

CHAPTER 1, URBAN THEORY

City axiology and its reason

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Urban composition and orientation in the urban space



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RING-AND-CIRCLE, SYMBOLICAL AND PRACTICAL MEANING OF THE FORM IN TOWN PLANNING AND ARCHITECTURE

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Key words: circle, symbol, construction, recognition

Abstract

In the research analysis of historical urban and architectural developments was confronted with the newest concepts in town planning and architecture. The search was set against the background of political and social situation as well as changing technical possibilities. Applied methodology was focused on finding links between forms created by people and crucial events characterizing analyzed periods. The methods involved included studies of literature, historical registers in museums and research in situ.

Oval or circular urban systems and structures were shaped by several factors: safety, community demand, worship, expression of emotions and experience of decision makers and builders.

At times when the defence of people and their possessions was a frequent necessity it was a ring of walls or circular rampart or tower on a plan of a circle that were used. Logics of this solution can be easily proved by simple equations. When mathematics imbued with magic or religion, and became a tool of shaping architecture, use of a ring was symbolic, and often used in sacred urban layouts and architecture. Circle, as the most perfect of figures was appreciated by the people of power of all periods up to now. First theoretical urban plans developed either from circular focal building or implemented circle or ring in shaping the whole layout. In the era of rationalism theorists of that time saw the opportunity to organize functional zones in concentric way. Recent decades unveiled new phenomena: circular projects in urban and architectural scale.

The circle as a symbol and a practical geometric figure

Solar deities were worshipped in prehistoric and ancient times, across different parts of the world and in different ways - under a ubiquitous symbol - the circle. The circle is present in all cultures, religions and belief systems as a magical and symbolic sign. For example, the

Buddhist Mandala, where the circle symbolises the sky, transcendence and infinity, and the square represents the inner self, that which is associated with man and earth. The Chinese Jin-Yang from the Book of Changes symbolises the interplay of opposites of the same¹, the Indian swastika (circular, different from the one commonly known), is a symbol which refers to the cult of the sun; it means life, fertility and good fortune. The symmetric pagan Celtic cross (the sun cross) was combined with a circle².

Dancing was the oldest form of worship of the powers of nature and gods, practiced by societies of old. A ring of dancers would form naturally; prayer would be said in a circle. The places for such rituals would be circular, which, amongst others, determined the shape of the Greek theatre orchestra. The gathered formed into a ring to perform rites around a fire; thus the circle had both a symbolic as well as a practical dimension. Many temples and places of worship across different cultures were constructed on a circular footprint - the British Stonehenge, the Polish Seven Sisters (*Siedem Sióstr*), the Buddhist stupas. Burial sites plans of prominent society members and priests were often based on a circle.

People were living under the canopy of the sky night and day, and to depict it was a creative act from the boundaries of the realm of magic. The faces of the Sun and the Moon were constantly watched. The horizon was a circle. The cyclicity of day and night, the seasons of the year, the lives of plants and humans are also perceivable as continuous, which is reflected in beliefs. Maya, Inca and Aztec calendars are also circular³.

Apart from the magical and religious significance, since the dawn of society builders used the shape of a circle in construction as it was easy to mark out on site with simple tools: two stakes and some rope, string or even a strip of leather. Settlements and town outlines were circle like, most primitive shelters were on a circular footprint - regardless of the materials they were made out of or the climate zone.

The oldest urban plans

For defence reasons, the oldest Neolithic settlements were oval. Biskupin, a historical monument from the 8th century B.C. is an example of this, where, despite the use of log construction which imposes orthogonal plans for houses and the street layout, the defences are in an oval shape. Plains, without natural defensive land forms, predestined just such a shape for early settlement defences, defensive towers and fortified towns.

A similar circular shape was also assumed by the *kraal* and the *boma*, African enclosures, to protect livestock against predators at night.

The circle in medieval urban planning

In the Middle Ages, defensive attributes also determined the circle or oval as the shape of choice for defences and fortifications:

¹ *The Illustrated Encyclopedia of Confucianism*, Vol. 2. New York: Rosen Publ. Group, 2005, p. 869.

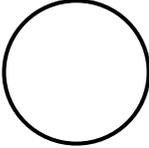
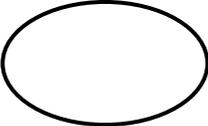
² Modzelewski K. et al, *Mitologia Słowian*, Wydawnictwa Uniwersytetu Warszawskiego, 2006, p. 87.

³ Rostworowska M., *Historia państwa Inków*, PIW 2007, p.47.

- the ratio of the area inscribed in a circle to the circumference of that circle is more favourable than for an ellipse, square or rectangle, which affects the number of potential defenders which are able to live in the town (Tab. 1)
- corners of a fortress were its weak points: rams were able to knock out cornerstones easily one after another, and on the walk on the top of the wall the defenders got in each other's way
- in a town shaped roughly like a circle the distances from houses to the town square were similar, which made for a more convenient communication and hierarchisation of given plots.

The logic behind such a solution is even more perspicuous when we consider that the chessboard like outline of a *castrum romanum*, a Roman military town served as the blueprint for the street system in Middle Ages towns enshrined to this day in the layouts of Medieval cities of Western Europe. Usually, town walls were erected a few dozen or so years after the town was granted urban charter and it was undoubtedly a significant financial and logistical undertaking for the residents⁴. The defences outline most closely reflected the defence needs, financial capacity and the topographical conditions of the area.^{5 6}

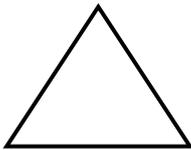
Table 1. Comparison of the proportions of geometric figure areas to their circumference as a guideline for shaping defensive plans

	<p>CIRCLE = 1 sq. km</p> <p>$P = \pi r^2$ $1 \text{ km}^2 = \pi r^2$ $\sqrt{1 / \pi} = r$ $r = 0,56 \text{ km}$</p> <p>$Ob. = 2 \pi r$ $Ob = 2 \pi 0,56$ $Ob = 3,54 \text{ km}$</p> <p style="text-align: right;">P / Ob = 1 / 3,54</p>
	<p>ELLIPSE = 1 sq. km</p> <p>$P = \pi ab = 1 \text{ km}^2$ $a = 2b$ $a = 0,8 \text{ km}$ (wzór) $b = 0,4 \text{ km}$</p> <p>$Ob = 3,9 \text{ km}$ (wzór)</p> <p style="text-align: right;">P / Ob = 1 / 3,90</p>
	<p>SQUARE = 1 sq. km</p> <p>$P = a^2$ $a^2 = 1 \text{ km}^2$ $a = \sqrt{1} = 1 \text{ km}$</p> <p>$Ob = 4a$ $Ob = 4 \times 1 \text{ km} = 4 \text{ km}$</p> <p style="text-align: right;">P / Ob = 1 / 4,00</p>
	<p>RECTANGLE = 1 sq. km</p> <p>$a / b = 1 / 2$ $P = 1 \text{ km}^2 = a \times 2a$ $a = \sqrt{1 / 2}$ $a = 0,71 \text{ km}$ $b = 1,42 \text{ km}$</p> <p>$Ob = 2 (a+b)$ $Ob = 2 (0,71 + 1,42)$ $Ob = 4,26 \text{ km}$</p> <p style="text-align: right;">P / Ob = 1 / 4,26</p>

⁴ Poznań: urban charter: 1253, city walls approx. 1280; Kraków : urban charter: 1257, city walls from 1285; Środa Wielkopolska: urban charter: 1208/1235, city walls 1324 (mentioned), Lublin urban charter 1317, city walls from 1341.

⁵ Ostrowski W., *Wprowadzenie do historii Budowy miast*, Warsaw: Oficyna Wydawnicza Politechniki Warszawskiej, 1996, p.322.

⁶ Ostrowski W., *ibidem*, p. 415.

	<p>TRIANGLE = 1 sq. km</p> <p>$P = a \sqrt{3} / 4 = 1 \text{ km}^2$</p> <p>$a^2 = 4 / \sqrt{3}$</p> <p>$a = \sqrt{4 / \sqrt{3}} = 1,51 \text{ km}$</p> <p>Ob = 3a</p> <p>Ob = 3 x 1,51 km</p> <p>Ob = 4,55 km</p> <p style="text-align: right;">P / Ob = 1 / 4,55</p>
<p>Result:</p> <p>Circle of 1 sq.km area needs 3.54 km of defense wall</p> <p>Ellipse of 1 sq.km area needs 3.90 km of defense wall</p> <p>Square of 1 sq.km area needs 4,00 km of defense wall</p> <p>Rectangle of 1 sq.km area needs 4,26 km of defense wall</p> <p>Triangle of 1 sq.km area needs 4,55 km of defense wall</p>	

Aigues Mortes, a fortress city for the armies gathering for the crusades was inhabited by soldiers: an abundance of defenders and as such the external fortifications were in the shape of a rectangle with many gates. Medieval towns do not mirror such a system.

Keeps and defensive towers were similarly shaped. *Architektura militaris* of that period also used the circle and oval in smaller scale fortifications.⁷

Independent of defensive towns, villages also assumed shapes which facilitated defence and these were usually circles or ovals. Some survive in Poland to this day and are called *okolnica* (roundling) or *owalnica* (oval shaped village). In this case, the fences established a ring around the farmsteads, providing defence against enemies and protection against wild animals, as well as the central green inside the village (*majdan*) where cattle were herded at night for protection. Usually it was possible to draw water, water the cattle and wash in a pond or stream running across the green. Kamiennik (Opolskie Voivodship), former part of a knightly house, is an example of a village which survives to this day.⁸

In the Middle Ages, following lessons learned during the 13th century Mongol invasions and in the face of other dangers in Central Europe, defensive settlements and monasteries were built until the 16th century. A few hundred or so are worthy of particular attention, surviving in Romania and primarily in Transylvania. They constitute a very important element of rural defensive architecture, spontaneously erected by local communities around churches. The monasteries in this region were built in a similar fashion: with a ring of circumference walls with monastery cells and sometimes also premises for the villagers added.

The Härman village (Romania, Transylvania) is an excellent example of such a solution. A village brick church dating back to 1241, with a high-bell tower which also doubled up as an observation post, was surrounded by a tall wall. The wall is circular, with protruding granite towers, has overhung arrowslits, a gatehouse and is surrounded by a moat. Two storeys of living quarters have been built on the inside of the wall, one for each of the local families. The upper storey is reached via ladders. Living quarters of this type have also been built onto the body of the church itself. Cattle could be herded into the internal courtyard to wait out the danger in such fortress. The monastery in the nearby Prejmer as well as many others were built

⁷ Świebodzin plan from 1586, Poznań, with a visible bulging of the walls to the North-East to enclose the Dominican Monastery built earlier, and many others.

⁸ Other surviving examples: Mieszki (today a district of Łódź), Swołowo (near Słupsk). Surviving roundlings: Paproć Duża (Podlaskie), Księżę Pole (opolskie).

in a similar fashion. Everywhere, the final fortifications were on a circular footprint, rational from the defence point of view.⁹ Later, in the 16th and 17th centuries, monastery complexes in the neighbouring Moldavia, centred on the “painted churches” were on rectangular footprints, reflecting the style of the epoch and multicultural and multireligion background.¹⁰ Their defence capacity was only hypothetical, similar to the defensibility of *palazzo in fortezza*, a popular residence of this more peaceful period.

The circle in Renaissance urban planning

The great transformation in the art of war caused by the invention and widespread use of the cannon, a weapon which could easily knock down Medieval walls had little impact on the shape of towns. Theoretical town plans, created by numerous Renaissance architects, still reflect the circular or oval shape to which triangular bastions were added. A star shaped layout had the same advantages as Medieval walls but it protected the centre against bombardment from the outside. This pertains to both earth fortifications, typical for the Netherlands, as well as the Italian brick curtain walls and bastions. An observation point located in the centre of a complex made it possible to command the defenders, shift troop detachments where needed most and the distance to the command post from everywhere was the same.¹¹ As time went on, fortification outlines were becoming more and more complicated, with the basic shape remaining unchanged¹².

The only complete execution of such a “perfect” plan is found in the Palmanova fortress town, designed by Vincenzo Scamozzi on a plain to the north east of Venice. Through this, the Republic was looking to establish an outpost to defend the capital against the expected Turkish attack. Three fortress towns were built in The Republic of Poland in the 16th and 17th centuries.¹³ However, none of those had such a regular shape as Palmanova, each made use of the local terrain (marshes, slopes) and took into account the owner's residence located asymmetrically within the fortifications.¹⁴

The circle in Baroque urban planning

Regardless of the practical significance for defensive systems, the circle was also used to emphasise the rank of a site. The Baroque palace in Karlsruhe is an excellent example of its use as a symbol to mark out the centre; the location of the prince's palace. Interestingly, the circular form of the circumference alley and radial alleys criss crossing the woodland park was not noticeable to those on the ground. It was only visible on plans of the entire complex. The baroque impetus stemming from the ambition and capabilities of the rulers of that time, led to

⁹ Brykowski, R., Chrzanowski T., Kornecki M., *Sztuka Rumunii*, Zakład Narodowy im. Ossolińskich - Wydawnictwo, 1979, p.78.

¹⁰ Kocój E., *Świątynie, postacie, ikony. Malowane cerkwie i monastiry*, Wydawnictwo UJ, Kraków 2006.

¹¹ Kostof S., *The City Shaped*, Bulfinch Press, New York, Boston, London, 2007, p.189-190.

¹² Poznan three lines of fortifications are a good example of military logics: oval Medieval wall, polygonal fortress of the 18/19th century around it and extended ring of forts from the 20th century.

¹³ These are Zamość, construction started in 1579 by Bernardo Morando, an Italian and Chancellor Jan Zamojski; Hetman Stanisław Żółkiewski's fortress of Żółkiew erected from 1597, designed by Paweł Szczęśliwy; and Stanisławów designed by Stanisław Kostka Potocki and an Italian military engineer after 1650.

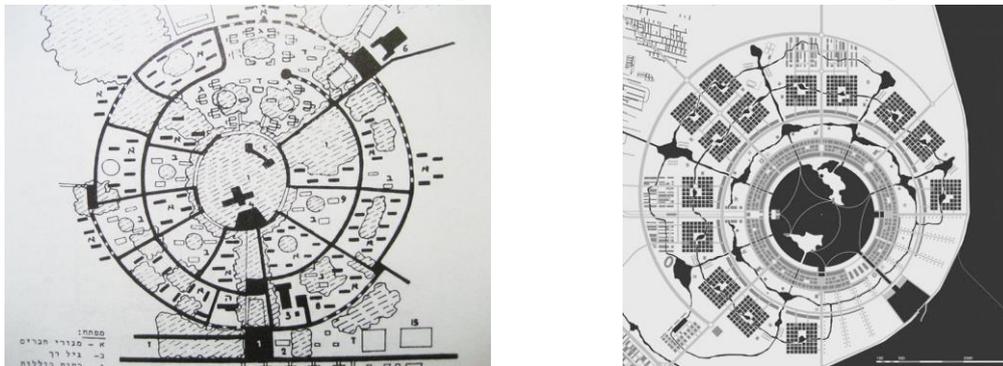
¹⁴ Bogdanowski J., *Architektura obronna w krajobrazie Polski*, PWN, Warszawa-Kraków 1996, p. 36.

inscribing urban and garden plans into the scale of the universe. Here, “never-ending” garden perspectives and far reaching symbolism of the plans themselves constituted the tools¹⁵. The Baroque architects, in creating urban and garden spaces, also often used the circle. Cylindrically concave frontages created by facades of palaces created impression of grandiose and monumentalism. In gardens circular piazzettas within bosquets emphasised the role of incorporated sculptures or pavilions.¹⁶

Contemporary characteristics

Subsequent centuries brought with them city planning problems associated with the industrial era. This primarily boiled down to ensuring respectable living conditions for their residents. A number of concepts based on concentric, circular layouts were coined during that time. Amongst others, those include Ebenezer Howard’s correct town development principle published in 1898 and revised in subsequent decades. The essence of this concept was to provide the residents with access to open green areas, to reduce smoke pollution in cities and improve living and working conditions. The central city and satellite cities; separated by open, green areas - that was to be the new face of urbanisation. The factor which dictated the concentric rings of functional zones in satellite cities was access to the basic town functions and correct proper access isochrones¹⁷. The twentieth and twenty first centuries did not bring about solutions to town planning. The phenomenon of increasing fragmentation of its structure in modern local plans and urban sprawl generated, amongst others, by individual car communication, turned the architects’ attention to the role of the society in shaping town space and the fact that it is there for the people.¹⁸

**Figure 1. Kibbutz for 250 families 1940, arch. Samuel Bickels,
Figure 2. Lingang New City (Shanghai), gmp Architekten von Gerkan, Marg and Partner**



Source: Fig.1: Kibbutz. Architecture with no precedens. La Biennale di Venezia, 2010, p.96, Fig.2: authors archives

¹⁵ Ostrowski W., *Wprowadzenie do historii Budowy miast*, Warsaw: Oficyna Wydawnicza Politechniki Warszawskiej, 1996, p. 417-418.

¹⁶ Ostrowski W., *ibidem*, p. 415.

¹⁷ Czyżewski A., Trzewia Lewiatana. *Miasta-ogrody i narodziny przedmieścia kulturalnego*, Państwowe Muzeum Etnograficzne w Warszawie, 2009, p.54.

¹⁸ Bonenberg A., *Beauty of the City. Urban Empathy. Case Study – Catania in Sicily*, Wydział Architektury, Politechnika Poznańska, 2010, p.46-58.

Figure 3. Brondby, suburb of Copenhagen, settlement of garden plots with summer houses, built in the sixties; the idea of social integration at summer and weekends



Source: <http://static1.squarespace.com/static/52b3aae6e4b00492bb71aa3d/t/5536a023e4b0799bf6161467/1429024503161/>

The concept of a society as the main medium for urban values, on an emotional and ideological level was fulfilled by concentric layouts of a number of kibbutzim, which the Jewish architects, to a large extent students of Bauhaus, erected in the forties and later, for the settlers in then Palestine, and subsequently the Jews running away from the Holocaust.¹⁹

Similar idea was expressed in Lingang New City, an extension to Shanghai. As the city grows towards the East Chinese Sea, a new centre is going to take over inhabitants working in the area of the new port and industrial zones.

For palm-cities in Dubai, that is of paramount importance when it comes to promoting the given location. The urban layout not identified from the pavement and road levels, creates its brand.

The circle in architecture

Mesa Verde in Colorado (USA), is an Ancestral Puebloans Indian settlement dating back to the 12th century, built on an inaccessible rock shelf, under a rock overhang. Similar to Pueblo Boniti of the same tribe, built using brick and stone, it comprises irregular, rectangular like and rounded buildings and round, ritual buildings. These interiors, the *kivas*, were used for male ritual dances. Just like other cultures, Indians were seeking to mirror the cosmos which surrounded them using the circular plan²⁰. A circular, regular footprint reflected the function (dancing in a circle) and also the technical capabilities (marking out a ring and chiselling out a cylindrical "wall")²¹.

As Marta Tobolczyk points out in her book "The Birth of Architecture", rounded building forms, as well as corners, came about not as much as a result of primitive technology, but were primarily a reflection of organic forms which the builders encountered and which they considered to be more beautiful, and probably, friendlier.

The second, more primitive form of a home, used to this day is the tent. Excavations and partially surviving dwellings aside, it is the Siberian yurt which has the longest tradition and history as well as most modifications associated with the way people lived under its roof. The steppes, where nomadic peoples created and improved this portable home for large families, are the playground for strong winds. The dome-like, squat and symmetric shape of the yurt

¹⁹ Kibbutz. *Architecture with no precedents*, Red. Galia Bar Or, La Biennale di Venezia, 2010, p.37.

²⁰ Kelm T., *Architektura prerii i kanionów*, Oficyna Wydawnicza Politechniki Warszawskiej, 2007, p. 22.

²¹ Tobolczyk M., *The Birth of Architecture*, The Urban Intern. Press, Gateshead UK 2008, p.56-58.

stands up to them tremendously. Small trees growing in the tundra and widely available animal skins are used to construct it. Cylindrical homes with pointed roofs dominate in Sahel, these are spacious huts made out of branches and covered with hay.

The North American Plains Indians created two types of home-tents: the wigwam for permanent dwelling and the portable tipi - both of a circular footprint. Their structures constitute frames made out of thin trunks, radically different in each case: dome like for the wigwam and conical for the tipi. Both forms stemmed from experience and stood up to the elements in their own particular ways: the wigwam in a similar fashion to the yurt, whereas the slender tipi "sliced" the wind. As in the Plains there was a shortage substantial wood construction materials, a structure using tree saplings led to two solutions: a cone, tied at the top and covered by animal skins, and a similar structure, where the uppermost parts of the saplings are bend creating a dome.

The winter dwelling of Eskimo families, the igloo, has also a circular plan. Built out of blocks of hard snow, it was covered by a dome, with additional snow piled on top, protected the inhabitants against hurricane winds from the North²².

The practical side of the above solutions, despite the use of various kinds of materials remains similar: it is relatively easy to erect a structure on a circular plan both out of wooden elements and a dome out of snow blocks. A regular, symmetrical layout provide uniform resistance against variable wind loads. The circular interior allows various functional arrangements: both hierarchical and equal. A similar structural concept is in use in stone homes, which one may come across in various parts of Europe. Erected on a circular footprint, they are shaped like slender domes; can be found in Turkey (Izmir region), in Italy (Apulia), in France and in Croatia. The availability of slate and shortage of timber resulted in the use of the local building materials in the simplest manner possible.

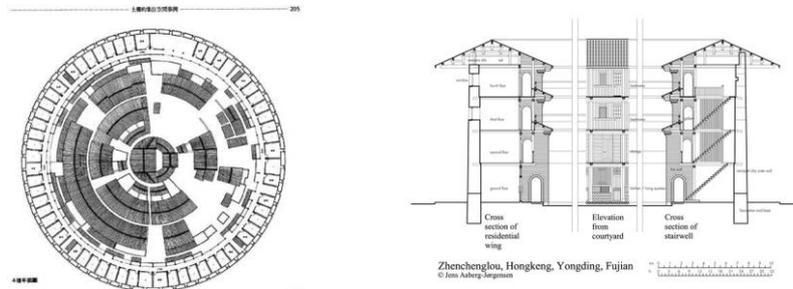
Middle ages - use of circular plans in architecture

In the Middle Ages, in the present day China homes were built on a circular layout for the same reasons as in Europe. The Chinese called them *tulou*, which means "earthen structure", despite some of them being erected out of stone. Tulou is a dwelling for an entire family, typical for the mountainous areas in the south and west of the Fujian province. Often a temple stood at the centre of a complex, a family sanctuary, sometimes accompanied by other buildings. The circumference wall had three to four storeys of living quarters on the inside. Due to climate, storage space was often located on the top storeys. These structures were erected from the 12th century all the way through to the start of the 20th century. They were expanded by adding external rings of walls with further dwellings resulting in a very characteristic, concentric layout. Access to the interior of a *tulou* was through a single guarded gate. The Hakka people, one of the ethnic groups which erected these structures, used the properties of a circular plan to establish a non-hierarchical society. All families had same size rooms, and one family owned vertically stacked premises from the ground floor all the way to the roof. Large families had a few such sections. This was connected with the necessity to defend the structures by shooting

²² Rapoport A., *House, Form and Culture*, Prentice-Hall, Inc, Englewood Cliffs, N.J., 1969, p.98-100.

gun posts near the top.²³ A circular or oval layout made it possible to establish a hierarchy or a community on equal terms.²⁴

Figure 3, 4. Tulou Chengqilou, plan of the third storey and cross section through dwellings, internal elevation and staircase cross section²⁵

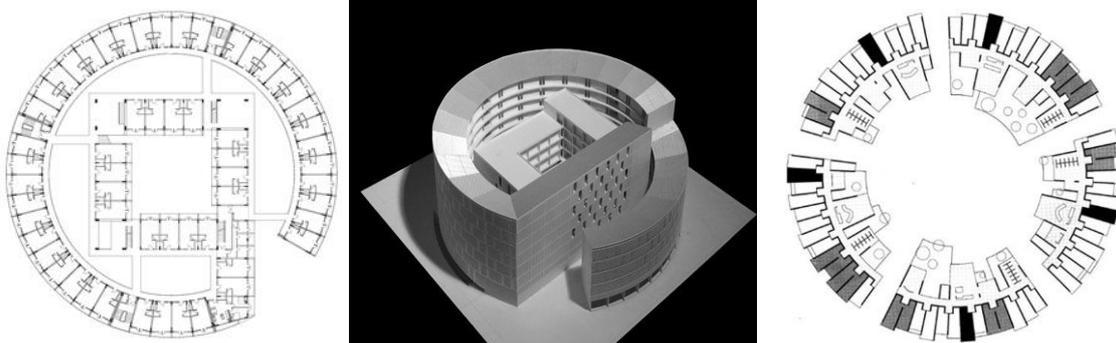


Source: Survey drawings by Jens Aaberg-Jorgensen. Fig. 3, www.chinadwelling.dk/images/jpg/chengqilou-3rd-floor-w.jpg, Fig.4, socks-studio.com/img/blog/hakka-tulou-05.jpg

Contemporary architecture

Modern concepts are constantly exploring urban planning ideas of the days gone by. They enforce the establishment of communities in today's cramped cities. One of these is the concept of a residential estate with a circular layout of houses, reminiscent of the tulou. Such a complex was built in 2008 in China. The Tulou Collective Housing, is a complex of affordable housing coined by URBANUS Architecture & Design Inc. as well as architects Xiaodu Liu and Yan Meng, located in Guangzhou, Guangdong province. In 2010 this project won the Aga Khan Award²⁶.

**Figure 5, 6. Tulou Collective Housing, Guangzhou, 2008, plan of the 4th storey, URBANUS Architecture & Design Inc., arch. Xiaodu Liu and Yan Meng
Fig 7. Copenhagen, Tietgenkollegiet, halls of residence, Lundgaard & Tranberg Architects, 2006**



Source: Fig. 5 archnet.org/system/publications/contents/2028/medium/FLS2402.png?1384756545, Fig.6 https://encrypted-tbn1.gstatic.com/images?q=tbn:ANd9GcS4PFkKR-Eo8gcgD5hbpp2Wa-sV7MRomldwopOVy_Z11l4vPXIW, Fig 7 www.arcspace.com/CropUp/-/media/736040/Tietgen-Dormitory-Lundgaard-Tranberg-plan.jpg

²³ Knapp R. G., *China's Old Dwellings*, University Hawaii Press 2000, p. 259-296.

²⁴ Knapp R. G., *ibidem*, p. 261.

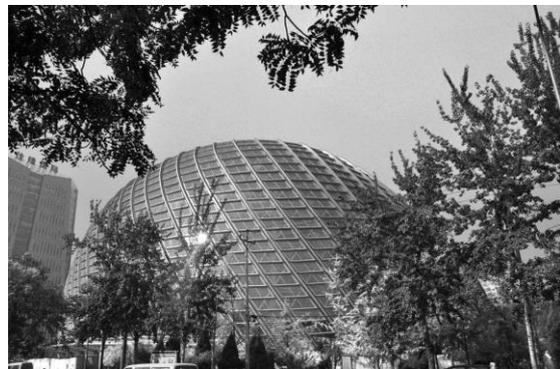
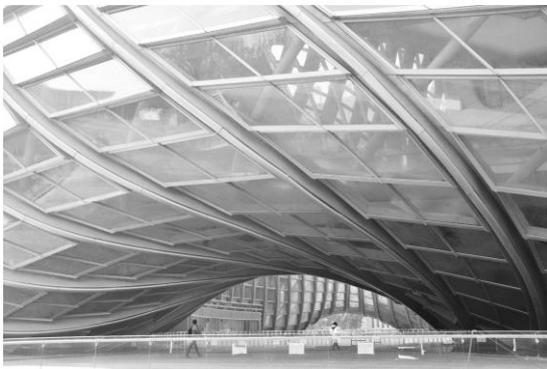
²⁵ Survey drawings by Jens Aaberg-Jorgensen.

²⁶ <http://www.akdn.org/architecture/project.asp?id=3860>

The outer ring of the contemporary *tulou* is made out of a seven storey circular block, with a four storey apartment block in its centre. Both structures are linked by footbridges at different levels with the roof of the lowest building a terrace for all residents. The ground and first floors contain commercial units accessible from passageways and ground floor courtyards. Amongst others, establishing a residential community means the apartments are available only for those who do not have a car and as a rule will spend more of their time in the vicinity of their homes. This experimental estate originally invokes *tulou* housing tradition in its most interesting form.

Slightly earlier, in 2001, a university halls of residence was created in Copenhagen, with a shape similar to the Chinese *tulou*. This concept unambiguously points to an integration of the student body as a *leitmotiv* of the established architecture.

Figure 7, 8. Phoenix International Media Center, Beijing, design: BIAD, 2014



Source: author

Figure 9, 10. Aldar headquarters, Abu Dhabi , United Arab Emirates, MZ Architects, 2010



Source: Karolina Sobczyńska

Over the last decades, it wasn't only the pro-social factors which affected the use of central solutions. New aesthetic experiences, which today millions of people are part of and which entail air travel and use of a Google Map type applications. In such a situation, an urban planning layout, with a defined, recognisable shape is not only a source of information about the location of a building, but also a source of aesthetic experiences.

For Mario Botta a cylindrical form became an element of, or a whole volume from the eighties of the 20th century²⁷. Also many large volume structures recently built in world capital cities rely on circular forms, which today are considered to be particularly attractive and outstanding. Here one may mention Phoenix TV HQ (the form shaped as Mobius Strip) and The National Centre for Performing Arts in Beijing, the Aldar Tower in Abu Dhabi (The Arab Emirates), Apple's Campus 2 designed by Norman Foster in Cupertino, California, now under construction...

Figure 11, 12. The National Centre for the Performing Arts, arch. Paul Andreu, 2007



Source: author

Final remarks

As is evident from the examples of the discussed urban complexes and multifunctional structures, the ring and circle were and are a form present in urban planning and architecture. They were and are being used for a plethora of reasons:

- functional, such as defence, communication, hygiene, insolation
- structural: ease of marking out a circle and providing even layout of structure and distribution of loads
- social
- aesthetic and prestige
- emotional

The table below shows a shift in the motives for using round forms from practical inspirations towards the spiritual side: emotions and aesthetic needs. In times when technical problems were solved with adequate financing or effort, circular forms became a status symbol of the owner - different in subsequent historical periods.

²⁷ Bonenberg W., *Architektura ostatnich dziesięcioleci XX wieku*, Stowarzyszenie Psychologia i Architektura, Poznań, 2001, p.81-83.

Table 2. The reasons for using round form in architecture and urban planning in selected urban and architectural solutions

	URBAN AND ARCHITECTURAL STRUCTURES	WORSHIP	EMOTIONS	AESTHETICS	FUNCTION	STRUCTURE
URBAN PLANNING	Early "temples" of the forces of nature	■	■		■	
	Medieval city in Europe				■	■
	Mediaeval fortified villages (Romania)				■	■
	Medieval villages, roundlings (Poland)				■	■
	Renaissance town, theoretical plans			■	■	■
	Representative building complexes		■	■	■	
	Modern city development models		■	■	■	
ARCHITECTURE	Burial sites, tombs of early cultures	■	■	■		■
	Pre-Christian temples	■	■		■	
	Martyria, commemorative buildings	■	■	■	■	
	Christian / Buddhist / Taoist temples	■	■	■	■	
	Palaces of Baroque and later periods		■	■	■	
	Chinese Tulou				■	■
	Contemporary municipal and HQ buildings		■	■		

Source: author

Looking at the time axis, a change from safe, technically simple solutions provided by circular forms towards aesthetically pleasing and socially beneficial is visible. In the past these forms were the result of objectively present threats and objective needs. Today they are first and foremost the manifestations of technical capabilities and further the prestige of owners and users.

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CAR-FREE CITIES - URBAN UTOPIA OR REAL PERSPECTIVE?

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Key words: Car-free City, Automobile-dependent City, Sustainable Mobility City.

Abstract

The appalling conditions of many 19th century industrial cities, brought by the Industrial Revolution, triggered numerous ideas and concepts looking for a better form of urban environment. Although most of the ideas may be today categorized as utopian, they had nevertheless significantly influenced urban development and heralded, at that time, the emergence of the Modernist City. With time, the Modernist City grew increasingly car-dependent. The crisis of the contemporary "Automobile City"¹ stimulates, yet again, efforts to develop visions for a new, better city, free from ill-effects of car traffic.

These visions may also fall into category of urban utopia, but they hopefully will, like in the past, set new directions in urban development and contribute to emergence of a new city form. Numerous research, planning and design works up today allow to speculate on the emerging new urban design paradigm. The visions of a future "Post Automobile City" go generally in two directions: a radical Car-free City model entirely devoid of automobile and – less radical - a Sustainable Mobility City, offering diverse modes of movement and related diverse life styles. The latter concepts would comprise both city forms: entirely car-free zones and "ordinary" urban areas accessible for cars, but more habitable due to priorities for pedestrian, bike and transit movement.

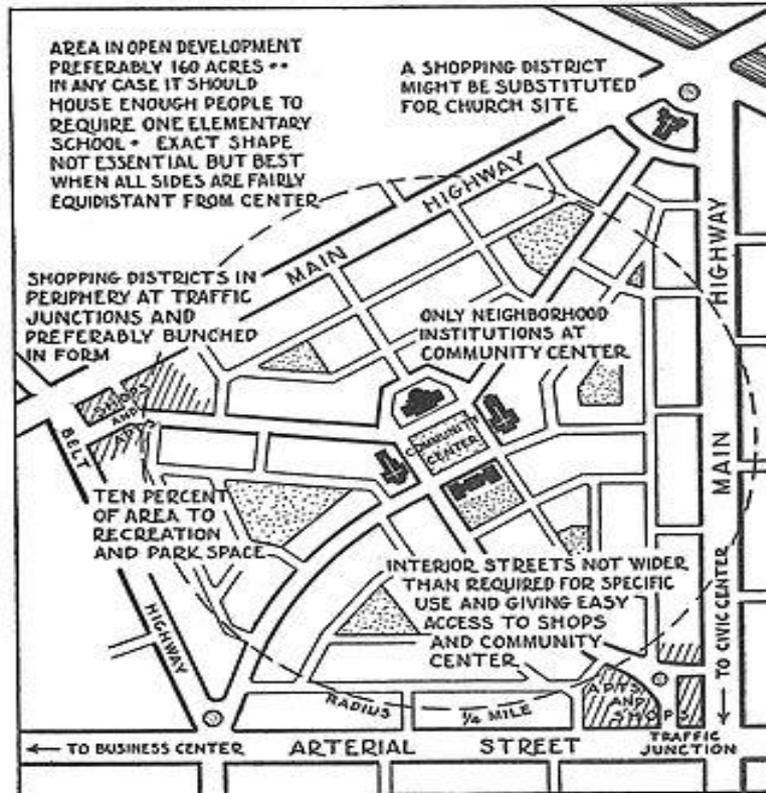
We already observe growing number of car-free neighborhoods, mostly in the cities of Western Europe. They usually do not differ physically from ordinary housing complexes, other than added car-free arrangements. However, like in the past, we can expect that new urban forms will start to evolve following ongoing changes in urban transport. The paper attempts to answer the question if, and how, future changes towards sustainable mobility, may influence urban form, and in particular, how car-free residential areas in future cities may look like.

¹ The term coined by Peter Newman and Jeffrey Kenworthy (Newman and Kenworthy, 1999, pp.31)

Demise of the Automobile-dependent City

The crisis of the 19th century industrial city, dehumanized, overcrowded and polluted, resulted in a multitude of ideas and concepts proposing a new, better, more human city. Visions of Ebenezer Howard's *Garden City*, Tony Garnier's *Industrial City* and, later, Clarence Perry's *Neighborhood Unit*, can be today categorized as utopian. They were never fully realized. And yet, the visions have strongly influenced later planning and development. They have obviously contributed to formulation of the Charter of Athens, and generally heralded emergence of the contemporary, modernist planning and urban design paradigm. As one of the main "faults" and reasons for the crisis of our contemporary, still predominantly Modernist Cities, we regard their nearly total dependence on individual automobile transport. Similarly to the ideas of the thinkers and planners reacting to the evils of the disordered industrial city in the past, the crisis of our contemporary car-dependent cities, stimulates visions looking for alternatives. The main cause of the crisis today is the mass invasion of individual automobile. The resulting structural changes and environmental threats, obviously quite different to those in the early industrial city, are possibly as a whole even more grave and dramatic. The processes, their nature and impact have been subject of numerous studies and research, and are today well recognized. We observe progressing changes in the physical form of cities and in their functional and social structure. Most dramatic seems to be the phenomenon of urban sprawl; a rapid increase of urban areas disproportionate to actual population growth. The sprawl results on the one hand from the spatial requirements of the automobile, which needs space for circulation and parking (roads, rights of way, necessary distances, parking areas and such like) and, on the other hand, from the encouragement the automobile exerts to develop cities of lesser density, on larger areas, taking advantage of increased mobility potential and travel distance. The development of cities outwards is followed by progressing separation of homes from all other urban activities: work places, shops, schools, recreation facilities and so on. Parallel to, and prompted by spatial segregation, takes place progressing social separation of different groups of residents. It seems convenient to settle in isolated communities; neighborhoods, housing complexes or even districts populated by people of similar status. It seems acceptable to drive in and out from such gated communities, protected from unwanted traffic and parking cars from outside. But the costs of car oriented development at the local community level can also be dramatic. Gating neighborhoods usually results in their reduced accessibility by other means of movement; pedestrian, biking, public transport. Lesser access means lesser opportunities for social exchange, and for uses other than residential. Extended vehicular roads, parking facilities, garage entrances, drives etc. do not contribute to pedestrian friendly environment and social contacts. Most unprivileged are those without easy access to car: children, elderly, disabled persons.

Figure 1. Clarence Perry: neighborhood unit



Source: *The New York Regional Survey, 1929*

The sprawl is responsible for continuing waste of resources, obviously increasing energy consumption (Newman, Kenworthy, 1998, pp.101,) but also excessive “consumption” of urban space, both outside by ever expanding new suburbs, and within the existing cities, where public space is taken over by moving and parking vehicles. The most visible and recognized by residents impact of automobile is the progressing deterioration of urban environment. Noise, exhaust and visual pollution by the mass of moving and parking automobiles becomes a daily experience for most residents.

Restraining the automobile

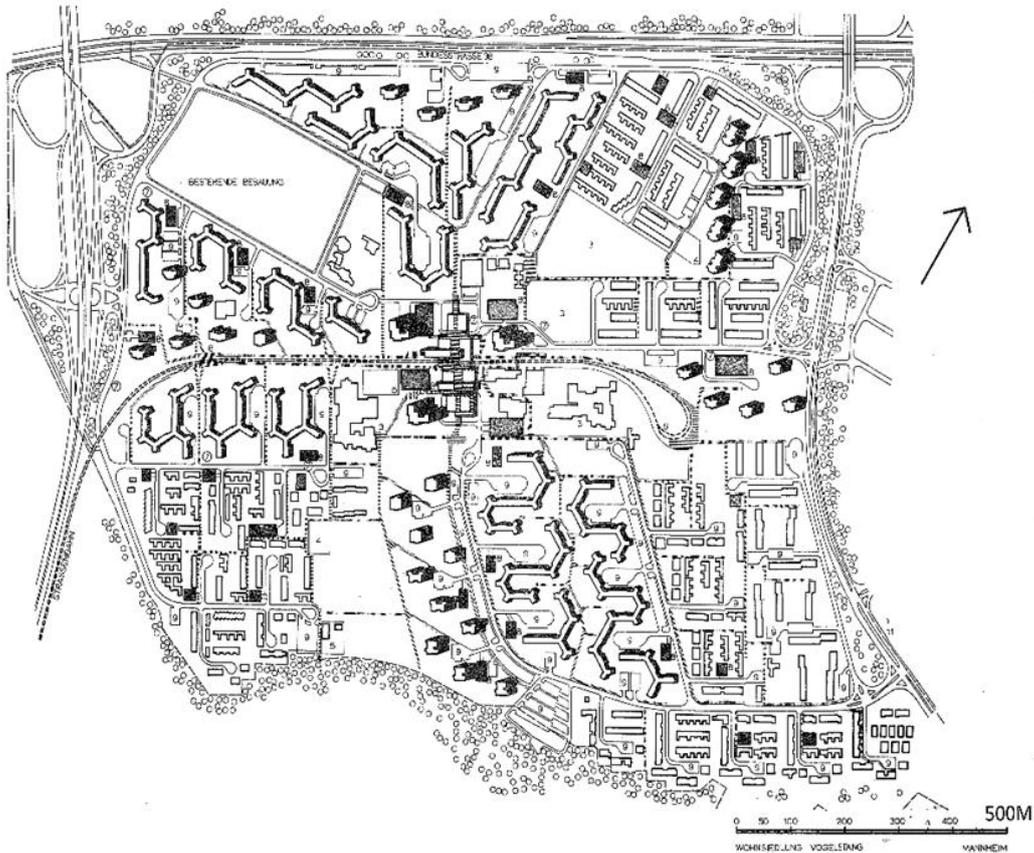
The growing automobile dependence of cities becomes a self-propelling process. Not surprisingly, most visions and strategies for future development of cities propose solutions both for alternative transport systems and alternative urban forms, which would help to overcome automobile dependence of present cities (Newman, Kenworthy, 1999).

Although mass motorization at its peak level, and the resulting automobile dependence, are only a recent phenomenon, efforts to protect city residents from ill effects of unrestricted car traffic go back several decades now, to the early years of mass motorization in the United States of America. The neighborhood unit concept by Clarence Perry published in the “1929 Regional Plan for New York and Its Environs” was probably the first such idea. Perry proposed

to create community “cells” – neighborhood units “insulating” their residents from the city’s through traffic. The size of a neighborhood unit would be determined by walking distance to central public amenities estimated by Perry as one quarter of a mile (about 400meters) radius. The center of the neighborhood would comprise a school and other community institutions: churches, assembly hall, local theatre, a branch library and such like. It could be easily reached by walking, without crossing major traffic arteries. The community size between 5000 and 9000 people would support one standard size elementary school. Through traffic would be concentrated along the perimeter on major arteries. Inside the unit local street network would be designed to discourage extraneous traffic. For the same reason shops should be located on the perimeter. At least 10 percent of the area should be given to parks and playgrounds, distributed evenly all over the neighborhood. Though highly theoretical, or even utopian concept, the neighborhood unit idea played an important role as a model for planning residential development over long period in many parts of the world. The Polish planning system after the World War 2 also adopted the neighborhood unit concept, or a so called “school unit”, based upon the same principle of pedestrian safe residential area and a community size supporting one primary school within easy walking distance. Numerous neighborhoods designed along these principles were constructed in Poland until the 1980s. The neighborhood concept combined with centrally located public transport station was adopted in post war development of many European cities (Mannheim, Stockholm, Copenhagen, Hamburg, Warsaw).

In Europe, the most significant contribution to the idea of residential areas protected from undesired impact of traffic in Europe, had been the celebrated “Buchanan Report”, published as a shortened edition under the title “Traffic in Towns” (Buchanan, 1964). The report presents a comprehensive study of the growing car traffic in urban areas, and the potential impact on the cities and environment in Britain. The Report recommends strategies and solutions both for development of transport systems and for physical planning of urban areas. It presents a concept of “environmental areas” defined as “rooms of the town ... the areas or groups of buildings or other development in which daily life is carried on, and where ... a good environment is of great importance”. According to the author, the environmental areas are not meant to be “entirely free from motor traffic”. They may be “busy areas in which there is a considerable amount of traffic, but no extraneous traffic...without business in the area”. Different environmental standards would apply to different kinds of areas. The size of an “environmental area” would be determined by the maximum traffic volumes acceptable for specific uses. Buchanan regarded his concept as purely technical ... “a method of arranging buildings for motor traffic”. He did not connect it with the neighborhood idea. For example, a postulated neighborhood of 10000 residents would “...require subdivision into a number of environmental areas”. The most important aspect of the proposal seems to be the notion of controlling and restricting the level of car traffic according to the environmental capacity of different functional areas in the city. Buchanan Report was soon followed by, radical at the time, concepts of unconventional (from the point of view of traditional traffic engineering) solutions aiming at restricting the volumes and reducing impact of car traffic in selected streets or larger urban complexes. The concepts generally referred to as traffic calming originated in the Netherlands at the end of the 1960s.

Figure 2. Mannheim, Vogelstang, Germany: transit oriented neighborhood



Source: Krzysztof Bieda. *Verkehr und Siedlungsstruktur*, 1976

Introduced for the first time in Delft, where a typical narrow residential street was transformed through a combination of physical arrangements and special regulations. The physical provisions included among others: elimination of street curbs, giving the whole street space (from frontage to frontage) to all users and leaving only narrow, often meandering lanes marked by different color to cars, using pavement, rather than asphalt, to stress pedestrian traffic character, furnishing the street space with “obstacles” such as trees, benches, even small playgrounds. The main regulations provided that car traffic is equal (and not privileged) to all other users. Pedestrians, playing children and bickers have all equal rights in using the street space. Further, there is a drastic speed limit originally defined as “pedestrian”, later established at 10 to 20km/h.

Parking is allowed only on individually marked places. Pedestrians must not deliberately obstruct movement of cars.

Figure 3. Darmstadt, Germany: traffic calmed street in old residential district

Source: Krzysztof Bieda, 1976

The traffic calming “experiment” in general proved to be a success. The idea soon had spread from the Netherlands to Germany, and later to most countries all over the world. Today, there is a large body of experience and evidence confirming generally positive impact of traffic calming solutions on urban environment: reduced number of accidents, improved quality of environment (reduced emissions), revival of social functions of the street and, generally, stimulating effect on revitalization processes of urban areas. These positive effects generally outweigh shortcomings indicated by the critics of the solution. The critics remind high costs, and point to the phenomenon of “exporting” traffic generated problems, from traffic-calmed streets or areas, to other streets or parts of the city. They argue not always satisfactory streetscape, neglecting historic linear character of street composition, and “littered” by “furniture” used to impede car movement. But generally, traffic calming proved to be a useful tool for improvement of traffic

conditions, and more importantly, contributing to changing traffic planning attitudes towards more socially oriented and integrated processes. Equally important are the effects on urban structure. Many new residential complexes, especially in the Netherlands, show structural qualities resulting from design including traffic calming principles. Today, many cities adopt traffic calming as integral part of their planning policies, introducing traffic calmed zones as networks covering entire urban areas. The strategic goals are among others: increasing road safety, minimizing negative impact on urban environment, making traffic more “domestic” and shaping more “traffic resistant” urban structures.

Figure 4. Stockholm, Myrstuguvagen: walkable neighborhood close to metro station, 1985



Source: Krzysztof Bieda, 2014

Ideas and concepts of a future city which would be less dependent from automobile, go generally in two directions. The majority, the environmentally conscious planners and urban designers advocate for a change in our, still strongly car oriented planning and urban design practices and entice towards new planning philosophy, with clear priorities for walkable and transit oriented city. The authors representing more radical attitude towards car dependence propose a vision of a “Car-free City” – a city almost entirely free and independent from automobile as a means of transport.

Representatives of the first ,less radical, orientation propose more realistic strategies for urban development (already adopted today in planning concepts of many cities) where use of the automobile, and dependence of it, would be gradually reduced and balanced both through new

sustainable mobility strategies, and through urban design encouraging pedestrian, bicycle and transit movement, while discouraging use of car. The most influential proposition are visions and projects presented by adherents of New Urbanism. The movement has emerged in the early 1980s in the United States. It promotes walkable communities and neighborhoods, with rich mix of dwelling types and work places, designed in the traditional manner as continuous urban fabric, composed around clearly defined public spaces. Although transport planning and impact of car traffic are not the main focus of New Urbanism, by promoting diversity of uses, higher density development, pedestrian and transit oriented design, it promotes in fact reduced dependence from individual car. The movement has been since spreading all over the world and, despite criticism of some of its aspects (such as too literal adoption of historic design language) it is today present in most developed countries, influencing architectural and urban design education, theoretical debate, urban design and architectural practice.

