Searching for Contemporary Public Space - as an Element of City Planning Education

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Abstract. The main objective of research work presented in the paper is exploring the urban design solutions of shaping contemporary public spaces in cities, on the example of student’s projects realized at The Faculty of Architecture, The Warsaw University of Technology, especially in The Chair of Urban Design and Rural Landscape. One of the main aim of education at The Chair is teaching the creation of space, that could be observed in the whole teaching process, including lectures, seminars and in all types of design works.

1. Introduction
At present the main response to changing the conditions and prospects of life is application of the principles of sustainable development in all spheres of human activity. One of the main spheres of sustainable living capacity necessary for the sustainable development of settlements is high cultural efficiency, which requires among other things high aesthetic qualities of the urban environment. Urban form and land use patterns within a city are critical determinants of its environmental quality. Today city form is determined by the interaction of countless decisions by individuals, households and businesses on the one hand, and a variety of government interventions designed to influence or control those decisions on the other. Urban design is necessary to organize and co-ordinate the different participants in order for the resulting public spaces to be truly designed [1]. The main objectives of research work presented in the paper are: 1/Exploring the urban design solutions of shaping contemporary public spaces in cities, on the example of student’s projects realized at The Faculty of Architecture, The Warsaw University of Technology in The Chair of Urban Design and Rural Landscape, 2/The detailed studies concerning quality of spatial composition of explored public space as well as quality of elements of this composition. The process was concentrated on research of the student’s projects concerning revitalization of the fragment of the city.

2. Public spaces in European cities
In European cities, especially large ones, there are many magnificent and interesting examples of the design and realization of public spaces. Various socio-economic transformations of cities provoke new processes: there appear new urban phenomena and new types of public spaces associated with them. Every public space has a special significance both in the structure of the whole city and in the immediate surroundings. In all solutions, the main aim is to preserve or shape the identity of a real place. Identity is determined by the elements that give the space an individual character: spatial composition, spatial dominants- landmarks (buildings, trees, special marks), original architectural objects and urban details. At present public spaces in cities are areas physically available to every...
citizen on equal terms. They are places of direct contacts, they are a cultural value and a common good of all city residents as well as they also define city’ identity. The processes of shaping public spaces in European cities can be divided into two basic groups: 1/revitalization of historical public spaces, 2/designing of new public spaces (among other things in historical areas, in new urban complexes with mixed functions, in new housing complexes, in former railway, industrial and port areas, in the waterside areas). The first group includes the revitalization of urban squares (of various scales and functions), the revitalization of various types of city streets and promenades and the revitalization of historical parks. Among the second group, the public spaces created in the process of urban transformation in a large scale are extremely interesting. They are shaped by transformation of undeveloped areas (both in the central parts of cities and on the outskirts) and neglected industrial and railway areas. In this group, public green areas are also distinguished, such as new urban and landscape parks, green courtyards and footpaths, as well as water areas and slopes. Many of these areas are important elements of the green city system. The postulates of protection, revitalization and modernization of existing European cities are included in many important documents - manifestoes, such as Agenda 21, Agenda Habitat, The New Charter of Athens and in many others. In the sphere of shaping the spatial form of cities, all documents postulate two basic directions for the development of European cities: 1/protection of existing city centres as important symbols of European cultural heritage and 2/shaping and management of open spaces as an integral part of urban development. Specific postulates concern, among others, the process of shaping public spaces. In this process there should be taken into account both the needs of residents, their behavioural patterns and the quality of spatial solutions considered in all scales (from the scale of the city to the scale of urban detail) [1].

“European cities are in this exceptional situation, that their space created for centuries has preserved, despite war damage and modernist re-evaluations, the continuity of meaning and spatial changes”[2]. (Figure 1,2)

Figure 1. Prague - panorama, drew Katarzyna Pluta, 1994
Technological development, globalization processes, increasing the importance of the market and consumption, mobility of capital, investments and elites, polarization of societies, increase in the speed of change, reduction of distances, decrease in sense of safety - these are only some of the most important features of the beginning of the 21st century. Another important processes are the phenomenon of urban sprawl and commercialization of the value of space (including public spaces) [3].

