titled "Land management and urban planning documentation" should be carefully read. In addition to the Law, students should read its implementation norms, which appear in the Order of the Minister of Regional Development and Public Administration (OMDRAP) 233/2016, for the approval of the methodological norms in implementing Law 350/2001 regarding land management and planning and in developing and updating urban planning documentation.
2. The identification, correlation and interpretation of approved urban planning documentation which regulates the study area.
3. The critical analysis of the changes or the detailing brought by lower-rank documentation to higher-rank documentation.

The design brief must meet the following two requirements:

1. Name the problem that must be solved.
2. Establish the set of minimal conditions which a proposed solution must fulfil to be considered valid.

The design principles and the operations must fulfil four requirements:

1. Be clearly formulated.
2. Be appropriate to the solving of the defined problem.
3. Apply cumulatively. In other words, they must not be in contradiction.
4. Each principle and each operation must be transposed in a clear and eloquent graphic scheme.

The scenarios for determining the optimal solution for the architectural object must consider three requirements:

1. Be adapted to the possibilities of development of the study area.
2. Offer coherent and creative intervention solutions.
3. Fulfil all the conditions of the design brief, using the defined principles and operations. In other words, the scenarios will address the theme, integrating the five levels of analysis of the previous stage, the synthesis, the diagnosis and the critical study of the urban planning documentation, approved or at the stage of being presented to the public for information and consultation.

Finally, the master plan must obey the following six requirements:

1. Optimally respond to all the requirements set in the design brief.
2. Illustrate the intervention proposals.
3. Address in a coherent fashion the problems and priorities identified in the synthesis.
4. Demonstrate the application of all the formulated design principles.
5. Be the result of applying only the design operations derived from specialised literature.
6. Explain and illustrate how it improves the functioning of the urban fabric and the quality of life of the communities in the area.

How do we approach the project?

Based on our experience from previous years, we designed a working method aimed at removing the difficulties encountered in project argumentation. Thus, the entire project can be conceived as a series of exercises (Table 1). The exercises proposed below are orientative and must be adapted, depending on the type of project and on individual experience.

Table 1: Guiding exercises for solving the project

	Exercises	Guiding research questions and minimal expected results	Ability
1.	**Preparing the site visit**	1. How do we prepare the site visit? 2. What do we know about the area where the site is located? Anticipated results: 1. A work plan for the site visit. 1. A first draft of the profile of the area.	**UA2**
2.	**Beneficiaries and communities**	1. Who are the beneficiaries of the architectural project? 2. What are their defining characteristics? Anticipated result: 1. A brief analysis of the beneficiaries and communities in the studied area, based on quantitative information (estimated population, density, etc.) as well as on qualitative information (needs).	**UA1** and **UA2**
3.	**The context**	1. How do the location of the site and of the study area influence the beneficiaries/communities and their activities? The location of the site within the district and within the city will both be taken into account. Anticipated result: 1. A contextual analysis, which presents the advantages and disadvantages from the perspective of circulations, economic activities, public amenities as well as of green spaces.	**UA1** and **UA2**

	Exercises	Guiding research questions and minimal expected results	Ability
4.	**Activities and circulations**	1. What is the land use in the area? 2. How are the activities sized and distributed? 3. How do the existing activities respond to the needs of the beneficiaries and of the communities? 4. What is the relationship between current traffic flows and street capacity? 5. What are the coverage and the quality of public transport? 6. What are the parking facilities like? 7. How do the characteristics of the activities and circulations in the area impact on project beneficiaries? Anticipated results: 1. A series of schematic analyses illustrating how the distribution of activities and the main identified dysfunctions (absence or unequal distribution of activities, functional incompatibilities) affect the beneficiaries. 2. A series of schematic analyses, which identify existing dysfunctions in the circulation system (connected to accessibility, infrastructure dimensions as well as to the occupying of public space by vehicles) and their impact on the architectural project.	**UA1** and **UA2**
5.	**Morphology**	1. How do densities influence the shape and the quality of the spaces in the area? 2. How do the beneficiaries and communities use the built environment and the public spaces? 3. How does density affect the quality of the activities in the area? What other factors influence it? Anticipated result: 1. A series of schematic analyses which show the characteristics and deficiencies of the morphological structure of the urban fabric and its effects on the architectural project.	**UA1** and **UA2**
6.	**Urban landscape**	1. Which are the factors that affect the quality of public spaces in the study area, from the point of view of the perceived urban image? 2. How do the built environment and the activities contribute to the quality of the perceived urban image? Anticipated results: 1. A series of schematic analyses that describe the quality of the public space and its impact on the architectural project. 2. A series of schematic analyses that describe how the characteristics of the architectural project contribute to improving the quality of the public space.	**UA1** and **UA2**

	Exercises	Guiding research questions and minimal expected results	Ability
7.	**Synthesis**	1. How does the study area function? 2. What about the site of the architectural project? Anticipated result: 1. A synthesis, which compresses the conclusions of the analyses, ranked by their significance. NB The synthesis is not a mere enumeration of the conclusions of the analyses!	**UA3**
8.	**Diagnosis**	1. Why does the studied area function in this manner? 2. What about the site of the architectural project? Anticipated results: 1. A minimal diagnosis, consisting of a set of five to ten explanations derived from the conclusions of the synthesis, formulated as sentences of the cause–effect type. 2. A set of five to ten graphic schemes, meant to illustrate the ten explanations proposed above.	**UA4**
9.	**Urban planning documentation**	1. What relevant information for the architectural project is provided by the urban planning documentation? Anticipated results: 1. A series of schematic analyses that present the rules derived from the urban planning documentation, which the architectural project must obey. 2. A scheme with the superposition of the rules identified in the point above with the already completed synthesis and diagnosis and the critical interpretation of the obtained result.	**UA1**, **UA5** and **UA6**
10.	**Design brief**	1. What is the problem that I must solve? 2. What conditions must the proposal meet to qualify as a valid solution? 3. Which are the intervention priorities? Anticipated result: 1. A design brief that explicitly names the problem to be solved and establishes the minimal conditions for validating a proposed solution.	**UA15**
11.	**Design principles**	1. What is the minimal number of design principles that we require to address the problem and the formulated list of priorities? 2. How do we filter the documentary materials to build a solid set of design principles? Anticipated result: 1. A set of design principles, based on the studied documentation. Each design principle must be formulated as a simple sentence and accompanied by a sketch.	**UA1** and **UA14**

	Exercises	Guiding research questions and minimal expected results	Ability
12.	**Operations**	1. What is the minimal set of operations we require to design efficiently? 2. How do we select the operations using the predefined priorities and set of principles? Anticipated result: 1. A set of operations, derived from specialist literature, which will be used in the design process. Each operation must be formulated as a simple sentence and accompanied by a sketch.	**UA1** and **UA14**
13.	**The proposal with options**	1. How do I solve the problem? What possibilities are available? Anticipated result: 1. At least two proposal options, which meet the requirements imposed by the design brief.	**UA7, UA8** and **UA9**
14.	**Comparative analysis of the options**	1. Which of the proposed options solves the problem in an optimal manner? Anticipated result: 1. A comparative analysis of the proposed options.	**UA13** and **UA14**
15.	**The Master Plan [1]**	1. Which are the components of the Master Plan? Anticipated result: 1. A preliminary representation of the Master Plan that explicitly deals with the following topics: • Motorised and non-motorised circulations • Parking • The built environment • Functions and activities • The interior–exterior relationship and orientation in relation to the cardinal points • Exterior design and planting design	**UA8, UA9** and **UA10**

	Exercises	Guiding research questions and minimal expected results	Ability
16.	**The Master Plan [2]**	1. Can a Master Plan be drawn using the density concept? Anticipated result: 1. A representation of the Master Plan which uses the following densities: • Densities related to the proposed facilities • Densities related to the proposed buildings • Densities related to the proposed interventions, including those related to the planting design	**UA8** and **UA14**
17.	**Specific urban indicators**	1. What are the characteristic urban indicators of the proposed Master Plan? Anticipated result: 1. Calculation of the urban indicators required in the design brief.	**UA6** and **UA14**
18.	**Final modelling**	1. What are the essential things I need to communicate to show what I have done and the results I have obtained? 2. How do I organise them to make the message accessible? Anticipated result: 1. At least one modelling proposal for the items required in response to the design brief.	**UA11**
19.	**Defense and final delivery**	1. How can I present the problem I needed to solve and the solution I built in a concise and accessible manner? Anticipated results: 1. All the items required via the design brief. 2. A coherent and solid presentation to the jury and peers.	**UA12**

Open bibliography

Berghauser Pont, M., & Haupt, P. (2021). *Spacematrix*. Rotterdam. nai010 publishers.

Degros, A. et al. (Eds.) (2021). *Basics of Urbanism. 12 Notions of Territorial Transformation*. Park Books.