Of particular significance is the New Urbanism's response to low density urban sprawl, most typical for North American cities. As an alternative it promotes high density mix-use development within walking distance of rapid transit stations. The policy referred to as Transit Oriented Development (TOD) has become a key component of planning and urban design at regional scale in many metropolitan areas around the globe. Potentially, it provides a necessary framework for future design and development of car free communities and neighborhoods. The theoretical works of Peter Newman and Jeffrey Kenworthy (*Sustainability and Cities*, 1999) focusing on issues of urban transport provide a very comprehensive theoretical framework for planning cities, which would be less automobile-oriented. They outline possible strategies to develop sustainable communities not entirely car-free, but less dependent from the use of individual car. Transition of today car-oriented cities to walkable transit-oriented "Sustainable Cities" is proposed as a four-step process. The first step should be revitalization of the inner cities. They are often already pedestrian in scale, dense, mixed use structures usually well accessible by rapid transit. Their potential to become walkable and livable communities and neighborhoods has to be protected and reinforced; by restricting concentration of too many unrelated jobs (e.g. offices) and reducing influx of car traffic without business in the area. Protection of heritage public space and historic architecture can help to achieve these goals. Step two would be "to focus development around the present rail system". There is market potential for "higher-density, mixed-use development around its station areas .. in the CBD, inner city, or outer suburbs". Sites located within walking distance to stations should be given special development status and offered to variety of potential private and public developers. Step three would be "to discourage further urban sprawl". In this regard, as a viable strategy for growth management of cities, the authors propose a "...simultaneous process of changing the investment in highways ... and changing zoning process to protect rural land on the urban fringe". The fourth step in developing "... a sustainable city is to extent transit system into ... suburbs ... and to build new urban villages around them". Apart from biking facilities, transit-oriented urban villages "could be provided with "... state-of-the art local transit. Traffic calming should be used to make the areas more livable; "...human in scale and suitable for walking and biking".

Figure 5. Culemborg, Holland: pedestrian oriented housing design



Source: Krzysztof Bieda, 2011

Towards a Car-free City

More radical proposals and visions of walkable, although still not entirely car-free, city presents in his writings H. Knoflacher.

Figure 6. Darmstadt, Germany: pedestrian friendly neighborhood



Source: Krzysztof Bieda, 1997

Although his focus is rather on urban transport and less on urban design, conclusions from his research provide recommendations and valuable guidelines for shaping urban structures which would discourage use of automobile. He recommends dense, continuous urban structures and intensive mix of uses. The city free from compulsion to travel by car can be achieved by developing pedestrian movement oriented urban structures; of smaller scales, higher densities, denser network of activities accessible over short distance, along roads designed for pedestrian movement speed, and perception. Knoflacher's critical assessment of contemporary modernist large-scale straight-linear urban rooms and structures is based on thorough research on urban movement and comparative analyses of contemporary and historic cities. By eliminating automobile from residential areas we can save space, needed to accommodate movement and parking of cars, and create instead higher density fine grained structures. Such small scale mixed use structures would support "micro-mobility" of residents and discourage "macro-mobility". According to the authors research, a balanced offer of work, shopping and recreation opportunities in an area would allow to reduce 70 to 80 percent of car traffic demand generated in this area. One daily shopping grocery per one hectare of urban area or one local market per 12 hectares within easy walking distance would reduce up to 90 percent of shopping trips by car. To ensure dense networks of walkways the street blocs should not exceed 100 meters. Larger blocs require pedestrian cross connections every 50 to 60 meters. Pedestrian squares should be located within visual distances from each other. (In 28 historic cities examined, average distance between squares was 214 meters). Road networks should be oriented on public transport. The scale of public spaces and "graining" of urban structure should be defined by the pedestrian, and not mechanical, speed. Parking should be in principle excluded from the surface. Parking cars have to be accommodated in garages located within walking distance, but not closer than the distance to nearest public transport stops. The more radical car-free city concepts and car-free community initiatives, entirely oppose car traffic in urban residential areas. They may be regarded as utopian at present, they nevertheless play an important inspiratory role for all groups of planners and decision makers involved in urban development processes. They forecast likely changes in social attitudes of future urban communities. The author representing most radical attitude against auto-centered planning of transport systems and developing car dependent urban structures is J.H. Crawford. He advocates for an entirely Car-free City. In his book (Crawford, 2000) he outlines concepts for planning new cities and adapting existing ones, both at regional scale and at a district level. The new cities would be served by safe and comfortable rail systems while local districts would be free of car traffic walkable enclaves. The book offers practical advice for implementation of the concepts in new and existing cities. The visions and "utopias" of a car-free city are increasingly reflected in actual tendencies and local community initiatives. In many European cities living in a car-free community or neighborhood is becoming a preferred life style option. Usually, it involves small housing complexes, but also some larger neighborhoods, where residents on their own initiative decide to restrict car access to their area.

Figure 7. Amsterdam, IJburg: car-free neighborhood of floating homes

Source: Krzysztof Bieda, 2011

A celebrated example provides Vauban, a large car-free neighborhood with over 5000 people in Germany. The residents are required to confirm yearly that they do not own a car. Residents who do own a car have to buy a parking place in a multi-storied garage, outside the neighborhood area. Cars are allowed on residential streets only exceptionally to deliver or pick up, or for emergency reasons. Spatially, the neighborhood does not differ much from other, “normal” neighborhoods, except its streets space, which has been taken over by pedestrians, playing children and socializing residents. The car access restrictions are compensated by different car-pooling arrangements, or other forms of car sharing. A growing number of similar, usually smaller car-free areas exist today in many European cities. The idea seems to be gaining popularity. The car-free housing movement is paralleled by gradual changes in travel mode patterns and preferences in most advanced countries. With growing share of biking and public transport, and increasingly popular public car-sharing, car-ownership in the most advanced European cities are visibly declining.

Conclusions

The emerging picture of a possible future “Post-Automobile City” is by no means a vision of a uniform city. On the contrary, diversity at each level and dimension will be its characteristic feature. Architectural diversity of parts of the city will reflect differences of values and attitudes of communities living there. At the city region level a process of building network structures will continue. The already existing, and future, car-free areas will grow into increasingly

interconnected network offering those residents who choose so, a possibility to live and move within a continuous car-free environment. The interconnected network of car-free areas will be complemented by parallel network of green and recreation areas. On the opposite side there will remain “traditional” car dependent urban environment. The car-free areas will be integrated by efficient public transport – Rapid Transit. The areas along Rapid Transit will be organized according to principles of Transit Oriented Development. Most of daily activities of residents will remain within easy walking and biking distance. Pedestrian and biking road networks will be oriented towards Rapid Transit stations and will increasingly define urban structure. Future car-sharing facilities will be located on peripheries of the car free areas, to avoid unrelated traffic inside the areas. Saving most of the space, needed otherwise for car movement and parking, will allow for higher density development and, at the same time, more generous provision of green areas close to homes. The street landscape, not determined by the rigor of car movement, may become more diversified in form. Dense, small scale, fine-grained building structure and rich mix of uses (not only shops at street level but also other work places integrated with homes) will add to “picturesque” quality of future neighborhoods and to “magic” atmosphere of their public spaces.

Though supported by already existing examples (car-free neighborhoods) and observed trends in changing modes of movement; also changing priorities in regional planning and urban design, the presented picture still remains a “wishful thinking” vision – an urban utopia. It may never be realized. But like earlier utopian visions of cities it may hopefully, indirectly, contribute to gradual shift of our planning and urban design paradigm; a shift towards a paradigm of Post-Automobile City.

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GOVERNING URBAN PLANNING DIVERSITY. THE USE OF INTERNAL DIVERSITY IN METROPOLITAN AREA SPATIAL PLANNING

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Key words: Metropolitan area, Diversity, Governance

Abstract

In this paper spatial, functional, social and cultural aspects of the problem of governing urban diversity are analysed. Economical use of diversity as an element driving urban economies is highlighted. It is indicated that the post-industrial reality imposes a need for a new attitude towards the role and place of diversity in the spatial and economic development of a city. The concept of rejuvenating urban structures based on diversity is presented and governance strategies are categorised. It is revealed that spatial diversity is a key resource of a metropolitan area, driving its growth as well as the performance of social and economic goals. Results of research on Poznan metropolitan area spatial diversity are presented: 6 types of relations are highlighted, which made it possible to assess the current level of diversity governance within the discussed areas. As a result three primary levels are identified at which diversity governance should be implemented as the basis for planning metropolitan areas' spatial development. It is determined that governing diversity is an effective development model for these areas.

Introduction

Transformation of the city environment, which takes root in the growth rate and dynamics of service, commercial and production activities, is the main cause of diversification and its impact on the quality of life and development strategies for metropolitan areas.

In the presented approach, diversification assumes a spatial dimension which takes into account social, cultural, technical, organisational and environmental factors¹. A metropolitan area may be treated as a system, characterised by a certain technical development, dynamics

¹ Bonenberg, 2015, pp. 33-38

and rate of transformations, interactions and feedback amongst particular internal units (communes, districts, residential estates).

The research is based on an assumption, that the development strategies of metropolitan areas are closely related to urban environment diversity. Diversity governance and shaping should determine metropolitan areas development strategies.

Metropolitan areas are a significant element of a country's settlement network. Over the recent decades they have grown considerably, causing numerous problems. These are usually considered to include:

- depopulation of city centres,
- gradual degradation of inner city areas, depreciation of buildings, deterioration of technical infrastructure within inner cities,
- progressive increasing urban sprawl,
- suburban strategies for locating modern industry,
- transport problems,
- a disturbance to the environmental balance,
- social problems.

Central districts of metropolitan areas were affected by the decline of industry which provided jobs for many residents. This phenomenon carries serious consequences for sustainable urban development. It is difficult to talk about a correct spatial policy which encompasses elements such as: retention of cultural identity, social infrastructure reconstruction, more attractive city buildings - without an appropriate economic base which was lost.

The paper presents a concept for improving the economic situation of metropolitan areas by introducing "diversity governance" as an answer to contemporary challenges faced by spatial economy. In the general "spatial governance strategy", the primary factors which have to be taken into account to achieve a sustainable, creative growth on municipal districts and commune scale are discussed. Results of the research currently underway within the Poznan metropolitan area are presented. The way in which diversification of internal spatial units may contribute to improved competitiveness and cohesion of an entire metropolitan area is highlighted.

The problem

The definition of diversity is very broad. The Merriam-Webster Dictionary defines diversity as "the quality or state of having many different forms, types, ideas, etc". In statistics, "dispersion (also called variability, scatter, or spread) denotes how stretched or squeezed a distribution (theoretical or that underlying a statistical sample) is. Common examples of measures of statistical dispersion are the variance, standard deviation and interquartile range". In a broad sense, diversity can be found in nature, economics, technology and also pertains to social interactions.

The concept of a diversity in urban space is not new, it is connected to concepts coined by sociologists studying interactions between spatial systems and the social fabric. Representative

studies on urban sociology include works by Wirth², Simmel³, Weber⁴, Durkheim⁵, Harvey⁶ or Castells⁷. They take root in the Chicago School, where the social and cultural theory of city development was formulated⁸. This theory is based on the assumption, that human spatial behaviours, their ability to arrange surroundings, system of values and norms to a large extent are determined by social factors and largely do not depend on natural conditions. Understood in such way, every space shaped by man is an expression of social and cultural diversity.

For a long time, the discourse on diversity among urban planners and sociologists focused on the spatial and social structure of cities and was detached from the economy. Modern day economic transformations significantly altered this approach. Here, the key theoretic work is Ponsard's „*Analyse économique spatiale*“. The author emphasises that spatial development of cities relies heavily on the capacity to adapt to the changing economic reality⁹.

Industrial cities owe their development to the functions provided for the benefit of their surroundings. In the past economic power of cities depended on the quantity of exported goods and access to the labour force. Contemporary development factors have led to a decline in the significance of mass industrial production for the benefit of high technologies, specialised services and creative entrepreneurship. The concept of internal diversity appeared in economic analyses as a significant developmental factor. Investors are interested in diversity, it attracts customers and tourists. Internal diversification of urban structures is starting to be an advantage, which, if governed correctly, may be converted into economic development of the urban structure.

This pertains both to tangible diversity (e.g. diverse architecture) and well as intangible diversity (age, education, tradition, culture, collective memory of local societies, etc.). Diversity is of considerable practical significance. Its economic potential is grossly undervalued, so far not categorised as municipal resources. These resources, resulting from local heritage stretching back centuries, may be converted into development capital. Diversity and economy are becoming ever more intertwined and interdependent.

The traditional view of metropolitan area internal diversity as an element which generates costs and requires financial outlays to eliminate differences and disproportions has been overshadowed by an approach which sees advantages fuelling the urban economy in internal diversity. Economical use of diversity is associated with new requirements within the scope of:

- lifestyle,
- visual consumption of the surroundings,
- seeking diverse experiences and emotions,
- innovation entailing the creative use of diversity.

Thus, the spatial diversity evolution stems from general civilisation transformations, which can be characterised using a system of opposites, pitting traditional 20th century model of the urban

² Wirth, 1938, pp. 1-24

³ Simmel, 1955

⁴ Weber, 1962

⁵ Durkheim, 1964

⁶ Harvey, 1973

⁷ Castells, 1977

⁸ Park, Burgess, McKenzie, 1925

⁹ Ponsard, 1988, pp.128-186

economy and contemporary post-industrial development: Industrialisation – Deindustrialisation, Standardization – Individualisation, Hierarchical structure - Network structure, Large scale - Small and medium scale, Unification - Diversity and specialisation, Imitating others (the surroundings) - Being deferment from others (the surroundings).

It is worth pointing out, that the post-industrial reality imposes a need for a new way of looking at the role and place of diversity in the spatial and economic development of a city. Diversity in the functional sense becomes a product¹⁰. It is no longer a set of ideals shaping the relationship with space, but assumes an economic value. And thus it is associated with tangible values, which in the form of a unique sight attraction, an exceptional event, a one off opportunity, are designated for the consumer market.

The city landscape is a typical product. It constitutes the skyline of a city which grew over centuries in the backdrop of the landscape, establishing new interior landscapes with varying degrees of attractiveness to their recipients. The art of planning urban compositions, has the potential to bring to the fore such qualities as diversity, contrast, peculiarity, uniqueness, in return for which consumers (e.g. tourists) are willing to part with a defined sum of money.

It should also be highlighted that innovation combined with diversity is able to change entrenched habits. Municipal authorities, spatial planners and investors should use diversity to further economic development of metropolises.

Rejuvenation of urban structures based on diversity

A more thorough analysis of urban structure rejuvenation programmes focuses on strengthening functional links based on diversity. In this scope a particular role is assigned to architecture as the media for cultural diversity.

The “Our Creative Diversity” UNESCO report emphasises the fact that civilization development is connected with the increasing significance of choice, where culture plays an important part. Cultural diversity is a source of creativity, a factor which makes it possible to make use of all human experiences and wisdom¹¹.

Towards the end of the 20th century, the Partners for Livable Places Association was established, which is perhaps the oldest organisation aiming to maintain the diversity of local communities. The association, throughout more than 40 years of its practical experience, focused on providing information, advice and managing initiatives which creatively activate neighbour connections¹².

The „Division of Cultural Policies and Intercultural Dialogue” UNESCO report is an interesting example of implementing diversity¹³. Duxbury, Cullen and Pascual point out that investors and businessmen see diversity as a key factor for development which should be implemented in local and national development policies. The authors state: „The traditional paradigm ... does not recognize that cultural values ultimately shape what we mean by development and determine how people see the world. In contrast, a cultural diversity approach to development

¹⁰ Throsby, Withers, 1993

¹¹ UNESCO. Our Creative Diversity, 1995

¹² Hunter, 1983

¹³ UNESCO. Culture 21 - Agenda 21 for Culture Report, 2006

paradigms brings thoughtfulness and openness, and contributes to a world with complementary, pluralized visions of development¹⁴.

Hoekstra compares problems associated with intercultural integration in Dutch cities. The problem of diversity is analysed in the context of the effectiveness of integration policy creation methods with reference to local communities¹⁵.

Fabula, Horváth and Kovács present results of research on urban policies on diversity in Budapest. The authors analyse the political system and governance structure in Budapest, governmental and non-governmental views on diversity policy with reference to defined spatial units of the city and the communities inhabiting them. They point out, that in 2004 planning documents diversity is encouraged and regarded as a 'source of economic growth' pursuant to a systematised tiers of governance and actors of policy-making plan¹⁶.

Interesting practical suggestions can be found in the works of Benet-Martinez and Hong. The authors perform a cross section analysis of the "Dynamic Multiculturalism" phenomenon in the social, cognitive, cultural and spatial context¹⁷.

Fincher and Iveson point out that the contemporary spatial planning theory and practice should emphasise the need to satisfy diverse needs and preferences. They indicate the goals and tasks which constitute the basis for planning such diversity. They identify three principles of creative diversity: redistribution, recognition and encounter. Using various cities around the world as examples, they come to a conclusion that diversity sets out a new urban planning direction, which not only stimulates the development of cities, but also contributes to reduction in social inequalities¹⁸.

Governing urban planning diversity

Governing Urban Diversity is a planning strategy which assumes that spatial diversity is a key resource of a city, driving its growth and the performance of social and economic goals. Governing urban diversity pertains to the manner of creating spatial policy which facilitates making efficient use of the available advantages of given city areas.

Effective urban diversity governance entails recognising and creative use of diversity and differences in the city's internal structure. The said governance can not constitute a collection of random actions, but a thought out strategy based on the assumption that development of a metropolitan areas and the performance of social and spatial goals will be more effective, will oil various needs, different advantages and conditions associated with internal divisions in the urban structure. The direct benefits of governing urban diversity include:

- consolidating the traditions and cultures of local communities,
- mitigating spatial and social conflicts,
- the synergy of effect of various factors (working together achieve greater results than the sum of their individual effects),
- strengthening the brand image of the given area,

¹⁴ Duxbury, Cullen, Pascual, 2012, pp. 73-86

¹⁵ Hoekstra, 2015, pp. 1798-1814

¹⁶ Fabula, S., Horváth, D., Kovács, 2014

¹⁷ Benet-Martinez, V., Hong, 2014

¹⁸ Fincher, R., Iveson, 2008

- help in attracting and maintaining investors,
- increasing local motivation and identity.

The diversity phenomenon hides a very important aspect of urban planning reality. In appreciating and appropriately making use of the differences between various parts of a city, we are able to increase its developmental potential. Spatial planners around the world are becoming ever more interested in the subject of governing urban diversity. Investors, residents and local politicians are starting to notice the benefits stemming from implementing urban diversity governance policies, such as social stability (the feeling of local cohesion), better care for the area, attractiveness for tourists and investors, better resilience of a city to crisis situations.

Governing urban diversity is a relatively new concept, however it is gaining in prominence within spatial planning circles. In Poland, first urban diversity analyses appeared as part of geographic papers, analysing economic, spatial and social differences in the settlement network. They were performed on national and regional levels¹⁹. Whereas the concept of internal diversity within cities and metropolitan areas is still the subject of numerous discussions.

Using a synthetic approach, one may strive to make use the potential of differences in the internal structure of metropolitan areas as the basis for governing urban diversity, where particular districts become more attractive on account of being different from the others.

Here urban diversity appears on numerous plains: social, functional, cultural, landscape, emotional and marketing. The formal goal of urban diversity governance is the creation of a spatial policy by defining an appropriate strategy and laying it down in documents associated with the metropolitan areas spatial development directions. When establishing an urban diversity governance policy, the following methodological steps should be taken into account:

- a) the diagnostic stage or identification of conditions, problems and potential associated with diversity (a diversity audit),
- b) identification of conflict situations,
- c) forecast phase - scenarios for the benefit of the preferred diversity standards,
- d) selection of a development scenario on the basis of determined diversity standards,
- e) drawing up of urban diversity governance drafts,
- f) evaluation and monitoring of actions.

Governing urban diversity is more than just an urban development model. The key role in implementing diversity in a city is played by appropriate planning of tasks, defining goals, the order of performing tasks and the expected results. Performance of a diversity audit and testing which aspect of diversity would be most beneficial to activate for a city to draw benefits constitute the first step. Identification of conflict situations is significant at this stage.

Then an action plan is drawn up using the preferred diversity standards and the preferred development scenario is chosen. This constitutes the basis to begin implementing urban diversity governance projects. Evaluation and monitoring of actions is the final stage.

As a result urban diversity governance yields benefits for local governments, which gain tools for activating local communities. It is easy to see that implementing urban diversity policies in

¹⁹ Bartkowski, 1974

spatial planning is associated with a change to project strategy. The significant changes entail involving the main interested parties in the project: investors, local leaders, urban marketing specialists, planners and politicians. Such a strategy is to improve the image of the entire metropolitan area, by consolidating the positions of various districts which invest in local diversity attributes.

The research conducted within the Poznan metropolitan area have lead to the identification of the following urban diversity attributes:

- landscape attributes,
- cognitive attributes,
- functional and use attributes,
- identification attributes,
- integration and adaptive attributes,
- religious attributes,
- emotional attributes,
- behavioural and educational attributes,
- ludic attributes,
- symbolic attributes.

From the broad range only some qualities become the leading attributes of urban diversity for given districts of the Poznan metropolitan area, establishing “diversity standards” of a kind. For example, the said standards include: for *Poznan Stare Miasto* - identification attributes, for *Środka and Ostrów Tumski* - religious attributes, for *Wilda, Jeżyce, Łazarz* districts - integration and adaptive attributes, for the *Fair District (MPT)* - cognitive attributes, for the *Saint Marcin Area* - symbolic attributes, for recognised suburban communes - ludic attributes, for the *Wielkopolski National Park Area* - landscape and educational attributes.

It is impossible to analyse individual attributes without taking into account the whole picture, as the Poznan metropolis is a functioning and integrated whole, made up of a unique configuration of diversity attributes ascribed to communities residing in given districts. Diversity standards play a significant role in shaping the collective memory of the social groups inhabiting the metropolitan area. In the eyes of the residents, particular regions of that area are assumed as their own, entailing idiosyncratic image and unique emotional expression. Being around them every day or sporadically creates a cultural identity of the place, grants access to various forms of creativity, shapes the multiplicity of attitudes, interpretations and opinions. Studies carried out in this scope have led to the creation of emotional diversity maps for the entire Poznan metropolitan area²⁰.

As follows from the presented discussion, diversity is a location’s distinctive feature and its expression of identity. The way one perceives one’s own district affects the perception of other districts in a metropolis. The interdependencies between “own” and “alien” urban surroundings are significant. For example local tradition is considered to be a point of reference for analysing similarities and differences between various districts. Research by Ely and Thomas confirms

²⁰ Bonenberg, 2012, pp. 258-260

this, showing that local identity plays an important part in identifying cultural differences²¹. That identity may be interpreted as the total knowledge of a given person on the forms associated with the nearest vicinity (estate, district). The emotional attitude towards spaces, to characteristic forms, colours, architectural details typical of a given tradition is shaped by the prism of diversity. The set of attributes associated with such a space builds unique diversity standards, which should be used in spatial planning.

Identification of difficulties associated with urban diversity governance

There is no homogenous assessment of the phenomenon of internal diversity of metropolitan areas in Polish planning tradition. There are egalitarian opinions, which dictate that spatial planning and local policy should lead to an elimination of differences between areas in a single agglomeration. This stems both from, priorities associated with a given development vision as well as spontaneous populist social tendencies. The unification of spatial behaviours and visual homogenisation of the surroundings are a noticeable effect of this phenomenon. This type of homogenisation is a trait of modern global mass culture.

On the other hand, one may come across opinions, to the effect that diversity is a significant developmental factor. In such case planning strategies are based on the conviction, that diversity is a quality which provides a competitive advantage, facilitates savings in terms of expenses on overcoming differences and diverts these to creative use of the local specifics. The ability to adapt to the changing external conditions and internal relations is a significant quality.

In the opinion of Egan and Bendick, achieving success is significantly simplified by such a governance model, as it shapes flexible reactions to changes occurring in the surroundings²².

As such, managing diversity is a strategy which relies on the conscious use of the diverse potential of parts of a city. The actions undertaken shape the urban environment in such a way, as to ensure that all structural units have an option to seek new, not previously evident advantages associated with the local culture, tradition, location, landscape, etc. This is significant when it comes to planning practice. Cities employing this type of governance may except the following benefits:

- improved image in the eyes of investors seeking the best locations,
- less spatial conflicts,
- better integration between neighbours,
- improved decision making process on account of discovering different approaches to the problems and emergency situations which occur.

However, why is it, that despite such an abundance of benefits, urban diversity is still undervalued in planning practice? It seems that the main barriers to introducing urban diversity governance strategies are:

- stereotypes and entrenched standards,
- prejudices and lack of tolerance,
- spatial urban planners lacking professional backgrounds in terms of governing diversity,
- legal loopholes,

²¹ Ely, Thomas, 2001, pp. 229-273

²² Egan, Bendick, 2008, pp. 387

- bureaucracy combined with urban planning visions detached from local needs.

Working out diversity strategies and clear urban diversity governance procedures is not sufficient to overcome these stereotypes. One of the main conditions for these tools to be effective is awareness by local governments. The local governments should be made aware of what diversity is and how it affects attractiveness of an entire metropolitan area.

The truth, that urban space and communities residing therein are the primary, unique resource, which is decisive in winning competitive advantage is only slowly filtering through to local governments. Diverse social and spatial structures create a city's capacity to adapt to the surroundings, make use of opportunities which appear and avoid internal hazards.

In this context governing urban diversity should primarily serve to build awareness and further acceptance of differences (historic, economic, functional and landscape) which occur within a metropolitan area. It is very important for feasibility studies and spatial development strategies to take into account elements such as:

- the feeling of belonging to social groups,
- economic and cultural status of residents,
- residents lifestyles and attitudes.

A significant problem appears in this context, referred to as "inclusion". Whereas the concept of diversity refers to characteristics which cause areas of a metropolis to differ, "inclusion" refers to the degree to which these areas have access to important infrastructure resources of the metropolis. Studies conducted at the Poznan University of Technology's Institute of Architecture and Physical Planning demonstrated, that the "inclusion" problem in the Poznan metropolitan area pertains to issues such as:

- integrated transport and transport availability,
- access to health care,
- access to education.

What individual spatial units potentially stand to gain or lose as a result of mutual functional interactions should also be considered.

Studies within this scope were conducted in July 2015 by a group of 120 architecture students as part of summer fieldwork internships. The studies made use of urban planning research entailing an area of 2162 sq. km and 878 thousand residents. The GeoUrbanCentric expert method developed at Poznan University of Technology's Institute of Architecture and Physical Planning was used for partial assessments. The area was divided into 311 spatial units, the boundaries of which overlapped the boundaries of administration units and urban complexes as well as natural boundaries determined by water courses, streets, railway lines and other physiographic elements. The separated spatial units reflect precincts as defined in the National Official Register of the Territorial Division of the Country, maintained for the needs of public statistics.

The study aimed to identify relations stemming from diversity between Poznan metropolitan area spatial units. Using the minus sign to indicate a negative effect, the plus sign for a positive effect and 0 to signify no effect, six different categories were used to classify the diversification of impacts within the Poznan metropolis:

mutual negative impact between two units (-,-), mutual positive interactions (+,+), the (+,-) relation, the (+,0) relation, the (-,0) relation, the (0,0) relation. Based on an in-depth analysis of internal relations, it was determined that 11.02 per cent of the Poznan Metropolitan Area exhibits very good assessment of internal diversity. 18.33 per cent of the area have good relations, 9.02 per cent neutral relations, 42.41 per cent bad relations and 19.12 per cent very bad relations²³.

Based on the study results it is possible to ascertain that the level of urban diversity governance within the Poznan metropolitan area is low. The studies also identified conflict areas, where urban diversity governance plans have to be implemented as a priority.

Conclusions

In the context of changing external and internal circumstances, the issue of metropolitan areas' internal diversity becomes significantly important. Urban structure diversity introduces new points of view, makes it possible to identify loopholes and inconsistencies in the spatial planning system. Governing urban diversity refers to the identification and acceptance of heterogeneity in urban structure and skilful use of the potential of diversity. Within the scope of governing diversity, urban planners should increase efforts aiming to build awareness of benefits of diversity amongst residents and local authorities. Appropriately planned diversity should constitute a significant source of competitive advantage for metropolitan areas.

Based on the discussion presented herein, three primary levels can be identified at which diversity governance should be implemented:

- awareness level within the scope of diversity issues in formulating metropolitan area development targets,
- decision and urban planning procedures, which might contain errors leading to a marginalisation of particular structural units,
- behaviour level, pertaining to the actual attitudes of local communities and to the urban planners' targets within the scope of governing urban diversity. This level is shaped by investors', local authorities' and residents' degree of awareness.

Urban diversity governance formulated in such manner should be implemented as the basis for planning metropolitan areas' spatial development strategies.

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²³ Bonenberg, 2016

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INTEGRATED URBAN LANDSCAPE. NATURE AS AN ELEMENT OF TRANSITION SPACE COMPOSITION

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Key words: Urban landscape, Transition space, Architecture vs. Nature

Abstract

The paper explains the genesis, methods and consequences of introducing elements of nature into contemporary cityscape. It shows their significance in creating a new image of the city. The discussion is conducted on the basis of joined urban theories such as: softening the city edge, fluency of space, narrative paths, multilayer structure of urban space. Contemporary forms of relationships between the building and its surroundings are presented in order to prove the tendencies in shaping the connection zone between the building and the city simultaneously, influenced by both of those reactants. This zone, observed as transition space between the building and its surroundings, is constantly changing and growing, generating a variety of urban spaces adjoining, interlacing, penetrating the building structure. It also creates an area of introducing nature as compositional and functional element. The paper discusses the examples of the new types of relationships between architecture and nature emerging in contemporary urban space.

Contemporary urban space

The space of urban areas that come into being in the contemporary times is characterised by a polymorphous structure. It consists of – according to contemporary concepts – the physical, material structure of the city, and the non-physical layer – soft, cultural, informative in character. On one hand it stands for geometry, composition, proportion, shape, colour, perception, which could be determined by the notion of ‘pure form’, as defined by W. Kosiński¹, where the conscious perception of components of spaces and their juxtapositions evokes a subconscious aesthetic sensation. In this case the city’s spatial elements which interact with each other should be regarded as the material that cities are made of. On the other hand, however, the nature of the urban space could be search for in intangible values, such as cultural or historical heritage, and via the conditions of life. The interest in other dynamic factors has been growing –

¹ W. Kosiński, *Miasto i piękno miasta*, Cracow University of Technology, 2011, p. 155.

movement, changeability of nature, connections and relations, which complete the permanent – spatial elements of the city structure. It is depicted as an active environment, for the meaning of which time is crucial. *'Grasping space as objective and motionless emptiness, against the background of which objects are arranged, has been replaced with depicting it as a variable in time, filled with forces of all sorts of influences and depending on the observer,'*² Lucyna Nyka writes. This allows to unify the once opposing layers, constituted by architecture and nature. Through the prism of interactions between architecture, nature, and user there arises a dynamic organism of the urban space – evolving in time and adaptable to the phenomena that occur in its community.

Urban space as landscape

Interpretation of the urban space as a specific landscape finds its beginnings in the first decades of the 20th century. It was then, when the reception of the city was connected with the narration of the road, that the notion 'landscape' - until then reserved for nature - started to refer to the city, as well. *'The landscape of the city has all the crucial properties of landscape. It is designed to the same minor extent as nature itself is (...); therefore, it pronounces itself unconsciously,'*³ as Kracauer writes when studying the modernist Berlin. Lucyna Nyka emphasises that this phenomenon is convergent in time with the annulment of the historical opposition between a structure and its surroundings – architecture and nature. Simultaneously new concepts were emerging, linking space with the community and pointing to the role of the direct experience in the process of creating the urban space.

The current concepts of interpretation of the city are based on perceiving it as an environment. According to Lenartowicz, 'the subject matter of architecture is the physical space of the environment of man's life, and to be more precise the construction environment, and – which not all architects actually realise – the life of man itself in the scope connected with the consciously shaped environment'⁴.

The vision of the city as an evolving environment, gradually gave rise to a conviction that the objective of the contemporary urban planning is not so much defining of structures as initiation of processes and creation of conditions for their operation. Jean Nouvel writes, 'things are in the state of constant processes of formation and disintegration. We need to discover this evolutionary process in order to evaluate changes, to cooperate with them, or to act against them.' Presenting the city as a dynamic environment introduced new threads to the understanding of the urban space. Its physical components constitute an initiation, a stage for the transformations and events to come. Both urban spaces and buildings – fluid and topographical – create flexible environments completed with events, motion, and the layer of media messages.

The dynamic composition of the urban landscape has also become a designing concept today, fostering integration of the city. Creation of a place, a space a social space in the urban

² L. Nyka, *Od architektury cyrkulacji (...)*, op.cit.

³ G. Gilloch, *Siegfried Kracauer*, Polity, 2015, p. 1.1.2.

⁴ K.J. Lenartowicz, *O psychologii architektury. Próba inwentaryzacji badań, zakres przedmiotowy i wpływ na architekturę*, Publishing House of the Cracow University of Technology, Cracow 1992, p. 30.

network, has been becoming one of the elements of strategies of development and revitalisation of urbanised areas. The reason for this is the potential that resides in individual layers of the urban landscape: the diversity of physical forms, the hybrid nature of functional structures, activity and motion of people, the plane of artistic and media message. This multidimensional space is also inscribed by elements of nature, which can initiate heterogenic forms of events in the space of the city understood as the urban landscape.

Integrated landscape

Social awareness of consequences of uncontrolled sprawl of cities has made us realise that the need of sustainable development is obvious. In compliance with its message, elements of nature, understood as the material for architecture, are not just landscape, its aesthetic completion any more, but they are used for practical purposes. Therefore, specific spatial forms of integrated landscape are formed, where nature becomes an inseparable part of an architectural composition. They appear in the urban space as pioneer solutions, images in response to requirements connected with the implementation of sustainable solutions. On one hand they derive from the concept of protection of nature and introducing its elements in the urban space, as a tool allowing to prevent negative phenomena. On the other hand they manifest a broadened meaning of the notion of *sustainable environment of man's life*. It is based on active participation in the community of the city, on building of identity and affiliation, as well as on participation in its development.

Understanding the urban environment as a place of man's life is responsible for the fact that the current concepts of forming urban space are based on the improvement of its quality. One of the factors that foster man's health and wellbeing is nature.⁵ Nature is becoming an inseparable part of the architectural composition, the consequence of which is the creation of forms of integrated landscape of the urban space. They consist of stable and variable components, which are interlinked on the spatial as well as technological plane. Nature, understood as both an aesthetic and utilitarian element, becomes a subject of composition of parts of the urban landscape. It happens through the introduction of elements of nature as an integral part of a building in the form of walls or flat roofs, an element of a transition space in the contact point of the building with its surrounding area. This way they form a fragment of a technological system that support the energy and/or water management in a specific building structure. Nature is then introduced into the urban tissue as a green element linked in spatial and technological terms with the architecture that accompanies it, in the form of utilitarian landscapes, where elements of nature in the zone adjacent to the building constitute an integral part of the bioclimatic system of the structure, forms of the reclaimed space, restored to nature, where degraded areas are transformed into urban green areas, or in the form of garden-buildings, where they become a material for the coating of the elevation. The place of these combinations is the space of contact between the building and its surrounding area, which according to the contemporary trends of shaping of an architectural form in symbiosis with nature transforms from a contact plane into an extended interspace sphere.

⁵ Schneider-Skalska G., *Kształtowanie zdrowego środowiska mieszkaniowego*, Cracow 2004, pp. 66-87.

Contact spaces vs. shaping of the urban landscape

Contemporary buildings are not only pictures against some background, observed through the prism of the positive space, or walls that could limit the space in its negative version. Buildings themselves create urban space by blurring the lines between interiors and the external space. The edge of the building becomes obliterated, the accessible space penetrates its interiors, and its function and spatial arrangement 'flows' outside, and in doing so composes the intermediary space at the contact point with the surroundings. And this is a territory of the most legible changes, as a place of interferences between stable elements – architecture, and unstable ones – nature, motion of people, message ... The described area of interferences creates a buffer between the city and the enclave of the building interiors, constituting an extended form of intermediary space, whose limits are difficult to define.

The intermediary (transition) space, also dubbed interspace, refers to the sphere of interactions between the subject and the object. The interest in the transition space in the scale of the city reaches back to the first decades of the 20th century. Descriptions by S. Kraucauer and W. Benjamin expose the role of enclaves, hidden spaces which constitute links between buildings. In the 1960s R. and Ch. Eames launched experiments aiming at the relativisation of interiors and external space of the building, designing fittings combining internal and external spaces. At that time there emerged a concept of unitary urban planning, introduced the group of the so-called situationists, representatives of one of the trends of the conceptual art. It constituted one of four main concepts referring to the study of 'passing transitions between different climates'. Its visions presented by means of pictures, mobile structures and buildings drew the space of the city inside.

J. Krenz describes interspace as an area of relations between individual elements of a work of architecture, at the contact point of the external and internal space, at the contact point of forms, at the contact point of functions, etc. He claims that this is the place where messages equipped with some definite dynamism appear, which decide about distinctness, creating a sort of 'temperature' – in terms of meanings and emotions, forms and aesthetics.⁶ He calls interspace a sphere of a hidden dimension of architecture, of a direct impact of a building. Looking through its prism allows to perceive architecture without being stopped by external manifestations of its work – the shell, the form, but to perceive it as an integral element of the spatial environment.

Ambiguous relations between the inside and the outside manifest themselves in the contemporary architecture in spectacular links between a building and its natural landscape, but most of all they allow to shape a new type of relations with the urban space. Berrizbeitia and Pollak describe and classify these relations, studying the link between a building structure and landscape, understood also as an urbanised one.⁷ J. Rendell sees one of the dominating properties of the contemporary city in this interaction: "the inside and the outside intermingle, they jointly shape the urban tissue and are experienced again as complementary aspects of the

⁶ J. Krenz, *Architektura międzyprzestrzeni*, 2003, <http://www.pg.gda.pl/~jkrenz/Publikacje/Miedzyprzestrzen.html>, access on 05.08.2015

⁷A. Berrizbeitia, L. Pollak, *Inside Outside: Between Architecture and Landscape*, Rockport Publishers, 2003.

everyday life'.⁸ Numerous designs of contemporary buildings exhibit the pursuit of fluidity of the connection with the surrounding area.

Types of integrated landscapes

In cases where interspace created thanks to reciprocal functional and compositional interactions between architecture and nature constitutes simultaneously an area open for circulation, which permeates the structure of the building, an additional space of movement paths is created. The area of a contact of the building and its surroundings constitutes here an obliterated edge of the city in the shape of a form accessible for users of the space which has been inscribed with natural elements for their aesthetic and utilitarian properties. The building is designed as a sequence of spaces directed by the architect, as a stage for activities undertaken by its user. The space of movement paths, which unifies the building with its surroundings, is created through the introduction of natural elements on the plane of its covering, creating a new topography. An integrated composition of architecture and nature can also intermingle with the spatial structure of the building, transforming it into a movement path combining external and internal spaces connected with each other. The last type of relations is the introduction of natural elements to the interiors of the building in the form of internal enclaves constituting a form of generally accessible interiors extending the urban space, but located within the spatial structure of the building.

Functional landscape

Examples of utilitarian landscape are characterised by solutions where elements of nature more and more frequently become components of systems that support heating or cooling of the building, as well as its water management. Requirements pertaining to biologically active surfaces of plots of land where architectural structures are located, as well as the development intensity in some locations, are responsible for the fact that there emerges a reserve of land, beyond the developed surfaces. It can be used by introducing natural elements such as greenery or water reservoirs, constituting an attractive recreational area accompanying a project, which at the same time constitutes a part of its ecological system of the city or the environmental technologies applied in the building. An example of such an area is the garden Jardin Charles Trénet, which was organised in 2013 in Paris as back-up facilities for the structures of the special zone of ZAC de Rungis (Fig. 1.1). The garden accompanies residential development and is accessible to the public. Green areas have been maximised by forms of land relief, thanks to which the area can be recognised as sufficient for the local enrichment of biodiversity. The water reservoir and rushes actively participate in the process of filtration and recovery of potable water as well as rainwater, which in over 50% is reused within the territory of the project. The project and its green areas are also part of a network of pedestrian routes, which enable the use of public transport and services located within the perimeter of the investment. The solutions of the integrated landscape interact not only in the scale of the

⁸ J. Rendell, *Between Architecture, Fashion and Identity*, Architectural Design 11/2000, p. 10.

building or complex, but also in the scale of the city thanks to the introduction of biodiversity in the form of ecological corridors, reduction of the effect of the urban heat island, creation of green infrastructure, and they can also constitute part of the system of protection against natural disasters. They foster the production of ecological food. In the scale of the complex, they improve the microclimate, they support systems of rainwater management, as well as they can constitute a place of obtaining renewable energy. Additionally, they improve the microclimate of interiors of buildings, as well as they can influence the thermal properties of elevations.

Reclaimed space

One of the fundamental measures observed in the contemporary urban space are the ones undertaken within the scheme of revitalisation processes. Their direct objective is to lead degraded areas out of crisis, but in the global scale the renewal of urban areas obtains a broader meaning. By means of intensification of use of areas which have been already utilised, the so-called brownfields, economic, social and environmental benefits are achieved. Positive examples of such measures combine respect for the heritage of a specific area with the introduction of elements of nature, which take part in bioclimatic processes that occur at the contact point of the building and its surroundings. One of such investments is the municipal park which in the period 2004-2012 was transformed from wasteland after the automotive industry plant in Turin. Parco Dora (Fig. 2) constitutes a link between three post-industrial areas of 7, 6, and 9 ha, located in the vicinity of the city centre. The main assumptions of the designers, Latz + Partner, was to link residential complexes with a generally accessible recreational green area, and most of all to preserve its legacy, inscribed in the history of Turin. Within the territory of the park, fragments of steel structures of halls dating back to the end of the 19th century and the beginnings of the 20th century were preserved. Today, they serve as roofs over sports fields, as well as maintain the forms of pedestrian trestle bridges, which allow to increase the surface area of the park, as well as provide the chance to admire new skylines. The steel structures intermingle with low greenery, tall greenery, as well as creepers. Water is introduced in the recreational spaces, as well. The use of natural areas for the purposes of new investments is limited; so is the need of road transport, which reduces air pollution, as well as emission of carbon dioxide to the atmosphere. The introduction of elements of nature in revitalised areas may constitute a tool in the reduction of unfavourable climatic effects, as well as improve the quality of air in the adjacent area. The aesthetic attractiveness and the quality of the environment of man's life improve, too, thanks to the opportunity to be in contact with nature.

Garden buildings

Nature in the city, besides areas allocated to recreational grounds, can constitute an integral part of the architectural composition, also in the development zones. In accordance with these assumptions, one of the forms of buildings are those in which the structure of the contact point between the building and its surroundings is constituted by a combination of architectural elements and nature. An example of a garden building with a living façade is 25 Verde, a

residential building erected in 2012 according to the design by Luciano Pia (Fig. 3). The author calls its 'a house between trees'. On a steel structure of the façade plant pots have been arranged, with carefully selected species of trees and shrubs. The plants incessantly grow and transform, thanks to which the building seems to be subjected to the effects of times of the day and seasons of the year, just like nature itself. The function of the façade is securing comfort, peace and quiet in the interiors, separating them from the space of the street. The composition of the elevation also reduces differences in temperature. Thanks to this solution a beneficial microclimate has been guaranteed, as well as the penetration of noise and pollution inside the building has been reduced. In the scale of the city, this green buffer reduces the quantity of carbon dioxide and emits oxygen. The building constitutes a substitute of recreational grounds in this intensely developed part of the city. The intensity of development, which constitutes a potential of the city, simultaneously brings about negative climatic effects, such as the occurrence of the urban heat island, problems of rainwater management, air pollution. Garden buildings, where elements of nature and architecture are integrated, besides the network of green infrastructure are a form of measures undertaken in order to improve the condition of urbanised environment, maintaining the urban character of the space at the same time. Garden buildings assume different forms, starting from skyscrapers, through buildings with green walls of all sorts of structure, to openwork forms. Their essence is the introduction of elements of nature in the space of the contact point between the building and its surroundings, making use of their usefulness in bioclimatic processes inside buildings and in urban spaces.

New topography

Embedding buildings in the ground, using green roofs in order to improve thermal insulation of a building, as well as for the sake of supporting water management, has brought about the occurrence of parts of landscape exhibiting new topography forms. The urban space becomes more diversified and stratified, allowing to perceive it from the ground level as well as from the tops of the buildings introduced in it. Designing buildings has become a pretext for experiments with land geometry, and thanks to the nostalgic attachment of man to natural areas of nature characterised by the diversity of land relief these experiments, despite the requirements of universal accessibility, are desirable in the urban environment. An example of such an assumption may be the recreational space located at the roof level of Malmö's largest shopping centre (Fig. 1.6). In accordance with the concept of the designers from the Wingårdhs office, it has been bestowed with a unique character by a new, different land relief, making use of natural elements resembling a park. In isolation from the level of entrances to the building, in contrast to the monotony of the flat surroundings, a land relief consisting of dynamically inclined planes has been proposed here. They are covered with grass, and walking paths are finished with wooden lining. The entire project is completed with some street furniture and forms of exits, pavilions, which combine the style of the elevation with the character of the roof by the materials used. The multi-level space is perfect for strolls as it offers vast views of the city skyline. They can be admired from specially designed stairs, which here and there are incorporated in the inclined planes of the artificial hills. The introduction of this new topography creates a possibility of

extending the urban space, thanks to which new spaces perfect for the introduction of natural elements come into being. They fulfil a utilitarian function for the building which they are part of, simultaneously constituting a scenery for new spaces. Different functional, aesthetic and semantic layers emerge, and so do links between them. The diversity of these forms decides about the different character of the parts of the city subjected to this process.

Structure of connections – passageways

Contemporary public spaces are characterised by the liquidity of the border between the building and the city. Buildings whose spaces are rendered accessible to users constitute an addition, an extension of the urban space. Their forms are shaped in a fashion that fosters movement, inviting to make use of new spaces, connections, views. They become part of the passageways of users of the space, offering new scenarios of discovering the changeable urban landscapes to them. This way, a building, its form, its intermediary spaces, and frequently its interiors, are absorbed by the structure of pedestrian passageways. One of such pioneer structures is the Polyvalent Theatre (Fig. 1.4). Located in the suburbs of Lille, this building is intended to be used for the purposes of organisation of cultural events in the city, but on an everyday basis it is a centre of the community of this city quarter. Besides activities relating to the organisation of meetings, trainings and shows, the structure constitutes a functional garden. Its surface area comprises the surroundings of the building connected with its interiors by means of a glazed patio, but also the roof. It has been designed as a terraced hill with fields where individual species of crops are grown. Both the flat roof and the elevation structure reduce the consumption of energy used for heating and cooling of the building. The building has been designed so as to enable to move between the open space, the flat roof and the internal gardens without any obstacles. A walking path has been designed, resembling a screenplay, enabling to observe the surrounding area from different perspectives. It is also addressed to residents, who actively participate in the cultivation and tending of the greenery of the theatre. What is characteristic for the structure and the walking paths is the obliteration of limits between architecture and its surroundings, which became their mutual complementation. In this case, elements of nature constitute a part of the road scenery, which makes walking around the building similar to taking a stroll in the external space, a park, a square. By enabling contact with nature, as well as by introducing biodiversity, they support the functioning of the building, taking part in the energy and water management systems.