Europe's response to the phenomenon of urban sprawl is the development of a polycentric settlement system by creation local concentration of services and housing together with it public spaces. In this process, the clear division into urban, suburban and rural areas has been disappearing. There is emerging a structure called the city-region and new "urban landscapes" are created [4].

Therefore, the main purpose of discussions is the condition of public spaces and the evaluation of the quality of life in town. There are visible searching answers to the following questions: 1/In the period of civilization and cultural changes, could public spaces continue to function as one of the most important elements of integration of urban life? What is the possibility of positive impact of attractive public spaces on the surrounding urban fabric? [5].

3. Public spaces in Warsaw
In Poland in the last decade of the twentieth century as a result of changes in economic, political and social situation, significant changes took place in the urban space. One of the most important factors of the transformation of public space in Poland, is the development of local government economy. The process of shaping harmonious public spaces should take into account the preservation of the identity of the natural and cultural heritage of the country, as well as inclusion in the system of European structures [1].

Warsaw is the city which was completely and methodically destroyed during World War II. After the war polish society was an active participant in a complex process of reconstruction and development of the city. The main element of the natural system of the city is the Vistula River with Warsaw Escarpment along its left bank.
At present Warsaw - as the capital of Poland and the predominant urban structure within its own region is in a unique situation, because it is the centre of political life, as well as a crucial scientific, cultural and commercial centre. We can observe a lot of new modern investments, the process of revitalization of many parts of the city including public spaces, creation of new urban complexes (mostly housing, office and commercial) with new public spaces as well as changing patterns of leisure activity, etc. Unfortunately, despite many positive phenomena we can also observe many negative changes, which influence mostly natural environment and cause deterioration of living conditions in the city: rapid development of motorization and increasing air pollution, increasing process of urban sprawl, process of decreasing and pollution of green open spaces, insufficient recreational development of the Vistula Valley and other open spaces, an insufficient amount of pedestrian and bicycle routes, etc [6].

Before the World War II the great value of Warsaw was squares. In the post-War period, the priority for the reconstruction and physical development of the city is the construction of housing. The building of facilities supporting capital-city functions is kept to the necessary minimum. The rebuilding and utilization of all the historic squares in the city centre remained uncompleted for many years. The eastern sides of Bankowy, Powstańców, Małachowski, Krasinski and Trzech Krzyży squares and the northern frontage of Teatralny square, were rebuilt many years after the War [7].

Summing up -during the last thirty years in many cases new building activities had tried to restore former significance and shape of squares, but also to add new spatial values in the contemporary public spaces. At present in Warsaw there are many historical public spaces revitalized (squares, streets, parks) as well as there are also shaped new public spaces linked with modern architectural objects or as elements of multi-functional urban complexes created in different scales.

4. Searching for Contemporary Public Space at The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, The Warsaw University of Technology

The multidirectional scientific and didactic activity of The Chair of Urban Design and Rural Landscape of the Faculty of Architecture, The Warsaw University of Technology complies with the principles, which are found in many planning documents. The activity covers a wide range of courses, a large number of educated students and doctoral students, scientific research in the field of spatial development of cities and rural areas, active participation of the Chair’ staff in national and foreign meetings and scientific conferences, as well as their professional activities. This allows the application and introduction of both tested and current content and methods of teaching developed at The Faculty of Architecture in town planning chairs and institutes. Their source are both the traditions of urbanism of the twentieth century as well as the current, contemporary creative tendencies, ideas and results of scientific researches, introduced to teaching. The head of The Chair is Professor Slawomir Gzell. One of the main aim of education at The Chair is teaching space creation by observing and introduction of the timeless principles, that occurs throughout the entire didactic process, including lectures, seminars and all types of design works. In the process of space creation, there is visible a reference to the most important features of a place, as well as an inspiration by the new design ideas. The searches related to shaping the individual identity of urban complexes are considered to be particularly important - as necessary actions in the face of increasing processes of urban sprawl, disappearance of features related to a region and unification of the landscape. There are several main problems that we work with students: the phenomenon of suburbanization, the broadly understood reconstruction/ revitalization of the inner space of cities (central and indirect zones, public spaces), the need for reservations and rules for using areas reserved for infrastructure investments outside and inside cities, the problem of social participation - the participation of residents in planning and design procedures. Acquaintance of students with the latest ideas of the development of contemporary cities provide lectures on "Contemporary Town Planning", "Elements of Urban Composition" (Engineering studies), lectures and seminars "Contemporary Town Planning Problems" (Master's Degree) and numerous individual presentations in the form of lectures within the courses of urban design. It should be added that very often students prepare subjects, which are a matter of interest of local authorities. They organize
student’ design exhibitions in their city or district (for example, cooperation with SGH Warsaw School of Economics, The Mokotów District Office, The Patriotic Foundation "Serenissima", The University of Warsaw, The Ursynów District Office, The City of Płock) [8].