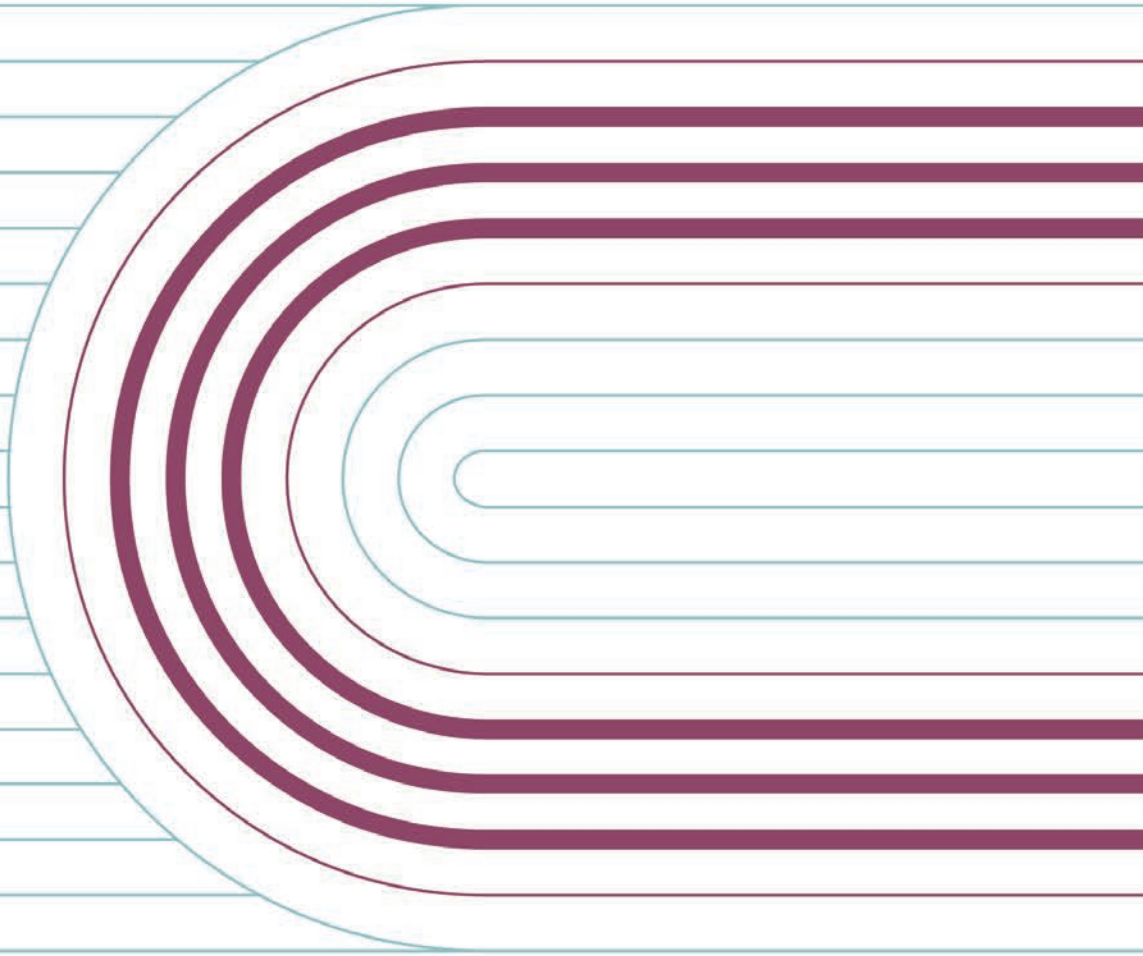
Di Mari, A. (2019). *Conditional Design*. Amsterdam. BIS Publishers.

Di Mari, A., & Yoo, N. (2015). *Operative Design*. Amsterdam. BIS Publishers.

Jong, T. M. De, & van der Voordt, D. J. M. (2002). *Ways to Study and Research Urban, Architectural and Technical Design*. Delft. Delft University Press. Available at: http://bit.ly/38wOIew.

Raffaelli, B. (2020). *The Fast Guide to Accessibility Design*. Amsterdam. BIS Publishers.

Raffaelli, B. (2018). *The Fast Guide to Architectural Form*. Amsterdam. BIS Publishers.



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Anda-Ioana SFINTEŞ
Ruxandra PĂDURARU

Journal of architectural anthropology. Ten ideas

The first *Scholar Architect* project (developed in 2020) aimed to familiarise students with research methods and concepts specific to some essential architectural approaches, albeit found at the intersection with other disciplines – the urban planning, anthropological, historical and sustainable approach were detailed in a guide. The anthropological approach, written by the authors of this journal, had as its point of departure the activity we conducted within the framework of *Research in Architectural Anthropology Studio* (*antropoarh*), set up in 2016 at the Centre of Architectural and Urban Studies of the "Ion Mincu" University of Architecture and Urban Planning – Bucharest. The aim of *antropoarh* is to encourage, conduct and guide, within the framework of diverse activities, the inter-, pluri- and transdisciplinary research of urban space in close connection with social realities. The research aims to then lead to the understanding and creative interpretation of these realities as a response given to genuine needs.

Through this journal, we return to *antropoarh* and the wish to generate dialogue and a close collaboration between the two disciplines within the framework of the *Scholar Architect 2022* project, which is directed at tightening the links between UAUIM architectural education and the national and international academic and professional environment.

The ideas developed in the following pages reflect the authors' shared interests but also their slightly different perspectives – of an architect looking towards anthropology (Anda) and of an anthropologist looking towards architecture (Ruxandra). Beyond the ideas equally supported by both, the emphasizing of different aspects highlights, all the more strongly, that the two disciplines need to be thought of in conjunction, regardless of the project or the design brief.

The ten journal entries treat a variety of issues, some tangential, others of a completely different nature, thus demonstrating that the way in which architecture and social reality influence each other, both in the physical and in the virtual or technologically transformed environment, is an inexhaustible resource of subjects to be debated, understood and explored in research, in interventions of any kind in the built space, in design or implementation.

We consider it is essential to be aware of the effects that architectural gestures (most often assumed to be harmless by those who propose them) can have on communities, on people and their lives. Thus, the following ideas aim at drawing attention to the necessity of a broader perspective on aspects that can wrongly appear as insignificant, common or devoid of interest.

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Architecture = Use + Design

01

Anda-Ioana SFINTEŞ

"[A]rchitecture is made by use and by design", Jonathan Hill states in *Actions of architecture* (2003, p. 1) and this is a central idea in the approach of the *Research in Architectural Anthropology Studio*. In other words, an architectural object cannot be truly considered architecture in the absence of use or in the case of difficult use – in the case of an architecture which, for aesthetic, compositional or other reasons makes usage difficult. Under these circumstances, we may regard an architectural object as an art object, at most. Similarly, not every building, however usable, can be regarded as architecture. The architectural qualities of a building are of different types – from some fundamental ones, already mentioned, like the aesthetic or compositional, to profound ones, like the perceptions or the meanings it enables. It is these qualities which confer architectural status upon a building, removing it from the register of mere objects that provide shelter or some other, strictly functional, support for activities. ...In this context, vernacular architecture is architecture – through the careful balancing between the needs it addresses and environment and site conditions, but also through the profound meanings that come to accompany each of its composing elements.

This is not the place to start a terminological debate. Our intention is rather to highlight a few aspects we consider essential in understanding contemporary architecture. Both the "use" and "design" of the initial quotation mean so much more than could be grasped on a basic level and we will briefly explain these aspects in continuation.

Yet we begin with a small paranthesis connected to terminology because the use of the word *design* in Romanian is often criticised. *Design* does not replace, at all, words like architecture, architectural design, but the definition of the word, in *Dicționarul explicativ al limbii române* (DEX), is not sufficiently comprehensive either. According to DEX (Academia Română, 2009):

> DESIGN n. neut. 1. Multidisciplinary field concerned with the totality of factors (socio-economic, functional, technical, ergonomic, aesthetic, etc.) that contribute to the aspect and quality of mass products. 2. Appearance, how something looks (from the aesthetic point of view).

Yet design is not only connected to mass-produced objects while appearance, as we understand it, is not limited to aesthetics, but refers to appearance closely linked to all the factors listed in the first part of the definition – appearance as a result of socio-economic, functional, technical, economic, cultural, historical and other considerations. These factors – understanding them and the way in which they influence and define each other, translating them into an image, an object with a specific materiality, which responds to different types of needs – are actually key to understanding design. Other definitions, given by other dictionaries, are more comprehensive, but they lead towards a definition derived from the verb "to design". In Herbert Simon's view, to design means to " [devise] courses of action aimed at changing existing situations into preferred ones" (Friedman & Stolterman, as cited in Manzini, 2015, p. viii). Thus, *design* and (successfully) *designing* aim at improving a situation, at the positive transformation of some aspects, but this positive transformation can only occur as a consequence of the detailed knowledge of the factors that define the situation or object.

Coming back to architecture, architectural design thus means the strong anchoring of the object in the realities that surround and define it in order to better respond to the functions it fulfils, even the aesthetic ones – for example, given the subjectivity of beauty, for an object to be considered beautiful by those for whom it was conceived, it needs to relate to their system of values, it needs to be decoded and appropriated by them ...and we add the observation that fulfilling a function is assessed depending on the user categories whose needs are addressed by the object.

Furthermore, use, in the sense we have given it, does not refer simply to the conformation and configuring of architecture that enables the smooth running of activities, but to an architecture that really

manages to optimise processes, to facilitate intersections and beneficial interactions, to add value, to lead to new uses and above all to the creation of profound aims and meanings for these uses. An already well-known example in this field is the transformation of intermediary spaces, from universities where different specialties are studied, from research centres or even from office buildings housing different departments, into spaces of encounter and interdisciplinary dialogue which become, through this very function, engines of innovation.

Finally, we specify that design and use, in order to lead to architecture, must not be regarded as separate elements, but together, as a whole that is more than the sum of its parts. A design detached from the reality of use (for example related mainly to the viewing public and not to direct, current users) does not really lead to architecture. A merely functional object is not necessarily architecture, either. Yet it is here that we consider the greatest challenge, but also the greatest satisfaction, of the architectural profession is to be found – in balancing the two aspects, beyond qualities and achieved functions, to encourage positive changes on multiple levels, to facilitate development, from the individual to the social and cultural level, to inform and support education regarding sustainable aspects and values (broadly understood as economic, environmental, social, political, cultural and other types of sustainability).