Internal enclaves of the building integrated with the surrounding area

The phenomenon of intermingling of the space of the city with a building by allowing to get around inside the building has its effect on the occurrence of new forms of the urban space. Public spaces are extended by interiors of buildings, shaping their forms known from the theory of urban planning: a street, a piazza, or – having introduced elements of nature – a square or a park. Elements of nature are frequently encountered in the forms of internal recreational yards in office spaces, constituting a continuation of the surroundings. An example of such an enclave

constitutes a part of the weapon factory in St. Etienne in the south of France, converted into a design centre complex (Fig. 1.5). The authors of the design implemented in 2010 are architects from the group LIN Architectes: Finn Geipel and Giulia Andi. Individual parts of the complex are interlinked with forms of the public space, piazzas, courtyards, and gardens. The latter are located inside the new building. They have a form of a roofed circulation path, which in this section has been given a recreational character. The generally accessible space of the garden constitutes one of the parts of a route that intersects this project. It has been given a character that imitates natural landscape. The space of movement is demarcated by a wide path made of hardened soil, whose edges are freely covered with lush vegetation. Such a composition contrasts with hardened orderly planes of public spaces, where plants appear only occasionally in the form of rhythmical lines that emphasise movement directions.

The image of continuity of the urban space attracts parts of building interiors in the form of enclaves. Simultaneously, they constitute a form of public space so far adopted in closed buildings of a specific intended use, greenhouses, palm houses. It is connected with the surrounding area, or it forms new forms of relations with the urban context. And there, elements of nature are also used, influencing the quality of air and thermal comfort of the interiors.

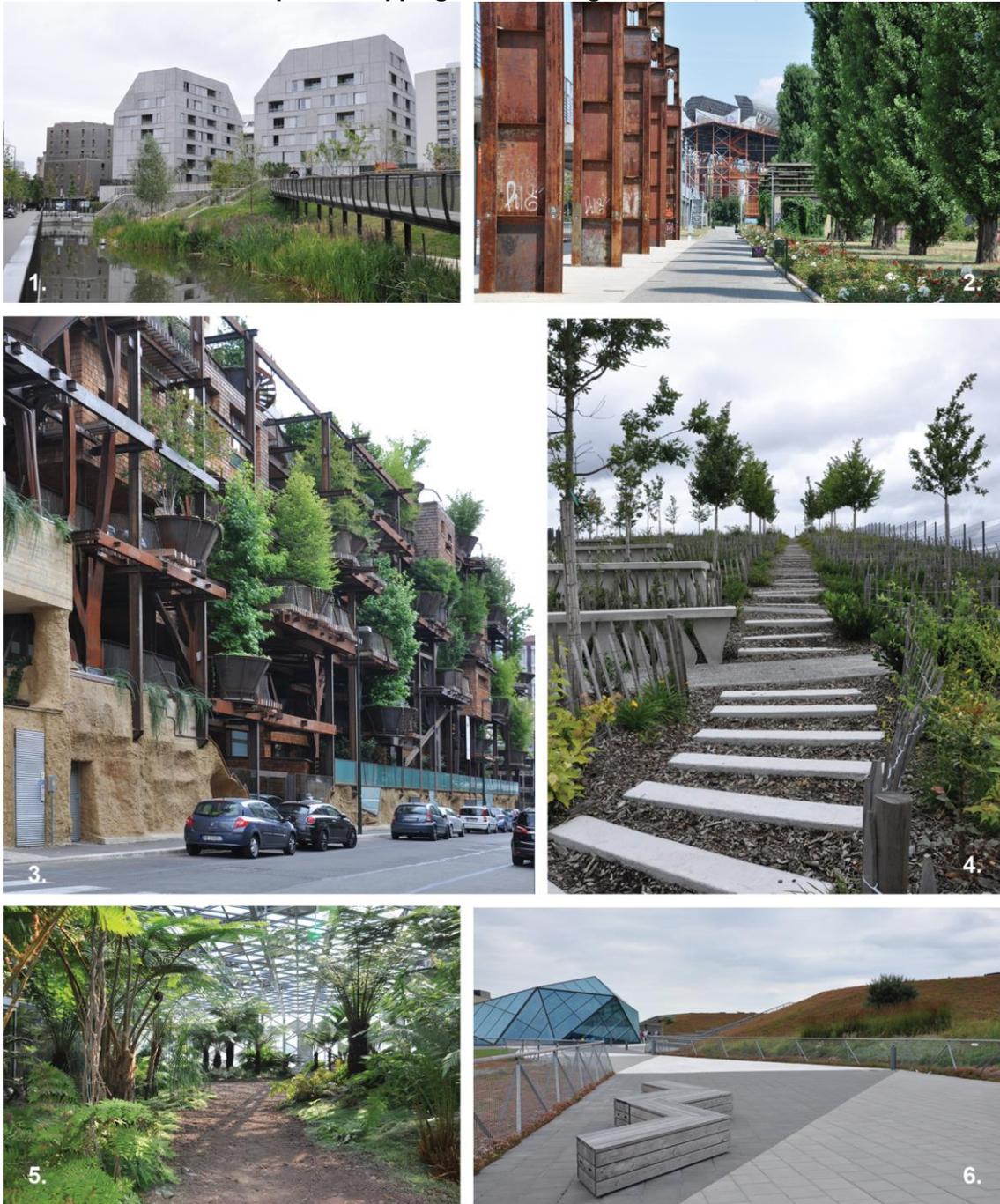
Summary and conclusions

The consequence of the application of new biotechnological solutions presented in this paper is the occurrence in contemporary architectural projects, especially in extensive flat roofs and gardens, of new geometry, changing the spatial shape of the building, which appears in the form of an integrated coating consisting of a wall and a ceiling which form a whole. It seems that in such cases there is a need to change the terminology and to create a new method of describing wall barriers.

Integration of a building with elements of nature creates new compositional relations. Structures embedded in the ground create new tectonic forms. The boundary between interiors and the surrounding area is blurred by the appearance of the spaces of intermediary spheres, integrating an architectural structure with its neighbourhood. Thus a composition is created which makes an impression of the continuity of space and the surrounding area by the penetration of the building interiors by natural elements. An intermediary space comes into being – a fluid contact zone – an area of reciprocal interactions between a building and its surroundings.

The concept of the city as the environment of man's life is based on the equivalent significance of spatial layers, as well as cultural and social values. New guidelines should be introduced to govern urbanisation processes, taking into account the relations occurring in the triad: architecture – nature – man, and development strategies of cities should be based on the knowledge of the relations between individual elements of the triad, aiming to maintain, build, or restore their balance.

Figure 1. Types of integrated landscapes: 1. Functional landscape - Jardin Charles Trénet, ZAC de Rungis, Paris, 2013, 2. Reclaimed space - Parco Dora, Latz + Partner, Turin, 2004 -2012, 3. Garden buildings - 25 Verde, Luciano Pia, Turin 2012, 4. Circulation path - Polyvalent Theatre, Lacaton & Vassal, Lille, 2013, 5. Internal enclaves - Cité du Design, LIN Architects, St. Etienne, 2009, 6. New topography – Emporia Shopping Centre, Wingårdhs, Malmö, 2012



Source: Photo: the Author

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CITY SENSORICS. BETWEEN THE ANIMATE AND THE GENIUS LOCI**Andrzej Kadłuczka,**

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“...Any building for humane purposes should be an elemental, sympathetic feature of the ground, complementary to its nature-environment, belonging by kinship to the terrain...”¹

This brief motto is a clear definition of the *organic architecture* that Frank Lloyd Wright included in his divagations on the substance of architecture; yet it may also be a poetic explanation of *genius loci*.

Wright presented his opinions for the first time in a series of lectures given in the spring of 1930 at Princeton University and subsequently published in a book entitled “Modern Architecture. Being the Khan Lectures.” The last, sixth lecture was entitled “The City” and constituted an anti-manifesto for the vision of a contemporary city presented by Le Corbusier in a project entitled “Città per Tre Milioni d'Abitanti.” The title of one of Wright's earlier lectures, “The Tyranny of the Skyscraper”, has already shown his negative attitude to the concept of a “soulless” house designed as a machine for living, multiplied in the great urban mega-structures that looked like “blocks shining in the sun.”

The text of Wright's lectures is not written in an easy language and requires careful reading and possibly even closer familiarity with the Master's character, who is perceived by his biographers as “an arrogant celebrity, a charismatic genius and an ardent critic of his colleagues.” The text is characterized by deeply running emotions and at times even pathos, which calls for a thorough and careful analysis and definitely makes it a hard reading.

In the very first sentences of the lecture about the City, Wright leaves no doubts by saying: “I believe the city, as we know it today, is to die”², yet the annihilation of the city created by the Machine may be – for our modern civilization – a benefit and the greatest service rendered by the Machine to Man, because “The city is itself only Man-the-Machine – the deadly shadow of the Sentient Man.”³

After all, Wright does not prophesy a complete fall of cities; what is more, he does not see such necessity; however, he sees the *necessity* of transformation of the hitherto model of the city, demanding its utility, sensibility, relation to the specific area (*genius loci*) and appropriateness to

¹ F. L. Wright, “Modern Architecture. Being the Khan Lectures”, Wydawnictwo Karakter, Kraków 2016.

² F. L. Wright, op. cit. p. 243.

³ F. L. Wright, op. cit. p. 244.

the specific time in which we live (*genius saeculi*). Neither does he try to eliminate the Machine, but warning against its uncontrolled domination over Man, he sees the possibility of its rational use by Man.

Wright's opinion on this issue is clear: "Only when the city becomes purely and simply utilitarian, will it have the order that is beauty, and the simplicity which the Machine, in competent hands, may well render as human benefit"⁴; a bit further, he clarifies that this is about the City of the near future which is the place of self-fulfillment of Man and his needs and whose core consisting in "the necessity for artistry that is laid upon us by the desire to be civilized, is not matter only of appearances. Human necessity, however Machine-made or mechanically-met, carries within itself the secret of the beauty we must have to keep us fit to live or to live with. We need it to live in or to live on. That new beauty should be something **to live for**."⁵ (emphasis by the authors).

Wright notices that in the past, the structure of a city resulted from specific social demands – necessities that keep changing in the course of time. Today, Man has different needs, so a completely different and new model of the city is necessary. Rejecting the old one, no longer useful model of the city, Wright ostensibly discards the tradition and, more specifically, the type of tradition he calls *customary*, i.e. the attitude to the past that is devoid of reflection and characterized by absence of a reliable analysis of mechanisms governing the construction of the city, quoting ancient sages: "Except as you, Sons-of-Earth, honor your birthright and cherish it well by human endeavor, you shall be cut down and perish in darkness... Keep all close to Earth, your feet upon the Earth, your hands employed in the fruitfulness thereof be your vision never so far, and on high."⁶

According to Wright, the sense of an organic city consists in application of a slightly modified Vitruvian triad: *utilitas*, *venustas* and *firmitas*, where *firmitas* (durability) was replaced by simplicity. Yet even Plato clarified simplicity as a condition for durability.

In this place, it is worth reaching to the Polish classic in the discipline: the ideas of Tadeusz Tołwiński, who had no doubts that searching "for the shape of the city with respect to its structure and form requires familiarity with the old cities, on account of two reasons. First of all, a European city, and in particular a Polish city in the 20th century follows, in a greater or lesser degree, the example of an old city and constitutes a further **link in the evolution** of an urban product of bygone epochs. Secondly, only historical studies reaching to the periods of city establishment lead, in a planned and harmonious manner, to discovery of factors which, throughout the ages, created cities that were almost perfect in their urban organization and form."⁷ Tołwiński puts forward a clear hypothesis that shaping a city, i.e. constructing, transforming and reconstructing it, is a continuous process taking place as part of the evolution which the human existential space undergoes "anew and differently"⁸ on an ongoing basis.⁹

⁴ F. L. Wright, op. cit.: p. 253.

⁵ F. L. Wright, op. cit.: p. 259.

⁶ F. L. Wright, op. cit.: p. 251.....

⁷ T. Tołwiński, *Urbanistyka*, vol. I - Budowa miasta w przeszłości, published by Trzaska, Ewert, Michalski, Warsaw 1948.

⁸ M. Porębski, *Ikonosfera*, PIW, Warsaw 1972.

⁹ M. Porębski, op. cit.: considers architecture, urban and spatial planning *creative technologies* which use the "space surrounding man, its divisions and curiosities, both natural and resulting from civilization that has been developed for millennia" as its material, cf. also Norberg-Schulz, *Existence, Space and Architecture* – Polish edition: "Bycie, Przestrzeń, Architektura", Wydawnictwo Murator, Warsaw 2000, where the term "existential space" is defined, cf. also A. Kadłuczka, *Conservatio est continua creatio – czyli doktryna ochrony dziedzictwa jako komponentu przestrzeni*

What is more, Tolwiński's ideas specify features that a city should possess in order to make sense, i.e. *genius loci* and *genius saeculi*. But what does it mean that a city has its *genius loci*, its protective spirit? *Genius loci* is something that is perceptible, even though difficult to define, "something" that makes us go back to a place willingly, that makes us identify with a given location and remember images generated in such place, as well as refer them specifically and exclusively to this place and not to any other.

Christian Norberg-Schulz tries to find answers to these questions by clarifying that *genius loci* means a place where the existential space has a separate, exceptional and specific character. Norberg-Schulz claims that since the ancient times, *genius loci* has been identified with reality forming a part of the space where man can feel fully autonomous, i.e. be capable of individual pursuance of own daily needs.¹⁰

In his dissertation, "Genius Loci. Towards a Phenomenology of Architecture", Norberg-Schulz differentiates three areas on the basis of which he assesses the originality and the uniqueness of a city and its sensory structure. These are: the *phenomenon of the place*, the *structure of the place* and the *spirit of the place*.

According to Norberg-Schulz, the phenomenon of the place is a feature that cannot be defined via intellectual analysis and determined on the basis of classically abstracted "scientific concept"¹¹, due to the fact that it requires phenomenological thinking and description of "things as they are." The phenomenon of the place cannot be described without Heidegger's ontological examination of *being* and the *existence* of such *being*.

On the other hand, the structure of the place is a feature that has a material dimension, referring to the manner of forming and constructing space. Therefore, the structure may have the form of a region, landscape, a housing estate, a city or a complex of buildings. It consists of specific "items" encountered by the observer in every-day life.¹² However, the structure is dynamic; it may change and it sometimes changes very rapidly. Nevertheless, Norberg-Schulz claims that such changes do not have to entail loss of the value which is called *genius loci*; on the contrary, many places preserve their characteristic identity in spite of changes, whereas the stability and durability of *genius loci* are conditions necessary for maintenance of *human life*.¹³

Eventually, there is *genius loci* – the spirit of the place. This is the problem to which Norberg-Schulz dedicated an extensive dissertation. In this place, it is worth stressing together with the author that the ancient Roman concept of *genius loci* assumes existence of a protective spirit

egzystencjonalnej, in: Wiadomości Konserwatorskie 14/2015; the author – by referring to Ch. Norberg-Schulz, introduces the term "existential space" to the modern doctrine of heritage protection: "...preservation... of monuments which are a part of our existential space requires a new concept of protection of cultural heritage consisting in "transformation management" of man's existential sphere and all of its ingredients and thence on identification and interpretation of such ingredients (monuments) and subsequent construction of creative development concepts, designing the manner of implementing them and conducting organisational and administrative activities to preserve them ..." p. 72-75.

¹⁰ Ch. Norberg-Schulz, *Genius Loci. Towards a phenomenology of architecture* ... p. 5, "First of all I owe to Heidegger the concept of *dwelling*. "Existential foothold" and "dwelling" are synonyms, and "dwelling", in an existential sense, is the purpose of architecture ... Dwelling therefore implies something more than "shelter". It implies that the spaces where life occurs are *places*, in the true sense of the word ... Architecture means to visualize the *genius loci*, and the task of the architect is to create meaningful places, whereby he helps man to dwell."

¹¹ Ch. Norberg-Schulz, op. cit.; p. 8.

¹² Ch. Norberg-Schulz, op. cit.; p. 15.

¹³ Ch. Norberg-Schulz, op. cit.; s. 18

that accompanies people and places from birth to death and determines their character and substance.¹⁴

This description of *genius loci* is fully compliant with the earlier concept of existential space proposed by Norberg-Schulz¹⁵, which is formulated in architecture which is, in turn, spatial and material “visualization” of the immaterial spirit of the place that has an attractive spatial form and is equipped with perfectly shaped utilitarian values.

These features make up the basic image of the city which Kevin Lynch calls “The Image of the City” and Porębski “Iconosphere”; this term stretches the frames of the image beyond the “point” which the city forms in this very image of existential space.

If it is to be assumed that a city is a spot or a point on the surface of a painting, like a transport and information node, an open composition, a hybrid that is ready for changes, then it forfeits its material significance. It starts to function as a living work of art, an experience and an experiment. The game in which it takes part¹⁶ resembles the act of creation, motion solidified in time and space, which is the source of all changes. The city has a procedure-like character, not only as an urban and architectural layout, but also a cultural one; it manifests the power of unlimited possibilities of expansion, ambiguity of expression and multi-layered semantics.

Modern visual activities in the space of cities are always used to express some idea, which has been shaped already at the stage of the process of creation and which utilizes matter to express this idea, being a completely new and free artistic language. The context of the place, the sensorics of space and the recipient’s interpretation become the co-authors of such activities. All of this creates a unique composition of meanings, a sphere of inter-penetrating images, man’s visual environment. The term “iconosphere” was explained in the 1970’s by Mieczysław Porębski, a historian, art theoretician and critic, an outstanding persona in the modern Polish humanities. He drew attention to its liquidity, openness and kaleidoscopic character. The changing character and the growing intensity of “iconosphere” depends on the growing needs of the modern man, displayed via modern social communication means.¹⁷ “Iconosphere consists of facts, facts of appearance of images. It includes images either created in front of our eyes or the ones that came into being earlier. There are also images – constellations shining in the sky – from which we are separated by millions of light years. There are also images that appeared on the walls of prehistoric caves several or several dozen thousands of years ago, initiating an incessant sequence of creative deeds, thoughts and human imagination. There are images brought to us by every moment: the hum, the light signals, the shadows and the colors that attack us all the time. There are also images about which we remember and which we talk about, which nevertheless have not crossed the threshold separating our inner world from the world of our dreams and hallucinations.”¹⁸ The iconosphere understood in this manner goes beyond the historical and traditional understanding of the term, due to the fact that it describes the modern, multi-layered *sensorics* of a place.

¹⁴ Ch. Norberg-Schulz, op. cit.; s. 18

¹⁵ Ch. Norberg-Schulz, *Existence, Space and Architecture* ... cf. also op. cit. p. 5; “Existential space is not only a logico-mathematical term, but comprises the basic relationship between man and his environment.”

¹⁶ H. G. Gadamer, *Aktualność piękna*, Wydawnictwo Oficyna Naukowa, Warsaw 1993.

¹⁷ idem, *Sztuka site-specific i jej awangardowe rozwiązania w przestrzeni kulturowej miasta historycznego*, Czasopismo Techniczne, Kraków 2015, p. 2-3.

¹⁸ M. Porębski, *Ikonosfera*, Warsaw 1972, p. 271.

The sense of the city, i.e. its sensorics, means a set of its features received by the system of human receptors belonging to the user of the city, its resident, in the realm of five senses: sight, hearing, taste, smell and touch, containing various information about the space surrounding him and transferred to the central nervous system: the human brain, where the impulses are received, processed and generated, eventually resulting in interpretation of such features and reactions to them. Obviously, the reactions may be greatly diversified, depending on the number of factors and not only the rapidly changing phenomena, e.g. the sound of engines of a passing plane or the hum of vehicular traffic on a highway which, causing an immediate reaction, may be leveled by other impressions caused by the same phenomenon, e.g. the charm of the place where they are experienced: the beautiful landscape surrounding the observer or fascination by the dynamics of motion caused by the moving trail of vehicles.

A changing reception of the values of the area may also be conditioned by varying esthetic or organic sensitivity of the observer. For example, dilapidated walls of Venetian houses will be seen by some as an esthetic condition outclassing the observed facility, whereas by others as romantic beauty of old architecture, shaped by nature, with "Ruskin-type" patina on the structural material testifying to its age. The sight and the odor of Venetian canals will be perceived by some as an important element of what is called "genius loci" – the phenomenon resulting from combination of defense features of nature (i.e. Venetian lagoon) with the needs of safe location, difficult access facilitating maintenance of independence; for others, it will only be related to the problem of organic allergy, a dirty place failing to satisfy basic sanitary conditions. Changing perception of the values of the surrounding area may also refer to the basic concepts in shaping the development of a historical city, taking into account *continuity* postulated by Tołwiński and Wright's imperative of *heritage care*. Neither Gadamer, who was looking for the *modus vivendi* between the "old" and the "new", nor Gombrich, who noticed the paradox of avant-garde movements which, in the course of time, lose their avant-garde features, were able to settle the dispute concerning the substance of *continuity* and *heritage care*. In this context, the thesis of Norberg-Schulz about slight sensitivity of *genius loci* to changes and "the new" in the existential space seems to be justified.

Avant-garde art, present in the cultural space of cities, is characterized by media independency and it escapes traditional conventions; it is "unpredictable." Assuming an autonomous stance, it becomes a multi-media communication raised to the rank of a work of art, a piece of information emphasizing the substance of relation with space and the recipient's active stance.

*"My desire is to set up a situation to which I take you and let you see. It becomes your experience."*¹⁹

Referring to the words of James Turrell, eminent American artist who focused on the phenomenon of light and space in his works, it is possible to risk such emotional statement regarding vision and the shape of the city as follows: it is the symbol of "the folly of human dreams."²⁰ By representing the manner and the style of life of its residents, the city shows the potential attitude of man to the world; this man is a creative being and without his skills,

¹⁹ <http://rodencrater.com/about/>; 05.04.2016.

²⁰ T. Sławek, *Miasto. Próba zrozumienia* [in:] *Miasto w sztuce – sztuka miasta*, E. Rewers (ed.), Kraków 2010, p. 17-69.

potential, desires, longing and passion, there would be no such thing that is called landscape, *unus mundus*, i.e. the entire sphere of imagery in the public space.

The term *unus mundus* (Latin: one world) is used here on purpose; this term was used in the 19th century by Swiss psychiatrist, psychologist, scientist and artist, Carl Gustav Jung. This term was used interchangeably with others, such as: *unio mystica*, *coincidentia oppositorum*, *complexio oppositorum*, *coniunctio*, which denoted an *image* offered *a priori*; an image that has occupied a significant place in the history of development of the human spirit since time immemorial.²¹

The image itself, the world-image, the land-image, the city-image, the image of man in the image of the world, etc. as well as the term "image" refers to the condition of the entire complex and heterogeneous organism such as the city, which is self-fulfilled in its *multi-appearance*.²² It is not accidental that the above-mentioned term *unus mundus* is closely juxtaposed with the term *genius loci* (in Latin: protective spirit of a given place).²³

The phenomenon that is common for them is the spirit, the aura, the atmosphere or the poetics of a place. All these terms refer to the most sensitive and the most complex city spaces, i.e. the city's identity and tradition, thereby denoting material and intangible values.

The aspects above, contained in signs, symbols, forms and images infused with meanings, may become a part of *artistic revitalization*²⁴, which is aimed at eliminating the city as the ANIMATE, increasing the rank of neutral, abandoned and forgotten places and offering a possibility of restoring their lost meanings, balance and form referring to the character of the place where the society recognizes its culture, i.e. recognizes the sense of the GENIUS LOCI city.

²¹ C. G. Jung, *O istocie psychiczności*, Warsaw 2007, letter of 7 May 1956.; idem, *Problem typu w dziejach ducha starożytności i średniowiecza* [in:] *Rebis, czyli kamień filozofów*, Warsaw 1989, p. 53 - 54.

²² T. Sławek, *op. cit.*, p. 20.

²³ Z. Kubiak, *Mitologia Greków i Rzymian*, Warsaw 2003, p. 544.

²⁴ K. Kołodziejczyk, *Projekt Space Fillers. Sztuka instalacji w przestrzeni publicznej jako konfrontacja współczesnych działań wizualnych z architekturą historyczną* [in:] *Historia i współczesność w architekturze i urbanistyce*, vol. 2, chapter in monographic study 466, Cracow University of Technology 2014, p. 105.

DYNAMICS OF RELATIONS IN THE URBAN SPACE

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Keywords: urban space, real / virtual / spiritual, local / global / universal, spatial continuum

Abstract

Questions about sense usually accompany the times of breakthrough, when we recognise a crisis of certain values and we helplessly face realistic threats and changes. If experiences incessantly call for answers to the questions concerning the truth, the question concerning the sense provides a broader reference and reaches for an answer about the source of the truth, as well as the source of the crisis.

The deliberations below constitute a continuation of the reflections contained in papers [Kantarek, 2012] and [Kantarek, 2014] *Skomponowana sieć sieci (Composed Net of Nets)* and *Czas i przestrzeń miasta (The Time and the Space of the City)*.

The former presents the city in the dimension of its composed three-dimensional form, which is hierarchic and stabilised by some parts and areas of the city. One such element is in particular diversified housing environments, valuable in terms of their functions and space, as well as in terms of culture they stand for.

A three-dimensional form of the city constitutes an arrangement of a broader reality referred to as *the net of nets* – which is to illustrate the existence of numerous levels of relations, also the extrasensory ones.

The term ‘net’¹ (Latin: Reticulum) is used as a definition of a set of elements which on one hand is irregular, disorderly and heterogeneous, and on the other bears the features of stability and cohesion. Compared to the system characteristic for order and a rational holistic approach, the net stands for indeterminableness and factualness.

The structure of a net is based on nodes, their links, and the space between them. A net offers a chance to bring balance by means of flexibility towards the dynamics of changes.

Therefore, a net of nets stands for – without limitations – the generic differentiation of its elements, the multitude of nodes and links, the maintenance of dynamics and flexibility (stability), and it defines the state of synthesis within a three-dimensional space in time.

In the dynamic reality of events, composing, that is arranging, shall be subjected to the confrontation with competitive and isolated elements. Competition (as a denial of arrangement) and isolation (as a denial of combination) intrinsically destroy composition.

¹ <http://siec.blox.pl/2010/06/Siec-definicja.html> <http://www.sjp.pl/sie%E6>

The latter paper (*Czas i przestrzeń miasta. The Time and the Space of the City*) depicts the sense of the city in the lives of its community – both in the individual and social dimension. The questions referred to the quality of this life in light of the danger of non-substantiality.

The paradox consists in the fact that – if we adopt Aristotle's mode of thinking² - substantiality connected with the independent being exists in view of accidents, properties which are not essential, but which are determining. Quantity, quality, location, relations, time, possession, activities – these are accidents.

At the same time space and time shape our lives and it often seems that they are the only chance for our self-awareness and responsibility.

And despite Aristotle's warnings, architects and urban planners are usually deeply convinced about the importance of three-dimensional space for the shape of the history of our lives, in the scale of our individual fates, as well as in a broad social dimension.

The notion of *net of nets*, where we constantly search for our substantiality, was completed with the picture of configurations of places and the stories they tell³. Such a vision of the city gets closer to K. Wejchert's notion of *spatial city*⁴ - buildings and open space create a rich *space continuum*.

Urban space

Today we are unable to present a clear definition of the city, perhaps merely numerous scopes that define requirements towards communities and spaces we live in.

The dimension of the community and its culture and the dimension of the place constitute two most important determinants of the definition of the city. Subsequent characteristics connected with the population statistics, the quality of function, the area or external conditions specify the type of the definition in more detail.

Instead of a definition, we use a convenient phrase of 'phenomenon', which cleverly summarises our helplessness and provides an excuse for the inability to rationally control its existence and development⁵.

Considering the multitude of notions that characterise the city, it is worth paying attention to those properties which stand up for themselves in light of different categories. If it is not the size, the spatial and functional separateness, if not the type of the spatial cohesion of the area that decide about its definition today, what basic criterion can be adopted then?

If we remain faithful to the general notion of a certain phenomenon defined by the life of a specific community in a specific area, with a developed culture of life and its dynamism, we can talk about a unit, a settlement form, or – to put it in simpler terms – urban (urbanised) space. Urban space is a more general notion than the city is. It signifies each space inhabited by people and exhibiting some internal organisation which shapes its spatial dimension.

More and more land has been becoming urbanised space nowadays. It is not just the fact that more and more people want to live in cities; not only uncontrollable greed for urban space, not

² Aristotle 384 B.C. – 322 B.C.

An independent being, that is substance, stands only for specific objects (also animated 'objects' which have a soul). Substance – form (general properties) and matter (individual properties) remains unchanged. Substance has the nature of an independent being which exists in itself and it remains unchanged amongst changing definitions.

³ As a combination of the differentiation of Y. F. Tuan between space and place, as well as according to the concept of Ch. de Portzamparc's *intervention* allowing to build maintaining the cultural continuity of the environment. [Tuan, 1987], [de Portzamparc, Sollers, 2008]

⁴ [Wejchert, 1974] p. 22.

⁵ [Dziewoński, 1990, pp. 37, 38] '*The notion of the city is used in order to determine a certain phenomenon in the life of the society; a phenomenon which occurs not only statically – in space, but also dynamically – in time. The city is a historical fact and therefore it cannot be exhausted with words.*'

only more and more efficient organisation of metropolises, but also a different organisation of life that is responsible for the fact that dispersion of some functions, and not their accumulation, provides better opportunities of spatial arrangement.

Such organisation is fostered by numerous well-known forms of relations between city centres and suburban areas, built for a long time. The tradition of garden cities, or the American *Peripheral Model*, *planned suburb (exurb)*, *TOD*, *Edge* systems, or *Gateway Cities* are manners of structuring developed simultaneously with thinking in a broader and broader metropolitan and regional scale. A parallel process is the process of strengthening of the existing rural centres and numerous forms of uncontrolled development – *dispersed* and *squatter settlements*, or *the Urban-Rural Shift* and uncontrolled forms of slums, which assume different qualitative and quantitative forms.

It seems necessary to search for the urban space which obviously enables, arranges and motivates, but also which relates, stores and commemorates, and in doing so enables, arranges and motivates. The space which together with natural areas constitutes elements of a dynamic mosaic of the *net of nets*.

Today, more than ever, this *spatial continuum* is an anchor ground for not spatial relations, and it is extremely important to realise that the value of such extra spatial relations can in no way take place at the expense of this realistic Euclidean space, but it develops in absolute conformity with it, although obviously the newly emerging reciprocal relations must be taken into consideration.

Hence it is important to consider several crucial elements that in a special way shape the new image, or new 'contents' or urban spaces today. These are:

1. Dynamic relation of the real / virtual / spiritual,
2. Dynamic relation of the local / global / universal,
3. Multidimensionality of conditions of the orientation in urban space and variable conditions of perception of the environment, including attention processes,
4. Dynamic relations of space of a local or transit nature,
5. Existence of space and forms as well as programme contents which disintegrate the unity or the reasonableness of urban spaces,
6. Spatial proximity vs. hybrid contents of urban space,
7. Architecture in the *spatial continuum*.

Dynamic relation of the real / virtual / spiritual

Discussions devoted to the real / virtual relations focus on problems which in their essence should not be important for the spiritual integrity of a person⁶. Both references pertain to the relations between a human being – a person and the external world; they do not, however, determine the type of intervention of such worlds on the internal structure of man – his physicality, mind, and spirituality.

Virtuality can be understood as a special type of reality (virtuality is enrooted in the reality, it exists through reality; virtuality, on the other hand, does not exist without reality) as the non-updated reality⁷. The relations between the real and virtual world (absent reality, potential reality) in their dynamics create a certain whole of the external world, towards which man as a person constructs the relations of commitment and individuality. It is, however, absolutely

⁶ The Author sees man according to the personalistic Christian vision, bestowed with self-consciousness and volitional approach to the responsibility of one's life. Cf.: [Kantarek, 2009] pp. 62-65

⁷ 'In the philosophical context, virtuality, especially virtual worlds, constitute a certain potentiality. The real existence – realistic, but not current. It is a certain existence without presence...' [Ługowska, 2009] p. 108

different in terms of substantiality. In the Aristotelian approach a person is in opposition to elements exhibiting the properties of accidents.

New relations between reality and virtuality have a different effect on the spirituality of man – on human conscience, will, cognitive abilities, imagination, but in no way do they replace it, and they certainly should not suppress it.

Dynamic relation of the local / global / universal

Globalisation processes constitute another challenge for the locality of our cultures and historically formed civilisations. The discussion devoted to the relations of the global – local comprises all imaginable scopes. Progress in the field of science and the development of technical opportunities, information exchange and accumulation, or new communication options and cultural unifications they have brought have been presented in a simplified picture of a *global village*⁸, which contains a more futuristic vision with hopeful intuition of change than it proved to be an implemented vision of the future.

The question arises to what extent globalisation helps build and dynamise the local culture, and to what extent it destroys it. It is locality as the exemplification of our life and possible implementation of our attitudes that shapes our references and notions pertaining to relations, the mundane and most obvious ones, as well as the most sublime ones, and defines our outlook on life. The process of building our identity towards universal values takes place at the local level as it happens in us, and not beyond us.

The problem with understanding this value of locality consists in the fact that more and more of us live in several spatial localities, frequently simultaneously. And then the question concerning consistency arises.

*Multidimensionality of conditions of the orientation in the urban space and variable conditions of perception of the environment, including attention processes*⁹

*Orientating codes of the urban form*¹⁰ organise our orientation in urban space. Complexity of spatial relations, overlapping of different modes of moving around in this space, and differentiation of travelling and destinations is responsible for the fact that more and more frequently we reach for passive forms of orienting in space. *The Global Positioning System*, that is *GPS*, enables to efficiently define one's location and to navigate, as well as releases us from the need to stay alert all the time. Our attention can be directed to some other thing at this time, which increases the feeling of abstracting from the three-dimensional space, or extends simultaneity.

In practice, orientation is based on the form's own codes to a lesser and lesser extent. This situation is also fostered by the fact that traffic relations are dominated by the transit traffic, functional plots of land are isolated in urban space and advertising is extremely aggressive.

Introducing balance in the orientation in the urban space is an extremely difficult task, if not impossible at all. The public space, whose attractiveness is measured by the strength of its dynamism, is an arena of a constant struggle for our attention and interest. The message connected with history and memory of places and events does not always manage to stand the

⁸ *global village* according to H. M. McLuhan, *The Gutenberg Galaxy* [McLuhan, 1975]

⁹ [Maruszewski, 2001] pp. 85-116, [Kantarek, 2009] p. 101, 102

¹⁰ In: [Kantarek, 2009] *orientating codes of the urban form are codes of culture, the form's own codes, signalling codes, and mass media codes.*

competition of everyday information, and the defence of cultural messages pertaining to the entire community often yields to the wave of privatisation of meanings.

Dynamic space relations of a local and transit nature

An important level of arrangement is the question of extension of the transit network, necessary in the scale of the entire municipal or regional organism, while maintaining cohesion of local development complexes.

The modernist proposal of a solution to this problem by means of superblock system led to sprawl development and failed to solve the problem of protection of the existing cities centers.

The efforts to restore open urban space to pedestrians and persons wishing to spend time in this space, undertaken for years now, have been bringing numerous good solutions¹¹. The lack of continuity of pedestrian systems in public spaces have become a concern for numerous towns and cities. Very effective revitalisation measures of transport areas have been in progress¹². At the same time, new proposals appear,¹³ e.g. concerning providing the cycling traffic with a transit quality, the effects of which may have a negative impact on the cohesion of local spaces. Will the bicycle, like the car before it, contribute to the disintegration of the urban space?

Existence of spaces and forms, as well as programme contents which disintegrate the unity or sensibility of urban spaces

Reconciliation and composition are fundamental spatial values in the urban scale. The lack of sustainability in space development is manifested in thousands of ways. The appearance of the car disintegrated the traditional tissue of the city and we still experience new forms of this disintegration. We also allow to build public spaces which are in fact private and serve inhabitants under principles dictated by private owners. We also exclude gated communities from the urban space, where the feeling of safety of their users is provided at the expense of the deterioration of the quality of areas located in their vicinity and servicing them. Spatial parasites...

Ever since the moment of destroying the logics of the urban block arrangement, where the spatial form separated the open public space from the private space, placing structures at the border between them that skilfully governed their mutual relations, there have been numerous attempts to define mutual relations of open spaces. It seems, however, that more accurate solutions have not been found. Only appropriate structures situated between the private and the fully public, offering attractive formal completion of the programme of such spaces and at the same time regulating the division of form, are an appropriate solution.

¹¹ It is difficult not to mention the names of Jan Gehl or Herman Knoflachner in this context.

¹² About this subject, e.g. K. Dudzic-Gyurkovich [Dudzic-Gyurkovich, 2015]

¹³ Works on the system of 'cycling highways' have been launched in Germany. Some of them are to be built in the Ruhr district. The first 5 km of the cycling highway has been put into use – it is a part of a planned 100km route in the region of Mulheim an der Ruhr. <http://capovelo.com/germany-opens-first-5-kilometers-of-its-bicycle-autobahn/> Munich is also planning to build 14 cycling highways, which are to link the city centre with the suburbs. The system is to service the area of over 100km². According to the research, so far ca. 7% of cyclists have gone beyond 7km/h [Peters, 2016]

The use of an electric bicycle can also change the role of a bicycle in the transport system.

A good tool for the process of shaping of the composition of open spaces and volumes, private and public ones, and of verifying their quality, is the method of testing of accessibility, visibility, and perceptibility or urban spaces¹⁴.

Spatial proximity vs. hybrid contents of urban space

Hybridity of form, function and cultural contents – this is the picture of today's cities. They struggle to overcome distance and isolation, they eliminate contrasts. Spatial proximity is an attraction – it facilitates the use of space, it multiplies attractions.

Today, hybridity refers not only to the three dimensions of space – it is a four-dimensional category. Changeable arrangements are an answer to the multitude of events; in this context space assumes a working property – it serves many functions. A. Rossi's *fatto urbano* is stronger than its function.

Hence we have two approaches.

A form which lasts longer than the function which it has been built for. Although it can be transformed, it lasts and it builds a place. In time subsequent elements of meaning, function and form are added – a story comes into being.

And a form which allows to forget about itself. Events produce decorations, form shows, withdrawing to the role of a stage portal.

Paradoxically enough, it is the same form – the lasting one and the one that multiplies experiences and senses, visible or vanishing.

Architecture in the spatial continuum

Does architecture still exist in such a complicated *spatial continuum*? Or does it blend, vanish, dominated by nets and events?

I do hope it does not, as it still has some chances.

It is the manifestation of the present and the future, it has to come into being, because we need it for the most mundane and the most sublime purposes.

It constitutes the setting for places, a story, a part of this process of adding meanings which have an urban dimension.

It is an order, or even its fraction, which simplifies the every-day reality, which facilitates relations.

It is something we should be proud of, it stands for prestige.

It is commemoration.

May it just be able -sometimes - to stand aside, to disappear, to be silent, and yield to life and events! Because it is, like urban space, substanceless.

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LONGING FOR THE MAIN STREET

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Key words: city, expressionism, decomposition, ornament

Abstract

It may sound like a cliché that urban design theory changes with man's development. The article refers to the changes in the way a city functions and the resulting new perception of the lack of existence of something as significant as the "main street". Consequently, there has appeared a different way to identify with its parts anew. The transformations which have recently changed the assumptions of polycentrism are associated with the need to create multiple autonomous centres related to diverse functions of a city. The emergence of newly designed arteries, which are just transport links and not the symbol of the place's splendour, breaks its tissue, creating a new, sometimes unpredictable scale. One can make assumptions about the "total" decomposition, which has become one of the modern methods of composition of urban spaces (somewhat, or entirely, by chance). Without going into evaluations, one can attempt at memories and express melancholy which is carried by the "main street" and a human scale which cities used to have.

Street

Polish bard of the eighties, Andrzej Garczarek, once sang: "... a thirty-year-old taxi driver from Pittsburgh, was shooting at people on the main street". The world has changed in recent years (this is quite obvious). Streets once as important as Floriańska or Grodzka Street in Cracow are paling into insignificance. A city is no longer a set of coexisting quarters separated by streets. Cities are a collection of distant shopping centres, connected with four-lane roads (not streets anymore). The main street or streets, the most important and the most representative in the city, have got lost somewhere. The city has become a puzzle difficult to remember in its shape, consisting of ornaments of the buildings scattered irregularly against each other. Market squares, which modern *malls* originated from, were situated differently within the urban space. Easily accessible from the nearby neighbourhood, not causing nuisance or the need to construct giant parking lots.

Not without toil, Adolf Loos began to strip buildings of decorations. By decomposing historical urban quarter development, Ludwig Hilberseimer created a vision that caused unpredictably

dramatic consequences in the construction of urban spaces. Monumental in its expression, but fortunately utopian design of *Hochhausstadt* from 1924 presents a vision of a rigorous composition of smooth, evenly arranged buildings, devoid of decorations as if it had been done for Loos. Such architecture would see its many imitators decades later, affecting the image of the city until the seventies. Le Corbusier headed even further in his designs, proposing a city for three million inhabitants. It is no longer the total architecture, it is totalitarianism. The drawings presenting the design are beautiful, they show expressive buildings which fill the horizon. Yet, even in the era of the "struggle" for every apartment, they must dispirit. And the road, no longer the street ruthlessly cutting the whole intent, is completely contemporary here, like the ones in American cities. Even though it was only 1925, the architect anticipated what would happen in a several dozen years. The modern world has already forgotten about the revolutionary demands from the Athens Charter from 1933. Individual freedom has become one's personal matter and can no longer be considered by the bodies of creators. Freedom has led to the impossibility of planning the city as a whole (for the sake of an individual, obviously). What once had to be in the neighbourhood, can be far away owing to cars. The ideas of modernism died at 15:32 on 15 July, 1972 in St. Louis, perishing under the ruins of the buildings from Pruitt-Igoe complex designed by Minoru Yamasaki. It was then that the concepts of the modern city associated with the modernist revolution died. Not only the ideas of urban planning, but also the architectural ones of Modernism were buried then. This had been predicted by Władysław Strzemiński in 1931, who wrote: "using a straight line, flat roof and unbroken belts of standardized windows still do not constitute a solution of modern architecture"¹. However, humanity is bound to long for this image of the city and architecture, forgetting about the modernity which is brought about by the ubiquitous architecture of decomposition.

The contemporary city is a particular broken form of its predecessors. If we approach urban planning (if one can still notice such an issue) like a certain art, one can be tempted to draw comparisons with Adolf Goldschmidt's thought. The phenomenon called by him as the "breakdown" of form – disintegration – appears in art. A similar phenomenon in architecture was noticed by Dariusz Kozłowski "This phenomenon consists in the fact that a form which occurs in nature or a work of art is captured by the observer not in its organic compound and context, but only as the sum of details"². The researcher draws attention to a specific aspect in the composition of a work of art, which, he claims, can be observed in different periods, and definitely in the era at the turn of the late antiquity and the Middle Ages. He notices the thing which strikes him, but which was not perceived by the contemporaries. He defines this defect as the breakdown of form – *Formenspaltung (disintegration)*. Jan Białostocki gives examples of such actions in the depictions of the motif of robes. He writes: "the folds of the Greek robes' style are submitted to schematisation in Byzantine art"³ and in this form they are intercepted by western art. Their further simplification follows with time. This happens with other existing elements. Goldschmidt is not trying to draw ultimate conclusions as to the artistic need for such

¹ W. Strzemiński, *Zasady nowej architektury* [in:] *Wybór pism estetycznych*, Kraków 2006, p. 48.

² A. Goldschmidt, „Rozbicie” formy w rozwoju sztuki, [in:] *Pojęcia, problemy, metody współczesnej nauki o sztuce* selected by: J. Białostocki, Warszawa 1976. p. 142.

³ J. Białostocki, *Pojęcia, problemy, metody współczesnej nauki o sztuce*, Warszawa 1976. p. 145.

actions, but concludes “thus the history of artistic misunderstanding, which the breakdown of form was, can be the truth from the point of view of art history”⁴. Disintegration of the art form should be considered as a superior order in the creation of art, it is not a complete lack of rules, but it becomes an attempt to break away from them. It may be a new look at the subject and form of a work. Kazimierz Dąbrowski, a psychologist and philosopher, formulated the theory of mental health called positive disintegration. He argued that: “The positive disintegration expresses beneficial relaxation, and even the breakdown of the original psychic structure”⁵. Such a definition can be applied to a description of the fine arts as the destruction of the existing rules in order to create a new work. “I studied two hundred scientifically researched biographies of outstanding people. They were chosen »out of a hat«, with no key. During the analysis of the biographies, I found the features of the increased mental excitability of mostly emotional, imaginative and intellectual type in 97% of the outstanding people...”⁶. Such amplified emotionality and the disintegration of form can be a description of the sophisticated contemporary architecture, one can transfer such destruction of prototypes and disintegrations directly as the image of shaping modern cities.

Breakdown

There appears (perhaps slightly unintended) disintegration of the urban arrangement. This prompts the association with the dreams of the early twentieth century precursors of avant-garde. Antonio Sant'Elia, the creator of one of the most famous artistic manifestos, is known primarily as a theorist and author of many drawings of unconstructed buildings. His assumptions and innovative ideas that could not be realized at the beginning of the twentieth century have survived as the perspective of imaginary cities resembling scenes from the novels by Italo Calvino, but in a form more “suitable” for the common audience. As it would turn out later, they would qualify to be followed by successive generations of architects seeking to be called the avant-garde. And here appears the dilemma of whether it is an invisible architecture, as it is “built” only on paper, or a contribution to what surrounds us. Italo Calvino “designs” his cities with no claim to their construction as, for the sake of (apparent) simplification, they are invisible cities, but, after all, still created ones. Marco Polo tells the story of one of them to Kubla Khan. One can cite any of the numerous descriptions to have modern metropolis (again everyone a different one) before one’s eyes. “Hidden cities. 3. One of the Sibyls, when asked about the fate of Marozia, said: »I see two cities: the city of rat and the city of swallow«. The oracle was interpreted in the following way: Marozia today is a city where everyone runs in the underground lead tunnels like a herd of rats which wrest out of one another’s teeth the remains dropped from the teeth by the most dangerous rats; but a new age will soon begin, when everyone in Marozia will soar like swallows in the summer sky, recalling one another for fun, showing off with acrobatics performed with motionless wings, clearing the air of flies and mosquitoes”⁷. And without presenting the full definition of such architecture yet (if there exists an unambiguous

⁴ A. Goldschmidt, „Rozbicie” formy w rozwoju sztuki, [in:] Pojęcia, problemy, metody współczesnej nauki o sztuce wybór: J. Białostocki, Warszawa 1976.

⁵ K. Dąbrowski, *Trud istnienia*, Warszawa 1986, p. 6.

⁶ *ibid.*, p. 23.

⁷ I. Calvino, *Niewidzialne miasta*, Warszawa 2002, p. 121.

one), one can say that an invisible architecture appears here. It disintegrates like the surrounding urban space. After all, “we must invent and rebuild the Futurist city like an immense and tumultuous shipyard, agile, mobile and dynamic in every detail; and the Futurist house must be like a gigantic machine”⁸. These words would work well as a manifesto of modern art, today they terrify with their literalness in the modern world, and, looking around, one feels a bit like in the city of rats. However, one should look for the positives in the contemporary thinking about the city. For Philippe Starck, creation is related to the discovery of the ideas of rescaled “architectural objects” within the architecture created by him. Starck dreams of a city in which its architectural *objet trouvé* are to be a conglomeration of objects beyond the urban scale – most often pieces of furniture: “...the city that I construct, is, for me, the game of chess, objects beyond the urban scale, full of vital energy, giving it a surrealist Dadaist sense, [...] I use the principle of the monumental piece of furniture inserted in the urban space – an object out of place”⁹. Forms beyond the scale can also turn into forms beyond content, detached from our associations with their function. After all, “there are genres completely independent from the notion of content, namely music, ornamental art, and architecture in a sense. While we are talking about the musical illustration, it is easy to realize that the relationship between the juxtaposition of tones and conceptual content can be achieved only by artificially added explanation, and in a number of ways. Also, a knight’s helmet, a swan, a female figure can be discerned in the ornaments filling e.g. Persian rugs, but one will soon see that not only does this way of looking not help us to empathize with the beauty of these items, but it will also soon cause fatigue and distaste. A similar phenomenon occurs in architecture, which has long been rightly juxtaposed with music”¹⁰. And precisely such structures are landmarks today, used to describe the city. Malls are generally amorphous solids which do not aspire to become architecture. Perhaps such creators as Starck would be able to help restore an artistic sense of these places.