In the activity of The Chair of Urban Design and Rural Landscape particular importance has shaping of contemporary public spaces. In engineering studies among many courses, particularly intensive teaching in the field of shaping public spaces occurs within the courses "Elements of Urban Composition" and “Residential Complex Project”, where the applied solutions are preceded by thorough studies of the newest solutions (mainly public and social spaces). In Master's studies in the AiUI Specialization “City as the vehicle of development of civilisation”/ “Architektura i urbanistyka - miasto jako miejsce rozwoju”, the E-CITY program block was introduced, addressing problems related to, among other things, the role of the natural environment in the development of contemporary urban areas, including public spaces.

Summing up, at The Chair of Urban Design and Rural Landscape in the process of teaching the creation of space, an extremely important role plays shaping of public spaces - as important elements of the urban landscape.

5. The Design Projects - Case Studies

In the academic year 2016/2017, as a result of establishing by The Chair of Urban Design and Rural Landscape of The Faculty of Architecture, The Warsaw University of Technology cooperation with the authorities and employees of The University of Warsaw, the topic of urban-architectural design for the northern Powiśle area in Warsaw was elaborated. It was decided that the subject of the design works would be the preparation of a multi-scale conservation project for the northern Powiśle area, with particular emphasis on Dobra Street - as the axis of integration of The University District. The project was made by students as part of compulsory course "H-CITY. Conservation Multi-Scale Project" for semester I of Master's studies. The project was supervised by the following persons: mgr inż. arch. Katarzyna Kierczyńska-Królikowska, dr hab. inż. arch. Katarzyna Pluta, prof. WUT and dr inż. arch. Agnieszka Wośko-Czeranowska, also responsible for the coordination of the subject at The Chair. The course consisted of a series of design exercises [9], (Figure 3, 4).

Figure 3. Kazimierzowski Palace, The University of Warsaw, Warsaw, photo Katarzyna Pluta 2018
Students were expected to: 1/ Design a multi-scale urban service complex (service and housing) in a defined urban-historical context, including a comprehensive analysis of planning conditions and the context of the site, with particular emphasis on conservation issues and urban-architectural solutions (including public spaces), 2/ Propose an original spatial vision of the complex, 3/ Deepening knowledge about urban and architectural issues as well as about urban detail in public spaces.

Analyzes of input materials: historical, formal, legal and existing planning conditions were the basis for formulating the author’s concept of a spatial development project of a multi-scale center, located in a defined historical and spatial context. Studies and design works also in the architectural scale has created an interdisciplinary elaboration of complex issues at various scales. Analyzes of the existing situation and conceptual solutions were presented in the following scales: schemes (scale 1:5000 or other), inventory with elements of valorization and concept in a broader urban context (scale 1:2000), concept of development of Dobra Street as an axis of integration of The University District along with development of frontages (scale 1:500), urban detail, details of floors, fragments of plans of ground floors of buildings, development of frontages for key fragments of the study (scale 1:250) and visualizations. The development area in the scale 1:2000 embraced Dobra Street. The development area on a scale of 1:500 included Dobra Street on the section between Lipowa street and Nowy Zjazd street with additional area necessary to show the principle of shaping public and social spaces. The projects were developed in general in two-person teams [9].