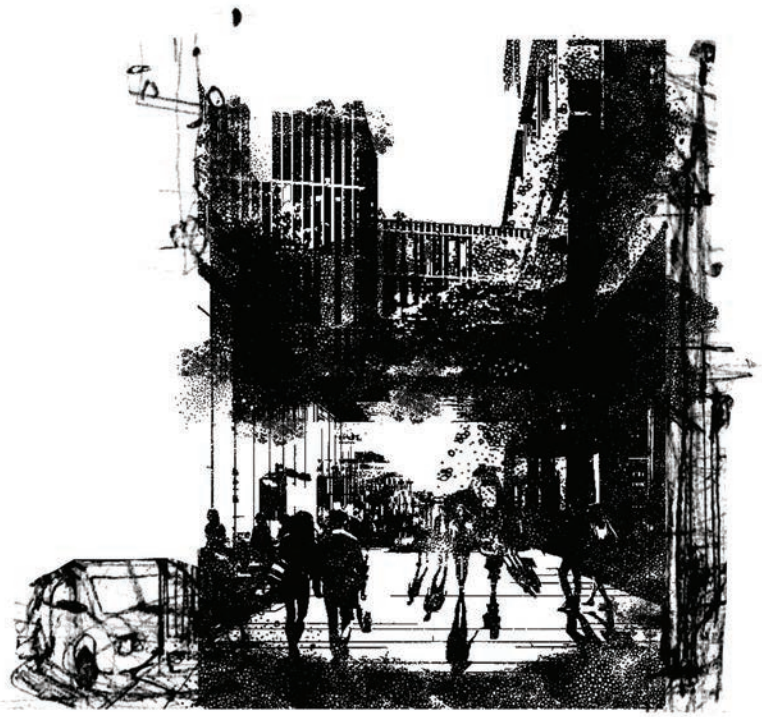

Fig. 1. The architecture-user relationship. (c) Ioana Boghian-Nistor

References

Academia Română. (2009). *Dicționarul explicativ al limbii române* (2nd ed. revised and enlarged). https://dexonline.ro

Hill, J. (2003). *Actions of Architecture: Architects and Creative Users*. London; New York. Routledge.

Manzini, E. (2015). *Design, When Everybody Designs: An Introduction to Design for Social Innovation* (R. Coad, Transl.). MIT Press.

Categories of users of architecture

02

Anda-Ioana SFINTEŞ

An essential attribute of architecture is represented by its capacity to ensure it is as easy to use as possible, thus facilitating the conduct of the activities for which it has been designed. Yet what we understand by use and especially by users is open to a broader discussion.

Beyond the already well-established rules of placing certain rooms in relation to others, beyond the typologies of complex buildings meant to lead, on the basis of prior experiences, to optimal use, in the context of architectural anthropology we view the problem of use and users at a different level from the basic one. On the one hand, we discuss the diverse categories of actors that can be regarded as active or passive users; on the other hand, we bring into the discussion the value that the architecture centred on the needs of these users adds to the quality of their relationships, activities and even of their lives.

It is obvious that any architectural commission first of all considers its primary users – those who will mainly use the building. For example, in the case of a public institution, we speak about the employees and the public who require its services. In the simplest way, both the employees and the public can be regarded as part of a category of users,

only differentiated by the activities they conduct or by their primary needs of using the available space, on the two sides of "the counter" that separates them. Yet high-quality architecture looks beyond this and considers the subcategories of users, differentiated by age, gender, economic and social status, cultural profile, etc. All these aspects bring up other problems that can be solved innovatively, thus transforming the architecture into one that responds to different types of complex problems and is capable of determining changes in its users' lives (from changes of perception to behaviour changes). We will give just a few examples to this effect:

_architecture that facilitates the development of relationships between different generations or categories of users – as in the case of the Enabling Village from Singapore (*Enabling Village*, n.d.);

_architecture that promotes cultural diversity – some Canadian museums have assumed the role of expressing the cultural diversity of the country through their image, apart from through their programme (Macdonald & Alsford, 2007);

_architecture that advocates tolerance – with museums becoming, in this case, promoters of the struggle against racism, for example (Szekeres, 2007);

_architecture that mediates conflicts – here we can mention the activity of Teddy Cruz (2016) in border regions.

Some of the examples above started from a clear theme that highlighted solving these aspects as an essential element of the future architecture. Yet they can just as well become at least secondary aspects in any type of architecture and especially in public architecture, which must respond equally to all types of users – to the specific access needs of children, older people or people with disabilities, but also to the need for spaces that allow for dialogue and even negotiation between different categories of users.

To illustrate the capacity of architecture to change the nature of relationships, we refer to the example of a project which, albeit centred on a piece of furniture, demonstrates how its placement and design can greatly change the relationship between users. It is a counter placed in the hall of a municipality which, over the course of several years, has led each time it was redesigned to change in the relationship between clerks and citizens (Våland & Georg, 2015). The follow-up and understanding of transformations over time, in a dynamic of social relationships concurrent with the dynamic of social, economic, political and other realities, is very important in architectural as well as anthropological discourse.

Yet this kind of follow-up and constant readjustment is not always an option. In this context, it is worth mentioning some important contemporary research methods and directions, which at first glance

emphasize the quantitative aspect of the focus on users – space syntax and use simulation through parametric thinking. Space syntax (Hillier & Tzortzi, 2006) focuses, in a quantifiable manner, on the use of spaces by directly relating human behaviour to spatial characteristics like integration or connectivity. On the basis of these, it is possible to anticipate spatial models that would correspond to the intended type of usage. An additional step forward is taken by artificial intelligence and parametric thinking that can simulate uses and contribute to deciding upon optimal configurations on the basis of the set parameters (*Agent-Based Semiology*, n.d.; Schumacher, 2016). It must be borne in mind that, in this entire discussion that starts from the social component, it is vital to accurately establish the human-centred parameters. Without a socio-anthropological analysis which identifies the different user categories, their role in the context, their specific needs, the problems they face within their respective category but also in relation to the other categories, it is impossible to fulfil the architectural potential of changing a situation for the better.

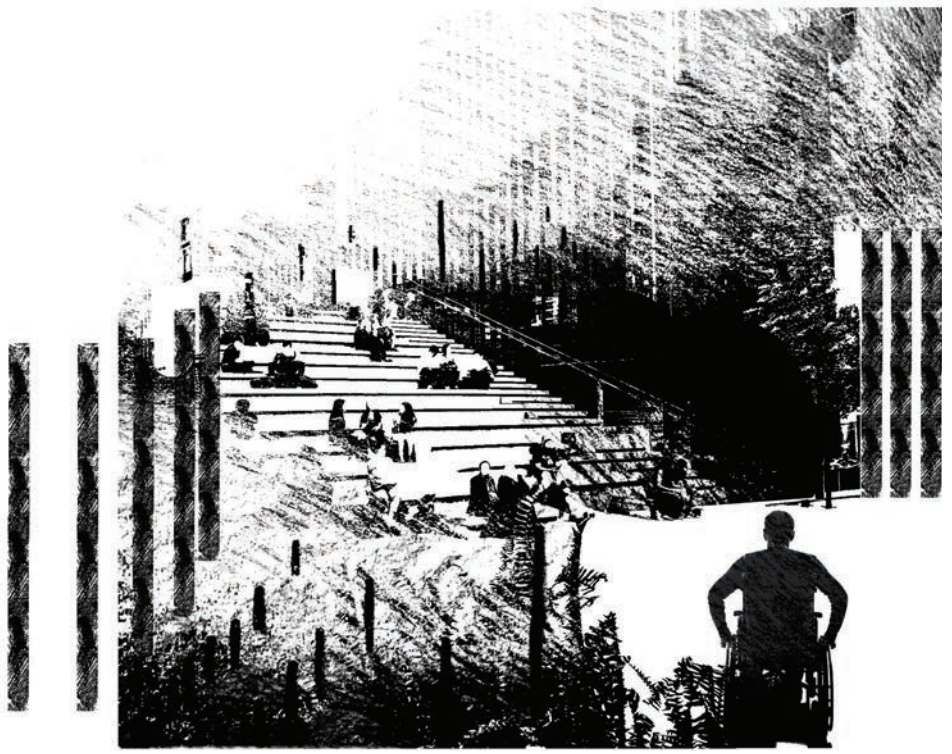

Fig. 1. Public spaces that are inaccessible to people with disabilities. (c) Ioana Boghian-Nistor

Finally, we direct our attention to the passive users of the architectural object. We must not lose sight of the fact that people living in its proximity or passersby who do not intend to use the respective building are nevertheless influenced by its aspect, by the manner in which it is integrated into the context, into the site, by the manner in which it is

configured. A building that shadows its surroundings, a building that compels passersby to circulate on the other side (because they feel excluded, because the architecture is unfriendly through its groundfloor design or too crowded, etc.), a building that could determine nearby residents to relocate (Abushamaa et al., 2018) are all examples that do not take into account the impact of architecture on all its users, whether active or passive.

It is worth bearing in mind that even architecture with exceptional architectural qualities can have a negative impact on the social level and then the question becomes: what are we ready to assume in our role as architects? Do we agree with our architecture being a hostile one? Or do we assume the aim of socially sustainable architecture? What role do we in fact assume, beyond design itself?

We encourage you, via this brief article, to always view problems in a broader context, to be aware of the possible effects of the project and to knowingly decide on the architectural design.

References

Abushamaa, Y., Carlier, L., Davila, C., Debersaques, S., Declève, M., Jackson, A., Li, Y., Rabodzeenko, I., Sancakdar, B., Hollebeke, S. V., Verrier, C., & Vignes, M. (2018). Site 3: Abbaye Cultural project, community and participation. In M. Berger, B. Moritz, L. Carlier, & M. Ranzato (Eds.), *Designing Urban Inclusion* (pp. 100–119). L.Capitan.

Agent-based semiology – agents, art, research & architecture. (n.d.). http://www.parametricsemiology.com/

Cruz, T. (2016). Returning Duchamp's Urinal to the Bathroom? On the Reconnection between Artistic Experimentation, Social Responsibility and Institutional Transformation. In M. Fraser (Ed.), *Design Research in Architecture: An Overview*. (pp. 205-216). Routledge.

