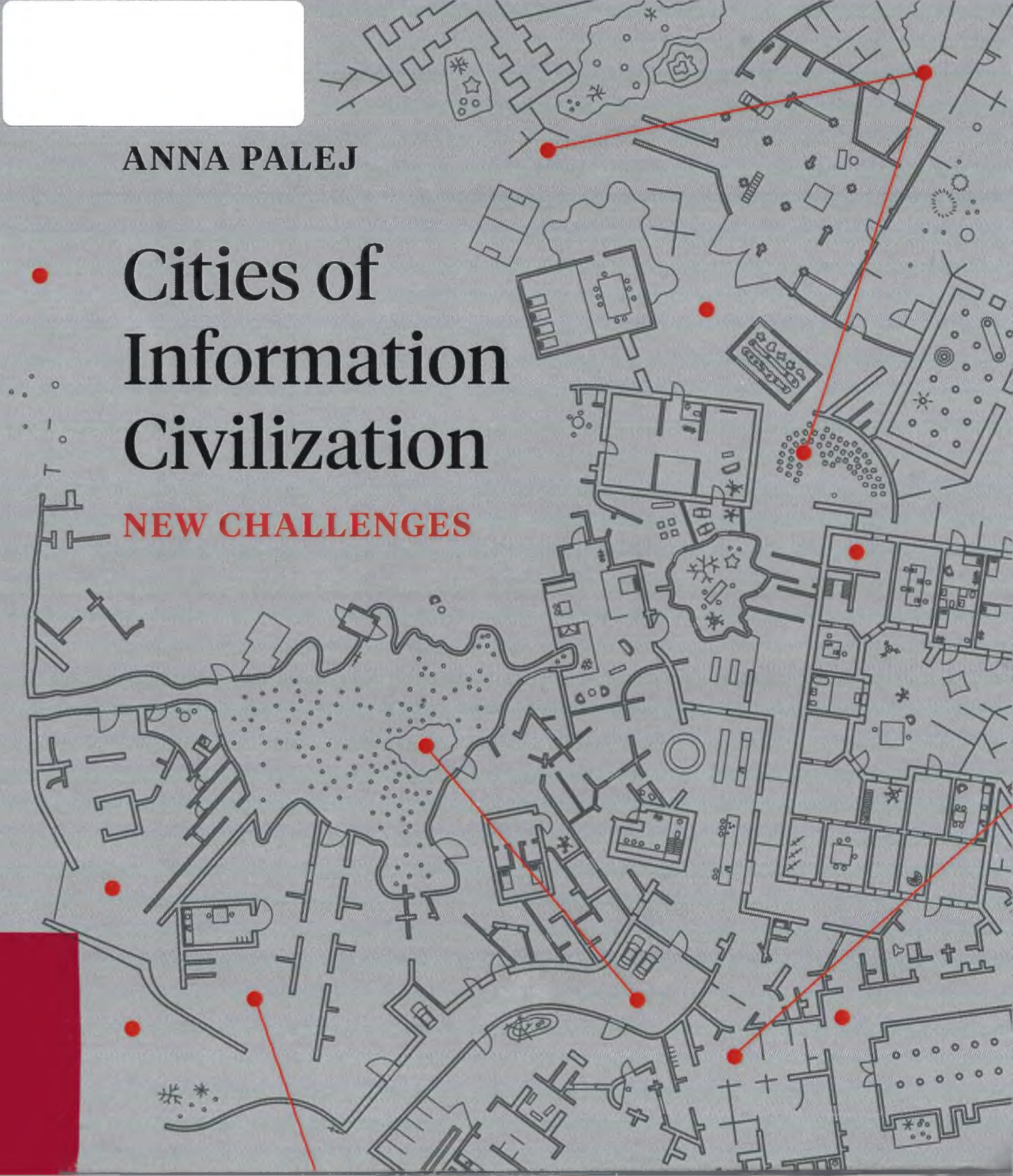
ANNA PALEJ

Cities of Information Civilization

NEW CHALLENGES



ANNA PALEJ

Cities of Information Civilization

NEW CHALLENGES

Translated by
Alicja Półtorak-Filipowska

Kraków 2019

CHAIRMAN OF THE CRACOW UNIVERSITY OF TECHNOLOGY PRESS EDITORIAL BOARD
Tadeusz Tatara

CHAIRMAN OF THE EDITORIAL BOARD
Józef Gawlik

SERIES EDITOR
Faculty of Architecture
Mateusz Gyurkovich

SCIENTIFIC EDITOR
Mateusz Gyurkovich

REVIEWERS
Andrzej Baranowski
Aleksander Bohm

SECTION EDITOR
Marta Wlazło

EDITORIAL COMPILATION
Agnieszka Filosek

TYPESETTING
Małgorzata Murat-Drożyńska

COVER AND CHAPTER TITLE PAGES DESIGN
Magdalena Palej

COVER DRAWING
Michał Palej

The author and the publisher of this book have made all reasonable effort to contact the authors of the photographs used in this publication. Unfortunately, it has not been possible in all cases. The publisher is therefore kindly requesting any persons who have relevant information upon the subject to contact them.

This monograph was published as a part of the project 'KA 2.0 – the development programme of Andrzej Frycz Modrzewski Krakow University' realized as a part of Operational Programme Knowledge Education Development 2014–2020, Axis III Higher Education for economy and development; Measure 3.5. Comprehensive university programmes. The project is co-financed by the European Union within the European Social Fund.

© Copyright by Politechnika Krakowska
© Copyright by Anna Palej

ISBN 978-83-66531-00-0

Wydawnictwo PK, ul. Skarżyńskiego 1, 31-866 Kraków; tel. 12 628 37 25, fax 12 628 37 60
e-mail: wydawnictwo@pk.edu.pl ☐ www.wydawnictwo.pk.edu.pl
Correspondence address: ul. Warszawska 24, 31-155 Kraków

Printing and binding: Dział Poligrafii Politechniki Krakowskiej.
15.5 publisher's sheets

Order no. 230/2019 150 copies printed Free copy

CONTENTS

PREFACE

The contemporary time is a period of far-reaching transformations driven by Information Technology, and the structure necessary for its functioning is the complex telecommunication Web. It is a revolutionary stage in which we are moving into a new civilization, an impetuous and creative stage – like all transition periods – liberating the intellect and spurring on the will of action, when it is possible to accomplish more than in periods of stability. However, not everybody knows how to benefit from the exceptional character of this time or at least how to consciously adapt to the pace and character of the present changes. Generations shaped by the old systems, logics and values are surprised by the scale and acceleration of transformation in almost all areas of life. For them, they mean disintegration of order and a threat to safety. On the other hand, the generations brought