As a part of cooperation with The University of Warsaw, joint meetings, lectures and presentations, combined with discussions, were organized during the elaboration of projects. The final result was the presentation of design works (boards and multimedia presentations) for the Dobra street- an axis of integration of The University District at the project exhibition at the Faculty of Architecture, The Warsaw University of Technology (each team was required to present six boards with a dimension of 100x70 cm each).

Then, a competition for the best Visions of the Academic District of the University of Warsaw was organized (35 students of the first semester Master studies took part in the competition) and a presentation of the above-mentioned student works at The Warsaw University Gallery (in the lobby of the Kazimierzowski Palace, 24-27.01.2017).
The Jury of the competition consisted of the following persons: prof. dr hab. inż. arch. Sławomir Gzell, prof. zw. WUT, mgr inż. arch. Katarzyna Kierczyńska-Królikowska, dr hab. inż. arch. Katarzyna Pluta, prof. WUT, dr inż. arch. Agnieszka Wośko-Czeranowska, prof. dr hab. Stefan Jackowski, prof. zw. UW mgr inż. arch. Andrzej Alinkiewicz.

The Jury of the competition awarded distinctions for the following design projects:

- "GRID", author: Michał Purski, supervisor: Katarzyna Pluta, prof. WUT,
- "TETRIS", authors: Eliza Obrycka, Aleksander Swinarski, supervisor: Agnieszka Wośko-Czeranowska,
- "SPLOT", authors: Aleksandra Kopania, Magdalena Wachowiak, supervisor: Agnieszka Wośko-Czeranowska.

General characteristics of projects: in all design works, the authors emphasized the creation of a new composition and functional layout of the Dobra street. Large scale spatial routes of the Vistula Valley along with wharfs and Warsaw Escarpment along with Krakowskie Przedmieście street, have been enriched by a spatially attractive and functional Dobra street. The creation or emphasis of a number of transversal axes has enabled to highlight the important links between the upper terrace, the river bank and the Historical Campus with new layouts. Numerous view axes from the Escarpment, composed greenery, innovative transport and pedestrian solutions, as well as innovative buildings and interesting urban floors and urban details fit into the historical context of the surroundings, creating a new quality. The presentation of different concepts of development of Dobra street, allowed for making individual assessments and comparisons. The authors of the presented works represented different approaches: conservative, innovative, ecological, or technological, taking into consideration the wide urban context and focusing on a specific fragment [9]. In the paper three design projects are presented.

5.1. The design project “GRID - integration axis of the University of Warsaw”, Warsaw, author Michał Purski, supervisor: Katarzyna Pluta

The theme of the project is to create a new campus for The University of Warsaw located on the bank of Vistula river. The core of the complex should emerge along Dobra street to Warsaw Escarpment. After a few analysis it turned out that the current plan of the district is arranged both geometry and functionwise on a grid of streets – Wybrzeże Kościuszkowskie street with Vistula boulevards, Bednarska and Dobra streets parallel to Vistula river, and around more cosy perpendicular streets, the biggest of which is Lipowa street - old, historic axis of the University of Warsaw (on which Kazimierzowski Palace is located). Crucial point was to refer to this vital urban conditions. Main idea of the project was to create different kinds of public spaces within the framework of the grid, with varied atmospheres and characters. This target is to be achieved by different proportioning of the sections of the streets, arrangement of public transport access, functions dominating by colours and materials, and even the location of design venues over or under ground. The main axis – Dobra street should serve as a spine facilitated with pavilions, that will give a place not only for cafe's, restaurants and other functions that will generate more vivid life in this part of district, but also some functions that will fulfill academic needs when it comes to places where students could practice. Form of those pavilions will correspond with elevation of the Library of the University of Warsaw. The characteristic system of walls will be multiplied giving a place for inscriptions with vital facts about UW’s history. Author decided to raise some streets with intense traffic over the ground level. This intervention not only eliminated collision of car, and pedestrian traffic, but also generated place for pavilions under the road with mainly gastronomic functions near the Kazmierzowski Park. In the middle of this Park, at Lipowa street axis author decided to locate a certain kind of Public Agora. It was located 4 meters under the level of the ground in order to protect coherence of the Kazmierzowski Park. This solution made it possible to locate entrance, and whole escalator under the ground [9]. (Figure 5,6,7)
Figure 5, 6. The design project “GRID – integration axis of the University of Warsaw”, Warsaw, 2017, author: Michał Purski, supervisor: Katarzyna Pluta, (project awarded), [9]