Enabling Village. (n.d.). Enabling Village. https://enablingvillage.sg/

Hillier, B., & Tzortzi, K. (2006). Space Syntax: The Language of Museum Space. In S. MacDonald (Ed.), *A Companion to Museum Studies* (pp. 282–301). Blackwell Pub.

Macdonald, G. F., & Alsford, S. (2007). Canadian Museums and the Representation of Culture in a Multicultural Nation. In S. Watson (Ed.), *Museums and their Communities* (pp. 276–291). Taylor & Francis e-Library.

Schumacher, P. (2016). Design Parameters to Parametric Design. In M. Kanaani & D. Kopec (Eds.), *The Routledge Companion for Architecture Design and Practice: Established and Emerging Trends* (pp. 3–20). Routledge.

Szekeres, V. (2007). Representing Diversity and Challenging Racism: The Migration Museum. In S. Watson (Ed.), *Museums and their Communities* (pp. 234–243). Taylor & Francis e-Library.

Våland, M. S., & Georg, S. (2015). Designing a Counter: The Constitutive Entanglement of the Social and the Material in Architectural Design. In A.-L. Müller & W. Reichmann (Eds.), *Architecture, Materiality and Society: Connecting Sociology of Architecture with Science and Technology Studies* (pp. 24–47). Palgrave Macmillan.

Hostile architecture

03

Ruxandra PĂDURARU

The influence of the built environment on how people interact with space or with each other becomes obvious in the analysis of what experts call "hostile architecture" (Bader, 2020; Ruetas, n.d.). This concept refers to surrounding architectural elements that have a negative impact on conducting certain types of activities or that contribute to the exclusion of social groups deemed "undesirable" or incongruous with certain spaces. The theme is of equal interest to architects and anthropologists since it combines in a poignant and perceptible manner the mutual influence of space on human beings and of human beings on space.

The best example of hostile architecture is the "Camden bench" (Mansfield, 2016), whose main design is to discourage its use for undesirable purposes like sleeping or in various sports such as skateboarding.

There are, however, various embodiments of hostile architecture, including the spikes placed under bridges to prevent homeless people from withdrawing underneath them, uncomfortable or intentionally unshaded benches that prevent sitting for long, urban furniture that is "locked" at night to prevent vandalism, public spaces that require

payment for their usage, with the aim of reducing their use by certain groups of people.

We can thus note the public financing of spaces in which not all of us can interact, an infrastructure which strongly limits social inclusion, and measures that "deal" with effects rather than with causes, with architecture focused, in such situations, on the marginalisation and elimination of the elements deemed as "disturbing". In this context, what needs to be discussed is not the kind of support that can be given to social groups in a precarious position, but rather the manner in which these undesirable people are pushed outside the visible spaces (Hu, 2019).

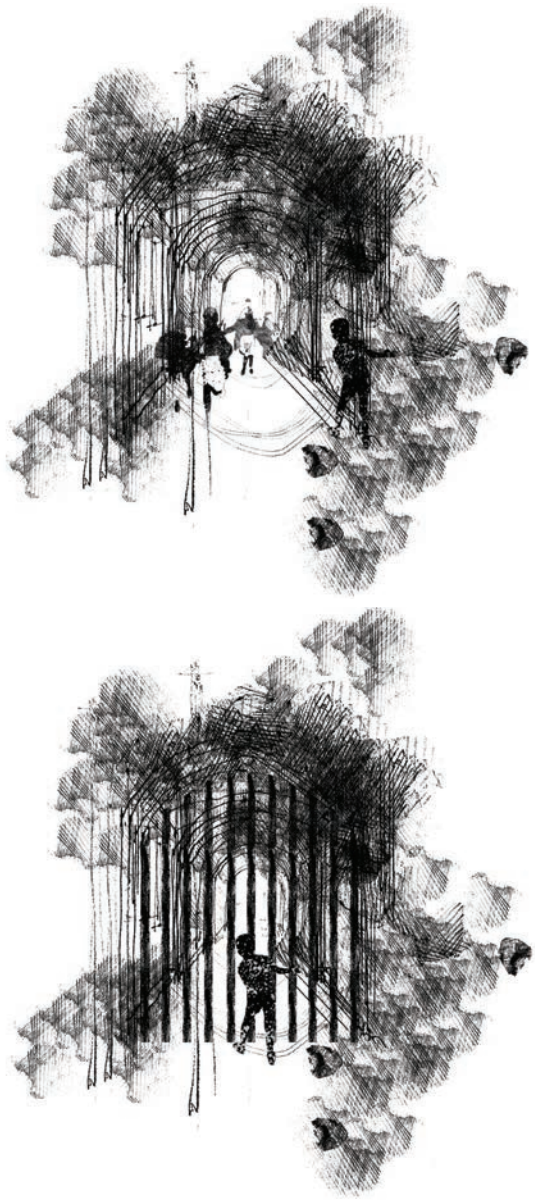

Fig. 1. The transformation of space into a hostile one. (c) Ioana Boghian-Nistor

Apart from the attempt to remove the above-mentioned groups, sensory means are also used at times to limit the use of spaces by different age categories. An example is the setting up of small amplifiers in different places, which transmit sounds only perceptible to certain people. In some areas, where the presence of young people after a certain hour could create conflicts, these boxes emit sound waves only perceptible to the "young" ear, sounds which generate anxiety, discomfort, headaches, etc. Thus, without direct human intervention, materiality and sensoriality operate on their own to maintain "order".

The next time we feel uncomfortable in a space, we can think about whether it might not be a mere design error but a way of communicating that we should not remain there for too long.

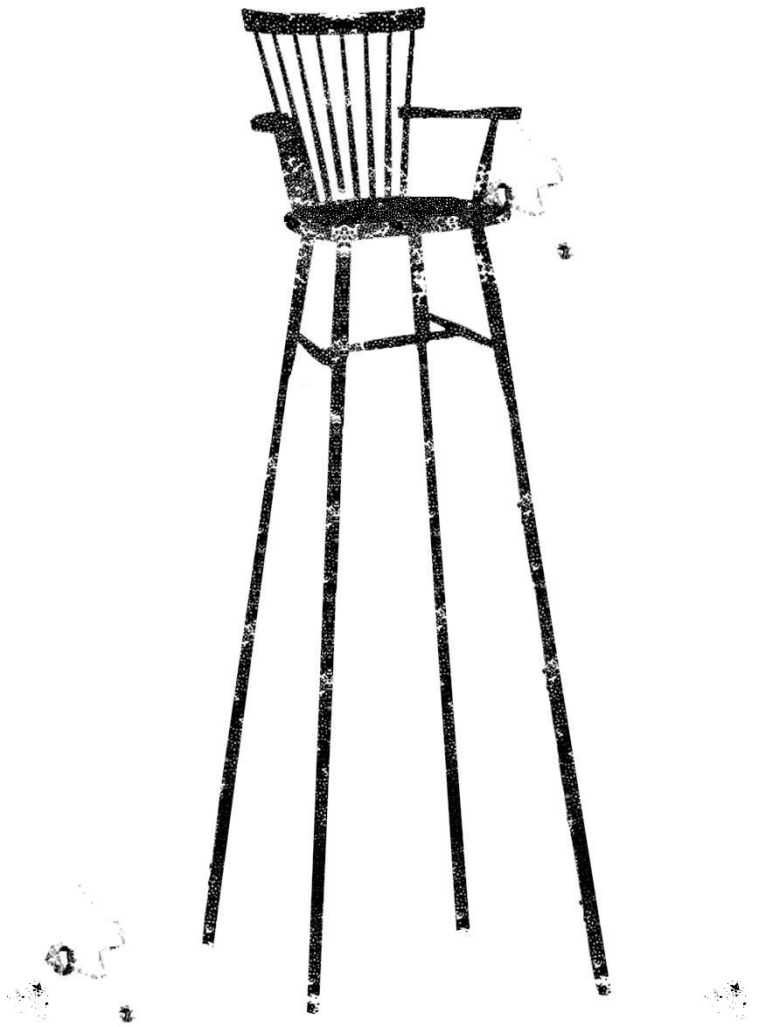

Fig. 2. Unusable piece of furniture. (c) Ioana Boghian-Nistor

The problem, however, is related to who has the power to decide who has access and where – in fact, the unequal power dynamic perpetuates inequalities and increases social cleavages. Architects can introduce, deliberately or not, from their own wish or at the request of the public administration or of private actors, elements of hostile architecture into their projects. Yet the cold mechanism behind this "unwelcoming" design makes the problems invisible and unsolved in the long term (Savic & Savicic, 2014). Often, only the consequences are dealt with (for example, the lack of shelter) and not the reasons behind them (such as career interruption, domestic violence, substance abuse, etc.). Hostile architecture is a means of "sweeping under the carpet" any social divisions, in the short term. We can of course avoid the creation of inclusive spaces, but the reality will not change and the discrepancies will only deepen. Whether or not it is a moral duty to prevent these things is a question that remains for each of us to answer.

References

Bader, A. (2020). Hostile Architecture: Our Past, Present, & Future? *Crit.* 86. (pp. 48-51).

Hu, W. (2019). 'Hostile Architecture': How Public Spaces Keep the Public Out. In *New York Times.* https://www.nytimes.com/2019/11/08/nyregion/hostile-architecture-nyc.html

Masfield, I. (2016). The Camden Bench. In *ianvisits.* https://www.ianvisits.co.uk/articles/the-camden-bench-19342/

Ruetas, F. (n.d.). 15 Examples of Hostile Architecture around the World. In *Rethinking the future.* https://www.re-thinkingthefuture.com/designing-for-typologies/a2564-15-examples-of-hostile-architecture-around-the-world/

Savic, S. & Savicic, G., (2014). Unpleasant Design. Designing Out Unwanted Behaviour. In *Proceedings of the 5th STS Italia Conference: A Matter of Design. Making Society through Science and Technology.* (pp. 975-988).