up already in the new reality are much better prepared for it and they seem to flourish under the pressure of the fast pace of life. Anyway, all of us, regardless of the degree of tolerance towards novelty and ability to adapt to the new world, need to understand the phenomena that are taking place around us, and yet their larger background still remains largely obscure to the general public. The media have turned us into 'a society of events.' We move from one incident to the next and we do not think about the processes that underlie the information and images we superficially consume. And yet, only if we learn more about the major trends in the changes and their broader contexts, the contemporary reality will acquire a new sense, which will enable us to make rational decisions and set ourselves goals that will have their continuation in the future.

In the situation in which the inhabitants of the Earth are to an ever greater degree an urban species, it seems particularly important that the society should be informed of the global changes in the economy that are the background of all the contemporary phenomena and actions, but also that people are helped to understand the multi-aspect relations between telecommunication and the city. It is the cities – places where people, business, capital and communications are concentrated – that have found themselves on the front line of the information revolution, and there is a more and more clearly felt need to develop new coherent guidelines on how they should be planned and managed. The principles based on the industrial order are completely useless at the present moment when the time and space relations are changing, borderlines between the public and the private domain are getting blurred and the transient and accelerated urban life is losing the stable foundation hitherto provided by seemingly permanent physical and social structures. However, today more than ever before, due to the explosion of novelty and the difficulties in predicting both the chances and dangers that are being created by telematics, it is impossible to lay down one common path leading cities towards the future. Research into this subject may be compared to the struggle of past expeditions, equipped with imperfect maps with white patches, delineating the previously unexplored lands or terrains completely incomprehensible due to their unusual tectonics. Yet, studies need to be undertaken, with the conviction that a forum will sooner or later be created for a discussion and critical evaluation of research carried out from the perspective of various fields of knowledge, facilitating the analysis of the structure of urban spaces – physical and virtual – against a broader social and political context.