Figure 7. The design project “GRID – integration axis of the University of Warsaw”, Warsaw, 2017, author: Michał Purski, supervisor: Katarzyna Pluta, (project awarded), [9]
5.2. The design project “COLOR AXES”, Warsaw, authors: Alena Lobach, Katarzyna Jankowska, supervisor: dr hab. inż. arch. Katarzyna Pluta

The new campus of the University of Warsaw is located in Powiśle area, between Krakowskie Przedmieście street and Vistula river, surrounded by historical buildings. Such location determines the rank of the future complex. Newly built buildings should meet the needs of students, residents and guests of this district, as well as create new urban behaviors. The advantage of the area is undoubtedly the large amount of greenery - from single street trees, through parks, to greenery of the Library of UW gardens. The proximity of the Vistula river and the ongoing expansion of its boulevards is also important. Author’s idea for a clear organization of the Campus in such a demanding context is to run thematic axes, perpendicular to Dobra Street. The first of them - Lipowa street- is the historical axis of the University of Warsaw. It is an extension of the axis of the Kazimierzowski Palace, through the park, to the Vistula river. At present, the Library and The Faculty of Linguistics are located next to it. New housing investments have blurred its significance, and authors believe that it should be strengthened. The next axis is the axis of sport and recreation in the area of Agaton Park and the Library gardens. Authors want to maintain the continuity of the existing greenery and lead to its links towards the Vistula river and the Kazimierzowski Park. The next axis is Karowa street. It connects the campus with the rest of the city - with Nowy Świat street and Praga district. It is the center of New Campus. The last axis is Bednarska street. Authors call it the axis of history because it is accompanied by the historic buildings of Mariensztat and it reaches the Krakowskie Przedmieście street. It is planned to go directly to the Vistula river. The idea of the design project “Color Axes” for uniting the entire campus (with such variable forms and climates), is to introduce a uniform floor pattern, varying in color, depending on the axis through which it runs. The color helps to identify with the place, it can serve as an information (for foreigners and visitors), it visually integrates the campus. The floor should be modular, on the axis joints there should be a smooth transition of colors, with the possibility of creation of interesting graphics. The tile modules house urban street equipment. Park paths are links with various parts of the city, they should be ecological and comfortable for sports. Colored gravel would be a simple and effective technology for the integration of the area. The biggest advantage of the idea is that with a low cost, it is possible to achieve the unique atmosphere of the New University Campus. The area would be consistently ordered, but at the same time it would be possible to shape the space freely [9], (Figure 8, 9, 10).

Figure 8. The design project “COLOR AXES”, Warsaw, 2017, authors: Alena Lobach, Katarzyna Jankowska, supervisor: Katarzyna Pluta [9]
Figure 9. The design project “COLOR AXES”, Warsaw, 2017, authors: inż. arch. Alena Lobach, inż. arch. Katarzyna Jankowska, supervisor: dr hab. inż. arch. Katarzyna Pluta [9]

Figure 10. The design project “Color Axes”, Warsaw, 2017, authors: Alena Lobach, Katarzyna Jankowska, supervisor: Katarzyna Pluta, [9]
5.3. The design project “RED LINE”, Warsaw, authors: Piotr Łabęda, Paweł Hajduczenia, supervisor Katarzyna Pluta