Instability and lack of literal reception (except for the size perhaps) in the shape of *decon* architecture is suitable for creating such features in the city. The time has come when recipients have become accustomed to such building. What was once the subject of conjectures, now is becoming commonplace. In 1966 Juliusz Goryński foresaw a new approach to aesthetic reception of today’s architecture’s instability. He was looking for an objective approach to aesthetic criteria and getting rid of (which is difficult) subjective judgements. He stressed that: “The awareness of the material nature and purpose of a utility building evokes the feeling of anxiousness in a person unless the architectural composition confirms the physical stability of the building and the safety of its use. Experience seems to confirm that it also affects the aesthetic evaluation. This means that the building whose composition causes anxiety for one’s safety, is not considered to be beautiful or aesthetically satisfactory. Yet, construction technology is changeable. More durable and better constructed building materials applied in construction allow one to erect buildings which, measured with the scale of earlier strength requirements, seem to threaten with collapse. Such structures are considered ugly until the new

⁸ A. Sant’Elia, *Architektura futurystyczna*, 1913 [in:] Ch. Baumgarth, *Futuryzm*, Warszawa 1978, pp. 309-310.

⁹ O. Bioissière, *Starck, Condensateur du temps*, [in:] *Starck*, Köln 1991, p. 27.

¹⁰ L. Chwistek, *Formizm* [in:] Leon Chwistek *Wybór pism estetycznych*, Kraków 2004, p. 97.

technique comes into widespread use, affecting the new development of a sense of structure security"¹¹. The city also changes together with the lack frontage, creating new forms and shapes of buildings. Perhaps these are the memories of Le Corbusier's thoughts. Modernism rejected decoration (regardless of the building's structure); the need for the ornament's beauty was replaced with aesthetic "game of forms assembled in the light", derived from a variety of ideologies. "The decorative must be abolished. The problem of Futurist architecture must be resolved, not by continuing to pilfer from Chinese, Persian or Japanese photographs or fooling around with the rules of Vitruvius, but through flashes of genius and through scientific and technical expertise. Everything must be revolutionized. Roofs and underground spaces must be used; the importance of the façade must be diminished; issues of taste must be transplanted from the field of fussy mouldings, finicky capitals and flimsy doorways to the broader concerns of bold groupings and masses, and large-scale disposition of planes. Let us make an end of monumental, funereal and commemorative architecture. Let us overturn monuments, pavements, arcades and flights of steps; let us sink the streets and squares; let us raise the level of the city"¹². These fulfilled fantasies encapsulate the realisation of the dream of living in palaces, playing building fortresses with blocks, and probably many other architect's games with matter which residents and casual travellers were drawn into, which one can only taste by personally touching things.

Adolf Loos called for stripping architecture (read the city) of ornaments. For this outstanding designer, ornament was not indispensable for the existence of the construction or the structure of things, including works (of art). Contemporary times seem to agree with him, but only partly. The creative work of Zaha Hadid and other creators of contemporariness, which cities are full of, are not structures ornamented as defined by Loos. They constitute ornament in themselves. The breakdown of the form of the city and the architecture that creates it get mixed. One does not know whether this was postulated by the great creator when he thought about the forthcoming new era of building construction. "By style was meant ornament. I said: Weep not. Behold! What makes our period so important is that it is incapable of producing new ornament. We have out-grown ornament, we have struggled through to a state without ornament. Behold, the time is at hand, fulfilment awaits us. Soon the streets of the cities will glow like white walls! Like Zion, the Holy City, the capital of heaven. It is then that fulfilment will have come"¹³. Some fulfilment has certainly come, but is it the one it was supposed to be.

Change of function

The contemporary world mercilessly proves to us that the functioning of the city is changing. The places in front of churches and marketplaces are no longer important features. At the other end of design is housing architecture. Contemporariness associated with property right (less respected in the past epochs) leads to the inability to introduce certain regulations, so necessary for the harmonious development. Infill, cadastre or cardinal directions in design are already passé. "The evolution of culture is synonymous with the removal of ornament from

¹¹ J. Goryński, *Urbanizacja, urbanistyka i architektura*, Warszawa 1966, pp. 133-135.

¹² A. Sant'Elia, *Architektura futurystyczna*, 1913 [w:] Ch. Baumgarth, *Futuryzm*, Warszawa 1978, pp. 309-310.

¹³ A. Loos, *Ornament i zbrodnia*, [in:] A. Loos, *Eseje wybrane*, Warszawa 2013, p. 136.

utilitarian objects”¹⁴, and yet what we see all around us is ornaments. What used to be called the polycentrism of the city, takes on a new meaning today. It is no longer associated with the centres and the attendant functions important for the functioning of the city. The structures of human interests turn themselves and their surroundings into new centres. Recognizing the need for multiple city centres and explaining the work of another architect, Zaha Hadid points out that it is possible to imagine a vibrant urban tapestry – a city – with many (odd) buildings by Zvi Hecker. Decomposition in architecture has become a fact (observed in the city) and art cannot (temporarily) do without it, likewise in the totally disintegrated landscape of the modern city. This leads to the disintegration of the form of the surrounding landscape. And again, the writer-literary theorist’s words may be the most appropriate to explain or understand architecture: “What we sing or deliver in the most solemn and most critical moments of life, what sounds in the liturgies, what we whisper or shout in passionate rapture, what we comfort the baby or the unhappy one with, what proves the veracity of an oath – all of these are words whose content cannot be embraced in clear concepts or separated from a certain manner and tone of speaking without depriving them of meaning and effectiveness at the same time. In all these cases, the accent and tone of voice are more important than what causes understanding: they speak more to what is alive in us than to our mind. I wish to say that these words are a much stronger incentive for us to happen than to understand”¹⁵. The shapes of buildings may be perceived as a “tone of voice” and their function as “understanding”. Such duality occurred as early as in the times of Aristotle who argued that the substance is composed of matter and form: „...»substance« is perceived in two senses: as the final substrate, which is not predicated of anything else, as well as something, which is concrete, is also separable: and such is the form and shape of each thing”¹⁶. Such duality exists in the whole landscape that surrounds us.

Another aspect of the present architecture is its detachment from the trivial utility and opposition to the past, the novelty becomes the expression of the absence of imitation of anything. Architecture is the last art that becomes abstract; ultimately breaking with figuration. “The artist neither imitates nor creates anything: he is looking for something in the past. We are satiated with that world of form, colours, human beings, it overwhelms us, deprives us of illusions: art is not similar to anything in our world...”¹⁷. We can call abstract art any art which neither resembles nor suggests the reality, regardless of whether this reality was or was not the starting point for the artist¹⁸. This description also fits the architecture of modern expressionism. If a certain phenomenon lasts in art, sooner or later a question will be posed – which came first – which creator started it? And a question like this seems to gain the significance of a fundamental issue. Abstraction in architecture is an expression of the changing trends in all arts. The change in approach sometimes takes place by chance. In his work, Kandinsky “... did not recognize one of his vibrant landscapes, which had been turned upside down. Kandinsky realized then that a

¹⁴ *Ibid*, p.136.

¹⁵ P. Valéry, *Estetyka słowa*, Warszawa 1971, p. 191.

¹⁶ Arystoteles, *Metafizyka*, Warszawa 1983, pp.119-120.

¹⁷ G. Colli, *Po Nietzschem*, Kraków 1994, p. 88.

¹⁸ J. Le. [ymarie] *Abstrait Art*, w: *Nouveau dictionnaire de la peinture moderne*, Paryż 1963, p. 1, quoted after: A. Kotula, P. Krakowski, *Malarstwo rzeźba architektura*, Warszawa 1981, p. 144.

painting may be deprived of descriptiveness¹⁹. This epoch-making discoveries do not shock anyone today, they become commonplace, they are something that just happens. Marcin Czerwiński explains this in the following way: "Throughout the course of my previous considerations I perceived the decline of the mimetic art simply as a phenomenon given to us by history"²⁰. Obviously, approaching works of art as certain abstractions or art difficult to describe also appears in literature: "in the works of figurative art, figurative elements overwhelm ordinary sensory elements delighting by themselves. In a given poetic piece, especially written in prose, words affect us mostly with their meaning: we do not always realize that they also affect us with their sound. Similarly, even though not to the same degree probably, lines and colour spots in a given painting are for us primarily signs showing some items. Only expert relishes in the assembly of lines and colours as such"²¹. The last sentence is a literal description of the abstract avant-garde architecture. Here, once again, the philosopher Giorgio Colli can help us by revealing to us *Two sides of abstract representation*. "Abstract representation analysed in its elemental content can develop as confidence and immobilization or as tension and twine. In case of the former one, the representation is isolated in its nature of expressive reflection of immediacy, in the latter – it indicates the union and constitutes an expressive leap towards externality. In both cases the performance possesses an object, but not to the same extent. The object is defined precisely when it appears as part of the evocation of something direct, which was later established as something widespread or as an abstract object in the proper sense. In contrast, when the evocation is the thread leading back, the fabric captured while unfurling, then both the object and the subject turn out to be a mutual tangle. In short, the representation appears as either an object or a union"²².

Rules

Detachment from the previous design rules leads to the emergence, perhaps slightly accidental one, of a new look at the construction of urban spaces. The only recognizable remnant of certain assumptions are the remains of a cadastre. Leon Chwistek explains detachment from the rules in his theoretical considerations: "These rules become second nature to architects with time, leading to the erroneous belief that they possess an absolute character. At this point, there is a striking analogy between architecture and music. If we want to reject these rules, we are immediately faced with the theoretical void which can be filled only with the direct imposition of a particular shape. Hence, an apparent paradox comes out which consists in the fact that the works constructed for practical purposes cause fewer restrictions in terms of form than paintings or sculpture whose aim is exclusively artistic"²³. Such words can be a description of contemporary times. Cities tend to break their form as if taken from Wölfflin's considerations. Writing his book in 1915, Heinrich Wölfflin could not have foreseen the emergence of the architecture of Deconstructivism. "Painting can be tectonic, architecture must be. Painting only

¹⁹ J. Bell, *Lustro świata. Nowa historia sztuki*, Warszawa 2009, pp. 377-378.

²⁰ M. Czerwiński, *Samotność sztuki*, Warszawa 1978, p. 144.

²¹ M. Willis, *Przeżycie i wartość*, Kraków 1968, p. 92.

²² G. Colli, *Filozofia ekspresji*, Kraków 2005, pp. 113-114.

²³ L. Chwistek, *Zagadnienia współczesnej architektury* [in:] Leon Chwistek Wybór pism estetycznych, Kraków 2004, p.105.

fully develops its own peculiar values when it takes leave of tectonics. For architecture, abolishing the tectonic framework would be tantamount to self-destruction”²⁴. Painting and breakdown of architectural forms spread to the whole art and the art of shaping cities. The broken city does not yield to self-destruction and leads us further into the future. We are not able to give name to that which is arising around. Something new is born, not similar either to the original shapes of cities or to the Modernist city (although we are in Modernism all the time). Perhaps this is the postmodern city, although it is fading too. Like architecture, the city becomes a dynamic combination of separate centres. Maybe it becomes the fulfilment of the dream of polycentrism. This dynamic abstraction is reminiscent of Rudolf Arnheim’s explanation from the chapter on Dynamics: “Moreover, by using formal criteria rather than referring to subject matter, the theory avoids limiting the effect to images of mobile objects. It can explain why pictures of trees or mountains may look strongly dynamic and why this may also be true for wholly “abstract” shapes in art or architecture”²⁵. Perhaps today we are dealing with deconstructivist city which, like in the case of deconstructivist architecture, we struggle to define or to identify some clear-cut trends in it.

It may sound like a cliché that urban design theory changes with man’s development. There appear new challenges for designers related to the changes in the way the city functions. Something has got lost in the pursuit of areas and space for shopping malls and new districts. There appears a longing (perhaps only the author of this text feels it) for something ordinary and of a human scale. The need to create something that was once called the “main street” arises. Consequently, there appears an old way of the recipient’s identification with parts of the city. The transformations which have recently changed the assumptions of polycentrism are associated with the need to create multiple autonomous centres related to diverse functions of a city. The emergence of newly designed arteries, which are just transport links and not the symbol of the place’s splendour, breaks its tissue, creating a new, sometimes unpredictable scale. One can make assumptions about the “total” decomposition or striving for deconstruction, which has become one of the modern methods of composition of urban spaces (somewhat, or entirely, by chance). Without going into evaluations, one can attempt at memories and express melancholy which is carried by the “main street” and a human scale which cities used to have. Present cities arise as the disintegration of their earlier form, disintegrating original assumptions, unable to wait for the logical justification of their form. As a naive man, the author tries to discern some logic in this and explain this fact with some explorations of the past better shape. Evolution does not make sense, after all. Everything changes, striving for perfection. However, in our planet’s history there have been mistakes and some big birds – Phorusrhacos; having appeared most likely as a result of a mistake or evolutionary joke they had to become extinct, and their place was taken by much smaller, weaker but smarter mammals. Present state of the surrounding cities do not bode their further development. Perhaps something (unpredictable) will happen so that we can again enjoy walking along the streets and looking at frontages of quarters – the simple ones which architects used to design.

²⁴ H. Wölfflin, *Podstawowe pojęcia historii sztuki, Problem rozwoju stylu w sztuce nowożytnej*, Warszawa 1962, pp. 166-199., III. Forma zamknięta i forma otwarta., p. 194.

²⁵ R. Arnheim, *Sztuka i percepcja wzrokowa*, Łódź 2014, p. 439.

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BARCELONA AND MILAN: TWO CITIES ONE ARCHITECTURE. TYPOLOGICAL SIMILARITIES IN RESIDENTIAL ARCHITECTURE FROM THE 1950'S - 60'S**Marco Lucchini**

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Key words: housing, Barcelona, Milan, mutual relationship.

Abstract

The paper deals with mutual relationship between Barcelona and Milan concerning modernist architectural and urban design. Barcelona and Milano despite their different cities morphology and urban history, have similar characteristics.

They can be easily recognized as they relates to many pieces of modern architecture constructed from the early fifties of the twentieth century, when the most significant architects of both cities entered into a friendly, intense and continuous contact. One could speak of a reciprocal fascination between architectural cultures of the two cities, especially as concerns the relationship between architectural design and urban morphology. This relationship was accomplished by means of three remarkable factors: the way a building is located in the urban space, the arrangement of the plan layout of each floor, and the aspects of the building referred to tectonic.

The second one is a recognizable only through a carefully study of plans. Nevertheless it affects the identity of the two cities as involves the people way of living.

We can identify typological analogies and organisational similarities in many exemplary residential buildings like Antonio Coderch's ISM house in Barcelona or several house designed by Ignazio Gardella in Milan. The most remarkable topics about housing types are related to the H model plan, and double winged plan. These types are well-known in some small Italian residential building called *palazzine*, usually in central Italy but they are recognizable even in several housing building in Milan.

The last topic concerns the housing flexibility that was tested both by Francisco Barba Corsini in Barcelona and Gio Ponti in Milan.

Urban housing; organisation and domestic space

Between Barcelona and Milan it is easy to identify typological analogies and organisational similarities in many exemplary residential buildings from the 1950's and 1960's. It is rarely ever a question of direct similitude, but rather of affinities and analogies found in the vast phenomenon that is the mutual fascination between Barcelona and Milan's architectural cultures from that period (Armesto, 1996, pp. 84-85; Spinelli, 2003, p. 35; Torres Cueco, 1994, p. 127).

In Barcelona, many residential buildings have a particular floor plan configuration that is similar to a wide flange beam in which the web would correspond to the staircase and the flanges would be reserved for the sleeping and living areas.

This broad structure is built following a bilateral symmetry in which the central core, other than containing the stairs and services, functions as a symmetrical axis.

The H model floor plan is likely to have been established in response to the demand that required an efficient use of the rather large building plots in Barcelona's urban fabric: this allowed them to place sanitation services and staircases in the central part of the building, ventilating and lighting them with the help of small courtyards and patios; the relationship between solid and void gives the building its characteristic H shape.

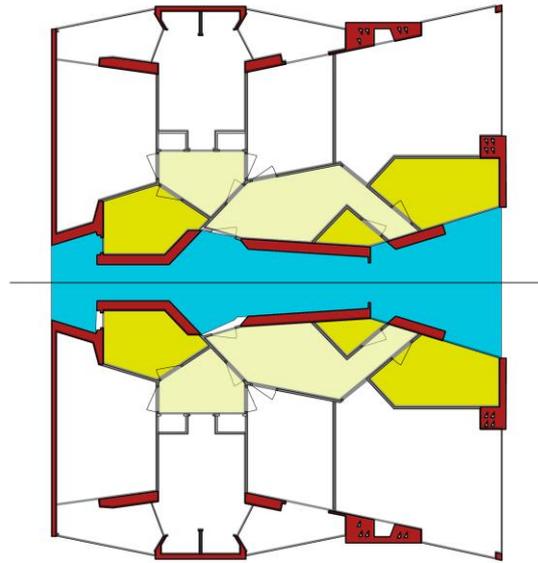
This type of floor plan appears in four important buildings from the 1950's: Josep Antoni Coderch and Manuel Valls Vergès' ISM building in Barceloneta (1952-55), Francisco Juan Barba Corsini's Mitre Building (1959-64), and two buildings by the architectural studio MBM; one in calle Roger de Flor (1954) and the other in avenida Meridiana (1959-65). In these buildings, the H model demonstrates a great versatility as it is applied at different scales and is able to relate with the existing fabric.

In Coderch's ISM building, we can see in the floor plan how the load bearing structures, partitions and rooms correspond to three essential "shapes", respectively characterised by geometries that are orthogonal, oblique and radial: these define three overlapping layers that, in turn, determine the relationships between each environment and the shape of the internal space.

The first layer is of orthogonal geometry and concerns the residence's overall layout: the staircase is in the centre of the building echoed by other vertical components alongside it in which the principal functions are found: clearly identifiable is a central vertical section, corresponding to the staircase, a second section containing utility rooms for bathrooms and kitchens, an intermediary section that accommodates bedrooms and living rooms, and the last section, perimetric, comprised between the load bearing structure and the external envelope.

This case of organising the building by vertical blocks is present in all H model types.

The load bearing walls and external envelope are inclined in an arrangement of oblique angles that dilate and compress space, giving it a unique formal characteristic. Coderch provides this solution starting from a traditional orthogonal layout and successively introducing deformations. (Coderch, Fochs, 1999, pp19-26; Armesto, 1996, pp.31-54).

Figure 1. Coderch's ISM house, Barcelona.

Source: redraw by the author

This geometry corresponds to the second layer, making a large portion of the walls and elements forming the external envelope angled in respect to the building's symmetrical axis. This choice is probably due to a desire to improve the project, from the experience gained in the Ugalde building with organic forms (Coderch, Fochs 1999, 22) and from the desire to comply strongly with the order of nature. The inclined geometry deforms the building's central core and the envelope's walls, decreasing, in the spatial layout, the importance of the bedrooms' orthogonal partitions that become subordinated to the furniture, which in turn is treated as one of the space's main protagonists.

The third layer relates to a radial geometry and was studied by Antonio Armesto. He recognises a radial morphology in the centrifugal relationship between the utilities and the perimeter of the building, comparable to the structure present in the Disa lamp (1957) (Armesto, 2008, 70).

The presence of numerous centre points and inclined geometries combined with the corner entrance to the living room and bedrooms determines a greater fluidity of the apartments' internal circulation, meaning the relationships between rooms are more dynamic than in examples using only orthogonal walls.

The Borsalino building in Alessandria (1949-1952) by Ignazio Gardella is unanimously considered a paradigm of the ability of Italian Modernism to combine rationalist research with improvements in quality of living and of interior space, with the specificities of the Milanese school of thought, aimed at enhancing the relationship with context and history. (Guidarini, 2002, 99).

The building is composed of two independent blocks joined at the thinnest side. Each block contains two apartments with a circulation system that is based on a central path, coinciding with the longitudinal axis that ends in the walk-through living room.

The building's perimeter walls are angled at 15 degrees compared to the centre line of the building in a way that deforms the interior spaces. Such deformations are particularly noticeable in the living rooms where the volume containing the main bedroom protrudes into the living

space. The compression and expansion of space, the manner in which the walls' geometry is dealt with and certain structural similarities demonstrate apparent analogies between the Borsalino building and José Antonio Coderch's ISM house in Barceloneta. Both buildings present wall surfaces that are curve-like, even though they are actually constructed with broken lines. But the likeness between Coderch and Gardella is more complex than the Italian architect's mere influence, also chronologically unlikely¹; Gardella served as an important reference in Barcelona's architecture during the 1950's, sharing with Coderch the same empirical and concrete approach to architectural design as well as the same ability to interpret a site's characteristics, adapting them through personal expression. The Borsalino building and the ISM building both share the same spatial and structural concept that emanates from a dynamic relationship between geometric deformations, pathways and positioning of staircases. Both buildings are linked, beyond the somewhat limited common ground of formal resemblance, by a "necessary schematism" (Argan, 1966, p. 7) that considers the relationships between permanence and invariability in the articulation of spaces. Each of the two buildings is a key to interpreting the other.

Later analogies are recognisable between the Barcelona H model and another famous residential building in Milan: the Casa in via Quadronno designed by Angelo Mangiarotti and Bruno Morassutti (1959-1960). The staircases present in this Milanese building coincide with a guideline that divides the floor plan in two, each half corresponding to two or more apartments. A rather obvious characteristic, also present in Coderch's ISM vivienda, is the geometrical variation in the arrangement of the walls, with a broken line that creates a geometry based on right angles in the sleeping areas, and the creation of obtuse angles in the living areas.

The H model in continuous façades

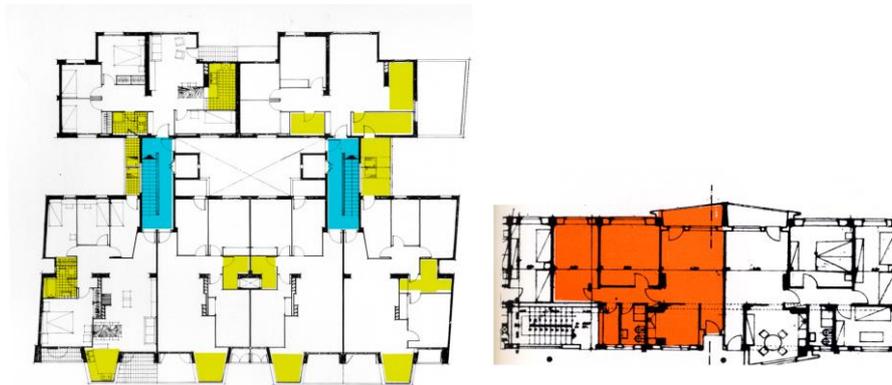
In Emilio Donato Folch's² building in avenida Hospital Militar (known today as Vallarca) (1961), the architect works with two successive modules. He deforms the central symmetry usually found in the H model, putting more emphasis on the apartments that align with the road.

The most radical innovation is the position of the kitchen, located in the bow-window with a trapezoidal floor plan; the kitchen counter is shaped to be supported by the bow-window's wall, directed towards the exterior. In the project designs published in 1965 in *Cuadernos*, the kitchen is presented both as an open space and a closable room that can be separated from the living room. The folding dining table is supported by a short wall that separates the living area from the master bedroom. This configuration brings up the subject of the traditional subdivision of rooms, moving towards a spatial organisation more similar to Frank Lloyd Wright's workspace, conceived for various buildings of which the Baird Residence (1940) and the Sondern Residence (1940): the space reserved for food preparation is very compact and there is no separate room for dining, instead a space defined by a breakfast bar or folding table. (Ottolini, De Prizio, 1993, 44).

¹ The Borsalino building precedes by some years the Barceloneta building and was published for the first time in July 1953 in *Domus* and in *Casabella* in december of the same year. The definitive projects for the ISM building were approved in February and May 1953. The preparation of the definitive project for the Borsalino building occurs in 1950, at the same time as Coderch decides to alter the inclination of the walls in 1951-1952. Coderch's direct knowledge of the Borsalino building is therefore unlikely, while a correspondance, in the sense imagined by Baudelaire, can be proved.

² With X. Boix, A. Mirò, J. Verdraguer, R. Torres

Figure 2. House at av. Vallarca, Barcelona. Ponti's housing building at INA-casa Harar district, Milan



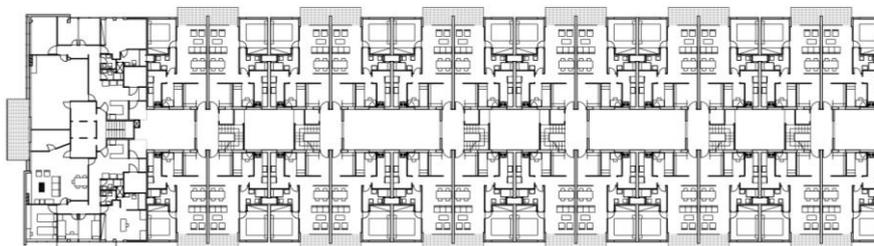
Source: Cuadernos, no. 62, 1965; Domus, no. 270, maggio 1952

Gio Ponti, one of the most prolific, oldest and culturally influential architects of Milan's Modernist movement, in collaboration with Gigi Gho for the C Building in the INA-casa Harar district (also known locally as the "white and yellow" building), presents a kitchen space similar to Donato's residence in avenida Hospital Miliat. The kitchen is in fact projected towards the exterior, occupying the right-angled triangle created by the conjunction between the gallery and the facade.

Double winged buildings

The H model has been on many occasions the basis for double winged buildings in which two parallel entities are joined by the staircase and separated only by a series of patios. The important foundation of this building type³ is the Mitre in Barcelona (1959-1964) designed by F. Barba Corsini. The Mitre is a double winged building parallel blocks (Monteys, Fuentes, 1998, p 19) that are 24,70 metres long. The floor plan arrangement does not derive from a simple juxtaposition of two long buildings but from the aggregation of six H modules to which is also added a main front portion bordering Ronda del General Mitre.

Figure 3. F. Barba Corsini, Mitre building, type plan, Barcelona



Source: redraw by Patrizia Benaglio.

³ The starting point of this typological serie is represented however by the vivienda de Flores in Madrid (1930-32) designed by the rationalist architect Secundino Zuazo Ugalde. He assembled the double winged building, transforming a closed entity into a dual unit system composed of two parallel entities so as to allow for better lighting and ventilation conditions. (Centella, Jordà, Landrove, 2009, p. 201).

The H type module is composed of two areas per wing, each with a surface of 123,50 gross square metres. Each of these areas can be occupied by one single apartment, divided in two sub modules creating two apartments, or further divided into three apartments creating an accommodation of 46 m² in the centre of the module. The Mitre's apartments have been configured above all depending on the housing demands: as a result, different sized apartments are available, suited for couples without children or for families with between one and five children.

The versatility of this configuration is confirmed in the Mediterráneo building (1964-68) designed by Antoni Bonet Castellana in calle Consell de Cent. Like in the Mitre, the four H modules correspond to several autonomous residential units. The basic module measures 28m in length and allows space for four apartments, each measuring 146 m². The spatial layout accommodates two long blocks, one in which are located the main bathrooms, positioned on the centre line of each of the H module's two wings, and the other, in which are located the kitchens, second bathrooms and utility rooms, positioned towards the patios.

The large dimensions of the Mediterraneo's apartments allows for a fairly spacious living room, positioned in an almost central position. Neither the Mitre nor the Mediterraneo make use of corridors, and circulation between rooms follows a path that moves around the living room; in Bonet's building the separation between living and sleeping areas is much more obvious, as is the definite distinction between served and servant spaces. From this angle, the Mitre presents a higher level of flexibility due to the necessity to overlap multiple functions in a reduced space.

The Mitre, Bonet's Mediterraneo, and other buildings such as Francesco Mitjan's Seida vivienda are large residential units that are references to the Unité d'habitation and to the distanced contemplation of the urban landscape.

Concerning the Mediterraneo, its urban significance is slightly different. The double winged building borders the edge of a block of buildings in Ensanche, following the rules imposed by the neighbourhood but also modifying them. The project "represents an effort to revitalise the Plan Cerdà" (Álvarez; Roig 1996, p. 170): the 28 m width enables control over the relationship between settlement typology and the continuous facade, as the double winged model results in a more efficient management of the typically deep plots that are characteristic of the Ensanche neighbourhood. Furthermore, while adopting the Plan Cerdà's isotropic system, the Mediterraneo offsets the wings of the H model, meaning the road-side façades exist on separate visual planes, creating a chaflán that is different to the usual oblique façades of Ensanche.

The projects based on the H module and the double winged building by the studio MBM are also turned towards integrating the urban fabric. The residence in calle Pallars (1958-61) is organised into one single unit in which the primary module is based on the H model, but doesn't have the space between the staircase and the apartments. The staircase is left visible using the voids created to give rhythm to the roadside façade. The building therefore appears to be a sequence of tower, each of which is composed by the two wings of the H model. The four apartments in each block are served by a double staircase located in the centre of the module meaning there is half a level's difference between the apartments located on side of the building facing the road and those on the opposite side. Kitchen areas and sanitation facilities are

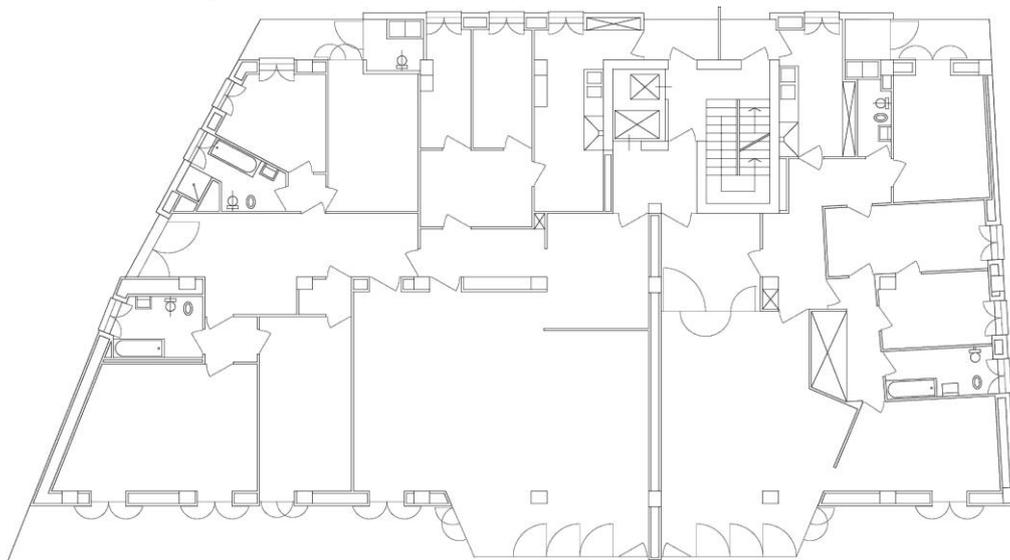
assembled around the staircase, the former being ventilated by the said staircase and the latter through a small ventilation shaft. The apartment measuring 60m² is a great accomplishment in spatial organisation, succeeding in providing two or three bedrooms each equipped with the essential in terms of furniture. The project was originally designed to occupy all four sides of the city block in the area of Poblenu, at the time an industrial district, adopting the foundation principles of the Plan Cerdà. It was then only built on one side, with at each end an oblique facade that characterises the chaflan.

In Milan, double winged and H model buildings are more rare although not entirely absent.

The Tognella building, named “casa al Parco” by Ignazio Gardella (1947-54), and the residential and office building designed by Gigi Gho in via Legnano (1956), characterised by a thickness wider than the usual Milanese construction, making it similar to Barcelona’s double winged typology.

The Casa al Parco represents for Gardella the beginning of a path of research exploring wider buildings that are structured into several sections. The bedrooms and facilities are located in the longer block that faces the road, whereas the living and dining areas and study are located in the block that faces the park. The apartments are distributed by a corridor located on the most internal part of the building in proximity to the connection between the two blocks. The floor plan is ordered slightly more rigorously compared to the built project and the refining of certain solutions: the kitchen, for example, initially located in the block containing the bedrooms, is moved towards the centre of the building, in contact with the staircase it closes the corridor and acquires a more obvious role as an area of passage, becoming a welding element between the two blocks. The living room, on the other hand, is defined by a perimeter drawn by a broken line (instead of being straight) that incorporates two of the pillars, anticipating a solution used later on in the building via Marchiondi, becoming more dynamic in its relationship with the outside.

Figure 4. I. Gardella’s house at via Marchiondi, Milan



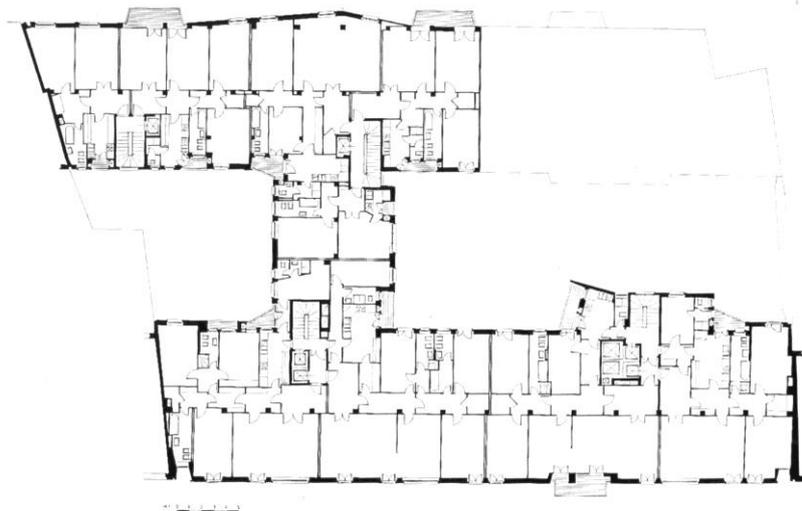
Source: redraw by the author

In the building via Marchiondi in Milan (1951-1953) (with Roberto Menghi and Anna Castelli Ferreri), the research in double winged buildings with several structural sections continues. Much like in the Mitre, among the clients were the same architects that reserved certain apartments for themselves. The distribution system as designed to be like a “superimposing villas” (Guidarini, 2002, 110), as the apartments built were of a prestigious character and the site of great environmental value, located in the area of the “Giardino d’Ercole” of the ex-Palazzo Melzi. The topic of superimposed villas combines individual living with urban conditions typically found in collective buildings.

The floor plans are not identical on each level. The structural system that uses pillars allows for an adaptable open-plan organisation that depends on the clients’ wishes. The floor plan for the building in via Marchiondi has been considered a unique stranger to the possibilities of type classification (Morresi 1995, 66-67) because of the obvious impossibility to design another building identical to it. In reality, the building falls into a precise type category, that of the open-plan (or better, adaptable), wide bodied building: in Milanese “condominiums”, the spatial potential of the pillar based structure to introduce variations in the floor plan from one floor to the next (as it can be needed for a system of superimposed villas) is frequently praised.

Gigi Gho’s complex in via Legnano (1956) is composed of two parallel, but offset, entities that are each 12m wide, separated by this same width and connected by a small transversal block. The utilities and staircases are assembled on the two internal facades; this is the most obvious similitude with the Spanish double winged buildings. The internal apartment distribution is served by a central corridor, as is often the case in Milanese residential buildings. As opposed to the Mitre or the Mediterraneo, Gho’s design does not make allusions to the residential unit, nor to the machine for living, but rather the project strives to come in tune with the urban fabric of an area in the city centre characterised by monuments such as the Arena or the Sforzesco Castle and its park, to which are turned the living rooms’ generous glass surfaces.

Figure 5. I. Gardella’s house at via Marchiondi, Milan



Source: Cesare Gho's archive

The building was published in 1958 in the issue n°342 of *Domus*, directed by Gio Ponti, who, nearly ten years later, designed a commercial building for the INA⁴ in a narrow triangular plot of the historic centre, between via Agnello and via San Paolo. The foundation type consists of two linear entities that touch the perimeter of the plot: the urban composition makes the complex plan similar to that of a double winged building, and could be a true evocation of those built in Barcelona.

Flexibility

The search for flexibility, intended as the possibility to overlap various uses and efficiently connect spaces in different ways, is a shared goal among many modernist architects. Such research appears at a time of crisis in the modernist ideal of unique correlation between form and function that came about in the early 1900's. A series of innovative works, such as Gerrit Rietveld's Schroeder House (1924), the villa in Mattoni designed by Mies Van Der Rohe (1924) or the Petit Villa of Le Corbusier (1925), signal the passage from a partitioning of space in separate rooms to an idea of continuous and open-plan space (Ottolini 2010, pp. 46-48). This type of research responds to the growing importance of the topic of movement present both in architecture and in figurative and literary arts.

Barba Corsini in the *Mitre*, the residential project succeeds in not only making the spaces communicate with one another, but also in connecting them as part of a "unified whole". The architect uses the term "elasticity" but it effectively used to mean flexibility. Such choices were already experimented with in rationalist works such as the famous Schroeder House by Rietveld in Utrecht (1924) and Le Corbusier's Housing project in Loucher (1929). The *Mitre* therefore falls within the experimentation process brought forward by rationalism in which the apartment's entire spatial structure is redesigned, eliminating the rigid partitions and substituting them with "mobile barriers", obtaining also a better continuity of space (Ottolini, 2010, p. 45).

One of the most interesting elements in Barba Corsini's *Mitre* project, that greatly determines its relevance today, is the conception of domestic space thought for "small, elastic and versatile" apartments. The modest surface that occupies each dwelling, due to the necessity of maintaining a high population density and containing the cost of rent, requires the development of overlapping uses in the same space within each apartment. This type of operation constitutes one of the fundamental principles of flexibility, a technique that allows for variation in the organisation of space in relation to the different and changing demands in use, adapting the dwelling to possible adjustments in a brief period of time.

In the *Mitre*, the smaller apartments of type A or B occupy a quarter of the basic module and are designed for couples without children or for families with three to five members. The overlapping of functions allows a great difference in the available surface for each person. While the location of the double bedroom, positioned towards the external facade, remains constant, as does that of the sanitation services and kitchens, the space located towards the internal facade, comprised between the kitchen and entrance, can vary, becoming the *comedor* (dining room) or

⁴ INA stands for Istituto Nazionale di Assicurazioni

a bedroom for a number of people from one to three. In the first case, the bedroom is of a conventional arrangement, but in the other cases it contains niches in which beds and other furniture are arranged in order to use a minimum of space. The entrance overlaps with the sleeping area, obtaining a “walk-through” bedroom where the sleeping niche is separated from the path by a folding wall. The theme of the mobile wall appears also in the master bedroom where the wall that separates it from the living room is mounted on rails, generating a contamination between rooms and a perception of expanded space.

In the building in via Dezza (1956-1957) Gio Ponti designs an apartment for him and his own family in which he deepens his research on living that started with his participation in the “Novecento”⁵ movement, and achieved a refined ability to combine spaces, furniture and materials. Among the key points of his research, he experimented in 1956 with certain flexible solutions considered quite radical in a design for a four person dwelling: a residential module based on non-orthogonal geometries equipped with folding partition and furniture fitted following oblique arrangements in a way that facilitates the circulation of light and ventilation.

The distribution system limits the use of corridors and even the concept of separate rooms is questioned: the spaces aren't divide with the aid of walls and doors but with mobile walls and partitions. Towards the facade, the mobile “modern fold” walls are arranged in a sequence that allow to visually connect the main bedroom, the living room, and the children's' bedroom. The same type of visual continuity is obtained, using the same system, between the master bedroom, the living room and the kitchen. The bedrooms can serve varying uses connected to rest – that require isolation – or connected to shared activities. There are no predefined rooms but spatial nuclei that penetrate each other in a varying and dynamic way so as to create a unique spatial dominance (*Una casa a pareti apribili, 1957*).

Conclusions

What distinguishes Milan and Barcelona's architecture from rash professionalism is its capacity to establish precise design topics and treat them coherently: the relationship between architecture and the city, seen as an architectural entity bound by the city, making architecture a constitutive part of the urban fabric and not an object of design subject to the dialectic between progress and tradition. Indeed, one of the elements of continuity between the Schools of Barcelona and those of Milan is to consider architecture as a representation of its construction: the typological and technical choices give consistency to the architectural entity, combining it with intention of form. In concrete terms, the formal aspects are not derived from volubility but must comply with grammatical and syntactic rules upon which the coherence between elements derives, a coherence from which the architecture is composed.

Regarding the topic of spatial organisation, it is clear how it influences people's lives and the way they occupy a dwelling. Between Barcelona and Milan in the 1950's and 1960's, basic theories are put forth so as to control in an innovative way the reciprocal relationship between different spaces.

⁵ The Novecento is a stylistic and cultural Milanese movement conventionally starting in 1922 with Giovanni Muzio's Ca' Brütta, and continued until the arrival of rationalism. Among its principal protagonists are Aldo Andreani, Giuseppe De Finetti, Alberto Alpago Novello, Piero Portaluppi, Emilio Lancia and Gio Ponti.

Bohigas, when talking about the School of Barcelona, affirmed that a general attitude was present and could be recognised in method, and that such a method concerned the desire to design in an environment of internal constraints and technical restrictions, and, with a system based on reality, was defining a field of action. It's a theory similar to the one applied in the School of Milan, in particular by Franco Albini, who considered that "true" freedom in a project was in the voluntary compliance to a rule (Garzena, Salvestrini, 1979, p. 46).

The research concerning the H model, the geometric variations of the walls, and the double winged entities, are all expressions of a desire to search for the highest possible limit in an environment in which construction is predetermined by regulations, clients' demands and the lack of freedom, for both Milan and Barcelona, to significantly transform the city. With Franco's dictatorship on one hand, and the economic miracle on the other, advanced social programs such as the heroic rationalism of the Siedlungen were no longer permitted. It was however possible to express modernity through the mutation of typological conception and through the design of facades. This, however, is another story.

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IN SEARCH OF THE RATIONAL CITY

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Abstract

Lots of studies and projects about the city today are focused mainly on different types of transformations, leading to “new” urban configurations that will ultimately deal with “new” contemporary and future problems. They seem, however, to forget about the human being whose perception and comprehension of the city is mainly based on its past. There are still some attempts made to address the rational balance of old and new, of traditional and modern, of purely formal and purely functional, of beauty and progressive aspects of the city. The article explores the theme of rational attitude in architecture and urban planning. The author searched for traces of such themes in contemporary developments of the IJburg district of Amsterdam and of the Ypenburg Center near The Hague. These examples may help to discuss the role and critical potential of the traditional urban and building typology in the transformation process of cities and territories that lead to new urban configurations. Both the above-mentioned projects use “old” well known, readable, clearly defined and of human scale urban and architectural types (peripheral blocks, towers, main streets, public squares, semi-private courtyards) as design tools that can provide extraordinary creative and instrumental possibilities; types that represent not only an abstraction of urban and building configuration, but act as carriers of cultural meaning and identity. The author looks to address this question and explore possible solutions that will reinstate the rational city in the present day.

Key words: rational city, typology, IJburg, Ypenburg Center

“Whatever general attitude may be adopted as to the relevance of tradition to modern life, it cannot be denied that of all institutions it is the city in which the past is most tangible”.¹

¹ A. Colquhoun, *The Superblock*, [in] *Essays in Architectural Criticism. Modern Architecture and Historical Change*, Massachusetts, and London, England: The MIT Press, Cambridge, 1986, p.83.

The City today

Today, a great part of architectural design is highly influenced by digital technologies, new materials and building techniques taken straight from science fiction, and seem to look solely toward the future. Such architectural objects are being seamlessly perceived and accepted, some of them even becoming “icons of architecture”. At the same time, the popular idea of beautiful and good-to-live cities are being continuously related to nineteenth-century or even older images and concepts. The statement of Alan Colquhoun made in the 70’s seems to be relevant: “To a large extent our ideas about pleasant and meaningful city environments are based on our actual experience of living and working among the buildings and city structures of the past”.²

However, concerns appear that the “old” criteria of aesthetics are becoming inappropriate to the value of contemporary city planning³. Aesthetic of – beautiful, pleasant, filled with memories and the possibility to identify with – city, seems to be too subjective to be a guiding principle for urban planning. Aesthetic that is not able to keep up with environmental, social, economic, communicational needs, creates dilemmas and problems of an unbalanced contemporary world. How can this contradiction in aesthetics be overcome?

“Urban areas have been caught up in a turbulent process of transformation over the past 50 years and settlement conditions mutate rapidly. The transformation of the traditional city, as well as modes of peripheral expansion and infrastructures comprises a new landscape for contemporary projects. At the same time, issues such as mobility, nature, water management, energy use and public space are pivotal in each case.”⁴ A number of studies and projects about the city are focused mainly on the different types of transformations leading to “new” urban configurations that will deal with “new” contemporary and future problems. However, they seem to forget about the human being whose perception and comprehension of the city is based on the past. At the city level, it is of course hard to understand what is expected of urbanism because the needs are diverse and change with time and the social environment, but general human needs and expectations to the city conditions have not changed as much.

Rem Koolhaas express disappointment in the failure of urbanism arguing that: “now we are left with a world without urbanism, only architecture, ever more architecture”⁵. Urbanism replaced with architecture creates a gap in the overall understanding of the city beyond that of the architectural object. The “good city” is being reduced to an “architecturally significant city”, that instead contains a growing number of interesting buildings that command our attention. Gathered building-icons (like museum exhibits) are transformed into “monuments”, that more frequently look like they are coming from “another reality”, making up the portrait of the city. It seems that the pursuit of a building as strong sign has become the mainstream of contemporary design. Nevertheless, these building-icons are often inserted in the semantic emptiness of the

² Ibidem, p. 83.

³ *The state of Architecture at the Beginning of the 21st Century*, (ed.) B. Tschumi, I. Cheng, New York: The Monacelli Press, 2003, p.11.

⁴ Dick Van Gameren, Michaiel Riedijk, Preface, [in] *New Urban Configurations*, (ed. Cavallo, R., Komossa, S., Marzot, N., Berghauser Pont, M., Kuijper, J.), Delft: Delft University Press, 2014, p. 11.

⁵ Rem Koolhaas, *What Ever Happened to Urbanism?*, [in] OMA, Rem Koolhaas, Bruce Mau, *S,M,L,XL*, (ed. J. Sigler), The Monicelli Press, New York, 1995, p. 967.

city, a city that no longer offers a human scale and loses sense of specific readable, comprehensive and conceivable urban space and identity. Some contemporary solutions may even be seen as highly irrational and anti-urban. As Dariusz Kozłowski states distinctly: “The evoked/memorized city of dense, architecturally and psychologically readable spaces has died. The composition has been replaced by buildings according to economic game, imperfectly corrected by nostalgic intentions. The compact space of the city, permitting the inhabitant, the traveller (and the architect) to identify with it, has come to an end. The amorphous formation of freely built-up terrain is spreading”.⁶

The Rational City

The term “rational” – in the context of the city – is commonly associated with early 20th century modernistic rational urban planning; urban planning that wished to create a more civilised version of the world than the one already existing – “the City of Tomorrow”. Using scientific methods based on statistics or theory of probability, theoretical systems were conceived to solve the problems of the city. Today, it is often seen as a view plagued with flaws; it is accused of turning the city into abstract categories, that valued efficiency above aesthetic considerations or historical continuity. Urban doctrines of Le Corbusier act as icons of these modernistic utopias; His unrealized urban machines have been rejected as soulless and deprived of human scale. It is conceived with a kind of intellectual work out of urban planning. Rem Koolhaas comments on it: “Modernism’s alchemistic promise – to transform quantity into quality through abstraction and repetition – has been a failure, a hoax: magic that didn’t work. Its ideas, aesthetics, strategies are finished”.⁷ Are they⁸ really all false and/or finished? What can we learn from the Modernist’s vision and its pitfalls today? Lots of time has passed but new cities’ problems are increasing, old not having been reduced.