The need to become a part of the stream of research that is creating the foundations for a new perception and understanding of cities, particularly important for somebody who is – like me – engaged in teaching students and in academic work at university, was the direct motivation for writing the book *Cities of Information Civilization. A Quest for Balance between Physical and Virtual Worlds*, published in Polish in a limited edition by Cracow University of Technology Press in 2003. It was written at the time when computers had entered our lives for good, all transformations, including social and spatial transformations, were being described as revolutionary and the beginning of the new millennium encouraged increasingly bolder speculations on the new civilization. The main objective of the book was to present the diverse chances and values emerging in cities due to the telecommunication infrastructure defining totally anew our ideas on urban fabric, workplaces, meeting places, on the society and urban life. Another, no less important objective, as the title of the book suggests, was defining the dangerous

consequences of non-adjusting the character and speed of transformations to the adaptive capabilities of man and neglecting those of their needs that result from the unchanging (in many aspects) human nature.

Although a lot of time has passed since its release, the above-mentioned publication is still valued by readers as a worthy source of knowledge regarding the period of 'moving' from the industrial civilization to the information civilization and the beginnings of the process in which the industrial society 'became' the information society. However, time flies, and a lot of phenomena signalled in the book have either developed further or changed their character, new chances and dangers related to the telecommunication technology have emerged and so has the need to continue the research and the in-depth reflection which will enable us to correct the plans for the future formulated so far. This need has given rise to this book.

The book *Cities of Information Civilization. New Challenges* has been divided into two parts. Part One – TELEMATICS* AND THE ECONOMY, CITIES, PEOPLE contains three chapters: *Transformations in the sphere of production, Telematics & the city – new values and experiences*, and *The place of man in the real world.* They are in a great measure a selection and further exploration of the topics already discussed in the previous publication, mostly the ones referring to the beginnings of the information revolution – the transition period which was filled with great hope that the advanced technologies and global economy offered a chance to level out the worldwide access to wealth, healthcare and high level of education, remove from cities all the socio-economic, political and economic problems of the industrial era and finally liberate humans from the ties of the body, race, gender, place, time and nationality. There were, however, opinions voiced by some that humans with their genetic outfit and the experiences accumulated in the process of evolution belong to the physical world and the degree of 'virtualization' of the world will depend on human choices. The report on the state of knowledge and social expectations characterizing the turn of the millennia, presented in Part One, is now in a sense a historic record and for this reason it has been deemed a suitable introduction and reference point for the considerations presented in the second part.

Part Two – NEW CHALLENGES – is a record of my research carried out in the last decade and presented systematically as chapters in monographs and articles in

* Following the French word *télématique*, coined in 1978 by Simon Nora and Alan Minc in their publication *The Computerization of Society*, 'telematics' refers to services and infrastructures which link computer and digital media equipment over telecommunication links. Daniel Bell, in his introduction to this book, writes that the term 'telematics' "expresses a new reality, an innovation that has the possibility of transforming society in the way that railroads and electricity did in the nineteenth century."

academic journals. They have been updated, in many cases expanded and arranged in three chapters so as to best highlight the changes that need to take place in human minds now and to show where the revaluation of social priorities should be going.

Chapter *New forms of settlements* discusses several problems. First, it presents Edge Cities – new cities which defy the traditional definitions describing the *centre* as an important vibrant headquarters of management and command and the *peripheries* as a second-rate place, subordinated to the centre. The considerations presented in the next point are in fact an attempt to compose a list of characteristics of the human living environment in the information era. The aim is not to question the role of the telecommunication infrastructure in ensuring urban comfort, as it is responsible for the smooth operation of the virtual aspect (*space of flows*) of all the city components. However, the expectations from the physical aspect (*space of places*) more and more often refer to ensuring people "contact with the earth they tread on and the sky that is stretched above their heads" and offering them "small nooks of happiness," such as "a bird, a garden, a neighbourly greeting, child's smile, cat basking in the sun..." Further on, the chapter discusses the contemporary approaches to development of human settlements that aim to protect and fully use the broadly understood local potential and to educate on adaptation strategies necessary in the era marked by intensifying climate anomalies and diminishing access to cheap fuels, which factors will affect forms of settlements, types of mobility, energy sources, models of project management and financing, as well as the choices of the public regarding cultural and spiritual values.