Architecture in support of social education

04

Anda-Ioana SFINTEŞ

Architecture, through its elements, can contribute to informing a broad public or can even support educational processes regarding architecture as such and the sheltered function, even expanding to social, civic, ecological, political and other meanings and roles. All of these can be conveyed through the material characteristics of architecture, through planimetric and spatial configurations (especially through the housed functions and the relations proposed between these), through the mode of solving the interior-exterior communication or through what the architecture actually does. The possibilities of informing via architecture are countless and, beyond the specifications of any design brief, they are closely connected to the role assumed by the architect on the social level, which we also discuss in the "Categories of users of architecture" and "What architecture can "do" subchapters.

The discussion initiated here remains an open one, with only a few of the modalities through which architecture manages to support education exemplified in the following pages, with an emphasis on social and socio-cultural education.

A first modality for architecture to convey information or support educational processes is via its image. The image of the architectural object can become an element of identity, assuming the role of conveying, more or less explicitly, messages linked to the values of the community or communities in the midst of which it is placed, which it represents or caters to. In the first case, we can speak of architecture connected to the social context, even though it does not assume this role through its function, if it comes to be accepted and appropriated, as an image, by the community. Thus, it actually comes to mediate the relationship between users and their surroundings, informing users on the immediate social context and becoming a potential catalyst of dialogue and innovative collaboration. In the second case, we can think of architecture meant to represent and this time explicitly express certain communities, their values, challenges, elements of identity, etc. (we have in mind, for example, ethnic museums). In this case, users of the architecture want from the very beginning to know and understand the community, with architecture being, among other things, an element that supports or even completes the function. The architecture that serves a community, unlike the previous cases, can become a contributing factor to the perpetuation of community values across generations. Viewing these aspects from a socio-cultural perspective, we understand architecture as having an important role in raising awareness of elements of identity, thus supporting social and cultural education.

Similar to the role it can assume through its image, architecture can contribute, through the manner of resorting to certain materials, combinations of materials and to their laying, to social education centred on the understanding, acceptance and, ideally, involvement in solving the problems faced by disadvantaged social groups. We refer, for instance, to the architecture that by engaging the senses becomes architecture for all and can also be easily used by people with hearing or sight difficulties.

Also through the manner of using materials, this time in direct relation to the configuration of the boundaries of the building – i.e., through managing the interior-exterior relationship – the interior of the proposed building can open towards public space and thus attract the public to activities they would not normally be inclined to pursue. Here, we find numerous examples of museums or auditoriums that "go out into the street" (Sfinteș, 2013).

The resolution of the interior-exterior relationship as well as the spatial and volumetric configurations can facilitate direct or even purely visual interaction, with both having an important role in exposing users to other systems of values, identities and activities. This exposure is essential to prompting or encouraging communication, collaboration,

sometimes even between social groups that do not know, recognise or understand one another. Maciocco & Tagliagambe (2009) emphasize the significance of the existence of a space of encounter/clash wherein "misunderstanding becomes a stimulus and occasion for translation of languages, a sort of compromise aimed at achieving understanding" (p. 138). The functions housed in the interior, their placement and interrelations, can also contribute to the above-mentioned aspects.

Viewing the architectural object in an urban context, we note that the discussion carried out so far remains valid, and is perhaps even more significant, at the scale of the city, highlighting the need for the architectural object to be thought of in relation to the other architectural objects that shape this context (Tonkiss, 2013). This emphasizes the observation with which we wish to conclude these lines, namely that setting an objective of informing and supporting social and socio-cultural education from the very beginning is very important because such objectives cannot be reached through isolated elements, but only through a complex and coherent approach that makes use of several means to this end. Otherwise, architecture can be confined to a purely informative role, without contributing further to education, to positive changes on the individual or social level. Numerous professionals consider this capacity of architecture to be essential and view the architect's responsibility in relation to these problems as an ethical responsibility that must be assumed already during university studies (Jones & Hyde, 2019).

Fig. 1. Social education facilitated by spaces that bring people together. (c) Ioana Boghian-Nistor

References

Jones, A., & Hyde, R. (Eds.). (2019). *Defining Contemporary Professionalism: For Architects in Practice and Education.* RIBA Publishing.

Maciocco, G., & Tagliagambe, S. (2009). *People and Space: New Forms of Interaction in the City Project*. Springer.

Sfinteș, A.-I. (2013). Muzeul din stradă. *Argument*, 5 (pp. 159–178).

Tonkiss, F. (2013). *Cities by Design: The Social Life of Urban Form.* Polity.

The synaesthetic understanding of cities[1]

05

Ruxandra PĂDURARU

The previous century has been marked by the hypertrophy of the visual. Yet the environment is perceived through the synesthesia of the senses. Is it possible to speak of an experience of the city that is not only for the spectator?

If we distance ourselves from the hegemony of sight, we can indeed decode the environment also with the help of the other senses. Cities can be studied in a multisensory context – the entire sensory kaleidoscope of lived experiences can be analysed, with research spanning from the social character of the senses in urban contexts to the sensory consumption of cities.

1 The article reworks ideas from the author's MA thesis – "Mirosul urban. Accente olfactive ale Bucureștiului" (Urban smell. Olfactory accents of Bucharest) – defended in 2021 at the University of Bucharest, the School of Sociology and Social Work, the master's programme in Anthropology and Regional and Community Development.

The attention given to the other senses as well provides information not only on city configurations but also on the residents' unmediated experiences. The manner in which visual aspects combine with olfactory, auditive and tactile perceptions influences residential quality. It is important to note that the sources of sounds, smells and tactile impressions are not decontextualised; they do not exist outside the multiple mechanisms that create and constantly modify them. For example, street noise can be amplified by the placement or materiality of nearby buildings. Smells can be diluted or emphasized by the different flows and corridors formed by the existing architecture. The tactile appreciation of pieces of urban furniture is always influenced by other factors as well.

Thus, an architectural choice must take into account not only visual considerations but also the impact it can have on the other senses. The list below contains some recommendations of sensory analyses of cities that can provide a good starting point for understanding this phenomenon.

Analyses of cities as sensory entities have been performed by Corbin (1986), Cockayne (2007), Reinarz (2013), Low (2009), and recent modalities of recording urban smells from the perspective of the residents have been proposed by Barbara & Perliss (2006), Lucas & Romice (2008) and Diaconu (2011). In addition, smellmaps or sensory maps have been created, via a participatory *modus operandi* (McLean, n.d.).

Recording perceptions can also be based on mixed research methods, such as walks where the participants are blindfolded and must concentrate on the heard sounds, or gathering of olfactory data derived from the explicit formulations made by participants while taking a pre-planned route through the natural and built environment (*smellwalks*). The aims of the *smellwalks* are:

_to explore the smells detected by individuals and find out what they think about them;

_to explore how the perception of smells changes from one place to another;

_to investigate how the shape and composing elements of the built environment influence the experience of urban smells;

_to investigate the meanings of smells and the relationship between the urban smellscape and the experience and perception of urban space, as well as

_to analyse the spatial and time patterns prompted by smell and how olfactory memory alters the perception of space and time in the city.

The *smellwalk* is thus a guided tour of environmental (usually unintentional) smells, during which informal discussions and interviews take place, aimed at capturing the direct, constant and immediate immersion into the urban *smellscape* (El Helou, 2018).

This kind of analysis generates a series of questions that can guide the decisions we take in urban design: How can we diminish not only olfactory but also noise pollution? What impact does the placement of an area of the food court type have on the residents of that district? Does the material chosen for the urban furniture aimed at relaxation influence the groups of intended users? How can we improve air flows through the chosen architecture? Do we create unintentional discrimination through the sensory effects we produce? Is architectural asepsis a desideratum or should sensory particularities specific to each area be encouraged? The list could of course be expanded.

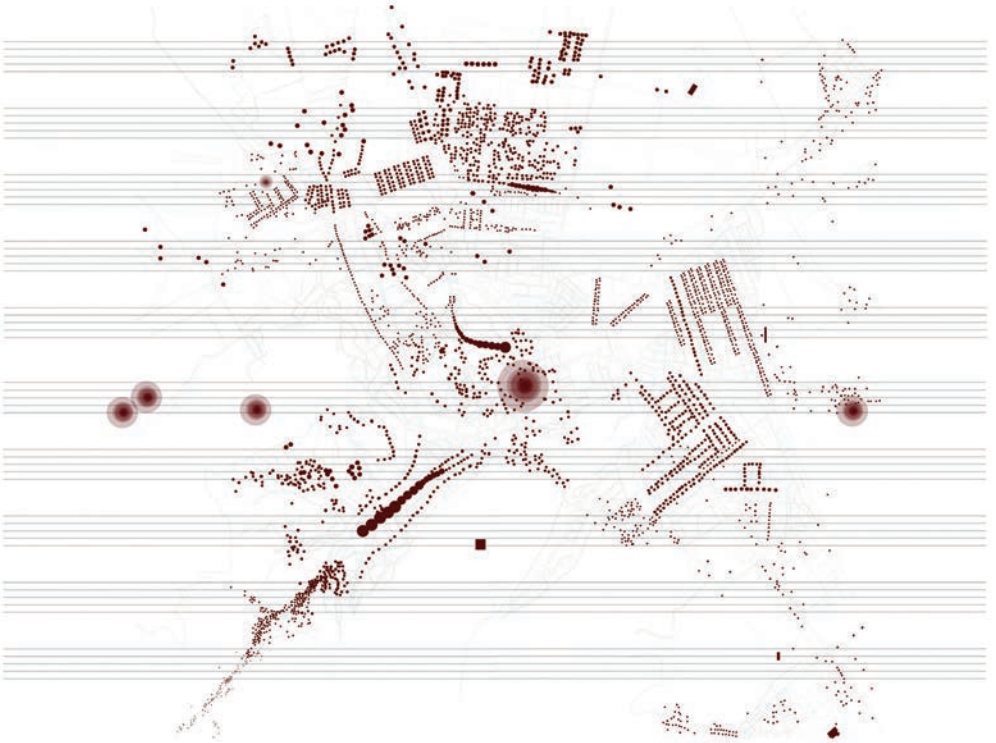

Fig. 1. Imaginary sensory map. (c) Ioana Boghian-Nistor

References

Barbara, A. & Perliss, A. (2006). *Invisible Architecture – Experiencing Places through the Sense of Smell.* Milan. Skira.