In the second half of the 20th century, some attempts were made to deal with the contemporary city, different from those of modernistic provenance. Rationalists, like Aldo Rossi searched for solutions that could help to regain balance in urban planning. He suggested that our knowledge of what is considered beautiful or ugly in the city is based on our memory of its past forms, since, without assuming continuity of cultural meaning, no aesthetic judgment is possible⁹. Rationalists found historical determination still important and believed its meanings inherent in the typology of the traditional city. They searched through time and across cultures to find spatial patterns and compositions that speak through analogy. Léon Krier arrived at a similar configuration after comparing the spatial structure of traditional cities with spatial structures of contemporary cities. He perceived the history of architecture and city’s culture as a history of types: types of settlements, types of spaces (public and private), types of buildings and

⁶ D. Kozłowski, [w:] PRETEKST – Zeszyty Katedry Architektury Mieszkaniowej, nr 1.2004, p. 41.

⁷ R. Koolhaas, Op. cit., p. 961.

⁸ E.g. modernists solutions were based on the conviction of the existence of universal geometric measure.

Nevertheless geometry in urban planning was not invented by Modernists, in Renaissance’s Ideal Cities’ perfection was already determined essentially by geometry.

⁹ A. Colquhoun, Op. cit., p. 97.

construction¹⁰. Dariusz Kozłowski describes the city as a collection of “architectural things”. But before they could be named – theatre, palace or temple – lines, surfaces and solids, rules for space had to be established¹¹. He connotes the city’s tradition as based on forms of: “streets” – readable space of people’s encounters, “houses” in lines of frontage – true shelters and “city blocks” – external spaces and hidden interiors. These were some recovery’s pursuits of a rational attitude towards city planning and architecture.

It would seem that the urban planning, like any field of science has a requirement for rationality. “Rationality”, as in the characteristics of thinking and behaving, boiled down to the purpose and meaningfulness. It would seem that urban planning (which leans towards universal and intersubjective solutions), should especially prefer to have roots in rationality. As Władysław Stróżewski explains in his theoretical considerations: “We say that something makes sense, if it is rational, if it can be identified, explained, justified. Something is meaningless if it does not meet these demands. Meaninglessness is then one of the possible cases of irrationality”.¹² It seems obvious that the choice of urban and architectural form is never a coincidence, that specific intent and purpose underlie every decision. However, many examples from the past and present urban planning and architecture raise the question about the legitimacy of certain solutions. Some of the failures have been caused by taking the wrong motivations and aims, while others probably lost their way to their goal. Such solutions will be inclined towards formalism, structuralism, functionalism – where the balance is lost. Many contemporary examples show the desire of novelty and surprise. Amazement becomes the aim of the authors. Their functional and formal solutions seem to stand outside the category of reasonability. The limit of rationality (and meaningfulness) is a contradiction, incongruent or absurd. Many modern examples exceed this limit, posing questions about the meaning of their functional, technical and formal solutions, while others hold on to the idea of rationality, and do not lose sight of the real purpose.

What does a rational city mean to us today? We would like to say that it should rely on common sense, but it may sound clichéd. It would be better to say it should rely on balance. Balance between the past and the present, between tradition and modern consciousness, between formal and functional, between analogy and creativity, between order and diversity. We should not copy, but move with caution between historical knowledge and contemporary issues in order to envision and construct a bright future.¹³

Traces of the rational City

The following chosen examples are new city developments that didn’t have any historical or material foundations. On the one hand, it seems to be easier to create an “ideal city” from the ground up, but on the other hand, with such a lack of context, there is always a danger of creating a city without any consciousness of tradition, and one without identity or urban spirit.

¹⁰ Krier L., *The reconstruction of the city* (1978), [in:] *The Rationalist reader. Architecture and Rationalism in Western Europe 1920-1949/ 1960-1990*, (ed.) A. Peckham, T. Schmiedenknecht, Routledge, 2014, p. 269.

¹¹ D. Kozłowski, Op. cit., p. 51.

¹² W. Stróżewski, *Istnienie i sens*, Kraków: Znak, 1994, p. 425.

¹³ Dick Van Gameren, Michaiel Riedijk, Preface, [in] *New Urban Configurations*, Op. cit., p. 11.

These selected developments present attempts to retain the rational balance of old and new, of purely formal and purely functional aspects of the city. In these cases, the idea of creating an intimate relationship with city tradition and its universal values in architecture and urban planning can be recognised. We may find such traces of rational attitude in contemporary examples of IJburg district in Amsterdam and Ypenburg Centrum of Rapp + Rapp in The Hague.

IJBURG

In the 1980s, Amsterdam began to be unable to provide a sufficient housing capacity to maintain the population within its boundaries. To help deal with the housing shortage, some planning interventions were focused on water-related areas. In the mid-nineties, the City Council decided on a large-scale reclamation for the new urban area on the eastern side of Amsterdam. IJburg – a major urban development of a new residential district (for 18,000 residences and 45,000 citizens, offering 12,000 new jobs to the area), was to be built on a loose arrangement of archipelagos of artificial islands (ultimately 10) in the IJmeer lake. The project was planned to be completed in stages¹⁴. In 2001, the first building was completed on Haveneiland West. In 2002 the first inhabitants arrived.

Figure 1. IJburg, Amsterdam



Source: <http://amsterdamsmartcity.com/projects/detail/id/45/slug/ijburg>

Whereas the composition of the archipelago as a whole is quite irregular, the islands themselves have simple geometric structure. The whole development is governed by a highly detailed masterplan (by Palmboom & Van den Bout, 1995), the implementation of which is strictly regulated. Nonetheless, within its framework, a place was left for sustainable flexibility, for design work to be undertaken by various teams of architects¹⁵. The urban design scheme is based on a neutral raster of rectangular urban blocks, rectilinear streets, green strips and a

¹⁴ When complete, IJburg will cover a total area of 660 hectares.

¹⁵ i.e. de Architecten Cie. , Claus en Kaan Architecten, Baumschlager&Eberle...

system of waterways of varying width. Architecture within the fields of the grid was not imposed, which results in a rich variety of forms.

The public space is shaped by a simple street plan. The main street – IJburg-laan, with its IJtram and boulevard along the bay, are the base of the structure. A number of cross streets (Fig. 3) create visual links between the coasts of the islands. The dominance of the water guarantees views and openness. The typical, urban public nature of the streets is strongly underlined. The perimeter blocks in turn, are large enough to create an interior world with courtyards ('hofjes' like in the historic centre of Amsterdam) and gardens that provide intimacy, in contrast to the long streets and distant views. Many densely built blocks are also crossed by canals, with semi-private spaces facing the water (Fig. 2). Some parts of the city seem to rise up directly out of the water, making for a unique sight.

The condensed close-knit communication grid allows for a number of ties between the banks, the jetties, the bridges and the buildings, and make this readable rigid scheme more user-friendly. A dense network of streets helps to avoid formal and functional monotony and provides human-scale to the scheme. A rigid street plan, however, gives space for the multitude of small typological and architectonic variations. Each urban block is held to a design framework but within this framework, there is a high degree of variation with regards to façade arrangement and the choice of colours and materials used.¹⁶

Figure 2, 3. IJburg, Amsterdam



Source: by A. Mielnik, 2013

The housing in IJburg is varied in types, including high rise apartments, low-rise housing blocks of flats, townhouses, terraced and detached houses. All sectors are catered to, from social rentals to mid-priced housing, to exclusive waterside condos, and even owner-occupied dwellings. Around 30% of the housing was planned to be privately owned, 30% for social rent, 30% for middle income housing rent. Providing a full spectrum of housing creates a diversified dwelling environment. The high density of the buildings fits with the strongly urban culture of Amsterdam and gives the development suitable character of a homogeneous continuous city.¹⁷

IJburg has been planned as a self-contained district with its own community facilities, shops, offices and schools, sporting areas, parks, restaurants, bars, beaches, yacht harbour and

¹⁶ <http://www.dac.dk/en/dac-cities/sustainable-cities/all-cases/master-plan/ijburg-city-of-islands/> [12.01.2015]

¹⁷ *Drawing the Ground – Landscape Urbanism Today. The Work of PALMBOUT Urban Landscapes*, Basel: Birkhäuser, 2010, pp. 67 – 68.

various new nature reserves. Serving functions as well as (office sectors) are distributed among residential buildings or even mixed with buildings avoiding the functional zoning. Predominant residential areas are complemented by diversified functions.

Each island has its own character, in terms of formal, functional and density aspects. Each neighbourhood has a distinct feel. The idea of the project was to provide diverse occupancy and mixed aesthetics, allowing for mixed ways of habitation. Some areas have a more open urban character – with high rise buildings, blocks, urban villas, quayside promenades and facades dropping directly to the water's surface. There is also a more introverted area of medium density four-storey townhouses with small narrow streets (Fig. 4). Townhouses of similar volume, height, conformed to a building line, represent, nevertheless, a mix of architectural styles, materials and colours. An area with row houses and two-storey terraces was also created. There are also a number of individually designed, self-commissioned, freestanding dwellings. The diversity of housing typologies is complemented with hybrid building types (sport hall with residential) and with innovative ones i.e. a neighbourhood of completely floating homes¹⁸ (Architectenbureau Marlies Rohmer, 2011). Some parts – mostly those with a natural environment, differentiated shorelines and planned greenery – take on a more loose-fit, organic feel.

Figure 4, 5. IJburg, Amsterdam



Source: by A. Mielnik, 2013



¹⁸ Houseboats, floating hotels and restaurants are a familiar sight in Dutch cities but these are always individual units and bear more resemblance to boats than to houses.

An example of a building strongly referencing the traditional morphology and architecture of the city is *Solids* (Fig. 5), the project office of Baumschlager & Eberle (2011). Solids, a very exposed, corner building with a clock is located "at the entrance" to the largest of the islands. It stands as a visual accent – an urban dominant. It begins the city tissue, gives it the urban character and creates or even imposes an atmosphere of the place. The creators decided the project have the character reminiscent of traditional urban offices and residential buildings with colonnades, ordered distribution of windows, balconies, spectacular stone cladding and careful detail. In contrast, the interior of the building, with open plans, is radically simplified, allowing arbitrary division of space, and in doing so, providing functional flexibility. The name "Solid" reflects the strong character of the building and the specific type of functionality.

As it can be seen, IJburg was, on the one hand, designed as a very independent district and on the other hand, designed as a continuation of the main city. The creators did achieve a design that avoids the connotations of a typical housing estate of suburban character.

IJburg (unlike older districts of Amsterdam) cannot look back on a rich past and its collective experiences that might help to define its local character and identity. Making use of the value of traditional urban solutions and recognizable building types, can be seen as an attempt to replace this lack of historical context. Maybe that is why IJburg was created as a combination of old (planning scheme, types) and new (forms, materials); a traditional outline with a modern filling.

As Jeanne van Heeswijk¹⁹ (one of The Blue House²⁰ artist's) remarks: "Though IJburg is not a 'problem' area, it is lacking something extremely important, namely a history – a social and human history, stories, life and a beating heart. Each of these qualities and elements must grow, and cannot be planned on the drawing board or built by a contractor. It has been demonstrated that these qualities are decisive for an area's identity as well as for its inhabitants and users. They are therefore of crucial importance".²¹

The question can be raised if this scale of spatial intervention can eventually effectively and sustainably operate and if there exists a negative impact of over-planning. Nonetheless, it seems that the planners have done their best in IJburg to make a regulated planning system resident-friendly. It turns out that it is possible to create a very uniform grid masterplan that does not impose a monotonous look but establishes conditions for achieving a balance between order and chaos, cohesion and variation, familiar and new – diversity in various fields. It can merge a varied mix of neighbourhoods and create a strong and unique sense of place and identity.

YPENBURG

The next project also took advantage of an emptiness within the site, one with no historical context. The architectural office of Rapp + Rapp was responsible for the urban and architectural

¹⁹ http://www.jeanetworks.net/#/essays/the_blue_house/ [21.01.2016]

²⁰ Being situated within one of the first blocks to be developed on IJburg, The Blue House offered a platform to observe how the district took shape and the way in which people went about using, appropriating and changing the public space. The Blue House art project closed its doors at December 30 2009.

²¹ <http://www.publicartonline.org.uk/casestudies/regeneration/bluehouse/description.php>

project of the Ypenburg Centre²² (2005), which can be considered as an example of typological thinking on a large scale. The urban layout of the centre of the new expansion near the Hague, established on the former grounds of a NATO airfield, was created by nine closed perimeter residential blocks combined with commercial spaces on the ground floors. The project accommodates 480 housing units, 525 underground parking spaces and 20,000 square meters of commercial and non-commercial space. The sheer massiveness and urban character of the development strongly contrasts with the mixed character and stylistic discontinuity of the surrounding monofunctional domestic outskirts – i.e. fields of mainly single-family dwellings (see: Lego houses by MVRDV, formal experiments from Van Gameren en Mastenbroek, and pithy architecture by West 8). Nevertheless, the ensemble of Rapp & Rapp avoids introversion and carefully relates to Ypenburg's urban fabric.

The initial masterplan's framework (Frits Palmboom's) of the centre as one enormous superblock has been revised. An originally hermetic logic of plan turned out to be surprisingly sensitive to modifications over 8 years of Rapp + Rapp work. Architects gave apparent flexibility to the conventional form of the city in the form of urban blocks and streets. Perimeter blocks were more or less distorted to trapezoids, thus creating some wedge-form public spaces in between. The blocks running along the south side, frame a series of squares offering views to the public park and an artificial lake. Most of these spaces taper in the plan as they approach the lake, introducing a sense of false perspective.²³ The southern "face" of blocks forms an impressive semi-circular front towards the water. The broadest street cutting across the ensemble contains the tramway that connects Ypenburg to The Hague – opening out to the view, drawing "nature" into the city.

The dimensions of the blocks correspond with those of the neighbouring buildings, and the two main streets which cut the plan (along and across) are a continuation of neighbouring streets. The adjacent estates are thus drawn into the urban composition of Rapp & Rapp's project, underlining the status of the ensemble as a communal centre for the area as a whole.

Semi-private courts within the perimeter blocks are accessible only by the residents and apartments are reached from inner galleries. Nine slender residential towers of different heights (from three to nine storeys) rise up irregularly from the bottom four-floors blocks, marking the entrance to the residential parts. The towers are capped with differently shaped penthouses of glass brick, that act as light sculptures at night. Vertical accents of towers resemble the silhouette of the Castelfusano shoreline project of Adalberto Libera from 1933.²⁴ These towers can be seen as beacons, orientation elements – landmarks clearly visible from far away, creating a visual identity for Ypenburg.

In Ypenburg, the intention was to avoid isolated functional zones. An area of concentrated commercial functions configured in a stage of the master plan has been turned into a shopping main street running north-south. The street is lined by a supermarket, sundry shops, social and cultural facilities, other services and a parking area that is large enough to accommodate the weekly market. Moreover, one of the housing blocks consists of a quadrangle of dwellings with a sports hall at its centre. Creators wanted to avoid a purely functionalist approach of the typical

²² The new district, Ypenburg, (construction began in the 90s as part of the VINEX Housing Program) was conceived as an urban field between the cities of Delft and The Hague. It comprises a linear framework of public spaces, with different "fields" in between.

²³ H. van der Heijden, *Rapp & Rapp's cutting-edge normality*, 15.08.2008 [in] <http://www.building.co.uk/rapp-and-rapp%E2%80%99s-cutting-edge-normality/3120434.article> [10.05.2015]

²⁴ Ch. Rattray, *Dutch Selected Projects*, [in:] *Architectural Design – Rationalist Traces*, 9/10.2007, p. 75.

contemporary suburb centres in the shape of centralized shopping malls and other commercial facilities.

Figure 6, 7. Ypenburg Centrum, Rapp+Rapp, The Hague, 2005



Source: <http://www.rappenrapp.nl/en/projects/ypenburg-centre>

The architectural approach of Rapp + Rapp doesn't seem to be avant-garde, it shows no excess or shocking innovation. The buildings have neutral, prefabricated, concrete plinths with almost classical grooves and protruding cornices expressing the floors' divisions. Above, the facades are of orange bricks – stepping back five centimetres at each ascending storey, while the window frames remain in the same alignment. The window layout is rhythmic and repetitive, their fixed position in the vertical plane is maintained. Withdrawal storeys, and thus slight differences in the depth of the embedment of windows, endue some shadow's play to those severe and massive facades. Simplicity, monotony and the massiveness of architecture are broken by these subtle and intricate details. A neutral and repetitive quality of facades compensates the surreal effects (non-parallel facades) and spatial distortions generated by the urban composition.

The project maintains a unique balance between the scale of architectural detail and urban layout. Between distinctiveness and pragmatism. Between stringent use of geometry and sophisticated thoughtful detailing. Between rigid types and their possible flexibility. Between evident form and indispensable function. Despite overcoming the rigor of the traditional arrangement of the city based on urban blocks, streets and squares, the Creators' desire to preserve the urban typology and morphology of urban facades is strongly felt. The architects manoeuvred in a controlled manner within the conventions of traditional and modern urban design. The dense urban feeling of a large-city centre is enhanced.

This strong urban and architectural project may be seen as a formal and functional keystone – of the heterogeneous Ypenburg's whole. Christian Rapp quotes Mies van der Rohe: "Building

the city starts when you put one brick on another”.²⁵ Here, the architects opted for a solution that wouldn't isolate Ypenburg from the surrounding urban fabric, but one that would form a strong urban unity. The Ypenburg Centre gives the impression of large form; the solid uniform mass with carved out spaces and added towers. Rapp & Rapp's proposal responds to the complicated urban conditions of Ypenburg with a clearly defined project with a high degree of simplicity as a result of their rational attitude as designers.

What is rare today is that no attempt was made here to give separate buildings their individual, distinctive function, form and character. “Rapp & Rapp did not fall into the trap of adding a new icon building to Ypenburg's already rich architectural catalogue. If there is anything iconic about this project, it is not its object quality but the ambience that the public spaces, buildings, and even the light sculpture, generate in joint effort.”²⁶ As they admit themselves, they avoided fashionable interventions that quickly give designs a dated look. This project illustrates their longing for enduring spatial configurations and architecture. We may say that the project even seems to look back to the city from the past (Renaissance times): to “the city that is conceived as a solid, carved up by streets, hollowed out by squares, and articulated by public buildings”.²⁷

Conclusion

These examples may help to discuss the role and critical potential the “traditional” urban and building typology has in the transformation process of cities and territories that lead to new urban configurations. Both developments use clear urban schemes of perimeter blocks and streets that provide cohesion. As positive aspects of an ordered urban system, we may consider: readable, instinctively comprehended compositions and communication schemes, consciousness of its totality, better space orientation and the ability to quickly mentally map out the streets. An orthogonal pattern of streets and blocks can nevertheless leave space for flexibility, diversity and for mediation between the individual and the city as a whole. Urban planners and architects must not forget to introduce elements of visual irregularity and some “breaks/interludes and reinforcements of city scenery”²⁸ (i.e. dominants, clearings) to those rigid plans to avoid potential oppressive and inhuman infinity, repetitiveness and monotony. Spatial order must be complemented by the diversity of forms.

Both above-mentioned projects use “old” well known, readable, clearly defined and of human scale urban and architectural typologies (blocks, towers, main streets, public squares, semi-private courtyards) as design tools that can provide extraordinary creative and instrumental possibilities. Type allows for the synthesis of content and matter both in the building and the city's tissue. It gives us some information encoded in the form. It represents not only an abstraction of urban and building configuration, but is also a carrier of cultural meaning and identity. It may also lead to a resurgence of the city and its architecture of human scale and measure.

These developments may not be seen both in terms of planning and architecture as something spectacular. The architects were not interested in creating architectural signs. Their intention

²⁵ Ch. Rapp, *Über “Stadtkronen” und die Rationalität unter Politikern und Kaufleuten*, [in:] *Rationale Architekturen. Für eine verbindliche Methode*, Firenze: Aión Edizioni, 2012 p. 87.

²⁶ H. van der Heijden, Op. cit.

²⁷ A. Colquhoun, Op. cit., p. 84.

²⁸ J. Jacobs, *Śmierć i życie wielkich miast amerykańskich*, Warszawa: Centrum Architektury, 2014, p. 390.

was to create rational i.e. – well balanced, user-friendly cities. Cities that by their functional and formal diversity will be well-functioning and architecturally attractive through the decades, not just in the present. The words of Deyan Sudjic come to mind: "Perhaps as secession, which flared briefly in the late nineteenth century, the contemporary iconic architecture has become so pervasive that in a moment it will disappear".²⁹

The urban architectural world wanted to be liberated from the burden of tradition for a long time, creators becoming alienated from their own sources, history. Maybe it is time to find meaning in inherited urban planning and architecture again. Younger generations may not sense the loss, but unconsciously, they feel uneasy in spaces of lost identity. In spaces that are both empty and dense, lonely yet heavily populated.

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²⁹ D. Sudjic, *Kompleks Gmachu. Architektura władzy*, Warszawa: Centrum Architektury, 2015, p. 366.

ISLAND CITIES - A RESTRICTION OR AN OPPORTUNITY?

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Key words: Island city, Urban form, Urban development, Urban history

Abstract

In literature islands are seen as mythical symbols of distance and solitude. Since cities are certainly physical things, the cities on islands can provide fine examples to consider the real versus the unreal.

The paper is an attempt to discuss the cities localized and built on islands. It tries to pinpoint their specificity and provides introductory classification in order to help distinguish the island cities in terms of their position within surrounding waters (sea, river, lake); size (area and population), urban form (organic, gridded, mixed). The statistical data and estimate figures are used. The historic and geographic scope is not limited. The examples from different continents and various historic periods have been taken into account to provide a wide range of possible tracks of development. Apart from Venice, which is an obvious choice, the selected and discussed cases are Mont Saint-Michel, Nesebar, Flores, Kazimierz (in Krakow), Manhattan (in New York), Singapore. The discussion begins with the genesis of a particular example and follows with its further transformations and present situation.

The localization of the city on the island seems to influence the urban form in a specific way as compared to the non-island localization. The main features of that phenomenon are: increased defensiveness, higher stability, and the focus on careful use of limited land resources.

The city's localization on the island can be perceived nowadays as a means of restriction against its further development. However, it often offers a chance for their future existence, providing the settlement with stability and self-assurance. It is specially noticeable in the historic island cities, due to their unique urban form and image which have resulted in the recognition of their values and appropriate heritage protection.

Definition and importance of islands

According to the most widespread definition, islands are parts of land that are surrounded with water and thus separated from mainland. Islands differ considerably one from another but they

also form certain groups. There are a number of possible typologies of islands, which result from the assuming of different criteria:

- typology according to the size: from the biggest one (Greenland) to uncountable smallest islets and skerries;
- typology according to the location: in the oceans and seas, in the rivers, in the lakes;
- typology according to the number of inhabitants: from non-populated (desert) to heavily populated.

The most recent period (late 20th century – early 21st century) has added yet another possible typology. A category of artificial, man-made islands emerged as opposed to a category of natural islands which had seemed to be the only obvious type. Certainly, that new type could be tracked in the past, too, exemplified e.g. by fortification islets such as ravelins built within the moat. However, one has to note that never before the end of the 20th century had man possessed so extended tools and chances of creating artificial islands in terms of their sizes and other technical parameters.

Comparing to their geographical and economic importance, which may be similar to the mainland counterparts, islands are relatively seldom discussed with regards to their urbanization. In most of the historic periods the islands offered, to the potential islanders' communities and intended settlements, the conditions that differed from the mainland ones. The main differences were:

- increased level of safety due to natural defensibility;
- specific conditions of traffic and communication, which proved to be of importance to early communities that had mastered the means of maritime transportation and navigation;
- more clearly determined opportunities of development in terms of available land.

Apart from their measurable characteristics, islands have played important role in literature and art, which can be observed practically since the beginning of Mediterranean and Western civilization and culture. The early examples may be found in the religious or mythical notions of the Fortunate Islands and the Atlantis land, the latter usually imagined as an island as well. Some of the most meaningful books' plot was set up on islands of very limited size and population often consisting only of the book's characters: "Robinson Crusoe" by Daniel Defoe (1719), "The Mysterious Island" by Jules Verne (1874), "Island" by Aldous Huxley (1954), "Lord of the Flies" by William Golding (1962). The painters dealt with the subject, too: Sandro Botticelli, Claude Lorrain, William Turner, Salvador Dalí. Islands, not necessarily the desert ones, have often been regarded as mythical symbols of distance and solitude. On the other hand the settlements built upon them, including cities, are certainly physical things. Therefore the cities localized on the islands can provide fine examples to consider the real versus the unreal.

Typology of island cities

The cities that exist on the islands can be divided into two main groups. The first group consists of cities whose size and/or population is relatively small as compared to the size and/or population of the entire island, although the cities themselves might be really large ones. Those are the cases of outstanding cities quoted in the Table 1: London (Great Britain), Reykjavík

(Iceland), Copenhagen (Zealand), Palermo (Sicily), Jakarta (Java), Tokyo (Honshu), Taipei (Taiwan), Auckland (North Island of New Zealand), Hobart (Tasmania), Havana (Cuba), Antananarivo (Madagascar), as well as many other cities and towns. With some exceptions, most of such cities occupy less than 1% of “their” islands’ area and are inhabited by less than 20% of “their” islands’ population. Moreover, they share a lot of factors responsible for the genesis and urban development that are typical (or at least similar to) of the mainland cities. The island’s features in those cases refer rather to the larger scale of the entire country or state. Such cities are omitted from further deliberations in the paper.

The number of the cities that can be actually and properly called the island cities is much smaller. The basic feature of an island city is the fact that it occupies most (or all) of the island’s area and, respectively, it is inhabited by the overwhelming majority (or all) of the island’s population.

The classical island cities can also be subdivided into two smaller groups:

- a city built entirely on the island
- a city of which only a part was built on the island (usually the oldest district or the city’s centre), while the other parts or districts occupy the nearby mainland and/or other islands.

In some cases the city evolved from the first group to the second one as it originated on the island and later its development continued on the mainland or on another island.

Table 1. Examples of the cities built on the islands, which are not the classical island cities

	City and Island	Area (km ²)	Population	Data year	State capital
1.	city of London	1,572	8,538,700	2014	+
	island of Great Britain	209,331	60,800,000	2011	
	London / Great Britain	0,75%	14,04%		
2.	city of Reykjavík	273	121,800	2015	+
	Iceland	101,826	329,100	2015	
	Reykjavik / Iceland	0,27%	37,01%		
3.	city of Copenhagen	86	591,500	2015	+
	island of Zealand	7,031	2.208,300	2013	
	Copenhagen / Zealand	1,22%	26,79%		
4.	city of Palermo	159	676,100	2013	--
	island of Sicily	25,662	5,043,300	2012	
	Palermo / Sicily	0,62%	13,41%		
5.	city of Jakarta	662	9,607,800	2010	+
	island of Java	138,794	145,000,000	2015	
	Jakarta / Java	0,48%	6,63%		
6.	city of Tokyo	2,188	13,506,600	2015	+
	island of Honshu	225,800	103,000,000	2005	
	Tokyo / Honshu	0,97%	13,11%		

7.	city of Taipei	272	2,705,000	2015	+
	island of Taiwan	35,883	23,394,000	2015	
	Taipei / Taiwan	0,76%	11,56%		
8.	city of Auckland	559	1,454,300	2015	--
	North Island of New Zealand	111,583	3,519,800	2015	
	Auckland / North Island	0,50%	41,32%		
9.	city of Hobart	1,696	218,000	2013	--
	island of Tasmania	68,401	514,700	2014	
	Hobart / Tasmania	2,48%	42,35%		
10.	city of Havana	728	2,106,100	2012	+
	island of Cuba	105,806	11,239,100	2006	
	Havana / Cuba	0,69%	18,74%		
11.	city of Antananarivo	88	1,613,400	2005	+
	island of Madagascar	587,713	22,005,200	2012	
	Antananarivo / Madagascar	0,01%	7,33%		

Urban form of island cities, the study cases

The urban form might be variously defined but it is usually perceived in a similar way. The notion of urban form contains the plan of the city, the network of its roads, streets and plazas, the spatial system and relation between the building of all types, fortifications and other pieces of defense system, landmarks, greenery complexes, etc. Those characteristics should be discussed with the background of the site's conditions – topography and hydrography, local climate and accessible building materials. The urban form is inseparably connected with the functions performed by the city: military and defensive, commercial and trading, harbouring, religious, capital and other administrative ones, and most of all – residential. It is sometimes the compositional factor that is responsible for the formation of particular urban form.

The urban form is a term whose importance can hardly be exaggerated. The beauty or ugliness of the city, the subjectivity of such a judgment taken into account, may directly or indirectly result from its urban form as well as the more objective category of city's usefulness or the opposite. However, seldom is urban form a leading aim of those responsible for city development. It results rather from numerous factors of geographic, communication and traffic, demographic and social, legal and economic character as well as of compositional and artistic nature. Many attempts have been made by urban historians to determine, list, and describe the factors of genesis and development that are responsible for their shapes. Among the main factors is the one of natural conditions: the localization on an island is one of the many possible localizations. Though, it is extremely characteristic and certainly affecting the urban form, image, and other features of the city.

In the Table 2 a number of classical island cities are quoted. Like the cities in the Table 1, they represent different continents but also different sizes and different periods of history in which they originated and flourished.

Table 2. Examples of island cities – in the past and in present

	Island City and Island	Surrounding waters	Area (km ²)	Population estimates	Data year	Urban form	UNESCO list
1.	Venice (since the 4th century), Italy						
	Venice	Venetian	5	168,600	1563	organic	since 1987
	Venice, the historic city	Lagoon	6	60,000	2014	organic	
	<i>Metropolitan Venice</i>		415	264,600	2014	<i>mixed</i>	
2.	Mont Saint-Michel (since the 8th century), Normandie, France						
	Mont Saint-Michel	Atlantic Ocean	0,05	230	1793	organic	since 1979
	Mont Saint-Michel		0,05	50	2013	organic	
	<i>Mont Saint-Michel</i>		0,1	50	2013	<i>organic</i>	
3.	Nesebar (since the 6th century BC), Bulgaria						
	Nesebar (Mesembria)	Black Sea	0,3	1,500	1800	gridiron ?	since 1983
	Nesebar, the island part		0,3	1,000	2013	organic	
	<i>Nesebar</i>		4	10,300	2013	<i>mixed</i>	
4.	Flores (since the 15th century), Petén, Guatemala						
	Nojpetén (Tayasal)	Lake Petén Itzá	0,15	1,000	1695	gridiron ?	not listed
	Flores		0,15	1,000	2013	<i>mixed</i>	
	<i>Flores</i>			13,700	2002	<i>mixed</i>	
5.	Kazimierz the former city (since the 14th century), now a district of Krakow, Poland						
	Casimiria, the city	two arms of the Wisla River	0,5	4,800	1600	gridiron	since 1978
	Kazimierz, part of Krakow		1	8,000	2015	gridiron	
	<i>Krakow</i>		327	762,500	2015	<i>mixed</i>	
6.	Manhattan Island of New York City (since the 17th century), New York, USA						
	New Amsterdam	Hudson River and East River	0,2	1,400	1660	organic	not listed
	Manhattan Island, NYC		69	1,636,300	2014	gridiron	
	<i>New York City</i>		786	8,491,100	2014	<i>mixed</i>	
7.	Singapore (since the 19th century), Republic of Singapore						
	Singapore (all islands)	Singapore Strait and Johor Strait	589	1,874,000	1965	<i>mixed</i>	not listed
	Singapore (Ujong Island)		710	5,469,700	2015	<i>mixed</i>	
	<i>Singapore (all islands)</i>		719	5,535,000	2015	<i>mixed</i>	
Notes: - some of the data are based on estimations							
- Case 7: the Singapore's Botanic Garden itself is separately listed at the UNESCO List of World Heritage							

Case of Venice

Venice was built from the 5th century on the archipelago of over a hundred islands to become the capital of the Republic of Venice in the 9th century and, in the following centuries, the Mediterranean economic and maritime power. All available land on the islands was developed

and built-up, while the canals of different sizes served for traffic purposes (Fig. 1). The urban form was entirely organic and with time the organic pattern of streets and canals was completed with some sophisticated projects of compositional features such as the San Marco Plaza surrounded with impressive edifices. Apart from the city of Venice there were more island cities in the Republic of Venice: Murano, Burano, Chioggia. After the Republic fell in 1797 and its area became part of united Italy in 1866, the economic importance of Venice decreased strongly. On the other hand, due to its unique and well-preserved heritage, the city became one of the world's most popular tourist sites. That caused a decline of permanent population but also the improvement of historic preservation and general infrastructure. The causeway (first railway one, then road one) linked the historic city with the mainland in the 19th and 20th centuries. The fame of both tangible and intangible heritage of Venice is beyond the reach of any other island cities. It also brought about the metaphorical describing of the cities in which the water canals were built, or had been adapted, with Venice's name (e.g. Suzhou in China or Saint Petersburg in Russia) or even naming them exactly this way (the 1905 Venice of America, which is now the Venice district in Los Angeles, Fig. 9).

Figure 1. Venice. Canal Grande



Source: Photograph by the Author, 1993

Case of Mont Saint-Michel

Although Venice is by far the biggest and the most famous city built on islands, one can recall a number of smaller and more modest examples, some of which are one-island towns. The Mont Saint-Michel island, which lies next to the Normandy coast, features extremely unique characteristics due to its tiny size (950-metre perimeter), high elevation (up to 80 metre) and the tidal causeway, which would permit the access from the mainland at regular intervals. The beginning of the large Benedictine abbey on Mont Saint-Michel in Normandy dates back to the 8th century and resulted in the accompanying settlement, which was built on the mainland-facing, less steep side of the island (Fig. 2). The purely organic urban form of the small town, with narrow and steep streets, resulted from the total dependence on the factor of natural conditions coupled with the defensive importance of the place.

Like Venice, the Mont Saint-Michel town, which had been protected as a historic site since the 19th century, was strongly depopulated in the 20th century and became a major tourist attraction. It was also linked with the permanent road causeway, which was however removed in the 21st century and replaced with a light bridge structure. A number of other actions were taken as part of the complex project intending to restore the island character of Mont Saint-Michel.

Figure 2. Mont Saint-Michel. The skyline during the low tide



Source: Photograph by the Author, 2003

Case of Nesebar

Like Mont Saint-Michel, Nesebar in Bulgaria is another example of the town built on the sea island that is very close to the mainland. Originally a Thracian settlement, it became a Greek colony of Messembria in the late 6th century BC. It could have been planned in the next century as a regular, gridiron layout of Hippodamian type, which in the Middle Ages evolved into a more organic scheme of irregular curved streets lined with houses and small churches. Like Mont Saint-Michel until recently, the island part of Nesebar is linked to the mainland with a causeway, which has helped the tourist functions (Fig. 3). What is also different from the case of Mont Saint-Michel is that the old town of Nesebar is still to a certain extent inhabited. Moreover, in the 20th century a much larger part of Nesebar was built on the mainland.

Figure 3. Nesebar. The causeway to the historic town



Source: Photograph by the Author, 1987

Case of Flores

The situation and development of Flores in Guatemala could be found almost identical with that of Nesebar. It provides a very good example of urban form being shaped in a similar way independently in distant localizations and cultures that had practically no communication over the centuries. The town of Flores was built as Nojpetén (called Tayasal by some sources) – an Itza Maya settlement (Fig. 4). It was built on a lake island in a relatively regular way, which was a case of some of the pre-Columbian settlements in Central and South Americas. The naturally

protective localization helped Nojpetén, alongside with remote localization and some other factors, survive as the last independent native urban community in the Spanish America as long as until 1697 – over 200 years after the conquest had started.

Like Venice, Mont Saint-Michel, and Nesebar, Flores was linked to the mainland with a causeway. Unlike them – it has not been listed as the World Heritage Site.

Figure 4. Flores. The town and Lake Petén



Source: Photograph by the Author, 2013

Case of Kazimierz near Krakow

Kazimierz (Casimiria in Latin) near Krakow was founded in 1335 on the river island. The then no-name island had been formed by two arms of the Wisla (Vistula) river (Fig. 5). Following nearby 1257-bestowed pattern of Krakow, Kazimierz was a planned city, with a gridded network of streets. It was equipped with the main market square, the auxiliary market square and the entire functional programme characteristic of late-Medieval cities. The city of Kazimierz was subdivided into two independent communities – a Christian one and a Jewish one. Despite the closeness of much more powerful city of Krakow, which was the capital of Poland at the time and the site of the country's first university, Kazimierz remained an independent city till the late

18th century. Since Kazimierz became the district of Krakow in 1802, it gradually merged with the rest of the city while the northern arm of the Wisla was dried up to become a traffic artery and a green belt. It also marked the historic borderline along which water used to flow.

Figure 5. Kazimierz, the district of Krakow, and the Wisla river



Source: Photograph by the Author, 2009

Case of Manhattan in New York

New York City is often associated with the island of Manhattan, which houses both the historic core and the contemporary centre of the city. Its beginning goes back to 1626 when a Dutch colony of New Amsterdam (Nieuw Amsterdam) was founded. Originally it occupied only the southernmost tip of the Manhattan island and featured the organic layout comprising of both streets and water canals. The walled town was incorporated in 1652 and, after being taken over by the British authorities, was renamed New York in 1664. In the 18th century it was extended northwards in a regular gridded way. Finally, the entire area of the island was laid out in accordance with the 1811 Commissioners' Plan.

The only more significant change to the plan of identical rectilinear grid was introduced with the Central Park being placed actually in the centre of the Commissioners' Plan in 1853. Since the late 19th century the third dimension of New York City has been changing and being enriched hundreds of times – numerous high-rise buildings were constructed in great numbers. Despite

the extension of the city onto the other islands, it is the Manhattan island and its landmark-like tall structures that became responsible for the city's characteristic skyline (Fig. 6).

Figure 6. New York. The World Trade Centre by Minoru Yamasaki



Source: Photograph by the Author, 1992

Case of Singapore

Singapore is the only contemporary example of the island city-state. The Ujong Island (Pulau Ujong) had been occasionally inhabited before the permanent settlement was founded in 1819. Due to its strategic location, it gave rise to a trading outpost in the 19th century and the military base in the first half of the 20th century, which were accompanied by a number of residential projects of different types, most of them regular e.g. shophouses. After gaining independence in 1965 Singapore quickly turned into an important economic centre, especially in the fields of finances and industrial processing, which in turn resulted in the increase of population and further intensification and densification of housing (Fig. 7).

The idea of the ring planning was adopted which left some of the island's central areas and north-south axis as protected sites. However, the Singapore's Botanic Garden, established in 1859, seems to have been related to the New York's Central Park idea. Despite having relatively young heritage, as compared to the previously discussed cases, the values of

Singaporean urban and built heritage was recognized as important for the local identity and protected in many ways by local authorities.

Figure 7. Singapore. Reflections at Keppel Bay complex by Daniel Libeskind



Source: Photograph by the Author, 2015

Contemporary artificial islands

Last but not the least one shall mention the contemporary artificial islands, which form quite a separate and specialized group. They are much larger and more sophisticated than their predecessors – the fortresses islands built especially in the 16th and 17th centuries. Most of the recent artificial islands have been built for particular purposes and functions. The islands near Osaka and near Hong Kong were built in the late 1980s and in the 1990s, respectively, for the Kansai airport and the Chek Lap Kok airport (Fig. 8). Earlier, in the 1970s, the Rokkō Island and the Port Island in Japan had been built for a variety of functions, mostly of public utility character. On the other hand, the Palma Juneraih, a large project in the United Arab Emirates, is dedicated to residential functions of special character, including a set of islands for individual residences, which as a whole create a plan imitating the map of the world

In the light of the previous deliberations it seems to be hardly possible to call the projects localized on the artificial islands the full cities. However, the same could have probably been expressed in the past about some of the examples that are discussed in the paper. That is why

one notes that the newly built projects marked a significant step towards the construction of cities on the entirely artificial islands and that it has also announced the increasing number and growing sizes of full cities built in such places in the not-that-distant future.

Figure 8. Hong Kong, the Chek Lap Kok airport.



Source: Photograph by the Author, 2011

Conclusions

When initiating the research the author of the paper put forward two main questions to be answered.

The first question was: does the city's localization on the island significantly influence the urban form as compared to the non-island locations? And, if the answer is positive, what are the main features of the phenomenon?

The answer, though not obvious at first sight, is "yes, it does", while the main distinction features of island cities can be listed as following:

- island cities were localized on the islands that were relatively close to the mainland, not exceeding the distance of 1 kilometre (except for Venice which is about 4 kilometre distant); in the 19th or 20th the cities were eventually connected with mainland via causeways, bridges, or tunnels;

- the importance of the military factor was very strong at the origin and early stages of island cities: apart from their natural defensiveness they were additionally protected with either city walls or fortifications;
- island cities tend to maintain the urban form more efficiently than non-island cities, which is due to their more remote location and can be compared e.g. to the cities built in the mountainous regions;
- most of the historic island cities have been declared the monuments or monument zones, and thus became protected sites.

The second question was: can the city's localization on an island be perceived nowadays as a chance for their future existence, granting the settlement with stability and self-assurance, or rather as a means of restriction, depriving it of further development?

The answer to Question 2 is less straightforward. In terms of unlimited development the island localization is actually a drawback. On the other hand the limitations, which are thoroughly researched and understood and then carefully and consciously applied might be of some help with solving the problems of contemporary city.

Comparing to the number of cities all over the world, the cities on islands are extremely rare. Though, their values, some of them the unique ones, draw increasing attention. That is expressed by meticulous heritage protection, by tourists making them their destinations, and by general public attention. However, the most convincing tribute to the island cities' values and popularity is, in the opinion of the paper's author, the contemporary attempts to build the new island cities. In the distant past of the Antiquity and Middle Ages some cities tended to be localized on the island for various reasons. In the quite recent period the island localization was revived as an idea of the construction of artificial island. The number of built projects is still limited due to the extremely high costs of any undertaking of that type. The programmes of those projects are also functionally limited. However, one can definitely expect the more numerous and sophisticated projects on the condition of the stabilization and growth of the world's economy.

Finally, it can be noted that an island city is usually a product of long-time spatial and architectural evolution within unchanged (or hardly changed) limits. One can also compare a historic island city to the rich and stabilized architectural context which is for instance faced by architects undertaking a project there. Such a site inevitably requires showing an attitude of approval or disapproval but it also provides architects with some hints on their possible approach and is a challenge due to spatial and/or legal limitations. That helps achieve carefully considered solutions in order to add "another brick to the wall" and to create some emotions to those who will experience the built project in the future.

Figure 9. Venice, the district of Los Angeles. Water canal and pedestrian path



Source: Photograph by the Author, 1998

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PRACTICAL IMPORTANCE OF THE SHAPE OF A TALL BUILDING IN THE CITY SPACE

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Key words: shape of a tall building, landmark, imageability, recognisability of district and recognisability of city

Abstract

The development of construction technology creates ever greater opportunities for designing tall buildings with unusual shapes. So the question remains: what role might the shape of a tall building play in developing a legible and imageable environment?

The paper aims to show the importance of the shape of a tall building for imageability and legibility of the urban environment, on the basis of previously published analyses by various authors, which are part of wider studies on: placemaking with tall buildings, imageability of tall buildings and orientation in the urban space.

The importance of the shape of a tall building is presented in three aspects: its functioning as a landmark, imageability of such buildings and recognisability of a district of the city as well as the city itself.

The unique shape of a tall building has enormous potential for use in creating legible and imageable urban environment. The shape can be used to create distinctive landmarks of different scale and importance to the city.

The location of a tall building with a distinctive shape is important. Constructing such a building in a clearly visible place makes it easy to remember. When such a building is located e.g. at the terminus of a street's view corridor, it significantly contributes to the strengthening of its imageability.

Examples presented in this paper show that single tall buildings with unique shapes are important for the recognisability of a district of the city, and even the city as a whole.

Introduction

The development of construction technology creates ever greater opportunities for designing tall buildings with unusual shapes. Construction of a tall building with an unusual shape is a great accomplishment of designers and engineers. Such buildings are a showcase and an

advertisement of the companies that have their headquarters in them. Quite often they also serve as residential buildings, hotels and multi-functional facilities. Unusual forms of tall buildings draw attention, arouse interest, sometimes admiration, and sometimes irritation. In any case, they do not leave anyone indifferent. The shape provides a possibility to highlight an important part of the city. The erection of tall buildings with unique shapes next to each other is controversial. However, such a solution seems to be working in certain projects, and may be interesting, e.g. CityLife in Milan. Examples of some cities show that the location of tall buildings with distinctive shapes is left, like the location of other tall buildings, to the market. Sometimes, however, the random distribution of tall buildings with distinctive shapes formed in this way can have a positive role in the urban space. So the question remains: what role might the shape of a tall building play in developing a legible and imageable environment?

The paper aims to show the importance of the shape of a tall building for imageability and legibility of the urban environment, on the basis of previously published analyses by various authors, which are part of wider studies on: placemaking with tall buildings, imageability of tall buildings and orientation in the urban space.

The importance of the shape of a tall building is presented in three aspects: its functioning as a landmark, imageability of such buildings and recognisability of a district of the city as well as the city itself.

Tall building - landmark

According to Lynch the use of landmarks “involves the singling out of one element from a host of possibilities.” (Lynch, 1960, p. 8) The key physical feature of landmarks is “singularity, some aspect that is unique or memorable in context.” (Lynch, 1960, p. 78) Kheir Al-Kodmany claims that due to their distinctive height and good visibility from a distance, tall buildings are unquestionably candidates for landmarks (Al-Kodmany, 2011).

A study by Lynch shows that the list of factors that make a building unique and memorable is open. It includes the shape of a building. Lynch uses, among others, the example of the State House in Boston. The shape of the golden dome, the function of the building, its location at the hill crest, exposure, and visibility from long distances, make this building a key sign for central Boston (Lynch, 1960).

The basis for creating a model of landmark was empirical work by Appleyard (1969, 1976) and Evans *et al.* (1982). The shape is one of the elements of this model. This model is also used in the study of imageability of tall buildings.

D. Appleyard in *Why Buildings are Known* (1969) presented the results of a study aimed at finding such attributes of buildings and structures in the city that attract the attention of residents and remain in their memory image of the city. The study concerned the city of Ciudad Guayana in Venezuela and was conducted in the form of a survey. The buildings indicated by the respondents were then analysed for the presence of a number of attributes, which according to the researchers could be critical for the identification and memorability of buildings. Three dimensions were distinguished: physical form, visibility and significance. The following attributes were listed as the attributes of physical form: movement, contour, size, shape, surface, quality and signs. Subsequently, the correlation between the attributes of the buildings and the recall

frequencies was determined. A high correlation between the shape of the building and memorisation was found. Both simplicity and complexity of the shape can play a positive role; simplicity enables faster perception in situations of limited time, whereas sometimes complexity draws more attention. The visibility of the building is another important aspect. Appleyard's studies have shown that the buildings that are on the axis of vision or crossed the axis while the traveller was turning draw a lot of attention (Appleyard, 1969).

A clearly visible tall building with a unique shape can be a very distinctive landmark. Transamerica in San Francisco is such a building. D. Appleyard and L. Fishman (1977), on the basis of the research carried out in Venezuela, claim that the Transamerica Building will always draw attention, because, in addition to its unique shape, it lies on the axis of Columbus Avenue, the most visible location in the city after that of the Ferry Building (Appleyard, 1976; Appleyard & Fishman, 1977). The shape and location are the two main factors that result in the fact that the building attracts attention and remains in the memory image.

The studies conducted by D. Appleyard (1969, 1976) have been extended by G.W. Evans, C. Smith and K. Pezdek in subsequent years. Evans *et al.* (1982) conducted research in Orange, California. The study was also conducted in the form of a survey. The same three dimensions were used: form, visibility and significance. The study assessed the following attributes of the form:

1. *Movement*. The amount of persons and other objects moving in and around the building
2. *Contour*. The clarity of building contour, ranging from blurred, partially obscured to free-standing
3. *Size*. Vertical height of the building
4. *Shape*. The complexity of shape, ranging from simple block shape to more complex multiple shapes
5. *Use intensity*. The extent of building use, that is, from limited use by a small segment of the population to daily use by large numbers of people
6. *Use singularity*. The uniqueness of building function, ranging from only one function to many buildings with shared functions
7. *Significance*. The extent of cultural, political, aesthetic, or historical importance of the building
8. *Quality*. The amount of physical maintenance, the upkeep of the structure.