Dobra Street becomes an axis integrating The New University District. Pedestrian passage with a sandstone floor and a red line (the leading line) is the element that connects all components of the new urban system. It begins before the entrance to the Library of the University of Warsaw with an information post which displays the description of the New District’s structure, then goes through the building of the Library and further along Dobra street, once on one of its side and then on another, whilst creating obvious functional connection between all Departments of the New Campus. Along the passage there are small pavilions containing additional facilities like gastronomy, small shops or a station of city bikes. Wider segments of the passageway are where the space for attracting activities is, for example there is a pond with sitting places and a fountain hidden in the floor. The direction of pedestrian flow is emphasized by a line of small trees along the passage and a longitudinal arrangement of multifunctional furniture. These are benches integrated with plant pots and bike-stands. There are also differences in ground elevations – that provides acoustic and visual separation between the passage and the road. The traffic on Dobra Street is limited to public transport and to workers of the University and the hospital. The beginning of the Kazimierzowski Palace Axis is marked by an Entrance Pavilion situated at the foot of the Warsaw Escarpment. It contains an underground passage with an escalator from the bottom to the top of Escarpment. Lipowa street becomes a promenade emphasizing the axis of the Kazimierzowski Palace and the connection between the Old and the New Campus and with the Vistula River. The trees on the slope are pruned so that they don’t block out the view of the Palace. In order to keep the coherence of the pedestrian passageway, new building is planned to fill the holes in the frontage on the south side of Lipowa Street. The height of new building is to be equal to that of the Faculty of Linguistics and Neophilology. On both sides of the promenade there are lines of trees, between which the benches are situated. Between the Kazimierzowski Park and the Vistula River there is continuance of greenery [9]. It is possible to walk from the Park, thorough Agaton’s Square – throughout which the pavilions for students are spread – and then through the gardens of the Library, and arrive at the embankments of Vistula River. The noise from the Wisłostrada Road is reduced by ivy growing on the framework covering the end of the tunnel. The information pavilion situated opposite the Bristol Hotel is directing passers-by from Krakowskie Przedmieście street to the New University District. The colorful line of trees along Karowa Street is a visual connection between Krakowskie Przedmieście and a planned pedestrian bridge over the Vistula River. The Prunus cerasifera ‘Pissardii’ trees were chosen because of their distinctive foliage colour [9], (Figure 11, 12, 13, 14, 15).

6. Results and discussions

In European cities, important symbols should be harmonious public spaces - as important elements of their spatial structure and at the same time places enabling social contacts. It should be added that many European cities are struggling with similar problems as most of the cities in the world and are looking for ways to solve them. That is why outstanding European solutions can also help other cities as a positive example.

Organizing the course and the competition is an outstanding achievement, which improved the cooperation of The Faculty of Architecture, The Warsaw University of Technology with the University of Warsaw in the area of conducting scientific research and development works concerning shaping the spatial structure of contemporary cities and in highlighting and preserving the memory of buildings and areas relevant to the identity of Warsaw and Polish history. In particular, this concerned the spatial integration of the Academic District of the University of Warsaw of a defined historical and conservation context. Results of the design projects had proved shaping public spaces both with a reference to the most important existing features of a place and with inspiration by contemporary creative tendencies and ideas. Thanks to that the process of unification of the landscape could be stopped and new urban landscapes in Powiśle area could be created.
Figure 11, 12, 13. The design project “RED LINE”, Warsaw, 2017, authors: Piotr Łabęda, Paweł Hajduczenia, supervisor: Katarzyna Pluta, [9]
7. Conclusions
The main conclusions: 1/One of the most important instruments of shaping contemporary public spaces and the townscape of the city is urban design and urban composition, 2/Original and unique spatial composition of the public space has been one of the decisive elements, which influence shaping new identity of this space.
These tools could contribute to creation of the efficient spatial form and shape harmonious and sustainable contemporary structure and townscape of the city. In Warsaw in the new valuable solutions - new townscape of high quality and distinct identity has been created - with public spaces as important elements.

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