Cockayne, E. (2007). *Hubbub: Filth, Noise and Stench in England*, 1600–1770. London. Yale University Press.

Corbin, A. (1986). *The Foul and the Fragrant: Odor and the French Social Imagination.* Leamington Spa. Berg.

Diaconu, M. (2011). Mapping Urban Smellscapes. In M. Diaconu, E. Heuberger, R. Mateus-Berr & L.M. Vosicky (Eds.). *Senses and the City: An Interdisciplinary Approach to Urban Sensescapes.* London (pp. 223-238). Transaction Publishers.

El Helou, M.A. (2018). Urban Smellscape: The Pheromones of a City and the Sense of Place. In *Conscious Cities Anthology 2018: Human-Centred Design, Science, and Technology*. https://doi.org/10.33797/CCA18.01.05

Low, K.E.Y. (2009). *Scents and Scent-sibilities: Smell and everyday life experiences.* Newcastle upon Tyne. Cambridge Scholars Publishing.

Lucas, R. & Romice, O. (2008). Representing Sensory Experience in Urban Design. In *Design Principles and Practices: An International Journal*. 2 (4). (pp. 83–94).

McLean, K. (n.d.). *Sensory Maps*. https://sensorymaps.com

Reinarz, J. (2013). *Past Scents: Historical Perspectives on Smell.* DeKalb, IL. University of Illinois Press.

Gentrification – a universal concept with local particularities[1]

06

Ruxandra PĂDURARU

The theoretical grounding of architectural projects presupposes, among other things, researching studies on topics similar and related to the theme explored by the project. Yet importing concepts or theories can sometimes lead to a discrepancy of contextualisation and adaptation to local particularities, which is also noticeable in the analysis of gentrification processes. The criticism made of gentrification studies refers to the adoption of Western characteristics and their undifferentiated application to countries where the process is not exactly similar.

The traditional concept of gentrification entails a transformational process of the old residential districts whose working class and poor residents are replaced by an influx of gentrifiers, a new class consisting of well-educated, well-off people (Glass, 1964). Kovács, Wiessner & Zischner (2013) claim that gentrification in the countries of the former socialist bloc such as East Germany, Hungary, Poland and Estonia only affects small areas within the cities (not entire districts, like in the

1 The article uses ideas from the PhD thesis "Dimensiunea de clasă a mirosului" (The class dimension of smell), in progress at the Doctoral School of Sociology at the University of Bucharest.

Western examples). The "regeneration" projects that entail physical renewal and social modernisation of old and abandoned districts are carried out in segments, thus composing a "mosaic" (Popescu, 2020). This is why "Western concepts have serious limitations in post-socialist urban studies", as Kubeš & Kovács (2020, p. 2597) claim.

To a certain extent, the above-named countries are representative of the gentrification that also took place in Romania. Sociologists and anthropologists from Central and Eastern Europe, including some Romanian ones, propose, for the local context, a reconceptualisation of gentrification in demographical and economic terms rather than cultural ones – a model that is a better match for the reality of post-socialist Romania (Chelcea et al., 2015).

In Romania, gentrification does not emerge against a homogenous background since the former inhabitants were extremely heterogenous and the newcomers do not represent a "compact" social group, so we cannot speak of the complete replacement of a social class by another. Sykora (2005) states that, in post-communist cities, gentrification also occured in spaces that decayed during communism but were subsequently restored to their former glory, with the social categories who inhabited them during communism being replaced.

The dismantling of the socialist welfare regime led to different types of gentrification. Initially, the perception of the central districts was very negative due to their long-term neglect, the inadequate living conditions they offered and the concentration of marginalised groups (Kubeš & Kovács, 2020). With reference to the perception of marginalised groups, Ruopilla (2004) introduces the term of *gypsyfication* – the social phenomenon whereby, due to the fact that they were not allocated dwellings during the socialist period, the Roma people became gradually and increasingly more visible in central areas, which they took over precisely because of the above-mentioned negative perception (a phenomenon also observed in Bucharest). Left homeless, the Roma are forced to sleep in deteriorated blocks or buildings; once the area regains the interest of real estate investors, they are evacuated and moved to a different area.

The appearance of new buildings is the most frequent form of gentrification in Central and Eastern European countries. Kubeš & Kovács (2020) classify gentrification, on the one hand, from the perspective of the scale at which it takes place. Thus, they distinguish gentrification in its incipient stage (led by artists, university students, young city dwellers), classical gentrification (led by *yuppies* and well-off – often foreign – gentrifiers) and supergentrification (wherein even wealthier gentrifiers replace the previous gentrifiers). On the other hand, they identify specific forms of gentrification: marginal gentrification (which refers to an initial gentrification process – e.g. Bucharest), controlled, "soft" gentrification (where we still encounter the original, low-income residents), gentrification controlled through policies of social mixing, organised gentrification (which leads to the relocation of low-income residents) and tele-urbanisation (wherein the gentrifiers are owners

who reside in a different country for most of the year – also called *Schengtrification*).

The specific post-socialist circumstances have led, however, to hybrid spatialities and "patchy" gentrifications. The authors emphasize the need for research into these contexts in order to answer questions like: what is the impact of gentrification on contemporary segregation? What are the displacements like and what is their effect? What is the role of political activism?

Fig. 1. The effects of gentrification on the built space. (c) Ioana Boghian-Nistor

Chelcea, Popescu & Cristea (2015) have analysed the gentrification process in Bucharest. They note that, after 2005, the main real estate investments were made in office buildings, malls, commercial centres and gated communities. Their research also highlights the rising number of young residents in the city centre, aged between 20 and 44 and with a university education. In fact, a reason invoked by Kovács, Wiessner & Zischner (2013), and reiterated by Popescu (2020), for the start of the gentrification process is the orientation of middle class preferences and lifestyles towards the core of the city. The cultural ingredients of gentrification identified by the three authors are: "new foodscapes, slow-time spaces, commercial outlets for bohemian consumers, hand-made boutiques and the commercialisation of residential space" (Chelcea et al., 2015, p. 123). There is thus a tension between the bohemian and economic interests of the middle class, and the centre becomes the realm of contrasts of the capital, equally characterised by selective and partial gentrification, with an impact on the symbolic value of the centre (especially through its social and cultural appeal – through the emergence of cafes, tea rooms, pubs, restaurants), and by "aesthetic gentrification" due to the remarkable expansion of leisure alternatives (Popescu, 2020).

To conclude, as in the case of gentrification, the macro concepts that describe processes on a large scale must be constantly related to local characteristics and to the cultural, social, economic, political and historical aspects which convey contextual specificity. Increased attention to the premises underlying and upholding these concepts is therefore recommended.

References

Chelcea, L., Popescu, R. & Cristea, D. (2015). Who Are the Gentrifiers and How Do They Change Central City Neighbourhoods? Privatization, Commodification, and Gentrification in Bucharest. *Geografie*. 120(2). (pp. 113-133).

Glass, R. (1964). *London: Aspects of Change*. London. MacGibbon and Kee.

Kovacs, Z., Wiessner, R. & Zischner, R. (2013). Urban Renewal in the Inner City of Budapest: Gentrification from a Post-socialist Perspective. *Urban Studies*. 50. (pp. 22-38).

Kubeš, J., & Kovács, Z. (2020). The kaleidoscope of gentrification in post-socialist cities. *Urban Studies*. 57(13). (pp. 2591–2611).

Popescu, R. (2020). Strada Mozaic – gentrificare parțială în București: The Mosaic street – partial gentrification in Bucharest. *Sociologie Românească*, 18(1). (pp. 33-62).

Ruopilla, S. (2004). Processes of Residential Differentiation in Socialist Cities. *European Journal of Spatial Development*. 9. (pp. 2–24).

Sykora, L. (2005). Gentrification in post-communist cities. In R. Atkinson, & G. Bridge, (Eds.). *Gentrification in a Global Context*. London (pp. 91–105). Routledge.

The role of public spaces

07

Ruxandra PĂDURARU

A high-quality urban space presupposes, among other things, creating conditions that foster socialisation and the community spirit, that take local factors into consideration and that are in permanent contact with city life while also ensuring a good interaction between the different city actors.

The importance of observing people's behaviour in public spaces in order to construct a functional city has been emphasized by numerous architects, anthropologists and urban planners. When it comes to urban vitality, safety and the encouraging of cohabitation, the design of public spaces requires special attention.

According to Gehl (2010, 2011), when public spaces are of low quality, only the strictly necessary activities will take place therein. He divides outdoor activities into three categories: necessary, optional and social (which depend on the presence of others in the public spaces and give the possibility of seeing, hearing and meeting others). If only the first category applies, the public space merely fulfils the utilitarian function of facilitating movement.

In addition, high-quality public spaces also require adequate urban furniture. Whyte (1980, 1988) defines squares depending on sitting places, not by size or shape. He states that there are usually too few benches, that these are positioned too low or are too narrow, that they are isolated from the other benches and do not have a good view towards other places, the boulevard or the people. He also claims that people are drawn to people and that they sit down if given the opportunity.

Highly frequented public spaces contribute to resident safety. Jacobs (1961) correlates the density of pedestrian activities to the safety of the area. A space that provides different opportunities for conducting activities at night as well as in daytime, a well-lit space or one to which visual access is unrestricted will improve user safety.