The same results were obtained - the same features of buildings proved to be important for remembering buildings. Thus, Evans *et al.* demonstrated that the observations of Appleyard are not site specific and are universal.

The study was conducted in cities without very tall buildings and did not focus on tall buildings. However, according to Ali and Armstrong, the authors of the *Architecture of Tall Buildings* monograph (1995), the obtained results "offer insights about how all buildings, including tall buildings, are remembered." (Ali & Armstrong, 1995, p. 296)

The assessment of the shape of a tall building is of specific nature. In order to determine the shape of a tall building one needs to see it from a distance, in its full glory. If a tall building is located in a heavily built-up area it may be impossible. The visibility of tall buildings located among other such buildings is particularly hampered. On the other hand, when a tall building is

located among low constructions, the visibility of the lower parts of the building is usually blocked by the low buildings in the foreground. All this means that the link between the image of the shape of a tall building with the image of its immediate surroundings may not be obvious. A tall building may be a landmark both as a single building among low constructions, as well as one of the many tall buildings. In the first case, the distinguishing feature of the building is, of course, its height. However, if the building has a unique shape, it is more likely to stick in the memory. Treating the shape as a factor that represents the uniqueness of a building, it can be said that among the many similar tall buildings the one with a different shape than others will be a landmark.

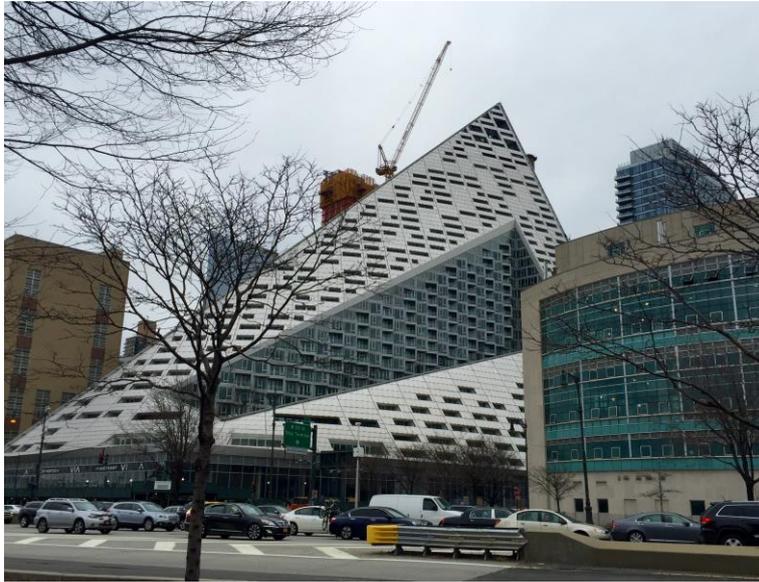
A well-known tall building, which differs in shape from other tall buildings in its vicinity, is the Bank of China in Hong Kong (1990) (Figure 1). The building is designed on a square plan, but the higher parts form triangular segments of different heights. The shape looks as if it was constructed from many triangular pyramids. It can be also said that the building “looks like a three dimensional tangram toy” (Lepik, 2008, p. 110). After the completion of the Bank of China, other buildings of similar height and three higher buildings were built in Hong Kong: Central Plaza, Two International Finance Centre and International Commerce Centre. However the following view remains valid: “Due to its height and unusual shape, the Bank of China is one of the most memorable skyscrapers in Hong Kong.” (Ali & Armstrong, 1995, p. 297)

Figure 1. Hong Kong. Bank of China among other tall buildings



Source: Photograph by author

Via 57 West in Manhattan is one of the recently built tall buildings with a unique shape (Figure 2). In its surroundings, buildings of different heights, including tall buildings can be found. The new building is distinguished, however, from the surrounding buildings by not so much its height but by its shape that resembles a tetrahedron.

Figure 2. New York. Via 57 West

Source: Photograph by Anna Drabarek

Evans *at al.* noticed that: "Buildings that are relatively large, easily visible, distinctive in shape, and free standing are better remembered by urban residents." (Evans *at al.*, 1982, p. 234) There are skyscrapers, whose height, shape and location predispose them to be buildings that are remembered. The Shard, the highest tall building built in recent years in London, has a distinctive shape of a pointed pyramid, different than many other tall buildings in the city. At the same time, the multi-purpose building, with a public vantage point at the top, is located in a place that is very busy - in the vicinity of a major junction. All these features make it a distinctive building, easy to remember and functioning as a landmark. However, in its surroundings, it is distinguished primarily by its height.

The results of the research by Appleyard (1969, 1976) and Evans *et al.* (1982) lead to some observations that can be referred to tall buildings with unique shapes. The following tall buildings have been built in Warsaw recently: Cosmopolitan and Złota 44. At the terminus of the axis of Emilia Plater Street, an elegant, tall building with a rather simple shape has been built - Cosmopolitan (Figure 3) designed by Helmut Jahn. It is also visible at the end of Próżna Street. While Złota 44 (Figure 4) with a unique shape, called "Glass Sail", designed by Daniel Libeskind, has been built as one of the buildings on a small street. One can wonder whether placing Złota 44 with its distinctive shape on the axis of vision would create a greater opportunity to use the building as a landmark. The relatively long and intensely used Emilia Plater Street makes it possible for the building to be observed by its many users. G. Buczek (2014) even suggests that locating the tall buildings in place of each other would be a better option; then, on the axis of the street a tall building with a distinctive shape would be located. However, it cannot be denied that due to its height and shape Złota 44 is a characteristic feature of the silhouette of the city.

Figure 3. Warsaw. Cosmopolitan

Source: Photograph by author

Figure 4. Warsaw. Złota 44

Source: Photograph by author

Landmark is one of the components of the imageable urban environment, and that is why the issue of landmark will be presented in the context of imageability as well.

Imageability of tall buildings

According to K. Lynch imageability is “that quality in a physical object which gives it a high probability of evoking a strong image in any given observer. It is that shape, colour, or arrangement which facilitates the making of vividly identified, powerfully structured, highly useful mental images of the environment.” (Lynch, 1960, p. 9) K. Lynch lists five main elements of imageability of the city: paths, edges, districts, nodes and landmarks.

The issue of imageability is analysed in many studies devoted to tall buildings. Tall buildings through their size and shape can affect the image of areas of different sizes. Ali and Armstrong (1995) and Beedle *et al.* (2007) understand imageability at the urban design scale as the degree to which the tall building contributes to the overall impression of a neighbourhood, district, or the city as a whole.

M.M. Ali and P.J. Armstrong (1995) on the basis of research conducted by Appleyard and Evans *et al.*, argue that such buildings as Bank of China in Hong Kong, Hong Kong and Shanghai Bank and Bank of Asia in Bangkok, Transamerica Pyramid in San Francisco and Citicorp Building in New York, are among the most imageable buildings, which are easy to remember. According to the authors, this view is justified by e.g. sheer size of each of the buildings, generating heavy pedestrian and vehicle traffic, and consequently high use intensity (Ali & Armstrong, 1995). Each of these tall buildings has its own distinctive shape.

Tall buildings with distinctive shapes are erected in relatively small cities as well. In 2012, in Mississauga (a city, which belongs to the Greater Toronto Area), Absolute World Towers, also referred to as “Marilyn Monroe” towers, was built (Figure 5). Their shape is very important. Among the many quite simple tall buildings, which form their surroundings, the unique shape of the towers draws attention. When we apply the form criteria as specified by Appleyard (1969,

1976) and Evans *et al.* (1982), we can conclude that other factors also affect the memorisation of the building and its imageability: the towers located at one of the main intersections in the city centre, are higher than the other buildings, and have a very modern architecture. Absolute World Towers are visible from many locations and from various distances. Thus, they meet the visibility dimensions. Due to their distinctive height and shape, the towers are also an important and recognisable element of the silhouette of the city, which, prior to their completion, was not distinguished by anything in particular. Initially, the project envisaged building a single tower in Mississauga (*The Global Tall Building Database of the CTBUH*). The visual effect would then be weaker than in the case of the two very similar towers. However, one can assume that due to the unique shape, one tower would also be very imageable and easy to remember.

Figure 5. Mississauga. Absolute World Towers



Source: Photograph by author

In the discussion on the imageability of tall buildings the shape is one of the main aspects on which Ali and Armstrong - the authors of the *Architecture of Tall Buildings* monography focus. They suggest the use of the typology of shapes proposed by Ch. Jencks. According to Jencks, there are three types of shapes of tall buildings: skyprickers – tall buildings developed from obelisk, spires and pyramids (e.g. Chrysler Building, New York); skyscrapers – with longitudinal, rectangular masses and plans (e.g. John Hancock Tower, Boston); and skycities – combinations of buildings or masses forming tall structures (e.g. WTC, New York). Each of these three types of structures is represented by a number of variants (Jencks, 1980).

Twin towers are an example of skycities (Jencks, 1980). Buildings of this type may have a significant impact on the image of the city. Such buildings evoke strong imageability through special quality of symmetry, aesthetics and mass balancing (Al-Kodmany & Ali, 2013). Twin tall buildings with space between them towering over the city in many analyses are defined as objects that serve as the gateway to the city (Mitsui, 1998; Al-Kodmany & Ali, 2013). The destroyed WTC towers in New York were a spectacular example of the above. Groups of buildings consisting of several towers are also examples of skycities. The three towers of Porta Nuova Garibaldi (Figure 6) in Milan are also a type of skycity. Arched buildings of varying heights are arranged in a circle surrounding the square. Together they form an imageable

element. Although the visibility of this object is limited to certain areas of the city, it provides an interesting terminus for the perspectives of some streets in Milan.

Figure 6. Milan. Porta Nuova Garibaldi



Source: Photograph by author

The imageability of tall buildings is analysed together with the symbolism of such objects. The main objective of the research conducted by Krishnan and Ali (2004) was to present tall buildings as objects of multiple meaning; so they can be interpreted in several different ways. Krishnan and Ali consider in the context of symbolism and imageability such aspects as, among others, the strength of the pyramidal shape and analogies to nature. The authors of the analysis notice the relationship between the gopuram and skyscraper. According to Krishnan and Ali, John Hancock Center in Chicago and Transamerica in San Francisco have a pyramidal flavour (Krishnan & Ali, 2004). The upwardly tapering shape of the former tall building can be defined as a slender pyramid with truncated upper part and the latter one is a right pyramid. A pyramid-shaped tall building - Triangle has been recently designed in Paris. One can assume that this building will be a very distinctive element of the image of the city.

The issue of imageability is an important part of the theory of placemaking with tall buildings. The conceptual model proposed by Kheir Al-Kodmany (2011, 2013) assumes that there are four main dimensions, which contribute to the creation of environments that correspond with physiological and psychological needs of people by tall buildings: imageability, human scale, socio-economic and spatial factors and culturally sensitive design. The first dimension was analysed in accordance with the theory of imageability created by K. Lynch, with the use of five elements: path, edge, district, node and landmark. Al-Kodmany, using examples, demonstrated that tall buildings reinforce the imageability of each of the elements of the urban environment (Al-Kodmany, 2011, 2013). The model proposed by Kheir Al-Kodmany was continued in a study conducted jointly with M.M. Ali (2013). The examples show that the shape of tall buildings may be significant for the imageability of the elements of the urban environment.

When researching the imageability of a street, K. Al-Kodmany (2011) listed six spatial qualities (proportion, spacing, alignment, rhythm, coherence and terminus), which have a significant impact on its imageability. In order to ensure a coherent, legible and memorable image, the architecture, style and facades of buildings should be harmonious. Individual buildings can be architecturally interesting, but when placed together they may lack coherence (Al-Kodmany, 2011, 2013; Al-Kodmany & Ali, 2013). It can therefore be logically concluded that the placement of tall buildings with a variety of shapes along a street, results in a lack of coherence and disharmony. Regardless of what one might say about the simple and sometimes very similar shapes of many tall buildings spaced closely along the streets of North American downtowns, they, due to the orthogonality of their masses, contribute to the coherence of the image, as exemplified by, among others, 6th Avenue in New York, with many simple tall buildings.

Another aspect is the placement of a tall building at the terminus of a street. Placing a tall building creates a “visual destination” and reinforces its imageability (Al-Kodmany, 2011, 2013; Al-Kodmany & Ali, 2013). It can be concluded that the placement in such a place of a building with a distinctive shape would be justified. This applies in particular when we considered an important street of the city. Transamerica Building in San Francisco can again serve as a positive example of the above. Placing a tall building at the terminus of a street makes it possible to observe its shape from a distance in its full glory (which in heavily built-up downtown areas is often not possible).

In the theory of K. Al-Kodmany the analysis of tall buildings as landmarks constitutes an inherent part of the study of imageability and, therefore, will be presented in this chapter.

Al-Kodmany (2011) proposes that tall buildings should be divided into major and minor landmarks. The major landmarks are objects that are usually visible from many distances and angles, whereas minor landmarks are visible from limited localities and certain approaches. Both are distinguished by their shape and contrast (Al-Kodmany & Ali, 2013). Wuhan Greenland Center, 636 m high, will become a major landmark in Wuhan, China. The tall building designed by Adrian Smith and Gordon Gill Architects has a slim, elegant, very gently tapering shape (Figure 7).

Figure 7. Wuhan. Wuhan Greenland Center



Source: © Adrian Smith + Gordon Gill Architecture (Courtesy of Adrian Smith + Gordon Gill Architecture)

Kheir Al-Kodmany's theory distinguishes different types of landmarks: twin towers, gateway towers as landmarks, building's tops as landmark making element. In Suzhou, China – Gate of the Orient, arc-shaped (or gate-shaped), will be an object of the gateway towers as landmarks type (Al-Kodmany, 2011).

In recent years, in Keppel Bay, Singapore, a group of similar tall buildings has been built (Reflections at Keppel Bay). The group consists of six tall buildings of different sizes, but with the same curved shapes. Together they form the imageable element of the bay. Such distinctive group of tall buildings can also be described as a type of landmark.

An important role in the strengthening of the imageability of tall buildings may be played by their tops. K. Al-Kodmany notices that: "Building tops have special role in reinforcing the imageability of tall building because they are readily visible from a distance." (Al-Kodmany, 2011, p. 258-259) One of the recently built tall buildings with a distinctive shape of the top is Chongqing World Financial Center in Chongqing, China. Simple, elegant mass of the tall building is finished with a symmetrical top, but with a rather complex shape. It consists of glass planes bent in different directions. Another tall building with a distinctive top is Signature Tower in Jakarta, Indonesia. Its top, which tapers upwards, resembles flower leaves.

Recognisability of district and recognisability of city

One of the negative phenomena that are associated with the visual impact of tall buildings is the fact that they reduce the uniqueness of the city (Appleyard & Fishman, 1977). The multitude of tall buildings makes cities become similar to each other. In the modernist period, tall buildings called "glass boxes" made many cities similar to each other (Krishnan & Ali, 2004; Beedle *et al.*, 2007). Tall buildings built in the 60s in San Francisco resulted in the fact that the city began to resemble Manhattan. The process was then referred to as Manhattanization. W. Attoe, when analysing this phenomenon, has noticed that: "Whatever had been distinctive about the light-coloured city on undulating terrain was being overwhelmed by anonymous, ubiquitous, highrise boxes built for profit and with no sensitivity to the San Francisco locale and its architectural traditions." (Attoe, 1981, p. 18)

The multitude of tall buildings, however, does not necessarily result in a lack of individual image of the city. The factor that can make the city with many tall buildings a recognisable one is the shape of a tall building (Attoe, 1981; Krishnan & Ali, 2004). According to S. Krishnan and M.M. Ali (2004) the skyscrapers of «look-at-me» and «I-am-a-monument» types are the ones that make cities different. One can distinguish Hong Kong from San Francisco because of symbolic sky huggers such as Bank of China building and the Transamerica pyramid (Krishnan & Ali, 2004). Such tall buildings as Chrysler, Citycorp, Empire State and World Trade in New York, and Tribune, Hancock and Sears in Chicago make areas of Manhattan and Chicago recognisable (Attoe, 1981). The shapes of some of these tall buildings are not very complex, but they are unique. The shape of the Sears Tower (Willis Tower) is considered unique. The shape of the building forms an uneven accumulation of rectangular masses. B. Szmids describes the Sears Tower as an example of a "game of masses on a panoramic scale" (Szmids, 1981, p. 252). The fact that these buildings are spaced at some distance apart is also significant.

In recent years, next to the place where the destroyed World Trade towers stood, One World Trade Center has been built (Figure 8). Currently, it is the tallest building in New York. Its shape may resemble a rectangular with bevelled edges along its entire height.

Figure 8. New York. One World Trade Center



Source: Photograph by Anna Drabarek

If the Chicago Spire is built, it will join those unique tall buildings in the Windy City mentioned above. The building designed by Santiago Calatrava would have a very slender, upwardly tapering, spiral shape. It would be more than six hundred meters high. The building was planned to be built right on the shoreline along the lake, in a rather considerable distance from such buildings as John Hancock and Sears Tower.

The research shows that a single tall building with a unique shape can make a city recognisable. Recognisability of such an object is, of course, facilitated by its large size. It seems, however, that it is not absolutely essential for a building with a unique shape to tower over all other buildings in the city. Transamerica (height: 260 m) is higher than other tall buildings in San Francisco, but the difference in height between it and the second tallest building (555 California Street, height: 237 m) and several other tall buildings is not very significant. It is worth mentioning that currently in San Francisco a building that will be the highest – Salesforce Tower (height: 326 m) is being built. Buildings with a similar height to Transamerica (Oceanwide Center Tower 1, height: 276 m; 50 Mission Street Tower 1, height: 259; 181 Fremont, height: 244 m) (*The Global Tall Building Database of the CTBUH*) have also been designed. However, none of these buildings will be built in the vicinity of Transamerica.

According to S. Krishnan and M.M. Ali (2004), the issue that is important in the context of recognisability is the regionalism of the architecture of tall buildings. There are examples of skyscrapers, whose shapes make cities recognisable and their architecture refers to regional forms. The Petronas Towers in Kuala Lumpur have a regional flavour (Krishnan & Ali, 2004).

One should pay attention to the risk of erecting too many tall buildings with uncommon shapes. They can cause a negative effect. C. Moughtin, T. Oc, and S. Tiesdell, giving as an example as unique a building as Transamerica Pyramid in San Francisco, argue that such buildings can be used to give a unique character to the city skyline, but using them *en masse* could make it trivial (Moughtin *et al.*, 1999, p. 79).

Summary and conclusions

The presented analysis shows that a unique shape of a tall building has enormous potential for use in creating legible and imageable urban environment. The shape can be used to create distinctive landmarks of different scale and importance to the city.

The location of a tall building with a distinctive shape is important. Constructing such a building in a clearly visible place makes it easy to remember. When such a building is located e.g. at the terminus of a street's view corridor, it significantly contributes to the strengthening of its imageability.

The presented examples show that single tall buildings with unique shapes are important for the recognisability of a district of the city, and even the city as a whole.

Three intertwined aspects of the shape of the building were discussed. A tall building, which thanks to its unique shape is a distinctive landmark, can contribute to the imageability of the city environment. At the same time, the same building, thanks to its shape, makes it easy to distinguish a district or city from others. Tall buildings have practical significance due to the fact that they are landmarks, they reinforce the imageability of the urban environment and contribute to the recognisability of a district or city.

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PUBLIC HYBRID SPACES AS A COMPONENT OF CONTEMPORARY CITIES

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Key words: space, city, public, hybrid

Abstract

The main objectives of research work presented in the paper are: 1/Exploring the urban design solutions of public hybrid spaces in contemporary cities, which are the outstanding examples of expressive identity, 2/Carrying out the modern interpretation of principles of composition of hybrid public spaces (in urban scale), 3/Exploring the urban design solutions of public hybrid spaces, on the example of student's works realized at The Faculty of Architecture, The Warsaw University of Technology, in The Chair of Urban Design and Rural Landscape - the detailed studies concerning spatial forms, functions and transport system.

The research work has been realized with taking into consideration existing state of knowledge and use of methods proper for morphological investigations of city space. There have been used various research methods: method of analysis and critique of sources (planning documents, design projects and literature), observation method, comparative method, etc.

The main conclusions: 1/The development of public hybrid spaces is connected with limiting of territorial growth of cities and supporting the development of their inner areas, what contributes to creation of the efficient spatial form and sustainable development of contemporary cities, 2/Public hybrid spaces contribute to a high degree to preserve or to create cultural identity of the city. In the face of broadening phenomenon of making uniform of the townscape of contemporary cities, shaping their identity should become a basic need of every city.

Introduction

At present the dream of achieving sustainable development of contemporary cities has been partly realized by shaping new types of public spaces defined as "hybrid spaces". Complexity of human activities and needs in contemporary cities is still increasing as well as demands to satisfy various necessities, obligations and desires. This process requires new special spaces, which should respect many types of activities combined in specific places. There is a need of design of multifunctional experimental public spaces and buildings. In the design process it is

very important to integrate a vision and different disciplines in order to create a more integrated and comprehensive city structure than is possible with the mere sum of separate sites and separate buildings.

Hybrid spaces are characterized by various types of connections: a combination of different functions, real and virtual space, urban solutions with architectural solutions, and solutions in the field of landscape architecture and transport, connections of history and contemporaneity, connections of culture and nature. These are both the hybrid public spaces and hybrid buildings.

In the development of contemporary cities we can observe many positive phenomena as well as negative changes, which influence mostly natural environment and cause deterioration of living conditions: rapid development of motorization, congestion and increasing air pollution, increasing process of urban sprawl and deterioration of city centres, process of decreasing and pollution of green open spaces, insufficient recreational possibilities, etc. So the main aim of creation of hybrid spaces is limiting of transport needs and improving environmental conditions by introduction of green environment (many types of green elements) in public spaces, increasing amount of pedestrian spaces and bicycle routes, etc.

Public hybrid spaces in contemporary cities

There are many principles of shaping hybrid public spaces, among the most important it is necessary to mention: creation of expressive identity, providing high quality and cohesion with the structure of the city, providing flexibility of solutions and variety of functional programme, providing possibility of fixed and changeable activities, providing safety and accessibility, etc.¹

There are several various types of hybrid public spaces in contemporary cities: a combination of public square and urban park, urban garden courtyards, public gardens, industrial areas transformed into new cultural landscapes, cemeteries used as public parks, contemporary playgrounds, riverside promenades with beaches and swimming pools, sea-side promenades with greenery, places of various events and activities with temporary installations or light structures, vertical gardens, interchanges and transportation hubs, pedestrian passages, large scale urban sculptures, experimentally revitalized historical spaces, public spaces combined with hybrid buildings (often high rise, large scale structures), etc. In the process of shaping spatial form of contemporary cities, including hybrid public spaces, the important role have instruments such as architectural and urban design, urban composition, landscape architecture, transport planning, construction design.

There are many different solutions of public hybrid spaces in contemporary cities, which are the outstanding examples of expressive identity:

1/ temporary hybrid public space - use of temporary installations or special technical constructions (Ex-Zollamt public garden in Graz, Austria, 2013, Landesgartenschau Vöcklabruck 2007 Waterpark in Vöcklabruck, Austria, 2007); 2/ hybrid public space – as a linking spatial element in the city structure (Måløv Axis in Ballerup, Denmark, 2010, The High Line in New York City, NY, USA, 2009); 3/ hybrid public space – as a new spatial element in

¹ K. Pluta, *Przestrzenie Publiczne Miast Europejskich. Projektowanie Urbanistyczne*. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2012, p. 276.

public historical square (Center for Renhold & Hauser Plads in Copenhagen, Denmark, 2013); 4/ hybrid waterfront public space (Harbour Baths and Kalvebod Brygge in Copenhagen, Denmark, 2003, 2013, Stairs Sonnenbrücke North in Berlin, Germany 2010, Seeds of Change in Bristol, UK, 2012, HTO Park in Toronto, Canada, 2007, Olympic Sculpture Park in Seattle, WA, USA, 2007); 5/ hybrid public space on former industrial site (Jardin des Fonderies in Nantes, France, 2009, Quest Forum in Kolbermoor, Germany, 2010, The Steel Yard in Providence, RI, USA, 2010); 6/ hybrid public space – as a radical revitalization of historical square (Paranama Central Square in Themi, Greece, 2009); 7/ hybrid public space – as a sculpture in large scale (integration of architecture and landscape, The Pythagoras Museum in Crotona, Italy, 2011, Square Via Don Cesare Cazzaniga in Merate, Italy, 2011, Via Tirreno in Potenza, Italy, 2010, Wellness Orhidelia leisure park in Podčetrtek, Slovenia, 2009); 8/ hybrid public space with light structures as a dominating feature (St. Horto in Rome, Italy, 2013, Exhale Project – 140 West Plaza in Chapel Hill, NC, USA, 2013); 9/ hybrid public space – as a solution for climate changes (Water Square Bentheplein, in Rotterdam, The Netherlands, 2013); 10/ hybrid public space – as a part of high-rise building (public square in Shenzhen Stock Exchange, in Shenzhen, China, 2013); 11/ hybrid public space – as a transportation hub (King's Cross Central in London, UK, Urban Loritz Square in Vienna, Austria, 1999).²

The process of studies of various hybrid public spaces was concentrated on research of spatial composition of explored space in urban scale as well as on quality of elements of this composition. So it is possible to mention main types of spatial compositions of hybrid public spaces: 1/harmonious, regular spatial composition (often geometrical), 2/irregular organic spatial composition (for example formed by undulating planes, organic lines and planes), 3/irregular spatial composition with geometrical lines, planes and elements (for example consisting of existing geometrical elements and new green surfaces), 4/dynamic spatial composition (sometimes directed towards a spatial dominant).

There is also possible to distinguish main characteristic features of hybrid public spaces: good connections with existing city structure, combining of historical and contemporary values, use of phenomenon of contrast (artificial – natural surfaces, stable – temporary elements, organic new spatial elements – geometrical historical forms), use of phenomenon of integration (buildings and landscape, natural and artificial elements, different forms and functions), possibility of perception of townscape from different levels and in move, often use of light structures, multifunctional programme (recreation, culture, offices, trade, restaurants, housing, underground parking, playground, etc.), pedestrian accessibility, application of high technologies.

² M.S. Braun, C.v. Uffelen, *Atlas of World Landscape Architecture*, Braun Publishing AG, 2014, p. 11, 24-25, 30-31, 36-37, 62-63, 75, 106-107, 136-137, 139, 143, 152, 153, 182-183, 210-211, 261, 354, 410, 422, 452-453, 472-473, 482-483.

1000 x Landscape Architecture, Verlagshaus Braun, 2009, p.534, 566.

Public hybrid spaces in creation of contemporary Warsaw

The South Station area in Mokotów District – existing situation and problems of development

The physical and functional structure of Warsaw was determined by natural local environment - the Vistula Valley with a high Escarpment on its left bank, where magnificent buildings were located, built in harmony with nature. The Warsaw Escarpment represents the priceless value in town with its green and the landscape open till the horizon, because of its rarity - the single eminence in the city area. It is still the place of great natural and landscape values, as well as a place of historical valuable buildings and complexes. However we can observe a lot of physical changes in this area.

At present Warsaw as the capital of Poland and the predominant urban structure within its own region is in unique situation, because it is the centre of political life, as well as a crucial scientific, cultural and commercial centre. We can observe a big investment pressure in many parts of the city as well as changing patterns of leisure activity and increasing the role of cultural landscapes. There were revitalized many historical public spaces (Krakowskie Przedmieście and Nowy Świat streets, Grzybowski square, etc.) as well as there were designed new public spaces. However many problems of development of the spatial structure of the city have been still solving – one of them is the problem of creation of local centres in districts.

Mokotów District is the example of area, where there is still lack of local centre. The district is located on the left bank of the Vistula River, in vast areas of the upper and lower terrace of the Warsaw Escarpment. With green slopes of the escarpment, numerous parks, green streets and gardens, this district today is considered extremely green.

For years the South Station area is planned as a center of Mokotów District. This area is the important transportation hub (interchange) including: underground station Wilanowska, bus station, tram stops and tram loop, parking Park & Ride. It is a place used by thousands of inhabitants commuting to their work places both from newly built residential districts as well as from suburbs. At the same time this area is the place of many new investments in large scale. Most of them are high residential developments with services on the ground floor, built mainly between the Station area and the edge of the Warsaw Escarpment. Unfortunately, these are uncoordinated investments, which do not form a harmonious spatial composition, and are merely the sum of individual modern buildings. They hid the views of green of the escarpment and highly limited access to it. The location of this area so close to the unique large open areas is a huge advantage, which unfortunately is not reflected in the landscape of the city. Simultaneously on empty plots between Puławska and Al. Niepodległości streets are being built new investments - also of considerable height and volume, which are spatially uncoordinated with the entire area. In the vicinity of the South Station there are also located structures giving a new identity to this area, among others Church of NMP Matki Kościoła (1989). The landscape of the South Station is full of contrasts: there are old houses with vegetable gardens (some in very poor condition), farmlands, supermarket "Supersam", vegetable market, temporary small market along the sidewalk, skate park, playground and right next to them new high housing and office

buildings and modern equipment and surfaces of the underground station Wilanowska. There is insufficient amount of public spaces in the area. It is also necessary to mention, that 2 km west of the South Station there was built shopping and entertainment complex Gallery Mokotów (the second largest shopping mall in Warsaw) as well as Mokotów Business Park. This fact had provoked thesis of bipolar development of the local centre in Mokotów district. There is also planned a new housing district east of the South Station area, what will cause growth of population in the district as well as the necessity of creation representative public spaces. The current transport system in this area is characterized by intense car traffic, complicated intersection of Puławska, Al. Niepodległości and Al. Wilanowska streets as well as chaotic and insufficient solution of bicycle paths. During rush hours huge tailbacks are formed along the streets.

The study of the conditions and directions of spatial development for Warsaw defines the South Station area as the location of the center Mokotów District, the place of main public spaces as well as the interchange. The study postulates the car park in this area and regional and long-distance bus station. In the new vision of development the South Station area it is necessary to propose a variety of functions and types of spaces to meet expectations of different users. This place should not only be an interchange point between five means of transport (a car, a bicycle, an underground, a tram and a bus), but also it should provide a high quality urban space for local residents and workers.

The urban design solutions on the concept of development of the South Station area in Mokotów District in Warsaw, on the example of student's works realized at The Faculty of Architecture, The Warsaw University of Technology, in The Chair of Urban Design and Rural Landscape

In 2015, the Public Transport Authority in Warsaw (ZTM) and The Chair of Urban Design and Rural Landscape of The Faculty of Architecture, The Warsaw University of Technology (WUT) organized a competition for students of the Master Course of the Faculty of Architecture of Warsaw University of Technology (semester 1) on the concept of development of the South Station area in Mokotów District in Warsaw. In the competition took part 12 teams (25 students). Students were supervised by teaching staff from The Chair of Urban Design and Rural Landscape of The Faculty of Architecture WUT (Sławomir Gzell, Katarzyna Kierczyńska-Królikowska, Katarzyna Pluta, Agnieszka Wośko-Czeranowska). Consultations in the field of transport system were provided by employees of ZTM and ZDM. Students had to prepare competition design projects until the end of January 2016. Winning projects were selected by the Jury (teaching staff from The Chair of Urban Design and Rural Landscape of The Faculty of Architecture WUT, ZTM and the Office of Roads and Transport).

The projects were evaluated both in terms of architectural and urban design as well as communication. In the concept in the sphere of transport students had to take into account: existing underground station Wilanowska, bus terminal enlarged at least 30 per cent, integrated tram stops for the existing line along Puławska street and planned new line in east-west axis,

bicycle parking for 800 places, check-in hall for passengers, parking Park & Ride and Traffic Management Centre (with the ZTM office). In addition, the teams had to design a new road system. The winners of the third place were Anna Obłąkowska and Antoni Rybinski. The winners of the second place were (ex aequo): Natalia Skolimowska, Krzysztof Jakubów and Agnieszka Roś, Przemysław Chimczak. The winners of the first places were: Anna Kowalczyk, Kamila Momot and Marcin Jaworski. The competition was connected with the conference.³

The design project 1 – authors: Agnieszka Roś, Przemysław Chimczak

In the design project Authors have focused on the relations with a new housing district planned east of the area and with other important directions. Links are created in form of axes of pedestrian paths. Another important idea was creation of many hybrid public spaces, which have different functions and character. Some spaces have strong urban character, another ones are more like parks and are linked with a green belt around the whole plot. There were proposed the following types of public spaces: communication square, market square, playground for children, public meadow between office buildings, public gym and many smaller green squares.

Figure 1. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Agnieszka Roś, Przemysław Chimczak, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

³ Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016), The competition was also supported by Piotr Łuszczynski - participant of Doctoral Course at The Faculty of Architecture, Warsaw University of Technology.

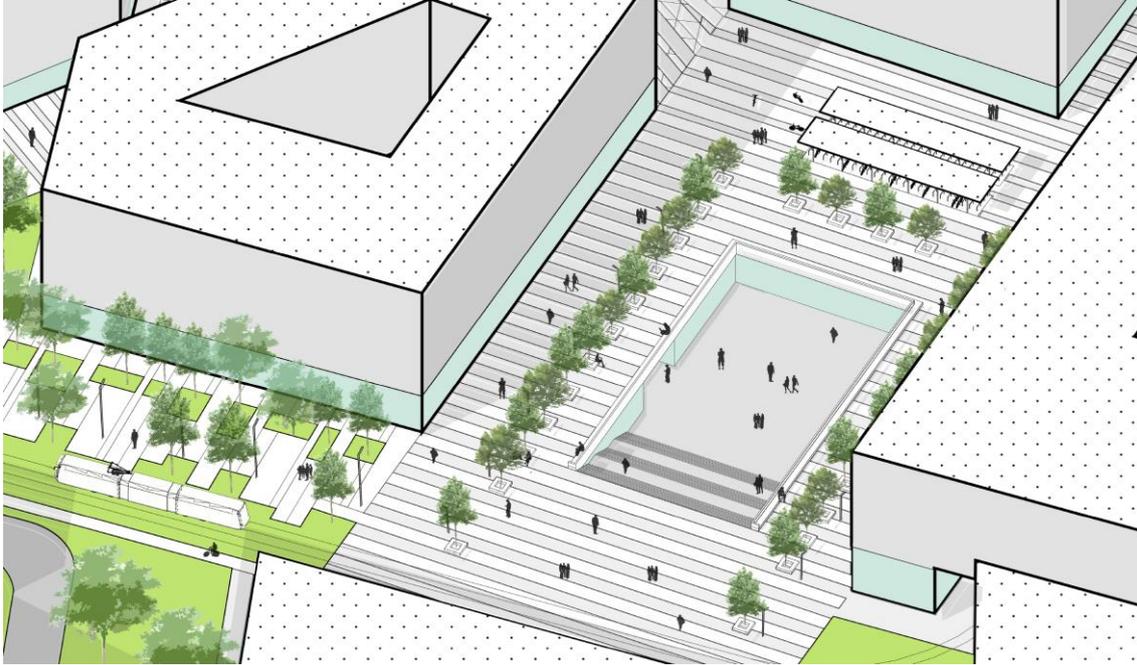
The most important public hybrid space is a communication square - the place where travelers may change means of transport. Authors have decided to delete a traffic on the part of Puławska street, what gave an opportunity to create a square enlarged towards western direction as well as a public space connecting bus station, tram stops, underground station and Park & Ride facility. The square is designed on two levels: on level “-1” there is a parking site, underground station and bus station for long-distance buses. Level “-1” and ground floor are connected by the uncovered part, which is a pedestrian passage with some commercial units. On the ground floor there is proposed the station for short-distance buses, the tram loop and stops, the entrance to the underground station. The square is surrounded by office buildings with commercial functions on the ground floor and is equipped in little architecture like lamps and benches. The square is well connected with other public spaces (directly through opening between buildings with a market square and indirectly by pedestrian passages with other public spaces).

Figure 2. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Agnieszka Roś, Przemysław Chimczak, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

Figure 3. The design project "The South Station area in Mokotów District, Warsaw" – communication square, 2016, authors: Agnieszka Roś, Przemysław Chimczak, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

Figure 4. The design project "The South Station area in Mokotów District, Warsaw" – market square, 2016, authors: Agnieszka Roś, Przemysław Chimczak, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

Figure 5. The design project "The South Station area in Mokotów District, Warsaw" – playground for children, 2016, authors: Agnieszka Roś, Przemysław Chimczak, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



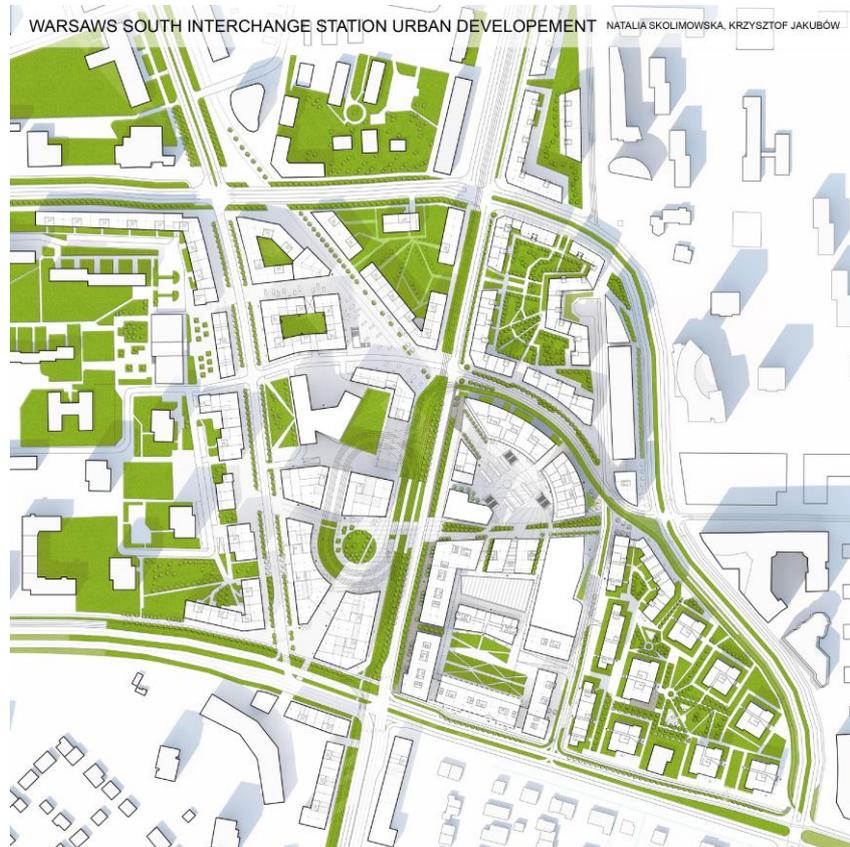
Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

The design project 2 – authors: Natalia Skolimowska, Krzysztof Jakubów

MULTI - LEVEL INTERCHANGE

In the design project the modification of urban transport in the area is based on two goals. Authors have focused on time of interchange. This was the reason of location three means of transport (bus, tram and subway) as close to each other as possible. Authors have proposed one common tram stop for lines in all directions and have moved the bus loop that took a lot of valuable area on the level "-1". In this way people leaving the subway do not need to climb up to the level "0". On the same level "-1" there is a possibility to move to the new tram stop. Between subway entrance and bus loop there is a waiting area with a few levels of office space to rent. In the design project two main streets of the area - Puławska and Al. Niepodległości- are proposed as one-way streets in order to create pleasant public spaces.

Figure 6. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Natalia Skolimowska, Krzysztof Jakubów, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

PUBLIC SPACE

In the area there were proposed three main public hybrid squares that are connected directly with each other. The first one is interchange square with the entrances to the subway, surrounded by office buildings with commercial uses at the ground floor. The main element of spatial composition of this square is a local market and a fountain. In the south-east direction there was planned a business square which is surrounded by higher office buildings (height up to 90m). The square is partly a tram loop (the track is planned partially under or between the buildings). The track in the square will be full of green elements, which will enable to rest in an attractive place during lunch time.

The third planned square has a local character and buildings surrounding it have mixed functions (theatre, cinema, housing with cafes at ground level). The spatial composition of the whole urban complex depend on green axes that lead along Wilanowska, Domaniewska and Pejzazowa streets (through the interchange and business squares) towards the Warsaw Escarpment.

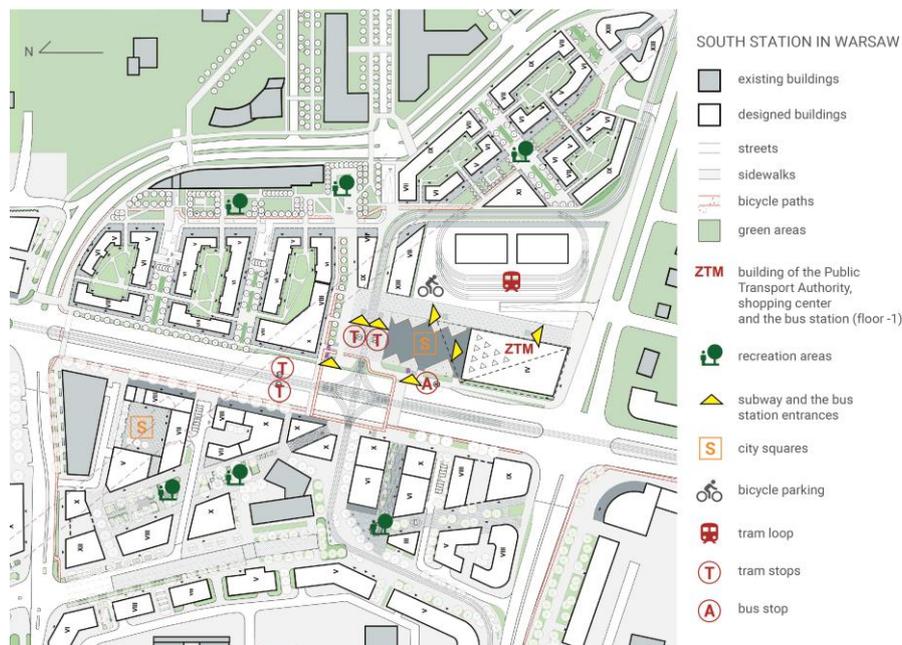
The design project 3 – authors: Agata Bosiacka, Urszula Mazanek

The main idea of the design project is concentration of stations and stops of every means of public transport in one place as close as it is possible and shortening the distance between them. At present the plot is located around complicated road system and do not form any spatial order. However it is a very important place for the whole city because it leads inhabitants to the center and to suburbs.

In the project there was proposed the simplification of road system by moving Al. Niepodległości street into the tunnel. The bus station located on level “-1” will be bigger by about 30% in comparison to the existing bus station. It will allow direct transition to the underground station Wilanowska on level “-1”.

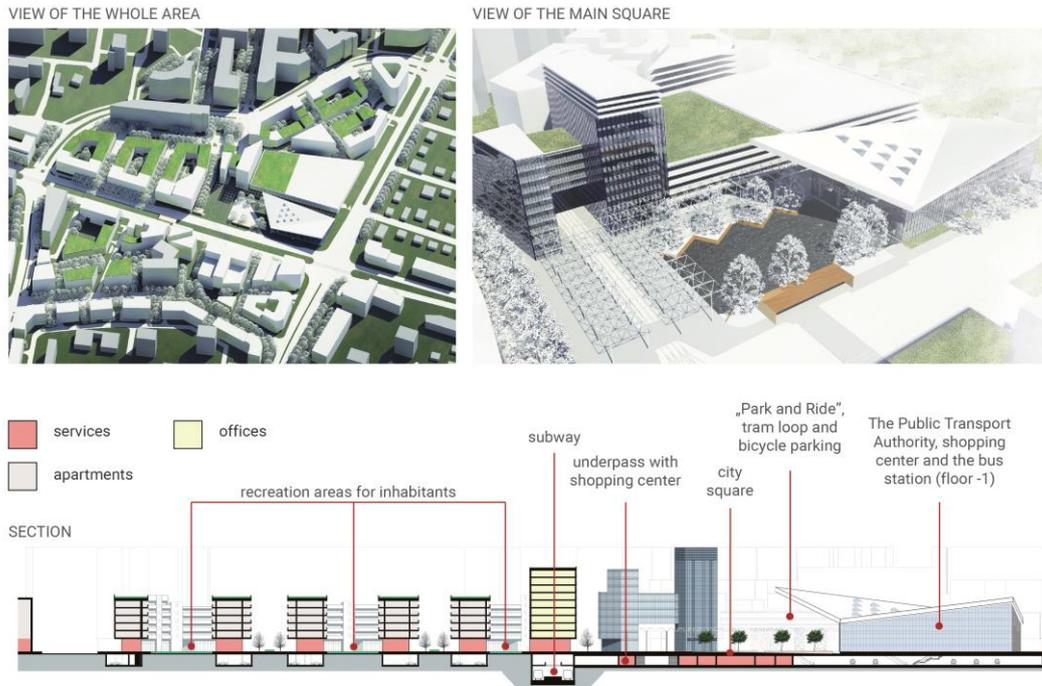
Along the transition passage there is proposed a service gallery and the place where ZTM information is located. Over the space allocated to the bus station there will be a building with an entrance hall at the level 0 with a gallery on the first two floors above the ground and ZTM premises located on floors 3. and 4. Starting from level 1 through all the levels there will pass two triangular atria, allowing illumination of the station with daylight. The geometry of the roof, which form refers to the existing modernist stations buildings in Warsaw, allows partial covering of the main square in front of the building and gives the building unique character. The second important point of transport system is the exit from the underground on the west side of Puławska street. This exit is in the internal square of service building.

Figure 8. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Agata Bosiacka, Urszula Mazanek, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology.

Figure 9. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Agata Bosiacka, Urszula Mazanek, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology.

Location of the underground exit simplifies the flow of people by providing direct connection between the place of work, service facilities and transport system. Authors have proposed the introduction of a new tram line along Wilanowska street. Near the crossing with Puławska street the tram track turns right in a way which enable location of the tram stop on the main square, what reduces walking distance for passengers. Intersection of tram lines is located approximately 180m from the crossing. Special roofing system with light structures will allow to overlap of tram stops. In the design project there were proposed two main hybrid squares with commercial functions and also two green parks with leisure areas (one located near the existing office building and another one located around multi-family buildings east of Puławska street).

The design project 4 – authors: Jakub Pierzchała, Magdalena Subocz

The biggest challenge of this design project was to fit all needed functions into rather small site. In order to provide the highest amount of possible functions, Authors have decided to concentrate all means of transport in one vertically organized system (proposed as a hybrid spatial-functional structure). At the lowest level there were proposed the underground tram lines, whose stops are directly connected with the subway station. Above, on the ground level, there is a bus station, linked with a local public square by corridors surrounded by trade rental

spaces. The ground level of the transportation system is covered by a green roof. The roof creates both a shelter for passengers waiting for their buses as well as an attractive public space which could become an important recreational facility for all employees of office buildings surrounding the roof. The roof itself could be treated as a landmark and a point of recognition for the entire area of the South Station. Despite of spatial separation of the transport centre from other public spaces, there are kept visual connection with them.

All buildings in the project were organized along two axes, which repeat the shape of the subway tunnel. The first axis, which starts at south-east end of the area, is a green area onto which residential buildings open up. The residential blocks have number of terraces facing the green axis. The axis ends on an existing car parking, which is planned to be rebuilt. The ground floor of it would be opened and transformed into a bicycle parking. It would be a connection point with a second axis, which consists of the main public square with a small forum and some pavilions. The square has a visual opening towards the existing church which is located in the north-west edge of the area. The square has a direct entrance to the subway station as well as the entrance on the green roof of the transportation center.

Figure 10. The design project "The South Station area in Mokotów District, Warsaw", 2016,

authors: Jakub Pierzchała, Magdalena Subocz,

supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology.

Figure 11. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Jakub Pierzchała, Magdalena Subocz, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology.