Obviously, the design of a public space must conform to the particular characteristics of the area where it is located, yet there are some generally applicable principles that can be integrated regardless of context. We recall a few of these below:

_public spaces must allow diverse uses, both commercial and non-commercial, both during the day and at night;

_they must be accessible from anywhere and to anyone; they must also be accessible regardless of the means of transport – by foot, by public transport, by bycicle;

_paying attention to lighting is crucial – the space must benefit from natural lighting as well as from high-quality artificial lighting;

_the local economy must be stimulated by supporting local businesses;

_it is recommended that the streets and public spaces should be shared by pedestrians, cyclists and, if appropriate, drivers, yet without creating dangerous situations – these user categories should not pose a risk to each other;

_green spaces must be created so as to encourage outdoor activities and relaxation in a healthy environment;

_active citizen participation in the design, planning and administration of public spaces must be encouraged – public spaces are part of a constant dynamic, with the community being the one who refines the space;

_it is recommended that the spaces should allow multiple uses, either through the creation of distinct areas or through hybridisation, so that places for relaxation, sports, reading, working or eating can coexist;

_the urban furniture must be placed both in sunny spaces and in those spaces less exposed to the sun, wind or rain; in addition, the urban furniture must encourage conversation;

_sounds and smells must not be excessive;

_the existence of public toilets is necessary;

_the proposal of elements of interactive design, both for children and adult users, is recommended;

_it is essential that pedestrians should represent the starting point in the design of any public space;

_the space must be inclusive so as to encourage its use by persons with different sociodemographic characteristics; at the same time, it must appeal to both individuals and groups;

_for increased safety, it is recommended that there should be buildings around it with sufficient visibility and interaction with the public space.

Fig. 1. Public space – the place of interactions. (c) Ioana Boghian-Nistor

References

Gehl, J. (2010) *Cities for People*. Island Press.

Gehl, J. (2011). *Life between buildings. Using public space*. Washington. Island Press.

Jacobs, J. (1993 [1961]). *The Death and Life of Great American Cities*. New York. Random House.

Whyte, W. H. (2001 [1980]). *The Social Life of Small Urban Spaces*. New York. Project for Public Spaces.

Whyte, W. H. (1988). Central cities' value for business. *Nat Civic Rev*. 77. (pp. 29-33).

Sustainability and social responsibility

08

Anda-Ioana SFINTEŞ

Bringing up for discussion problems connected to social sustainability has become one of the architect's ethical responsibilities, as previously mentioned in the subchapter "Architecture in support of social education". This responsibility can be exercised in different ways and in the context of the most diverse approaches, whose aims range from inspiring social changes via the architecture to finding solutions to social problems.

Social sustainability refers to supporting and training people and communities to be sustainable, to providing tools and to increasing their understanding and capacity of further independent development, in a sustainable manner. Following various interventions in the midst of communities that required support and the failure of these interventions after external aid was withdrawn, the idea of social sustainability emerged as the necessity of ensuring long-term impact and the opportunities of sustaining an increased quality of life. Yet we should not lose sight of the fact that positive impact on certain social categories can often mean a negative impact on others, as underlined in the subchapter "Categories of users of architecture". In relation to this, Forbes & Harjo

(2016) speak of the need to focus on impact and possible effects, which in architecture leads even to the need for conceptualising or developing, as part of the design, the processes and social infrastructure so that all the stakeholders of the respective built space have something to gain (not necessarily in financial terms). The difficulty lies in finding the mechanisms to encourage and motivate those in power to become involved, to contribute and share the resources in the long term.

Following Fran Tonkiss' look (2013) at social life in the urban space or the parallel drawn by Fermín Rodríguez Gutiérrez (2013) between social sustainability and the right to the city, we can identify a series of characteristics of architecture and of architectural spaces – integrated in the urban context – which hint, to a certain extent and certainly not without difficulty, at collaboration possibilities between diverse actors. Socially sustainable architecture must therefore:

_respond to the needs and problems of diverse social categories;

_ensure universal access and facilitate mobility within the building and at the urban level;

_give everyone a feeling of safety and acceptance;

_be capable of being appropriated by social groups in expressing their own identity while also promoting diversity, equality and social inclusion;

_promote identity and identities of any type (physical, historical, cultural, etc.);

_encourage individuals and social groups to interact and participate in joint activities, in civic activities, while also making available suitable spaces to this end;

_be adaptable and flexible, with the capacity to develop alongside society and its needs.

Beyond such an initial list, meant only to prompt a dialogue, there is still the need for careful research and for understanding the territorial context as an ecosytem which, in order to develop sustainably, must consolidate and maximise its resources – "places, activities, resident communities, and all the social, economic and cultural variety that this can lead to" (Manzini, 2015, p. 195).

Yet coming back to design and the need to develop a social infrastructure, we note that the professionals from this field currently also turn towards an integrated approach to the actual design, connecting from the very beginning "people, systems, business structures and practices into a process that collaboratively harnesses the talents and insights of all participants [...] through all phases of design, fabrication, and construction" (*Integrated Project Delivery: A guide*, as cited in Malecha, 2016, p. 212). Other examples, like the *Médecins du Monde* project developed in the Metrolab research lab in Brussels (Bruno et al., 2018), emphasize the need to activate a powerful social network in order to

ensure the functioning of a critical programme whose stakes are not only social but also humanitarian – the design of a medical centre dedicated to vulnerable people and to immigrants.

In fact, it is easy to understand that the need for socially sustainable approaches and socially responsible interventions by architects or urban planners is all the greater in conflict areas, in the suburbs or in contexts where people's basic needs are not met (Cruz, 2016).

Finally, we return to our initial statement, namely the fact that within and through the design process we can assume various social responsibilities, regardless of their scope; these are vital in a context where the failure to relate to the social milieu can easily result in the failure of the architectural object (as of any other service).

Fig. 1. Social infrastructure. (c) Ioana Boghian-Nistor

References

Bruno, A., de Azevedo Nascimento, E. A., Milic, P., Orlek, J., Ranzato, M., Théréné, M., Thielemans, F., Tilman, A., Van Ngoc, H., & Vignes, M. (2018). Site 2. Médecins du Monde: Collective health. In M. Berger, B. Moritz, L. Carlier, & M. Ranzato (Eds.), *Designing Urban Inclusion* (pp. 78–99). L.Capitan.

Cruz, T. (2016). Returning Duchamp's Urinal to the Bathroom? On the Reconnection between Artistic Experimentation, Social Responsibility and Institutional Transformation. In M. Fraser (Ed.), *Design Research in Architecture: An Overview* (pp. 205–216). Routledge.

Forbes, G., & Harjo, L. L. (2016). Social Equity and Ethics in Design of Sustainable Built Environments. In M. Kanaani & D. Kopec (Eds.), *The Routledge Companion for Architecture Design and Practice: Established and Emerging Trends* (pp. 203–209). Routledge.

Gutiérrez, F. R. (2013). City, Urbanism, Social Sustainability and the Right to the City. In D. Henckel, S. Thomaier, B. Könecke, R. Zedda, & S. Stabilini (Eds.), *Space–Time Design of the Public City* (pp. 217–225). Springer.

Malecha, M. J. (2016). Integrative Design Practices. Twenty-First Century Building for Sustainability. In M. Kanaani & D. Kopec (Eds.), *The Routledge Companion for Architecture Design and Practice: Established and Emerging Trends* (pp. 211–221). Routledge.

Manzini, E. (2015). *Design, When Everybody Designs: An Introduction to Design for Social Innovation* (R. Coad, Trans.). MIT Press.

Tonkiss, F. (2013). *Cities by Design: The Social Life of Urban Form.* Polity.

What architecture can 'do'

09

Anda-Ioana SFINTEŞ

In contemporary professional discourses on architecture, there is very often an emphasis on what architecture itself "does", beyond its basic functions (Jones & Hyde, 2019; Mendes et al., 2017; Kanaani & Kopec, 2016; Steane & Steemers, 2004). The architectural commission will remain, in the vast majority of cases, centred on a clear design brief, on a clear programme and functions, but the solution itself can add related spaces and functions as well as meanings; it can exploit the different characteristics of the architecture or of the context and it can refer to social, economic, political, historical realities, having its own role within their context.

In the "Contemporary approaches" chapter (Sfinteș et al., 2021), published in the volume containing the results of the project *Scholar Architect – Improving the quality of research and teaching in architectural education* (Sfinteș, 2021), we underlined a few approaches wherein architecture

acquires different attributes, grouped under several categories. At the initial stage, these approaches were differentiated by the manner in which architecture relates to users, nature, technology or to itself. Regarding users, the architect can assume the responsibility for their architecture to contribute, for example, to the greatest possible ease of use, to encourage dialogue or cooperation, even in conflicted environments, to address basic needs that certain communities are unable to fulfil or to contribute to increased quality of life. Regarding nature, we can speak of architecture that makes the best use of natural resources, that responds or adapts to environmental conditions, that protects under extreme weather conditions, that also contributes, albeit from a different perspective, to increasing the quality of life, etc. Technology can also be used in different manners, to facilitate or make the design or building processes more efficient in some respects (for example, by saving material), to anticipate or simulate modes of use so as to better fulfil the requirements, thus transforming the building into a living building, which reacts in real time to stimuli or needs, etc. All of these remain connected in one way or another to relating the architecture to what it means as an object – its ability of being appropriated, its capacity of becoming an element of identity or of becoming iconic, the mood it can convey, its spatial, formal or material qualities that come to mean something in particular in some context or other.

The categories within which these approaches may be included are in their turn different, as mentioned in the above-named chapter, thus highlighting their complexity as well as the countless possibilities of conceiving an architecture that also "does" something else, incorporating elements of different types, depending on the aim or objectives of the project in relation to the theme and the context (understood in the broadest sense). Thus, the approaches and the resulting architecture can also be grouped in relation to the type of research they are based on, the problems they undertake to solve, the manner of designing, the manner in which the building behaves or the behaviour it promotes, the relationship with the natural context or its performance over time, etc.