Conclusions

In the future - quality of space of contemporary city would depend above all on quality of its public spaces. During the research work it has been noticed, that original and unique spatial composition of public hybrid space has been one of the decisive elements, which influence shaping the identity of the space and increase its quality. Therefore the most interesting examples of public hybrid spaces in cities presented in the paper are examples of original and interesting spatial compositions.

The penetration of spaces of different character thanks to the principle of multi-functionality of terrains and buildings and flexibility of spatial, functional and constructional solutions as well as conscious and unique spatial composition of urban complex and public spaces, could shape harmonious and sustainable townscape of contemporary city of XXI century.

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BETWEEN VIRTUALITY AND REALITY. REMARKS ABOUT PERCEPTION OF CITY ARCHITECTURE

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Key words: perception of architecture, Virtual City, theory of architecture

Abstract

In the contemporary reality the term "diversity" has become the basic feature that characterizes both creation and perception of the surrounding world. Trying to describe the city as the place to live of the half of the Earth's population faces the same problem that occurs during attempts to define styles or tendencies in architecture, urbanism or each other area of human activity. Therefore it is not possible to indicate one model of the contemporary city, and to determine its appropriate scale, structure and function. Considering complexity of contemporaneity, it's multi-layering and a variety of possible reference points (named here "perception"), the only element which can be identified as prevalent in discussion about the city is man. Developing space in our cities is followed by the continuous development of the parallel virtual world. Perhaps it is still too early to name it "virtual reality", comprehended in the way in which we perceive the reality around us. It doesn't change the fact, that fragments of electronic space, acting as digital memory, change our perception of architecture and cities. Currently the technology development affects *Homo Sapiens* much more than other factors in the environment where we live. One can ask, whether this new reality won't entirely replace the need of direct contact with the real world. The city and its architecture is perceived through electronic prostheses. The surrounding world ceases to be perceived in a natural way and images of images become objects of human perception. The intention of these considerations is not to answer these questions, but to focus attention on problems arising from the change of perceiving architecture.

Human kind cannot bear very much reality.

T.S. Eliot, *Burnt Norton*

Today, the term "diversity" has become a basic feature that characterizes contemporary reality, either single buildings, architectural complexes, or whole cities. At the same time this term can

be applied to the process of designing, but also to the perception of the surrounding world. In such reality an attempt to describe the city – the place to live of the half the Earth's population – may face numerous problems. For there are in fact as many identifiable design ideas, as parallel ways of perceiving architecture. This rule applies to many elements of contemporary reality, not only architectural or urban. It probably can concern all types of activities of each of the seven billions of people. It is not possible to indicate one style in architecture, the only legitimate model of the contemporary city – appropriate for each and every continent, region, or country. In fact, determining its proper scale, its functional structure, guidelines for green and industry areas or zones dedicated to culture and entertainment, depends on the multiple factors. These factors are distinctive and different for each community, and climatic, geographical, sociological or cultural conditions. Perhaps the last of above-mentioned conditions is even a key feature that influences perception of architects as well as architecture perceivers. To capture the aforementioned differences, it's enough to cite just a few examples of cities showing the diversity of urban space described at the beginning. Kraków with its largest medieval market, despite the fact, that the area of the city is constantly growing – the contemporary polycentrism (absorbing in its area not only Nowa Huta, but also neighbouring Wieliczka, Zielonki or Zabierzów) still remained its almost medieval character – the Main Market Square is its centre. Quite different spaces are found in narrow streets and canals of Venice. This city observed from the viewpoint of a pedestrian in the narrow streets spaces devoid of cars, or a "sailor", observing from a deck of a *vaporetto* constantly changing frames of waterfronts – gives the perceiver the opportunity to have utterly diversified experiences, in which water is always an important element. In comparison with these two (how different) European cities, Tokyo with its population of 30 million can be seen as an example of extreme growth of the city. The image of this metropolis, described by Rykwert as the "global city",¹ can seem even shocking. Five-level intersections in the city centre, roads running over rivers encapsulated in concrete, and an underground network of pedestrian streets in the area of the Shinjuku metro station – these are just a few simple illustrations, presenting briefly the character of the space. Comparing these cities, so various in character, is almost impossible. Referring to the examples so extremely different from each other, serves to indicate the characteristic of contemporaneity already mentioned at the beginning of the article – its diversity.

Second, and simultaneously the most important, element of the urban space is its user – man. The city is a product of civilization, developed since the dawn of history. It is human habitat, place of work and recreation. It should be noted that the tendency of human migration to cities is constant. Urbanization progresses and the number of population increases, not only in global metropolises. Along with the human evolution and environmental transformations (including cities built by the forms of their architecture) the space around have changed and will still change. With this metamorphosis the human perception of the reality that surrounds us is constantly changing. Currently technology development affects *Homo Sapiens* much more than other factors specific for the environment in which our species lives. In the last hundred years,

¹ J. Rykwert, *The Seduction of Place. The History and Future of the City*, Oxford 2004, p. 8.

and especially after the Second World War, there has been a rapid development of technology.² This process continues. A good example, directly related to the subject of these considerations, is photography. Since 1826, when the first photo was printed, through next phases of the development of this young art (as well as technologies related to it): black and white photos, colour photos, up to digital images. Today photography is not only considered as a fine art, but it is also one of the basic tools of our perception of the world. Photography is everywhere – today, when anyone can take pictures, professionalist or amateur, traditionally or digitally, even with a telephone. In fact, a long time ago we crossed a line, which described Susan Sontag 50 years ago: "Ours is a culture based on excess, on overproduction; the result is a steady loss of sharpness in our sensory experience"³. It should be noted that the perception and interaction with reality through photographs ought to be described as "indirect perception". In this perspective, a camera or a screen becomes a kind of surrogate, which replaces us direct contact with a building or a city on another continent... On one hand, it gives the possibility of seeing the places which a perceiver could never reach, but it also deprives him of a whole range of sensations, characteristic for the direct perception of architecture.⁴ The dissonance, determining the difference between direct and indirect perception of space, is particularly clear when the "path" between the building and its indirect perceiver is traced.⁵ A city, a building, furniture – elements of reality – are photographed by a direct perceiver. As Susan Sontag once noticed: "Nobody ever discovered ugliness through photographs. But many, through photographs, have discovered beauty. [...] It is common for those who have glimpsed something beautiful to express regret at not having been able to photograph it. So successful has been the camera's role in beautifying the world that photographs, rather than the world, have become the standard of the beautiful."⁶ In that brief moment when a finger releases a camera shutter, the direct perception of space is replaced by the camera. The immortalized moment and the image of buildings captured by the camera separates also the direct perceiver from the object of perception. The transparency of the glass of the objective lens becomes instantly an invisible boundary that extends over the entire width and height of the frame, between the viewer and the object of perception. Replacing the real space with the virtual one does not cease with this single event. The image or its digital form is afterward uploaded to the network – the world alternative to the physical one – the virtual reality. Images reflecting the surroundings exist there in millions copies, and each of them is a record of individual perception of space. Shared, published, uploaded – the countless numbers of digitized "reproductions" of reality create a contemporary museum of imagination of each user of the global network. A final customer, using various "substitutes of the senses" – mouse, screen, computer, speaker and the customer's individually created virtual world – looks at the image of the building. In this process,

² Already in 1964, M. McLuhan wrote: "Today, after more than a hundred years of electric technology, we have extended your central nervous system on a global scale, neglecting the space and time on the entire planet." [M. McLuhan, *Understanding Media: The Extensions of Man*, New York, McGraw Hill, 1964, p. 3.].

³ S. Sontag, *Przeciw interpretacji i inne eseje*, Kraków, 2012, p. 25.

⁴ [cf.] i.a. J. Pallasmaa, *Oczy skóry. Architektura i zmysły*, Kraków 2012, also S.E. Rasmussen, *Odczuwanie architektury*, Warszawa 1999.

⁵ The term "indirect recipient" is understood here in the terms in which Maria Gołaszewska classified the consumers of art, [cf.] M. Gołaszewska, *Odbiorca sztuki jako krytyk*, Kraków 1967, p. 68.

⁶ [cf.] S. Sontag, *On Photography*, London 2001, p. 85.

which for the purposes of this argument was simplified to a few key steps, the relationship of architecture and its viewer is lost at the very beginning. The direct perception is replaced by numerous surrogates. Thus the world around us ceases to be perceived in a natural way – using the senses. The object of our perception becomes the image of the world – the image of the image. You cannot touch brick texture in a picture, feel a cool interior of a cathedral, hear sounds of cities. There is also no possibility of direct interpretation, as the picture of reality has been interpreted by the direct perceiver already at the beginning of the process. The indirect perceiver, the one at the end of the chain, interprets not the actual building but its interpretation. This way of perception brings into focus the term of "virtual reality". According to its acceptable definition, it means – in concept – creating the effect of an interactive, three-dimensional world in which buildings give the impression of physical existence. At this stage of computer technology development it is far from materializing that reality, but perceiving the world by contemporary man bears hallmarks of such virtual perception. Today, especially images and sounds are replaced by their artificial counterparts – computers, TV, mobile phones, screens, speakers and headphones, smartphones. Into this group one can also include all methods of advertising (in forms of photographs and moving images) and also media facades. Perhaps it is still too early to describe this parallel world as a "virtual reality". It is too "unrealistic" in the sense in which we perceive the physical reality around us. And yet: „With virtual reality, space itself becomes a new kind of prosthetic, an extension of the body rather than something that the body occupies. Any simple sense of flesh or spirit independent of the electronic is lost. To be in such an environment is to be so deeply immersed in a space that it doesn't even seem like a space. The artifice of the space becomes as invisible as water is to a fish. So much so that the concept of the virtual almost loses any meaning. In fact, the virtual is something that is always on the edge of disappearing. The virtual is not simply the collapse of the distinctions between man and machine, real and artificial, body and mind.”⁷ Developing physical space in our cities, is followed by the continuous development of the parallel virtual world. Interaction of the perceiver with the city is limited to selected points of access to the virtual equivalent of physical reality – internet shops, online food ordering, virtual libraries and banks, access to works of art, Street View, and interpersonal communication – these are only very few, chosen examples of the use of computer technology replacing direct reception.⁸ These pieces of electronic space, day by day increasing their reach, are digital memory of a perceiver. Simultaneously, according to the law of action and reaction, they change his perception of architecture, including cities. The difference between the direct and indirect experience is vanishing. At this point one can ask the question, whether this new reality will completely replace the need for direct contact with the real world? Moving from home to work, from work to school, from school to the store etc., browsing web pages with images of paintings, virtually traveling through the streets of distant cities. Step by step, we replace the senses-world relationship with indirect transfer. The place of

⁷ M. Wigley, *Architektura protez: uwagi do prehistorii świata wirtualnego / Prosthetic Architecture: Notes Towards a Prehistory of the Virtual*, [in:] *Co to jest architektura? Antologia tekstów / What is architecture? Anthology of texts*, Kraków 2002, p. 199.

⁸ [cf:] J. Rykwert, *op. cit.*, who draws attention to the issue of computer-aided design, s. 213; also: C. Fournier, „Igrając z ogniem”. *Biomorficzny paradygmat / „Playing with fire”. The biomorphic paradigm* [in:] *Co to jest architektura? Antologia tekstów. What is Architecture? Anthology of texts. Vol. 2*, Kraków 2008, pp. 389-390.

the basic perception of reality, between man and the surrounding world, occupy surrogates: smartphones, computers, audio and video media. The city and its architecture is seen through the electronic substitutes. The computer web with an access point and a network of connections, resembles and slowly replaces the network of actual access of a customer to the urban space.

Will therefore this continuously advancing process of changing the way, in which the customer interacts with reality, become the beginning of the transformation of the space? The effect would be near to dark visions from Science Fiction movies. Contemporary image of the city for the moment seems to negate dreams known from the films such as "Blade Runner" and "The Fifth Element".⁹ Yet, the example of overpopulated Tokyo, described at the beginning and compared to Krakow, can be understood as a dark vision of the future, which should be a warning. Nevertheless, one question remains valid – whether architectural forms in the future will be only negligible prostheses for our bodies, and will the city be a void of communication between nameless buildings? Since virtual reality can replace the customer's direct access to the city, since contacts can move to the platform of social networking, and the work in the cloud effectively excludes the need of the office, the question about the meaning of human interaction with the outside will be justified. In such vision, streets will become only a communicational network and structures defining them will be determined only by boundaries – between the exterior and interior. The intention of these reflections is not to answer the question about the directions of the development of the contemporary city, but to focus attention to problems arising from the change in the perception of architecture – not only in the scale of the city, but also the one nearest to us – referring to the area in the immediate vicinity of the place of residence, work or entertainment. Changes in the forms of today's cities also apply to smaller pieces of them – districts, housing estates, shopping centres, offices and residential buildings. After all, architecture – "the most popular" of arts – surrounds man throughout his life. Among the aforementioned examples of architecture and its virtual substitutes, replacing real spaces, only nature remains impossible to replace with the computer substitutes – yet. Considering cities continuously expanding in three dimensions, it is not possible for a single perceiver to experience their entirety.

In regard to this possible but unnamed perceiver, various fragments that directly relate to him are important – a place to live, work, leisure, together with their immediate surroundings. In such scale users of urban space will be interested in it. However, with the growing number of residents, the dissonance between the two key issues increase – the needs of individual users, whose number is constantly augmenting, and the imperative necessities essential for the functioning of the city as a unit. It seems, especially in relation to many cities in Poland, that the role of a single perceiver or a group of users is insignificant. Looking at the nearest surrounding, the "development" manifesting itself in the execution of infrastructure is visible from one side, and – at the same time – the fundamental law: the ownership law. These two trends collide within the city, and shape space which has become hostile, and even inhuman.

⁹ "Blade Runner" (1982), Dir. R. Scott, or „Fifth element" (1997), dir. L. Besson, also other of this species.

What is the role of architecture in building the contemporary image of the city, in searching for answers about its present and future form? One can probably give many different explanations. In these reflections, the interest was focused on two. The first is the need to pay attention to the role of the architect and architecture in the process. Architecture, because of its specificity, is realized always on request. One should raise the question about the validity of the planned constructions and their impact on the surroundings. A number of constructions constitutes a concrete evidence of the trend, in which the criterion of economics prevailed, and forever changed the environments and the character of the place.

In this perspective, the designers of a building, or an architectural complex, become co-responsible not only for a form of a single building, but also for the transformation of a space of a part of a city. This thought can direct attention to the other possible answer to the question posed above. The words of Vitruvius emphasize it: "The architect should be equipped with knowledge of many branches of study and varied kinds of learning [...] By means of optics, again, the light in buildings can be drawn from fixed quarters of the sky. [...] As for philosophy, it makes an architect high-minded and not self-assuming, but rather renders him courteous, just, and honest without avariciousness. [...] The architect should also have a knowledge of the study of medicine on account of the questions of climates [...], air, the healthiness and unhealthiness of sites, and the use of different waters. For without these considerations, the healthiness of a dwelling cannot be assured"¹⁰. In next lines of his treatise, Vitruvius presents not only the scope of knowledge needed for architectural design, but he also puts forward a range of arguments, justifying the rightness of individual statements. Today they still seem to be valid. Simultaneously, with increasing specialization of individual professions, combining different perspectives on the same problem seems to be a necessity. The role of the architect is to create a building, space, a city, but the nature of the space, its function and conditions of humans in it, belong also to other areas of our knowledge. Contemporaneity therefore requires a multidisciplinary approach to the given problem – answers to questions that go far beyond the scope of conversation about the beauty of architectural forms.

Given the complexity of modern times, their multiplanarity and a variety of possible reference points, herein referred to as "perception", the only element possible to identify as elementary for the considerations for the city space is a man. To paraphrase the title of the book by Jan Gehl – the city should be for the people. After all, a characteristic that distinguishes architecture from sculpture is its usefulness. To make them such, "we have to learn more to see, hear and feel".¹¹ Then, the words of J. Rykwert remain valid: "That is why the notion that at some future time cyberspace will perform the functions of the tangible public realm must remain chimerical. There is no possible appeal now, nor in the foreseeable future, from the here and now of bodily presence – the presence that has never felt comfortable, never been at ease in the city of housing. The bodily presence has demands of another kind also, demands of memory and

¹⁰ Witruwiusz, *O architekturze ksiąg dziesięć*, Warszawa 1956, pp. 14-15. (Vitruvius Pollio, *The Ten Books on Architecture*. English version after: <http://www.perseus.tufts.edu/hopper/text?doc=Vitr.%201&lang=original>, access 15.03.206.)

¹¹ S. Sontag, *Przeciw interpretacji*, op. cit., p. 25.

order that have had to be supplied by such surrogates as the theme park."¹² We can only hope that man will wake up from his virtual dream and start again to shape his surrounding with respect – also for himself – and the vision of the art of architecture due to the time "when the cathedral were white."

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¹² J. Rykwert, *op. cit.*, p. 217.

FUNCTION OF TIME IN NARRATION OF CONTEMPORARY CITIES

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Key words: time, narrative, Word 3, Word 4. (Use as a minimum three words and maximum four words)

Abstract

Contemporary perception of time differs significantly from historical one – speeding, divergent, meticulously quantified with abstract units, disconnected from the perception of space. Gradually vanishing are differences between day and night, physical and digital, far and near.

With the new time perception, contemporary city-scapes have evolved. Cities extend, their centres melt; deallocation, speed, light images explode the interior-exterior opposition. Space aspires to the speed of light. Shizophrenic, kinetic reality, where signifiant leaves signifié shows discrepancies: economic barriers, fences, and continuous opening into virtual reality.

Time is a factor joining events in narration, and in architecture. Contemporary literature has shattered the chronology of events, introducing strategies of retrospection, anticipation, anachrony, and so has architecture. These strategies appear also in contemporary cities: the retrospection in historic monuments, the anticipation in avant-garde, “science-fiction” buildings and the anachrony in non-places on the verge of physical and virtual reality. The line of events in the plot of the city’s narration has changed. The duality of contemporary city space appears: perception of sheer time in ruins, monuments and temporal flow of events-spaces.

Along with speeding urban organism, idea of slow city spaces has appeared. “Tasted” with senses, replacing the terms of acceleration, progress, change with: slowness, reflection, variety, essence; effects of reflective attitude towards reality, traces of resistance against the inevitable loss of beauty in contemporaneity. Phenomenological approach as a response for speeding city reality.

The article analyses affiliations between the contemporary perception of time, narrative strategies and city space.

Introduction

Time is connected with the city not only at the functional level – as a measure, but also as a philosophical concept. The concept of time is inextricably linked with the narrative fabula, defined as “a series of events” spread out on the timeline. Simultaneously, although fine arts

have been divided into the ones developing over time – such as literature, poetry and music, and the ones seemingly immobile – into which belongs architecture (with sculpture, painting and other graphic arts), the apparent immobility of some arts is based on the illusion of monumental nature of their reception. Although architecture belongs to the visual arts (commonly characterized as “immutable, still artifacts”) its perception isn’t timeless, but according to Mieke Bal related to *monumental time* – “temporality that denies (...) historical time and aspires to eternity” (Bal, 2009, p.77). In the city – understood as the work of art – time appears monumental, but also unfolds before its flâneurs the sequence of events.

In history, perception of time presumed its relative nature. The time was represented in the form of units of a particular, perceptible length, measured at the base of natural phenomena. Traditionally, time was linked to space¹. Cities, on the other hand, were created as events of a particular story. *Castra Romana* told the tale of roman legions and the ritual of founding cities. Baroque public spaces reflected the discourse of power and processional spaces – religious beliefs; all these narratives were linear. There existed also a direct link between the city space and the time. Joseph Rykwert in *The Seduction of Place. The History and Future of the City* presents example of towns created and functioning as solar clocks.

Juhani Pallasmaa sees the city as an instrument of metaphysical functions, too complex to be thoroughly imagined and described – „a maze of clarity and opacity” (Pallasmaa, 2012, p. 142). The beginning of the twentieth century introduced “the beauty of speed”, recognizing acceleration as an advantage (the prime value), and thereby destroying the unity of time and space.

Contemporary perception of time

The contemporary perception of time differs significantly from the historical one – speeding, divergent, meticulously quantified with abstract units. Our reality has disconnected it from the perception of space, using the conjunction of the two elements solely for measuring, obligatory for commercial purposes – which is illustrated by the terms of “spatializing time” and “temporalizing space”² (Pallasmaa, 2007). Gradually vanishing have been differences between day and night, physical and digital spheres, far and near. The new digital media have introduced a new genre of time – the virtual one, passing in digital reality.

Trade in time is a characteristic feature of contemporaneity (the measure treated as exchangeable goods), as well as shortening and lengthening of the time used for various activities. The issue of density of time has been impaired in modern times, leading to the phenomenon of the temporary schizophrenia. The acceleration causes the act of “killing time” and killing time means killing space. According to Zygmunt Bauman, postmodernism is time of disappearing space and using time as a tool of conquering space – caused by new technologies. And to all these above mentioned elements, the issue of duration may be added – time and space understood as products of experience according to Bergson and Bernard Tschumi (for whom every representation of time in space requires duration). Time is essentially

¹ It is especially visible in the Japan concept of space – always based on time.

² Space is measured with the units of time and Proust associated this invention with the invention of the railway.

trigeminal, combining three realms connected by a continuous movement: past, present and future.

Time in narrative

In narration, time is a factor joining elements, ordering each narrative work on two levels – continuity of a text (i.e. a chain of signs) and linearity of a plot (i.e. a chain of events). Contemporary literature has shattered the chronology of events, manipulating with elements of a direction, a distance and a target of time. Strategies of retrospection, anticipation, and anachrony – aimed at generating tension, emphasizing certain issues and interpretations, causing particular aesthetical or psychological effects – are used by authors so often, that chronological chains of events evolved into a literary tool used for a specific purpose. Whereas retrospection³ is a quite common literary strategy, anticipation appears in narrative less frequently. Most often it alludes to further course of a story. Its aim is to create tension or to express a fatalistic vision of future. Anachrony (anticipation within retrospection or retrospection within anticipation) is a construction of time so disordered, that it cannot be deeply analysed.

Mieke Bal defines different kinds of time of different thickness in narrative, present in human life and conflicted with each other (Bal, 2009, pp.77,78). “Day-to-day time”, “monumental time”, “historical time”, “time of daily events” and “micro time” – all appear in literature, whereas architectural works strive for eternity, operating with “monumental time”. Therefore, they seem to be continuous and immobile. Similarly however, like in literature, a recipient of architecture also faces events, defined at least since the Tshumi’s thesis from *Red is not a colour*. Thus, the city and its architecture have two different measures – time of creating and time of perception. And buildings are received variously through differentiated paths of moving around spaces. Architecture is full of quotes from the past and references to the future – i.e. anticipations based on aesthetics taken from science fiction.

The way to the space of the contemporary city

Along with separating various methods of use, Modernism introduced fragmentation of space, disregarding the material resistance of the city to the segregation of its functions. According to Juhani Pallasmaa, modernist buildings signified acceleration of time, deconstructive structures – even greater acceleration, and the newest, contemporary architecture is – by its nature – sped up and neurotic. (Pallasmaa, 2007) Traditionally, time was “fastened” in the building and in the project. Buildings were designed in a particular time and “caught” this particular time, telling stories about the moment of their creation. Simultaneously, buildings operated rather as environments of events than single events. Contemporary architecture lost the memorizing function.

Paul Virilio in *The Overexposed City* construed airports as a new genre of space – architecture of surveillance and artificial freedom, in fact controlled with electronic devices. Similarly, electronic surveillance and electronic gates have replaced architectural city gates, depriving the cities of space borders, the *here-there* opposition and thus – paradoxically – time continuity.

³ Mieke Bal uses the term *retroversion*. (Bal, 2009)

“Deprived of objective boundaries, the architectonic element begins to drift and float in an electronic ether, devoid of spatial dimensions, but inscribed in the singular temporality of an instantaneous diffusion.” (Virilio, 2005, p.383) Chronological time was replaced by computerized time; unity and continuity of space without borders is not founded on unity of experienced time.

Lefebvre presents one more change in the city, connected with time measures – acceleration, caused by automobile traffic as the ground of transforming experiential, phenomenological space into the abstract space – its simulacrum. For a common driver, for whom possessing space requires minimal emotional input, the flattening reality of cities is seen as a set of fast moving, 2-dimensional pictures. Migrating through the urban narrative, he perceives only these purely functional elements of the city-text, that inform him about the road; furthermore, they also must be turned in the driver’s direction (Lefebvre, 2012, p. 313).

Marc Augé claims that each city is a summary of the world, condensation of people from diverse backgrounds, countries of origin and status. Metropolis adopts and groups people. At the same time, the omnipresent urbanization is the effect of two processes: globalization (global market and communication necessary to operate the network) and universal consciousness (environmental and social) of new solidarities and addictions, created by the globalization. These two phenomena, together titled mundialization, resulted in alienation, the irrelevant experience of homogeneity, unifying standards - on one hand, the lack of a coherent "costume" for the urban tissue accumulated over the years, and on the other – network shops, banks, restaurants making individual cities indistinguishable from each other. Creating schizophrenic experiences.

By the end of the twentieth century, narcissism of society has already been reflected in the architectural forms of the city – smooth glass facades. A boundary has disappeared – a "mystery" between the interior and the exterior. Artificial lighting has blurred the boundaries between day and night. Dematerialization has occurred, along with disintegration, relocation, dozens of ephemeral identities, dynamic, kinetic urban space. (Rewers, 2005) The narrative of contemporary cities consists of torn spaces and individual times. There is no single, unified time in the contemporary world. Various kinds of time constitute different time sequences. The place of kinesthetic urban experience gets the TV screen, or the illusive world inside it. The screen does not show reality, does not connect spaces (like doors), or isolate them (like windows) forming boundaries between day and night, external and internal, spectators and their environment (urban space) – but schizophrenically splits reality into the virtual and physical. At the same time it narrows the field of human experiencing into the sense of vision. The contemporary city is the city of the eye. There are no real experiences in it, the pacification of the body assimilates reality to "dulled consciousness, induced by TV" (Pallasmaa, 2007, p.142). Formerly Manhattan and now Dubai operate in architectural and urban-planning writings as synonyms of contemporary beings, places representative for present-day cities. However, there is no need to fly to New York to see the negative features of the contemporary urban space. The changes can be seen in the old continent, not only in modernist housing estates, but also in historic cities. Deprived of its limits, the Augé’s city-world is so monstrous that travelling around it by subway (whether it’s the space of Paris, London or Berlin) creates the effect from Virilio’s dromology. Furthermore, objects of star-architects – often ignoring the context – can be

distinguished only by assigning them to certain images, first seen on the internet. Between them, colours and shiny planes meet demands of reigning oculo-centrism, filled with signs of global corporations – appearing identical in each city. Indistinguishable, unified commercial interiors do not allow for differentiation (even the one in which continent the space is located).

Contemporary city - anticipation

Even further goes “electropolis”, and a “new simplicity”⁴ of urban architecture, culture created by computers – electronic devices as machines used for designing and as machines – metaphors; ajar space, offering a variety of sensory experiences and deep meanings, contrasting with the Post-modern “decorated shed”. Both terms (the electropolis and the new simplicity) used Ewa Rewers, characterizing in “Post-polis. Wstęp do filozofii ponowoczesnego miasta.” (“Post-polis. Introduction to Philosophy of the Postmodern City”) their nature and origin (Rewers, 2005, pp.101-143).

The road to this trend led through the metaphor of the screen – already mentioned, replacing the reality of the glass pane of the 70s. As the first example of this current Ewa Rewers presents Parisian Institut du Monde Arabe by Jean Nouvel. Glass façades were in the cities of the late 20th century gradually replaced with or transformed into screens and billboards. Such elements simultaneously concealed the form of the building and presented virtual reality (i.e. visual information, inscriptions, images). Images on the screen no longer reflected urban reality. Signifié broke the relationship with the signifiant – like in Baudrillard – making it impossible to build consistent messages, relating human experiences. Along with film screenings, presently often taking place in the city (and happenings or installations using film media more and more frequently today), the fiction of images at a distance is created, causing the rupture of time and space. The time and the space are fictional, easy to traverse and to change completely, like during traveling through portals from sci-fi novels. The established culture of the present time gives only momentary pleasure. Along with the generated fiction, arose resistance against the dictatorship of the screen and of the picture from a distance.

The time of “electropolis” came after the epoch of the screen. The time of urban architecture, created by the culture of computers, i.e. computer-formed and using the machine imagery. A mobile machine is still a valid metaphor (like in Futurism and Modernism) but moving with increasing speed. The current speed is the velocity of a jet plane and from the height of the plane, all details disappear, blurred in the momentum. Striving for speed of light is a sheer utopia. The new measure of perfection has become the speed of light, thus replacing metaphysics of light – previously influencing architecture – with the physics of light. Spotlights affecting the art of building in history (i.e. the sun, God, electrical reflectors) has been replaced with fibre optic cables and LED strips, conducting light waves in space and transferring data. The space striving for the speed of light is not a completely closed space, and it offers a variety of sensory experiences and various, deep meanings. However, if Frank R. Werner grants the objects of the “new simplicity” a deeper, sensual multiplicity of meaning, Ewa Rewers seems to focus on the Werner’s negative example of an “autistic individual building”, incapable of entering

⁴ The term used by Frank R. Werner may be found i.a. in his article *The 'New Simplicity' – A Problem of Representation in Architecture and Town-Planning? Some Remarks on 'Simplicity' in Architectural Theory.*

into dialogue with its context (Werner, 2005). Rewers cites John Beckmann, for whom the adjective "deep" refers to the proliferation of virtual spaces. The multidimensional space ceases to be what city's inhabitants traverse, and the space rather "traverses them" (Rewers, 2005, p. 139).

The challenge of time means disregarding stability, being in constant motion, speed, dislocation. Signs become more important than architecture, and the architecture is "anti-spatial" and torn between providing shelter and multiplying virtual spaces – the real and the digital world. The dislocation, speed, light images explode the opposition of the inside and the outside of the city. City façades are screens – rather virtual than actual boundaries. Instead of spatial borders – amicable, denoting the city-house – financial borders inside the city occur and spatial barriers for some groups of users, preventing the equal use.

In the urban organism without borders and perceptive spatial dimensions, drifting in the digital ether, the language of time has overshadowed the language of space. The domination of signs determines the process of creating architecture and eliminates „materiality depth, shadow, opacity” (Pallasmaa, 2012, p.143). This, furthermore, destroys the mystery of discovering unknown urban elements. This equals the disrupted time of city novels, the lack of plot, and the absence of a literary suspense in the narrative of the city. The aesthetics of the city of anticipation is the aesthetics of distance, architecture succumbing to the illusion of modern technology, aesthetics of transparency, break and distance; non-existent, cosmic reality.

The work of art, the issue of memory – retrospection

Mark Wigley in the essay „The Architectural Cult of Synchronization” (Wigley, 1999) reports a certain memory loss in contemporary architecture; the loss which is reflected in buildings lasting no longer than the human life, and therefore being fragile creatures, no longer holding (storing) memories. The memorializing function of building structures, perceptible in monuments and urban tissue through the history, has been eliminated and replaced with digital archives. Contemporary societies tend to care more about information than built environment; electronic data are presently better preserved than buildings (the object can be rebuilt, which is evidenced by many various replicas of architecture).

According to artist Sandra Illiescu, time slows down in the presence of the work of art. Illiescu has introduced the „aesthetic time”, different from the historical time, blending present with past. Karsten Harries in his memorable and controversial essay titled “The terror of Time”, describing architectural objects as man-made shelters, aimed to suppress feelings of vulnerability and fear of death, posed a similar thesis: “The language of beauty is essentially the language of the timeless reality”. (Harries, 1982) On the other hand, Pallasmaa indicates a need for settling the object in its temporality. He treats time as a haptic sense. The matter reflects the time, and the perception of the skin is the consciousness of materialized time.

In the narrative, the link between time and space is memory. Yet, the memory is a special kind of narrative focalization – the "vision" of the past. It is often an act of narrative, binding events or elements previously unrelated in the story. Moreover, memory is not only an objective narration. Sometimes occur discrepancies between reality and memory, like e.g. in the case of traumatic events.

The building is a symbol shaping the reception of time, it becomes a kind of museum, collecting time. For Mark Wigley (Wigley, 1999) the monument is hardly a building, but a space protected from the passage of time, preserving some of the features of the past – the urban incarnation of retrospection. The "time machine" institutionalizes time; the fixed element carries ephemeral qualities. For Juhani Pallasmaa the principal task of architecture is to mediate between the two polarities of time. „Time of architecture is detained time”. (Pallasmaa, 2012, p. 312)

The purest incarnation of retrospection in architecture are ruins and – according to Marc Augé – the contemporary attitude to time reminds the attitude of ruins to time. Ruins express pure time, and the sheer perception of time is the perception of emptiness. Too many stories accumulate in ruins to tell them (Augé, 2008).

Also in narrative, the retroactive comeback to the time, when a place was a different space is resistance against mapping, looking from above, disrespecting time and a variety of elements (like population in literature), according to Mieke Bal (Bal, p. 151). Thus spatializing memory, providing landscape with history opposes overall control – planning against time. Again, the urban space follows the rules of the narrative text.

Augmented space – anachrony

Whereas in literature the narrative anticipation is a strategy used significantly less frequently than the retrospection, and is usually limited to a single clue about the future aimed at producing tension or showing a fatalistic vision of fate, one can propound the thesis that in the urban narrative, futuristic architecture as a utopian prophecy of the future appears comparatively as often as exact quotes or loose references to the buildings of the past. Furthermore, in contemporary cities the retrospections occur next to the anticipations or tend to be entirely compounded (retrospection-within-anticipation or anticipation-within-retrospection), evoking a disruption of structure of time which cannot be further analysed – termed *anachrony* in literature. Eventually, continuous change is a characteristic feature of contemporaneity.

The space of the contemporary city is characterized by the simultaneous closure to the real space and opening to the world through the virtual media. These elements are visible in the most of modern intelligent buildings, once more causing schizophrenic split. “I would like to suggest that we have lost our capacity to dwell in time, or inhabit time. We have been pushed outside of time, the experiential space of time. Time has turned into a vacuum in opposition to the >tactile sense of [time]< in Proust’s writings, for instance”, according to Juhani Pallasmaa (Pallasmaa, 2007). For Pallasmaa the contemporary environment, mainly technological, does not care about rootedness and the sense of belonging. Apparent are the alienation and the lack of empathy in contemporary architecture. The urban landscape equals flat time; the lack of time instead of its calming presence.

The metacity of the contemporaneity means the disappearance of the city: the disseminated, ubiquitous centre and the non-existing opposition of the city and the village. There are no borders and the boundaries are necessary to tell a story. They not necessarily have to be tight, but their presence is essential in the narrative. There are also no formal limits in architecture. Architectural works are visions of individuals designing them – today designing the most often without inscribing in a local style. Every building struggles to be distinguishable, but all are

similar in their own justification of their context and history. The prestige of the architect stems from the global recognition. What's more, the tyranny of youth engulfed the built environment. As young, well-groomed bodies tend to be fashionable and valuable, contemporary architecture should not remind of decay. The urban anachrony involves timelessness, not aging buildings.

Conclusion – the slow city

Along with the speeding urban organism, an idea of slow city spaces has appeared. Returning to "tasting" spaces, both in the sphere of consumer culture and aesthetic, "valorising designed spaces as works of art" (Rewers, 2009) Slow spaces mean freedom – the freedom from spatial limitations, the care for individualistic values, the effect of adopting reflective attitude towards reality. Along with the homogeneous magma indistinguishable in speed, romantic rebellion for sentimentality has replaced the terms of acceleration, progress and change with: slowness, reflection, variety and essence. Change has been replaced by choice, and functional programmes – freedom. The time of sensuous space has come, as the effect of reflective attitude towards reality, traces of resistance against the inevitable loss of beauty in contemporaneity.

Green architecture (Ewa Rewers presents this current with the last names of the following architects: Ambasz, Perrault, Hundertwasser) and phenomenological approach are responses for the speeding urban reality. Aesthetics in place of abstraction along with human scale, natural movement of human body and its tempo reflected in urban space. The slowdown in reading space created with eliminating or reducing the importance of vehicular traffic in the city's text – although utopian – can have positive effects. Analyzing the relationship between the human body and landscape is the next step.

The sense of touch is responsible for the consciousness of continuation and narrative, the sequence of events; gaze is associated with the sense of touch, feeling of depth, a sense of continuity, and also navigating through spaces, as well as other senses – smell and hearing. The reflected echo marks the boundaries of space (which is the most important for blind people, whom Oliver Sacks in the *Eye of the mind* describes as "seeing" the space in the rain, hearing falling drops). Smell and received sounds enable orientation (in seaside towns, the proximity of the sea is smelled, and ports also heard in of yachts). Eyesight breaks the space of a contemporary city.

Small, historic cities follow these rules by their nature. Tyrolean Brixen is the phenomenological space – a historical city with the human scale of buildings, narrow streets, winding spaces, like Venice (though perhaps not to such an extent) transitioning between interior and exterior. The city becomes the space of a house, and the house – the city. Passages through buildings form inner streets, convent cloisters are linked with a space of a square, interiors of apartments through bay windows overlook the city space. Gaze moves here over textures of walls and floors of urban interiors; the hearing binds spaces, determines their size, "embeds" passers-by in a particular point in the city; smell helps in orientation. New constructions in the city, despite their modern forms, only enrich the historic town. Climbing Hall (designed by Wolfgang Meraner and Martin Mutschlechner), Heating Plant (with a skate park on the roof, designed by Modus Architects), Pupp Hotel (designed by Bergmeister Wolf Architekten) by their neutral forms, large

glass and transparent elements on facades (metal mesh, perforated metal sheets) relate to the historic environment rather than isolate themselves from it with ornamental brick walls. They continue the dialogue of the interior with the exterior, keeping the succinctness of architecture, not trying to compete with traditional forms.

Even if it's impossible to transpose all the features of small, historic cities into European capitals and other metropolises, focusing on the linearity of plot, eliminating some levels of anticipation and introducing more retrospection lets for anchoring in present time. Sensory space, concise forms, human scale and physical reality instead of virtual multidimensionality and the velocity of light result in flowing time, buildings aging with dignity and places marked by the passage of time. The chronological chain of events is the most appropriate in the urban narrative. Allowing for the passage of time paradoxically counteracts the human anxiety about it. The city serves as a shelter again, plying its primary role.

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TAMED CITY**THE PERCEPTION OF URBAN SPACE BY VISUALLY IMPAIRED PEOPLE****Paulina Tota**

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Key words: perception, orientation, public spaces, accessibility of the city

Abstract

Relations between man and his surroundings can always be referred to the general question of one's being in the world. Therefore, the spatiotemporal reality creates a framework for any human activity. Space orientation is the basis for determining the place of a human being - not only in the physical environment, but also in the whole spectrum that is carried by its meaning.

The city has become a primary habitat for man and his nearest space – hence it seems to be essential to take into consideration the issue of urban spaces; perception.

Thanks to cognitive processes, a human being has the ability to create in his mind a subjective representation of the physical world outside of him. The physical world can be perceived by constructing our internal mental image based on the information received through our five senses. It is estimated that up to 90% of the external stimuli are received by man via eyesight. The other four senses provide us only with 10% of all sensations.

Visually impaired persons are so often presented as those users of space who do not understand it entirely. Usually we do not realise that blind people are the ones who are the most attentive audience to the city space: they pay attention to those of its elements that are almost imperceptible for people without disabilities.

The article discusses the issue of urban composition as one of the determinants of orientation in the urban space. The author aims to analyse the issues of perception and environmental cognition together with the question of cognitive maps created by blind space users.

Preface

Due to the fact that man is a social creature by nature, his willingness to gather and create groups comes as no surprise, and since cities constitute the most natural area for the activities of the type, it is likewise not surprising that their populations grow unstoppably. Over centuries the city has undoubtedly become the basic environment for human life, an anthropogenic space filled with the traces of man's activity, the place of the development of society and culture,

accompanied by the economic progress. What is equally important, it also constitutes a reflection of the basic values and relations in the societies that form them, being their first icon and record of their past, as well as of their future pursuits¹. The urbanisation processes of the last fifty years have brought about a situation where already over a half of people of the world live in cities. It is estimated that by 2050 this number will have exceeded 75%, whereas this will be the share of the number estimated for that year, which is to reach 9.5 billion².

Currently, the city has also become a subject of research carried out in numerous fields of study, as well as the area of interest of a large group of individuals, engaged in all sorts of topics. One of such issues, not a new one, but one that is being rediscovered, is the concept of the accessibility of the city – its perception and orientation within it. It is a problem tackled most of all due to the constantly growing number of people with disabilities in urban communities, which entails a belief that contemporary cities should become areas that are fully adjusted to their needs.

Social life calls for legible and well composed spatial frames; hence an element that is extremely important for the development of the city is the urban order, that is *an interrelation occurring between patterns of the urban life and the logic of the urban form*³. It is quite obvious that the form of the city keeps changing, reflecting this way transformations of societies and civilisations. And yet, at the same time we can always find the same characteristic elements of the original structure in them: residential development, public utility buildings, or public spaces.

Recently, the quality that has become the fundamental category of the evaluation of the city is its quality. As it is commonly known, the quality of the physical surroundings of man has a direct effect on the dimension and nature of his activity outside his home – these relations have been very precisely described by Jan Gehl: according to the research conducted by him, if the activities of the kind occur a lot and with a considerable frequency, we can talk about a well-designed space⁴. What is extremely important, the main measure of the quality of urban space could undoubtedly be the easiness of getting around in it, based on the general logic of the structure of the space, its components, characteristic spots, or areas that lead the user.

Space perception by visually impaired people

Perception, or the way in which man sees the world around him, is possible thanks to the reception of a number of external stimuli (sensations) via individual senses. Thanks to cognitive processes, man has a chance to create an image of the surrounding area, whereas he analyses the external environment actively, creating his own notion about it⁵. Therefore, the perception of the outside world is based on the information received by the senses. They in turn, synthesising the data, analyse individual impressions, providing man with an image of the surrounding area. What is important, the very ability to perceive depends not only on the physiological condition of a person (the ability of their senses to operate properly), but also on the degree of mastering

¹ Cf.: J. Gyurkovich:, *W poszukiwaniu miejskości...*, p. 131

² Data after: <http://www.unicef.org/sowc2012/urbanmap/>

³ Cf.: S. Staszewska: *Miasto miejscem dla ludzi...*, p.217

⁴ Cf.: J. Gehl: *Życie między budynkami...*, pp. 31 – 37

⁵ Cf.: P. Tota *Miasto oswojone...*, p. 181

individual analysers on specific stimuli⁶. Therefore, perception is the most elementary process of getting to know the surrounding world for man, and thanks to cognitive processes man has an opportunity to create in his mind a subjective image of the reality that objectively exists outside of him.

Role of eyesight and perception in perceiving the surrounding world

It is believed (as M. Podgórski claims, after W.J.T. Mitchell⁷) that the domination of eyesight in our culture and the way we perceive the world began in the moment when God looked at His work and *saw it was good*⁸. It is impossible not to notice that evolution has moulded humanity so as to make a culture based on the prevalence of visual impressions be the most natural to us – up to 90 per cent of all our experiences come from stimuli received by eyesight⁹, it is also eyesight that is responsible for the need of orientation to the highest extent - both in time and space. Eyesight provides the most obvious and the richest perceptive information, and seeing things is extremely important for understating all spatial relations in the surrounding area.

Over the centuries of the culture of the western world, eyesight has been traditionally recognised as the most important of all senses. Plato recognised it as a cause of the greatest benefit for humanity, and Aristotle as the noblest of all senses, which is *the closest to intellect*¹⁰. Since the times of ancient Greeks the philosophy of subsequent epochs has been overgrowing with visual metaphors, eventually identifying knowledge with seeing, and the truth with light. The renaissance invention of perspective representation made the eye the focal point of the perceived world, and the very perspective grid became not only a tool to describe the world, but rather a factor conditioning its perception. In our culture, looking and seeing has grown to the rank of not so much a cognitive experience as an existential one: it establishes relations between the observer and the observed. Eyesight itself, on the other hand, in the human understanding is equal to a godly property, the tool of control, and thus of possessing wisdom and knowledge, which are so characteristic for the Eye of Providence. Moreover, over the past years visuality has definitely dominated the word – the written or the spoken one – which currently has become an addition to it and not information in its own right. We recognise the primacy of image over other information carriers, believing that it conveys clear and objective messages; whereas the visual information received may be absolutely independent from the intentions of the creator: as Professor Ernst Gombrich demonstrated, even *A holiday photograph of a group of people on the beach, thoroughly analysed, can be useful for an intelligence officer to prepare a landing operation*¹¹.

The primacy of visuality in our culture seems to be unquestionable. We are surrounded by images, and most of all images mould our perception of the world, and the discussion over the

⁶ Cf.: M. Wysocki *Projektowanie otoczenia...*, pp. 39-41

⁷W. J. T. Mitchell *Pokazując widzenie. Krytyka kultury wizualnej* [in:] *Artium Quaestiones* (XIII), Scientific Publishing House of the Adam Mickiewicz University, Poznań 2006, p. 280; cf.: M. Podgórski *Ucieczka od wizualności i jej...*, pp. 5-6

⁸ Chpt 1,12, *Pismo Święte Starego i Nowego Testamentu. Biblia Tysiąclecia*.

⁹ Cf.: T. Majewski, after: M. Wysocki *Projektowanie otoczenia...*, pp. 39-41

¹⁰ Cf.: J. Pallasmaa *Oczy skóry*, pp. 21-22

¹¹ Cf.: E. H. Gombrich: *Pisma...*, p. 47

perception of the urban space is usually based predominantly on the visual stimuli provided to recipients. Nevertheless, there is no doubt that the reception of the reality by a person is based not only on what is visible, but it is of a more multisensory character, thanks to which it is possible to function efficiently even in a situation of a complete loss of one of the senses.

Perception of the surroundings by the blind and the visually impaired

The fundamental senses responsible for human perception are: eyesight, the sense of balance, and the sense of touch, whereas the former, as it has been already mentioned, provides as many as 90% of all sensations¹². Eyesight is a sense which was the last to develop on the path of the evolution of species, thanks to which it is the most complex. Perception possible by means of eyesight enables to understand the surrounding world as fully as possible, as all senses of a human being occur in time and space, and it is eyesight that is our main spatiotemporal sense. What we see is not just arrangements of shapes and colours, but also movements and changes.

Interestingly enough, though, eyesight never provides us with a full mapping of the reality as we are never able to see everything. When watching the surrounding area, some surfaces will be always blocked by others, and even on a plane that is not blocked by any elements, our eye-field is limited by the horizon. Therefore, full perception of the surrounding area is possible thanks to the movement of the observer. This movement not only enables to explore the space, but it also puts it in order: by the rhythm of our steps we create our own order, and by the rhythm of our steps we also measure the reality that surrounds us. It is even very probable that the first rhythmic architectural layouts did not derive from the mathematical proportions 'pleasing to the eye', but from a module measured by the steps of a walking person.

Research¹³ aiming at the comparison of the decision-making processes when getting around in the space, conducted in a group of persons blind since birth and in a group of visually impaired persons demonstrated that they are very similar, the difference being that the blind subjects prepared their route much more carefully than the other group, and when making specific decisions they based on different information. Obviously, complete blindness renders it impossible to create a mental image of the entire surrounding area in the same way it is constructed on the basis of seeing; nevertheless, even people blind from birth are able to repeat a route they have once walked, and even to combine the routes they have learned before into an entire spatial system, as well as to learn a similar system from a model or a tactile map, and find it later in the natural scale of the actual spaces.

Contrary to a popular opinion, people with the eyesight dysfunction (i.e. the blind or the visually impaired) do not have specially developed senses that would compensate for the lack of the visual experiences. In their perception of the reality they base most of all on mastering of the abilities they have to the fullest. In order to be able to reach full independence in getting around, and generally speaking in being in the space, *being-in-the-world*, a blind or visually impaired person should most of all master the skill of orientation and safe movement in the surrounding

¹² Cf.: T. Majewski, after: M. Wysocki *Projektowanie otoczenia...*, pp. 39-41

¹³ Cf.: E. Kuryłowicz: *Projektowanie Uniwersalne...*, pp. 42-45

space; and to be able to move without anybody's assistance such a person must be able to find themselves and to analyse characteristic landmarks on their route and to locate them on the vision map created by them. Learning to get around in space in people with the eyesight dysfunction begins with getting to know of the nearest surroundings (within the range of arms or the cane), subsequently moving on to exploring a larger and larger space.

The research carried out in a group of the blind and the visually impaired¹⁴, focusing on the understanding of beauty in the context of the city, has provided an interesting image of the reception of the urban environment by people with the eyesight dysfunction. What blind persons recognised as exceptionally interesting were streets and roads - the ones that are safe for them, that is where orientation is not hampered, and there are no obstacles on the pavement (such as waste bins, benches, bicycles, etc.) or which are arranged rhythmically, at regular intervals. An answer that was particularly frequent was that they believe that walking along streets of different cities is very interesting. Answers to the question concerning elements important for the aesthetics of the city and the ones which have their effect on moving around safely and on the orientation in the city proved to be very interesting. For most respondents, *order, rhythm, harmony, and arranged items* were the elements of beauty in the space. At the same time, the same qualities, according to the respondents, should be exhibited by a space in which it is easy and safe to get around without anybody's assistance. Despite this fact, when asked whether space it is easier to move around in a nice (meaning *harmonious, orderly, rhythmic*), all the respondents answered that it doesn't matter¹⁵. A conclusion that seems to be interesting is that although in terms of the reception of the reality that surrounds us the role of subjective impressions, associations, recollections, or practiced cultural codes is nearly unlimited, despite differences in perceiving the world by different recipients, as well as irrespective of the discretionary character of the sense of beauty, some of its attributes, such as order and harmony of proportions, seem to be common for all people. Therefore, it is possible that the search of order or rhythm, as informative components necessary to understand the space, as well as elements of aesthetic systems, is simply inherent in the human nature, irrespective of the senses we use to explore the reality.

Orientation in space of the blind and the visually impaired

E. Kuryłowicz defines orientation in space as *the ability to determine one's location towards elements that form the space*¹⁶, combining it with the *process of creating of a mental image - a map of the surrounding area*¹⁷. A. A. Kantarek, on the other hand, determines it as the fundamental ability *which makes life and operations in space-time possible, the scope [of which] begins with the determination of a physical relation of a human body to the space [...], which pertains to relations with people [...] as well as relations to individual elements in the space*

¹⁴ Research conducted by the Author, described in the publication *Niewidzialne piękno*, cf.: *Rzut*, No. 7 (2)/ 2015, pp. 17-21

¹⁵ This can mean that although these elements are important for safe orientation and positive aesthetic sensations, the categories of form (beauty) and function (usability) are so distant from each other that it is impossible to find a common plane for them.

¹⁶ Quoted after: E. Kuryłowicz: *Projektowanie uniwersalne...*, p. 77

¹⁷ *Ibid.*

[...] ¹⁸, and developing the thought of K. Lynch ¹⁹, she defines orientation in space as the *ability to get to know, to determine the location, and to assess the situation* ²⁰. What is important, orientation is based on two components: the recognition of information coming from the surroundings and reaching us by means of our senses, and on processing of this information on the basis of the already held experience, knowledge, and preconceived notions. The recognition of the information coming from the surrounding area, in combination with the creative processing thereof on the basis of one's experience, knowledge, and preconceived notions, constitutes the foundation for orientation in space of a human being. The very observations are of a selective character – we do not respond equally to all of the appearing stimuli, but we concentrate on few of them which we recognise as the most valuable.

Orientation in the urban space is directly linked with the notion of imageability, which assumes that in every environment, the natural one as well as the one created by man, there are elements which thanks to their specific properties (shape, colour, size), or thanks to the symbols embedded in them (places of special historical importance, or crucial from a religious or social / cultural perspective) stand out from amongst the rest. So as to get around efficiently in the area and to understand it, each person conjures in his mind their own mental maps of the space, enabling them to make decisions in it. Obviously, blind and visually impaired persons have a smaller range of perception, which is why their cognitive areas are smaller. For this reason they need a more precise and logically arranged system of points of reference in the structure of the space.

In order to reach full independence in getting around, and in being in space in general, a person with the eyesight dysfunction should, therefore, master the skill of safe navigation in the surrounding area; so as to be able to get around without anybody's assistance, such a person needs to learn to find and analyse characteristic landmarks on their route and to locate them on the vision map conjured by them.

Accessible and comprehensible space (for users with impaired vision)

Since public space is regarded as a natural place for the fulfilment of one of the fundamental needs of a human being – that of a social contact – it comes as no surprise that there is a close relation between the urban social life and the urban public space; for the same reason deficits in the adjustments of space may result in hampering or even stopping of the appropriate development of social contacts.

According to M. Dymnicka, the public character of a space *is not dictated by its accessibility not limited with anything, but the type of its limitation*, and the evolution of the conditions for such accessibility, on the example of a Greek agora or a bourgeois public space, has always been one of the factors determining historical and political transformations of the public space of the city. Nevertheless, those limitations – as K. Pluta proves, referring to the research of Alexander

¹⁸ Quoted after: A. A. Kantarek: *Orientacja w przestrzeni miasta*, p. 29

¹⁹ K. Lynch defines the orientation in space as [...] *the feeling of a clear relation between the observer and the city and its parts, and the wider world around him* (K. Lynch *Notes on City Satisfactions*, quoted after: A. A. Kantarek *O orientacji...*, p. 97)

²⁰ Cf.: Kantarek A.A.: *O orientacji...*, p. 118

Willis, are only of a formal and legal nature, resulting from the way they are managed, like e.g. certain specific time a day one can use municipal parks or marketplaces²¹. It should be emphasised that accessibility limitations resulting from the failure to adjust urban spaces to the needs of specific groups of their users – people with disabilities, senior citizens, or people with limited mobility or perception – constitutes a sign of discrimination in the urban space.

Design taking into account the needs of persons with the eyesight dysfunction

Normal visual perception is based on the cooperation of three elements of the human body (the eye – nerves – brain system), which receive, analyse, and process visual stimuli, that is information from the outside world. Disorders in the operation of each of the parts of this system have different results, hence the great diversity of the level and manner of losing the ability to see in people referred to simply as the blind or the visually impaired. The most common deficiency is, obviously, the reduction of the visual acuity; there may, however, occur other types of diseases and reductions of the eye-field: recurring scotoma, or the so-called tunnel vision.

The adjustment of public spaces to the needs of people with the eyesight dysfunction is based on emphasising the role of multisensory sensations and composing them so as to make the space safe, comprehensible and attractive also for a user with a reduced ability to see, or the one who is completely deprived of this ability. Only by basing on the knowledge on diversified possibilities of perception occurring in the group of the blind and the visually impaired is it possible to design a space friendly to them, in a conscious way. What is particularly important in terms of universal design and the question of adjusting public spaces to the needs of persons with the eyesight dysfunction is the understanding of the complexity of the problem of not seeing, and at the same time the awareness of the fact that most visually impaired people still have some remains of eyesight, which should be used as much as possible. What is important, in any case the adjustment of urban public spaces to the needs of people with eyesight dysfunction is a two-fold activity: on one hand it comprises the implementation of extra-visual solutions basing on experiences and stimuli received by means of the senses; on the other, however, the visually perceived solutions which are to be helpful or essential from the perspective of visually impaired people should be designed in a particularly attentive way.

The main problem of visually impaired people with the vision acuity disorders concern the perception of details, and consequently reading and understanding of graphical symbols. Their sensitivity to light can also differ from the average one, hence photophobia and susceptibility to glare, so common among them²². Reductions of the eye-field, on the other hand (scotoma or tunnel vision) can cause considerable problems with orientation in space and getting around without any assistance. In terms of designing urban spaces, this stands for the need to avoid sudden changes of the intensity of illumination, and composing essential landmark so as to make them easily recognisable even by persons with reduced vision acuity. It is also important

²¹ Cf.: K. Pluta: *Przestrzenie publiczne miast europejskich...*, pp. 44-45

²² Glare, that is a sensation caused by an inappropriate distribution or range of illumination or due to its too big contrasts; it causes the feeling of distress and discomfort of vision and reduction of the ability to recognise objects.

to replace the missing visual information with extra-visual data, which also constitutes the most important task of designing for people who are completely blind.

The most important issue in designing urban spaces accessible to people with the eyesight dysfunction comprises three commonly applied adaptation measures: tactile paving (the so-called leading strips and attention fields), tactile mock-ups, spatial models, and convex maps, executed by means of the typhlographic technology²³ and designations in the Braille writing system. When using the latter, it should be borne in mind that information addressed to people with the eyesight dysfunction cannot be prepared exclusively by means of this method, because quite a number of people, even completely blind (especially senior citizens and people who lost their vision later on in their life) do not know this writing system, or know it, but rather poorly. Therefore, all designations should be accompanied with a voice message.

Apart from the application of the three measures improving the accessibility of urban spaces referred to above, we should also remember about other equally important ones, which have their effect on safe mobility of all users. These are – without limitations – legible designations of pedestrian crossings and public transport stops, entrances of public utility buildings, as well as all dangerous places (street kerbs, stairs, sudden changes in the level of the paving); using antiskid and anti-glare materials when designing surfaces, and securing areas with limited height or a passage in a kind of opening, elements of fittings and street furniture, so that they do not constitute any hazard for space users moving close to them.

Reach – enter – use – perceive

The functioning of people with the eyesight dysfunction in the urban environment most of all requires that they are provided with complete safety and maximum freedom. Moulding of a space comprehensible and easy in terms of orientation for all its users is based on four main criteria, which are, in order: recognisability, attainability, accessibility, and usability.

Recognisability refers predominantly to logical and comprehensive designation of spaces, zones, and devices installed in them, adjusted to different groups of users, including the blind and the visually impaired, but also persons with visual, perceptive, and mental limitations, as well those who do not speak the language of a specific country. Attainability, on the other hand, is the limit of the distance that does not cause tiredness, that is the distance of ca. 1000 metres – this is the distance in which car parks, public transport stops and other private and public transport nodes should be designed so as to facilitate access to them to people with disabilities, as well.

Another criterion used for the evaluation of space is its accessibility, which stands for an ability to reach a specific intended destination, on foot or using a means of transport. It refers most of all to the system of transport routes, which would allow for a free passage of a wheelchair or a pram, as well as which could be used by a blind person walking. Accessibility is connected with the fourth element – usability, which is the ability of the space to be utilised by the user.

²³ Typhlographics is 'a graphical reflection and presentation of the reality using the scale and proportions in a tactilely accessible manner. Typhlographics enables a blind person to get to know, understand, and recreate the reality', cf.: M. Jakubowski: *Tyflografika...*

Usability results directly from functionality, and it stands for e.g. securing an appropriate width of passages, installation of devices at appropriate heights, or adjustment of specific structures.

Conclusions

A friendly public space is a space which is both safe and attractive, and where users are willing to stay and do it often. Since urban spaces concentrate the life of local communities, at the same time creating the image of the city, it is extremely important to adjust them to the needs of all groups of users, without creating individual 'zones' for each of them. Also, in the seemingly narrow scope of design, the most important element is the understanding of the diversity of users, and consequently designing of spatial solutions so as to make them address the needs of completely blind people, as well as those who still have some remains of eyesight and use them on a daily basis, and if possible, constituting at the same time as source of convenience and attractive aesthetic sensations for people who can see.

It is worth pointing out that the question of orientation in the urban space should be regarded as a property of the urban tissue itself, independent from the attitude of an individual. This means that irrespective of the perceptive abilities of a person, the space should be designed and marked so as to inform each user at any time where he is and how he can reach any place he chooses. Orientation grasped in this manner constitutes an important component of spatial order of the environment of the city, and at the same time a significant element of its general accessibility and adjustment to the needs of all its users.

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THE NOTION OF ORDER AND THE SPATIAL LOGIC OF A NEW POLIS: THREE APPROACHES TO THE PROBLEM OF RATIONALITY IN THE CONTEMPORARY PHILOSOPHY OF URBANISM

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Key words: *philosophy of urbanism*, urban project, urban form, *urbanistic construction*.

Abstract

Inspired by the questions about the sense of the city and the condition of contemporary urbanism, the author discusses the notion of order in the context of strategic and structural factors affecting spatial logic of a “*New Polis*”. Focusing on structural forces and decision-making patterns underlying the configuration of urban projects, he identifies three ways of argumentation where the possible answers could be found. These lines of reasoning can also be regarded as *philosophical approaches to the problem of rationality in contemporary theories of urbanism*. Using urban strategy-structure relations as the typological criterion, he distinguishes between three types of rationality – or three types of order: 1) *morphological*, 2) *strategic* and 3) *synergic*. In the first instance, the logic of urbanistic decisions is interpreted in the morphological context of urban structure and its dynamics. In the second case, spatial logic of urban form reflects neoliberal strategies focused on large-scale urban developments. In the third approach, called here as *synergic configuration*, it is assumed that strategies which pay more attention to the construction of physical and functional links between urban development projects will induce synergy expected in the overall strategy of a *New Polis*. Such a configuration of networked projects – and respective *synergy of urbanistic construction* – reflects the idea of *strategic planning* with a strong *urban project gaming* component. Focusing on structural implications of this type of urban synergy, the author proposes also the SAS (strategies – actors – structures) model. He illustrates this idea with the examples taken from the city of Krakow.

Introduction

Goal, objectives, the problem

The phrase: “*back to the sense of the city*” can be understood also as an invitation to revisit the concept of rationality in urbanism – the issue which identifies the philosophy of urbanism predominant for a given urban culture. This question, in turn, can be viewed from two perspectives: the idea of spatial order and the outlook of these urban theories which constitute the rationale of urban planning praxis. Basic assumption underlying the main message of this paper is that, in order to articulate features specific for the spatial logic of a “*New Polis*”, we have to go into the *deeper layers*¹ of this complex structuring system and we should analyze both the interrelations between the types of rationality involved in the interpretation of urban form and *the philosophy of urbanism* affecting urban policies predominant in the planning culture of a given region.

The goal put forward by the author of this paper is to discuss the notion of order in the context of the above assumption. It can be argued that this discussion can be useful while making distinctions between neoliberal and post-liberal philosophy of urbanism as well as respective ideas of *new polis* and normative approaches to *urbanity*². These objectives, in turn, refer to the problem formulated as the set of questions regarding interrelations between the notion of order and the rationality of decisions affecting urban form as viewed from theoretical perspectives situated in the area common for three fields of urbanism: planning, design and architecture. In other words, the logic of urban form is discussed here as *the art of integration*: the art of designing *urbanistic construction*³ and the networks of public spaces integrating the nodes of urbanity. To be more specific, we chose – as their common denominator – the strategic and structural aspects of urban networks red out from geometric configuration of urban projects. This geometry, in turn, is considered vis a vis three ideas: the notion of spatial order, the concept of urban capital and urban synergy.

Hypothesis and approaches

The hypothesis underlying the arguments presented here is that – from a pragmatic point of view – the *rationality of urban form* can be traced and interpreted through the process of deciphering networks designated by various types of connections between urban projects. In other words: the notion of spatial order – or the logic of urban form – can also be viewed as an *urbanistic construction*: the network of urban projects linked and configured in accordance to

¹ Although, in terms of the level of abstraction, and the types of values involved in our analytic model, these layers should rather be regarded as ‘*higher layers of spatial order*’.

² The notion of *urbanity* is one of the basic concept adopted – as a key word – by the authors of the book containing the comparative analysis of the best planning practice in contemporary EU cities: *Stadtmachen, Eu. Urbanity and the Planning Culture in Europe* (ed. Jessen J, Meyer U. M., Schneider J.), Karl Krämer Verlag, Stuttgart, 2008.

³ To some degree, the concept of urbanistic construction can be compared with such ideas as “civic spines” or ‘spinal chords’ (see: Busquets, J., *Urban compositions: City Design in the 21st Century*, [in:] Graafland Arie, Leslie Jaye Kavanaugh (eds.), *Crossover. Architecture, Urbanism, Technology*, 010 Publishers, Rotterdam, 2006. p. 494-504.)

urban strategies predominant for a given urban culture. These configurations are the having various morphological types and differ in terms of potential for inducing *urban synergy*.

Morphological approach (morphological order) is considered as the basis for further analysis: structural interpretations of urban policies and strategic analysis of urban connections characteristic for the approach known as “*an actor-relational approach to urban planning*”⁴. Consequently, using strategy-structure relations as the typological criterion of urbanistic rationality, we can distinguish between three types of rationality: morphological, strategic and synergic.

Contemporary philosophies of urbanism and the layers of urban order

In regional science and the contemporary theory of urbanism, the city is conceptualized as a nodal structure in the network of human settlements and as a complex system structured according to various “*layers of order*”. General principles of this order are usually discussed on six such layers: natural, cultural, socio-economic, technological, political and legal. Here, the concept of urban order is identified with the logic of urban form discussed on five thematic axis. These are:

- emergent properties of urban fabric (reference to *urban morphology*);
- CCC axis: contacts, connectivity, configuration (patterns of contacts, spatial connectivity and project configuration specific for a given stage of urbanity and predominant idea of urbanism);
- ‘*plan – project relations*’ reflecting systemic features of the process called by a neo-Marxist and existentialist philosopher, and urban sociologist, Henri Lefebvre as “*the social production of space*”⁵;
- land use controls and other tools of spatial policy (reference to the dilemma: strong public land use controls vs. neoliberal project-led planning);
- socio-economic and cultural modes of spatial integration (*reference to the nodes of urbanity*).

Morphological order

Rationality of decisions affecting urban change has be interpreted in the context of morphological dimensions of urban space. The type of rationality named here as *morphological rationality* or *morphological order* refers to a broad spectrum of approaches the analysis of urban form in which the logic of urbanistic decisions is examined and interpreted in the context of both: 1) morphological features of urban fabric and 2) the dynamics of urban structure. We can regard these theories as a basis for further studies where urban form is analyzed also in the context of decision making systems providing ideological, political, legal / regulatory and managerial frameworks for strategic, technical and operational planning decisions affecting

⁴ Boelens L., *The Urban Connection. An actor – relational approach to urban planning*, 010 Publishers, Rotterdam, 2009.

⁵ Lefebvre, H., *La production de l'espace*, Anthropos. Translation and Précis, Paris, 1974; English translation: *The Production of Space*, Wiley-Blackwell, 1991.

urban change. In this case, the logic of urban form is dominated by technological and environmental factors and this type of rationality can be exemplified by the strategies known as:

- ‘classicising’ model proposals of the New Urbanism⁶ supplemented by Christopher Alexander’s theory of generative structures / generative codes⁷;
- Aldo Rossi’s theory⁸ of the ‘architecture of the city’ and theoretical trends which may be grasped under the common name: *urbanistic morphology*;
- contemporary versions of Christaller’s models of Central Places (e.g. models of nod places / nodes of urbanity);
- *network models* (geographical, transport, anthropological ones). To this group we can include also 1) models that tie in with the concept of the so called *relational space*, 2) models of the *Space Syntax* type⁹, 3) network anthropological models (Hannerz, 2006); and 4) transport models (e.g.: the ORION type model devised by Tadeusz Zipser¹⁰;
- models of *urban structural areas* and *urban structural units* (USU).

The concept of *structural areas models* and *urban structural units* (USU), applied in contemporary planning practice in Poland, can be regarded the modification of classical concept of urbanistic units used in modern urban planning. These models are a kind of a combination of:

- 1) morphological approaches,
- 2) approaches tying in with the models of social ecology that were introduced into the urban sociology through the representatives of the Chicago School in the 1920s, and
- 3) concepts of *structural urbanistic units* (e.g. *neighborhood units*).

As an example of such a structural interpretation of urban space, led in order to differentiate the decisions expressing principles of spatial policy, we can indicate the method of urban subdivision into *structural areas* and *structural units* implemented by the author in the ‘*Preparatory land-use plan of the City of Krakow*’¹¹ accepted by the City Council in 2014 (Fig. 1).

⁶ E.g.: Krier, L., *The Architecture of Community*, Island Press, Washington DC, 2009; also: Krier, R., *Town Spaces: Contemporary Interpretations in Traditional Urbanism*, Birkhauser, Basel, Berlin, Boston, 2003

⁷ Alexander, Ch., *The Nature of Order*, Center for Environmental Structures, Berkeley, Ca, USA, 2003-2004; Alexander, Chr., *Generative Codes: the Path to Building Welcoming, Beautiful, Sustainable Neighborhood*, [in:] Haas Tigran, (ed.), 2008, *New Urbanism and Beyond. Designing Cities for the Future*, Rizzoli, New York, 2008.

⁸ Rossi, A., *The Architecture of the City*, MIT Press. Cambridge, MA., 1984

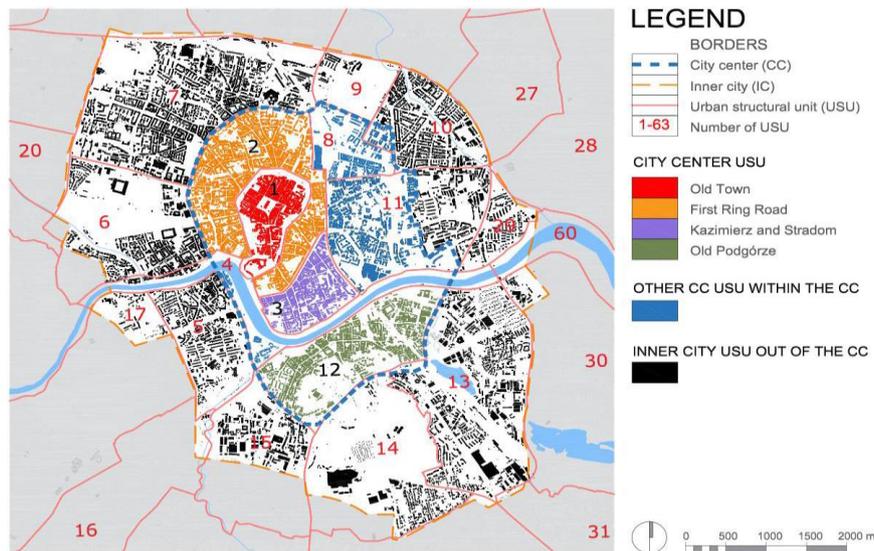
⁹ Hillier, B., *The City as a Socio-Technical System: a spatial reformulation in the light of the levels problem and the parallel problem*, Keynote paper to the Conference on Spatial Information Theory, September 2009, and also: Hillier, Bill, *The New Science of Space and the Art of Place. Towards a Space-led Paradigm for Researching and Designing*

¹⁰ Zipser, T., *Transport links generating spatial structure of a settlement systems*, [in:] Transport and the logic of urban form. Projects for Polish Metropolises, Rudnicki A., Zuziak Z.K. (editors), Technical Transactions, Issue 3, Year 107, Krakow, 2010, p. 21-30.

¹¹ In Poland this type of planning document is called as ‘*the Study of preconditions and directions of spatial development*’.

Figure 1. Morphological map of the Inner City of Krakow: typology of urban fabric and delimitation of urban structural units

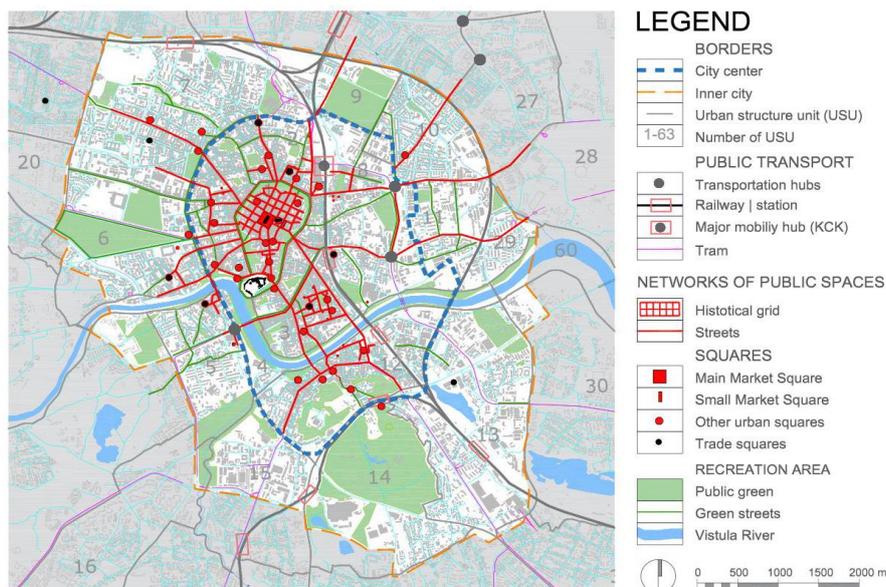
City center urban structural units (USU): 1.Old Town, 2.First Ring, 3.Kazimierz and Stradom, 12.Old Podgórze; Other city center USU: 4.Inner City Riverfront, 8. New Town, 10.Olsza (only the small part of the USU), 11.Grzegórzki.



Source: Macek A., "Urban squares and the inner city network of public spaces. Case of Krakow" (forthcoming).

To identify the configuration of the nodes of urbanity in the inner city of Krakow, USU model should be supplemented with morphological analysis of the network of public spaces defined as the configuration of urban squares and street connections (Figure 2).

Figure 2. Inner City of Krakow: morphological map with the network of public spaces defined as the configuration of urban squares and street connections



Source: Macek, A.: "Urban squares and the inner city network of public spaces. Case of Krakow".

The concept of *morphological rationality* can also be analyzed according to technological and environmental factors. This type of rationality is exemplified by the strategies known as *Smart City* or *Resilient City*. Strategic projects and typologies of urban structural forms¹² applied in urban design, spatial and strategic planning ought to be complemented with a commentary on the relationships between new territories of urbanity. They should also correspond with proposals of morphological systematic of urban tissue in the light of such theoretical notions as “*the architecture of the city*” or “*space syntax*”. For instance, following Aldo Rossi¹³, Bill Hillier¹⁴ or Peter Calthrope we can ask about the possibilities of complementing their research on the morphological types of urban tissue and geometries of networks structuring urban space¹⁵ with motifs concerning: 1) architectural strategies matching urban operations carried out in relation to the implementation of a strategy for the development of a city; 2) anthropological questions related to the social results of implementing these operations.

“*Urbanism_PLUS*”: strategic rationality

The notion of order in neoliberal planning

This concept of urbanistic rationality (strategic rationality or “*urbanism_PLUS*”, where PLUS is an acronym for: *project-led urban strategies*) refers to the formula of urban development strategies predominant in the time of neoliberalism. This type of urban rationality is exemplified by neoliberal strategies focused on *large-scale urban development projects* (LSUDP). As a reaction to the practical consequences of urbanistic doctrines of the Modern Movement, neoliberal urban planning devised an approach called as *project-led planning*. These *project-oriented strategies* became the major mode of promoting urban development through the policy tools which replaced rational model of planning – principal mode of development control in the time of modernism¹⁶.

‘Urban projects’ and ‘urbanistic construction’

Discussing conceptual aspects of the logic of urban form in neoliberal planning we should pay more attention strategic urban projects analyzed in their structural context. We call this context as the “*urbanistic construction*”. Here, this term is defined as, both, technological and natural spatial system integrating physical elements of space significant for urban life and thus – for land use management of the city. Urbanistic construction can also be interpreted as the connections linking key urban projects in order to achieve synergic effects. We can distinguish two following types of elements making up for the urbanistic construction:

- “*nodes of urbanity*”;

¹² Cf. classifications according to the kinds of exploitation, the types of structural forms or divisions of the territory of a city into auxiliary types: estates, districts, neighborhoods, precincts etc., applied in spatial planning, distinguished on account of the necessity to administer and manage defined zones of urban life as well as to collect data / information responding to these zones (e.g. census districts and other statistical units); cf.: Tab.1.

¹³ Cf. A. Rossi, *Architecture of the City*, MIT Press.

¹⁴ Hillier, B., op. cit.

¹⁵ For instance, according to B. Hillier, configuration of a spatial network is the basic driving force which shapes models of mobility and, as a consequence, the generator of changes in the geometry of a street network.

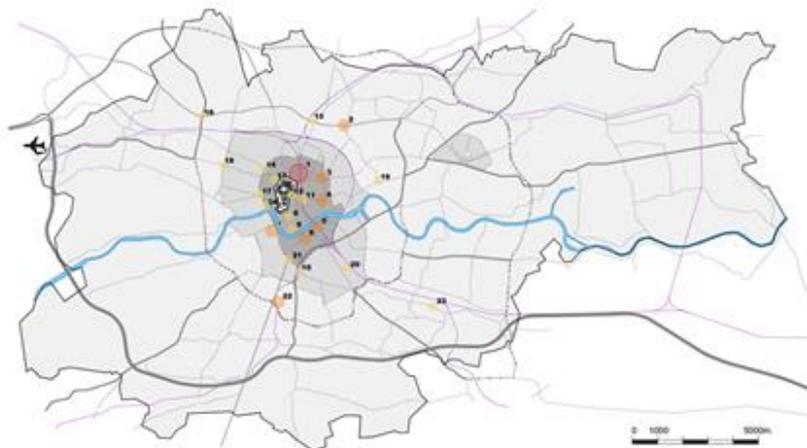
¹⁶ Compare: Thomas, M.J., *Urban Revitalization and Cultural Development*, [in:] Zuziak, Z. K., (ed.) *Managing Historic Cities*, International Cultural Centre, Krakow, 1993, pp. 61-72.

- “*structural links*” – significant connections between these nodes: functional and spatial links between strategic urban projects examined in the scale of the city (linear layouts of built up urban land linking urban developments).

Term: the “*node of urbanity*” can be defined as the place or a cluster of places which, because of their accessibility and other values, is having key significance for urban life. The meaning of this term covers much broader area than such basic urbanistic concepts as: city centers, district centers and the like. The identification and the typology of these urban nodes poses several question of methodological nature. For example, the nodes of urbanistic construction as well as nodal points in urban network, understood in more sociological term – we should be looking for an analogy with, or references to, such theoretical schools / approaches as: urban morphology, more contemporary versions of the central place theory adopting the Christaller’s regional model to an urban scale, certain transportation models explaining interrelations between mobility patterns and urban form as well as network interpretations of polycentric metropolitan structures based on new sociological¹⁷ and anthropological¹⁸ concepts.

The role of *project-led planning approach* in the development of a new model of city planning in the countries undergoing systemic transformation after 1990-ies deserves a separate study. Here, we can only refer to selected aspect of this *planning transformation* focusing on urban project significant for building polycentrism of the inner city of Krakow and relations between this urban policy and spatial distribution of the nodes of urbanity. Configurations of these nodes and urban projects, illustrated on Figures 3 and 4, present only fragment of this collection of maps elaborated within the study on the nodes of urbanity in the City of Krakow designated as potential metropolitan projects. These analysis are focused on the nodes – and potential metropolitan projects – significant also for the identification of networks of which could be regarded as a future urbanistic construction of the inner city of Krakow (Fig. 4).

Figure 3. The Nodes of Urbanity in the City of Krakow: map of the urbanity nodes significant for polycentrism of the inner city of Krakow



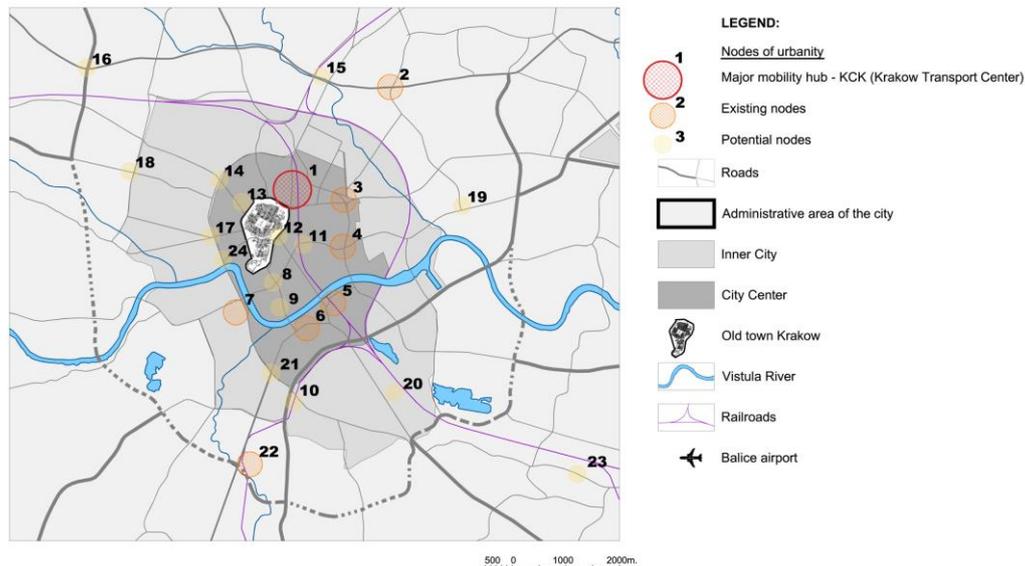
Source: Maniecki M.; “*The configuration of strategic urban projects and the inner city of Krakow*” (forthcoming)

¹⁷ E.g.: Castells, M., *The Rise of the Network Society. The Information Age*. Blackwell, Cambridge MA, Oxford UK, 1996.

¹⁸ E.g.: Hannerz, U., *Exploring the City. Inquires Toward an Urban Anthropology*. Columbia University Press, 1980.

Figure 4. Urbanity nodes the inner city of Krakow and potential metropolitan projects

More important nodes: 1. KCK, 2. Polsad Node, 3. Mogilski Node, 4. Grzegórzecki Node, 5. Heroes of Ghetto Sq., 6. Podgórski Sq., 7. ICE, 9. Wolnica Sq., 11. Grzegórzeckie Sq., 14. Invalids Sq., 17. National Museum Sq., 18. Office Center at Armii Krajowej Str., 19. Tauron Arena Place, 22. God's Mercy Sanctuary.



Source: Maniecki, M.: "Configuration of strategic urban projects in the inner city of Krakow".

Synergic configuration

Spatial logic of urban form and urban synergy

The approach called here as 'synergic configuration' – or 'new structuralism' – is based on the assumption that the logic of urban land use plan – integrated with socio-economic development strategy – should follow the principle of project configuration coherent with natural structuring mechanisms underlying the logic of *urbanistic construction* and thus inducing urban synergy in cases where strategic urban project are logically linked with this construction (the logic of "networked project synergy" – NPS). This idea combines the concept of *network city* with the notion of urban synergy induced by structural configuration of urban projects. It means that the performance of the urban system (measured according to a particular urban strategy) could be significantly improved if we could configure better development project treating them as the elements of urban network (*Net City*). This – in turn – implies strengthening their relations with infrastructural elements crystalizing the structure urban spaces / fabric according to the model envisaged in the long-term strategy.

Urban strategies and the synergy of the plan

Formulating the premises of a synergic model of city planning in the context of criterion of integrity of urban spatial structures and 'pragmatic' strategies and policies of its development one should refer to the theory of steering the changes in spatial development. In simplification,

one may presume that changes in urban space, linked to urban strategies, are the effect of superimposition of the following categories of changes and processes. These are:

- processes of self-regulation / self-organization (here also: market mechanisms);
- regulations of the public sector encompassing actions taken within the formal and legal framework („regulatory) of instruments of spatial policy and influences of this sector by means of other instruments of this policy (economic instruments, infrastructural developments, territorial marketing, information policy etc.);
- investment strategies of individual private investors and influences between individual and group actors in the game of urban space which exceed beyond the above;
- innovations responding to the development of science and technology (cf. *Smart City* idea);
- changes in the macro- and micro-scale which are difficult to foresee and whose character exceeds beyond the scope of the notions: regulation and self-regulation as well as other, aforementioned influences (e.g. cataclysms, disasters, strategic conflicts).

Regarding potentials for inducing synergic effect of urban development as the assessment criterion of the plan, we can discuss the attributes of this plan which are appropriate to stimulate synergic functional links between the elements of land use arrangement, designed in a given planning document, and respective changes in socio-economic and cultural space.

Two situations can be identified as circumstances generating such effects. First type of preconditions is the above stated postulate to provide clear structural relations between strategic projects and “urbanistic construction”. Second significant type of preconditions for achieving synergic effects of the plan depends on the type of urban development strategies including the implementation strategy of key projects. Lessons learned from the cases of good practice in the area of operational urbanism indicate that mutually beneficial effects of interactions between key urban projects can be observed in case of implementation strategies where the respective rules of implementation are clearly defined with regard to urban construction of the planned land use layout. Significant role is also played here by the consistent implementation of the model defined in the long term vision for city development.

Synergic configuration and integrated model of urban planning

Techniques used in spatial planning and urban design differ substantially from the techniques used in socio-economic planning – both strategic and operational. This issue will gain importance with the progress of work on the introduction of a model of integrated planning. In this new planning formula, both written policy statements and respective graphic / cartographic notations: maps, diagrams, conceptual sketches and other forms of visualizations characteristic for spatial planning must be more coordinated with the techniques of notations used in strategic planning. In this case, strategic urban units defined in a preparatory land use plan will become a frame of reference for information and settlements within the policy of territorial development recorded in communal strategic documents. This task is related to three kinds of planning activities. They could be described with the following keywords: aggregating, tuning, configuring. In this case, ‘aggregating’ means grouping urban units according to the main structural areas in the city, such as its centre, suburban zone or middle zone (dominated by

estates built in the modernist period) with separated junction areas in the city centre and other 'urbanity nodes' forming the polycentricity of an urban structure. 'Tuning' refers here to a phase of conceptual activities where urban units receive actions responding to defined types of urban strategies. It consists of mutual tuning of the distinguishing features of a given unit with suitable conceptual assumptions for a general strategy of the development of a city that can be expressed in spatial categories. In this sense, we can talk about the 'strategic tuning' of a concept relating to the spatial management of the city. At this development stage in the conceptualization of an urban strategy, there should be another adjustment of general ideas and solutions – as well as strategic urban projects – proposed for the whole city to the local preconditions and local guidelines defined in a preliminary land use plan. We should also check how – after such a tuning – these project can be "configured" vis a vis a logic of urban development process. 'Configuring' refers also to the process of grouping projects into larger packages so as to enhance the logic of connections between specific projects. This – in turn – may increase the probability of gaining synergic effects.

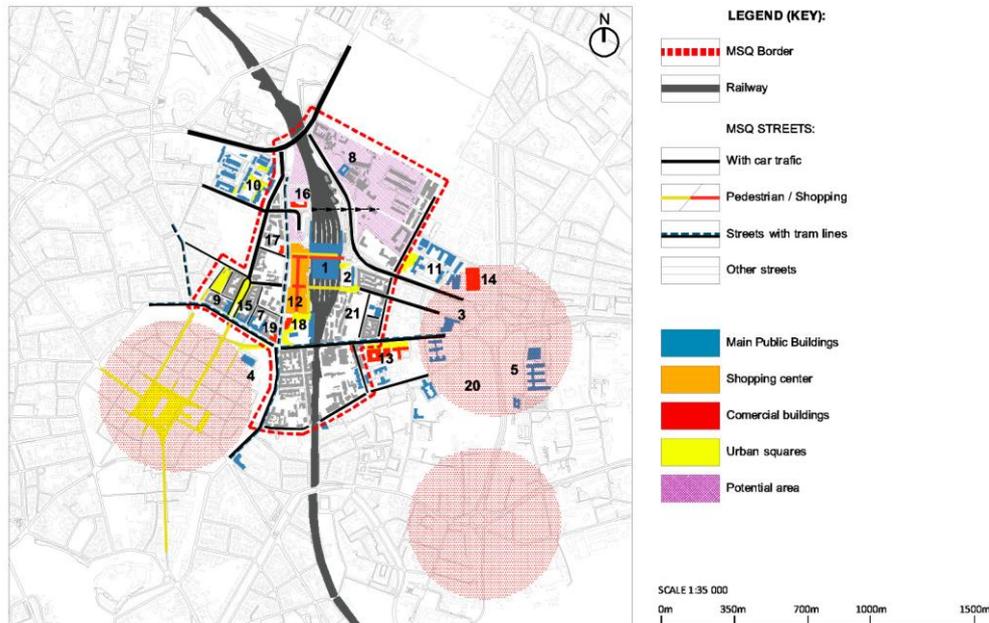
The inner city synergic network – a case from the City of Krakow

It is the story of *KCK Project*¹⁹ that can be used as an exemplary case study illustrating the impact of neoliberal model of urbanism on the development of the area designated as strategic in major planning documents of the City of Krakow for over 50 years. Obviously, the extend of this analysis goes far beyond the scope of this paper. Instead, we confine ourselves only to the comment on the map illustrating the main planning and design problem regarding the area of the Main Station Quarter (MSQ) (Figure 5). The map shows the pattern of strategic urban projects and new urbanistic construction: major mobility hub and other nodes of urbanity as the elements which should crystalize the most strategic cluster of urbanity nodes in the new structure of the Inner City of Krakow. Unfortunately, the map illustrates the lack of structural connections – insufficient links between urban projects envisaged in these potentially strategic areas for decades.

Figure 5. Main Station Quarter (MSQ), Krakow: mobility hub (KTC) and other nodes of urbanity crystalizing the *New Urbanistic Construction of the Inner City of Krakow*

More important places: 1. Main Railway Station, 2. Bus Station, 4. Slowacki Theatre, 5. Court of Justice, 6. Branch of the City Hall, 7. Voivodship Office and Marshall Office, 8. Museum of Home Army, 9. Fine Arts Academy, 10. Cracow University of Technology, 11. University of Economics Cracow, 12. Cracow Shopping Gallery, 13. Lubicz Business Center. 14. 'Unity Tower' Office Center, 20. Botanic Garden.

¹⁹ KCK – in English: KTC stands for: Krakow Transportation Center – one of the strategic projects in the City of Krakow having over 50 years of design and planning tradition. It is located in the area initially designed as a New City Center of Krakow, later – after systemic transformation – developed as a combination of the main mobility hub and shopping gallery.



Source: Wojtowicz, S., "Main Station Districts: Analysis of the Urban Construction and Strategic Projects".

Metropolitan construction and the new logic of Polis

Strategic urbanism and the SAS model

New system of steering the changes in spatial development of cities should – among others – be conducive to the enhancing of decision procedures owing to which we shall reach better cooperation of various stakeholders in the planning process and regulations accepted in the name of protection of highly appreciated values shall be defined also with the awareness of the laws of market self-organization. One of the possible directions of searching for solutions in this respect are the proposals described under the name of *strategic urbanism*²⁰ This term means a model of urbanism whereby three kinds of feedbacks (modes of integration) are developed:

- new forms of cooperation between the public and private sector relying on project-led planning;
- providing better ties between spatial planning, strategic planning and urban design;
- better ties of local and regional layouts through the implementation of formula of territorial planning in the scale of urban functional areas – especially metropolitan ones.

The model called here as SAS (strategies- actors – structures) emphasizes significance of synergic relations between strategies of urban actors and structural elements of urban fabric.

²⁰ Zuziak, Z. K., *On the Identity of Urbanism* (published in Polish: *O tożsamości urbanistyki*), Cracow University of Technology Press, Krakow, 2008

Here the logic of spatial urban form is discussed in the context of values and goals adopted by urban actors as well as the logic of relations between the development project and urban plan.

Strategic urbanism and 'Model European Cities'

The influence of planning model called here as *strategic urbanism* on the praxis of city planning is confirmed by comparative analyses of such 'Model European Cities' as Amsterdam, Barcelona or Copenhagen²¹. In those cities, urban development projects regarding social and economic development are logically tied to the planning decisions pertaining to urbanistic structure and regulations regarding urbanistic composition are logically linked with the actions carried out within the framework of operational urbanism. In case of Barcelona we can talk about famous "urban laboratory" serving as a model for other cities experimenting with project-led planning and "new logic of urbanistic construction". In the above mentioned report on the result of comparative analysis of planning practice in eight EU cities we can read that: "For two decades Barcelona's urban policies have served as models for other large European cities. Trough long-term planning strategies and ever-novel approaches to projects, the Catalan city has generated many models of urban planning action which have been adapted internationally, such as its early strategy of urban acupuncture, the idea of the 'urban project', and the deliberate use of large events to promote lasting urban development".²²

Figure 6. Map of Barcelona: strategic city development areas and urbanistic construction – a model structure exemplifying the spatial logic of the New Polis



Source: Schneider, J., "Barcelona" [in] Johann J., Ute M. Meyer, J. Schneider, (eds.), *Stadtmachen. EU. Urbanity and the Planning Culture in Europe*, Karl Krämer Verlag, Stuttgart, 2008.

²¹ See: *Stadtmachen, EU. Urbanity and the Planning Culture in Europe* (ed. Jessen J, Meyer U. M., Schneider J.), Karl Krämer Verlag, Stuttgart, 2008.

²² Op. cit. p.6.

Examples of best practice in *strategic urbanism* are supported by the experiences of cities which are famed for their successful key projects of urban revitalization in the continental EU cities (Barcelona, Berlin, Hamburg, Lyon, Nantes, Milan, Turin, Vienna). These accomplishments may be treated as signals pointing towards the rebirth of urbanism conceived as the art of building cities (*Städtebau*). In the version of *strategic urbanism* this direction finds its contemporary identifying sign in the form of a slogan: '*Making Cities*'.²³

Summary and conclusions

The main message of this paper stems from the author's conviction that, while analyzing various aspects of spatial order, we may discover mechanism of urban change much deeper than the ones declared in the official ideologies of urbanism. The logic of these mechanism, regarded here as the nature of order in urban space, is expressed through the layout of urban projects. Sooner or later, this layout will develop in the pattern in which synergic connections will be articulated (synergic form).

Morphological and strategic approaches to the question of rationality in urbanism, as well as *synergic* one, are interrelated. The latter one, however, indicates that the new philosophy of urbanism is needed. In the time of a '*great tectonic movements*' shaking territorial and institutional structures of the European continent, neoliberal concepts of urban order are questioned and there is a growing expectation that new principles of urban planning have to be developed, new tools of development control devised. This – in turn – calls for a new conceptual framework allowing to define and evaluate resources called here as urban capital.

Defining urban capital, and linking this concept with the notion of order, we should also refer to cultural and political breaks as well as political tensions associated with growing economic disparities and social inequalities which, again, place the issue of social justice high on urban agenda. As a result, theoretical concepts of such famous urban thinkers as Henri Lefebvre and David Harvey, are revisited although this does not mean that we can accept neo-Marxist approaches as methodological instruments appropriate for contemporary urban analysis.

Equipped with new cognitive tools offered by ICT, we can reach deeper layers of urban order where general urban processes, such as integration, accumulation, networking, synergy, and adjustment, can be regarded as a matrix for the critical analysis of the rationale of individual urban projects and the logic of their configuration. This – in turn – may contribute to the development of new and more effective policy tools, crucial for resilient and sustainable development of European urbanized structures. In such a context, the main message of this paper guides the reader's attention towards the structural logic of interrelation between strategic actors of urban game and values of *urban capital* interpreted *vis a vis* major axis of development conceptualized as *urbanistic construction*. This implies that structural and strategic logic of urban form can be conceived as the "*games on the development projects*".

The question is, however, how the above issues – discussed on highly abstract level and having quite speculative character – can affect the practical side of urban urbanism? We should also ask about the specificity of the strategic situation of the Polish cities. Another question is: –

²³ See: *Stadtmachen, Eu. Urbanity and the Planning Culture in Europe* (ed. Jessen J, Meyer U. M., Schneider J.), Karl Krämer Verlag, Stuttgart, 2008.

What can we learn from the cases of best practice in EU metropolitan cities (Amsterdam, Barcelona, Copenhagen, Hamburg, Vienna) and how could we contribute to the development of urbanistic art in EU? The author presented here only selected aspects of the interrelations between new urbanity and possibilities for the definition of new urban planning formula according to the model named as SAS This concept refers to urban strategies requiring new urban policy tools and even the reform of existing land use controls system. These changes should allow for better logical connections between spatial planning, strategic planning and urban design.

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