In this context, we emphasize the importance of understanding architecture in this manner already during university studies so that the research leading in such directions should be supported, as Morrow (2005) notes, not only by observation abilities but also by "the creative and intellectual rigour required to identify [many of the qualities of everyday life currently overlooked]" (2005, p. 40). These abilities lead, in fact, to identifying the potential of any context and the possibilities of sustainable development from the social, economic and environmental point of view. Morrow even calls this type of thinking sustainable thinking.

What architecture does beyond its basic functions can be considered added value when it is reflected in the quality of life, the impact on a life and society that are healthy, sustainable, inclusive, diverse and multicultural, in the positive impact also on those who were not

considered as beneficiaries or users of the architectural object as such. Even the image of the architectural object can have a positive impact at community level, encouraging civic behaviour and changing perceptions and concurrently the behaviour associated with an area. Yet for what is added to be considered a value, it must have this quality through relating to individuals and communities, to their value system. Often, especially when working in the midst of disadvantaged communities, understanding the value system of the local communities versus that of the researchers and designers can prove difficult and there is a delicate balancing act. The given answer may easily be ill-suited and lead to a negative impact. The subject must therefore be treated with great responsibility and seriousness.

Fig. 1. Context that is favourable to social relationships. (c) Ioana Boghian-Nistor

References

Jones, A., & Hyde, R. (Eds.). (2019). *Defining Contemporary Professionalism: For Architects in Practice and Education.* RIBA Publishing.

Kanaani, M., & Kopec, D. (Eds.). (2016). *The Routledge Companion for Architecture Design and Practice: Established and Emerging Trends*. Routledge.

Mendes, M. M., Sá, T., & Cabral, J. (Eds.). (2017). *Architecture and the Social Sciences—Inter- and Multidisciplinary Approaches between Society and Space.* Springer.

Morrow, R. (2005). Architectural assumptions and environmental discrimination: The case for more inclusive design in schools of architecture. In D. Nicol & S. Pilling (Eds.), *Changing Architectural Education: Towards a New Professionalism* (pp. 36–41). Taylor & Francis e-Library.

Sfinteș, A.-I. (Ed.). (2021). *Scholar Architect 2021.* Editura Universitară „Ion Mincu".

Sfinteș, A.-I., Anton, I., & Anton, A. D. (2021). Abordări contemporane. In A.-I. Sfinteș (Ed.), *Scholar Architect 2021* (pp. 94–103). Editura Universitară „Ion Mincu".

Steane, M. A., & Steemers, K. (Eds.). (2004). *Environmental Diversity in Architecture.* Spon Press.

The perception of materiality in the absence of the material

10

Ruxandra PĂDURARU

How do we perceive materiality in the absence of the material?

The design of a simple piece of urban furniture as well as the design of entire cities, albeit different in scope, scale and impact, presuppose increased attention to the manner of integrating them within the broader ecosytem of the elements with which they will interact – whether human or non-human ones (climate, materials, vegetation, etc).

The process of cohesive and holistic integration is supported by virtual reality (VR), which is gradually also finding its place in urban planning. Experts use technology for better visualisation of the proposed interventions and of their impact on the infrastructure and on the environment, always taking into account the specific local features (Axford et al., 2007). This digital immersion into the planned design favours making a value judgement on the quality of the presented content – VR constitutes the technological "prosthesis" required to understand, on a 1:1 scale, the employed materials, the impact on the surroundings, details like shadow fall, what the design looks like in the interior as well on the outside, how human interaction with the proposal takes place etc.

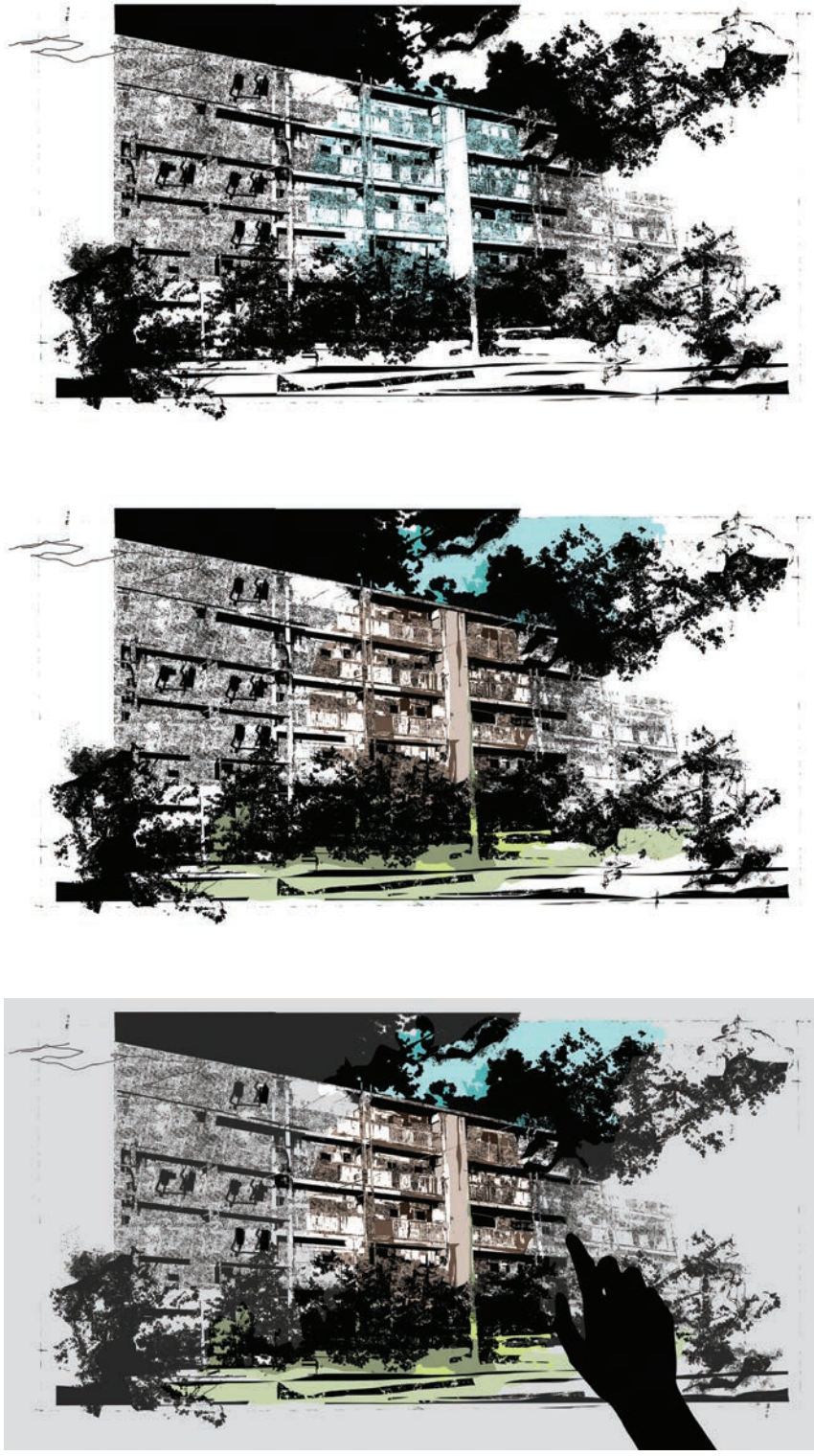

Fig. 1. Virtual changes of materialities. (c) Ioana Boghian-Nistor

Thus, VR creates environments where immersion and the direct interaction with the interventions improve feedback quality and enable visualisation, communication and the evaluation of new developments (*Gowling Wlg*, 2019). In these cases, the proposals are not based merely on *ante factum* suppositions and *post factum* evaluations, but can be adapted "on the go" due to the digital framework that almost completely imitates the characteristic features of the space where the intervention is about to be made.

A major advantage of VR introduction consists in expanding its potential usefulness beyond specialist environments, especially in co-design and participatory urban planning. Instant 3D visualisation brings the ideas to life and nourishes creativity, both in the case of professional designers/architects and of participating citizens with no training in these fields, especially when the projects can be interactively modified in the joint design sessions. Thus, different options of design/management/construction can be directly tested and compared to choose the most viable proposal. These options do not merely offer a clearer image of the scale, order and proportion of the elements but also introduce aspects that could not be experienced simultaneously otherwise, such as the plot of land and the sky, the nearby buildings, the reference points, the vegetation and the landscape, the streetscape, the street furniture, even the pedestrian and traffic networks (Anke, 2019).

Such an understanding of design, which no longer appears decontextualised but integrated within the vast network of human and non-human elements that constitute the environment, has immense potential for more cohesive planning. Once the other sensory stimuli are introduced (auditive, olfactory and tactile) in addition to the visual, technology will be able to reproduce, almost entirely, what we currently understand by materiality. Yet, pending future steps, VR contributes positively to involving several stakeholders in decision processes and in the creation of pluridisciplinary teams that analyse, discuss and understand pluri...lateral space.

References

Anke, V.D. (2019). *The Use of Virtual Reality in Urban Planning. Review paper on the (dis)advantages and a new perspective for future research*. MA dissertation. University of Antwerp.

Axford, S., Keltie, G., & Wallis, C. (2007). Virtual Reality in Urban Planning and Design. In W. Cartwright, M.P. Peterson., & G. Gartner. (Eds.). *Multimedia Cartography*. Berlin, Heidelberg. Springer.

Gowling Wlg (2019). How Will Virtual Reality Change The Way We Plan A Sustainable, Smart City? https://gowlingwlg.com/en/insights-resources/articles/2019/how-will-vr-change-the-way-we-plan-smart-cities/

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