The next chapter entitled *New needs for physical and mental safety* focuses on the growing sense of endangerment and the need to increase the broadly understood safety in cities. The first problem selected for a more detailed presentation is the rising fascination with the image and the excessive aestheticization – particularly dangerous in the field of architecture – manifesting themselves by transforming civic spaces into a fetishized abstractions, difficult to understand by their users. The second problem is related to the observation that the contemporary concepts of urban development are based in great majority on the hypothesis of affluence, presuming that cities are only consumers of food, not producers thereof. Meanwhile, the more and more popular idea of *urban farming* already brings a lot of tangible benefits worldwide, apart from the basic one of providing communities with food security.

The last chapter of the book – *Education and upbringing* points out to the necessity of forming a self-aware society, prepared to take informed decisions related to their surroundings – from the scale of the house, neighbourhood or city to the scale of the whole planet. It is so because all relevance or even possibility of any human activities may be conditioned on whether we are able to reverse the catastrophic trends

of continuing destruction of the environment. The texts included in this chapter refer mainly to problems related to architecture understood as 'everything that surrounds us' and focus on the inclusive approach to the architectural profession and education, which takes into account a whole range of various factors and parameters: cultural, environmental, functional, formal, structural, material-related, psychological, symbolic or even metaphysical. This part also highlights the need of taking special care of the young generation, which means both creating conditions for their multi-faceted development and preparing them for the broadly understood social participation. The involvement of children and young people in trying to save the World that we see even today confirms the conviction that we should place our future in their hands.

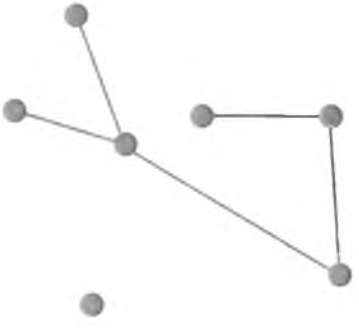
Kraków, 2019

Anna Palej**

** Anna Palej, Assoc. Prof., D.Sc., Ph.D., Arch. *Employment*: in the years 1971–2012 – Faculty of Architecture, Cracow University of Technology; since 2012 – Faculty of Architecture and Fine Arts, Andrzej Frycz Modrzewski Krakow University; in the years 1991–1994 – visiting professor, College of Architecture and Planning, University of Tennessee. *Scholarships*: 1991 – Kościuszko Foundation Grant, New York; 1984 – Visiting Research Fellowship, Melbourne University. *Fields of interest*: Information Technology and its influence on cities; quality of residential environment; architectural and urban renewal; designing for and together with children.

PART 1

Telematics & the Economy, Cities, People



Transformations in the Sphere of Production

1

From Industrial Economy to Information Economy

*In the last quarter of the twentieth century, technological revolution, centered around information, transformed the way we think, we produce, we trade, we manage, we communicate, we live, we die, we make war, and we make love.**

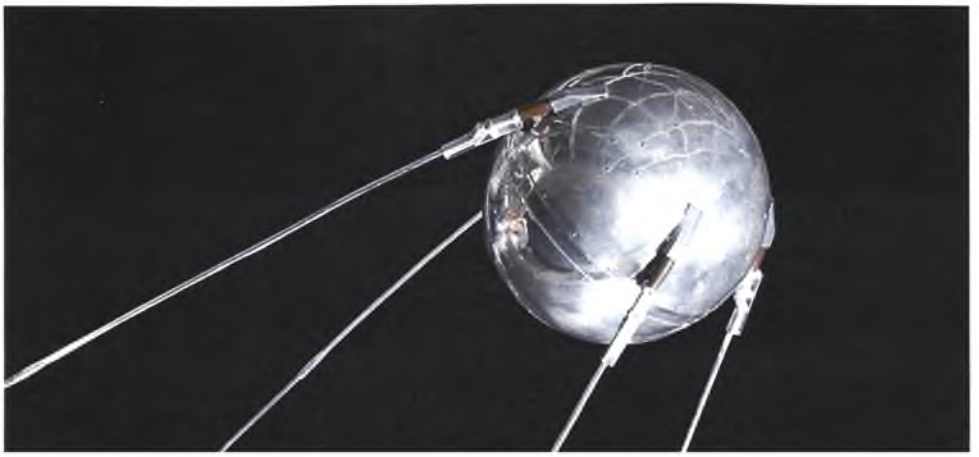
MANUEL CASTELLS[1]

The second half of the 18th century started a series of profound transformations of the political and economic nature, first in Europe, but subsequently spreading all over the world. Some of them were related to the revolutionary social movements, others to the transfer from handicraft to great factory industry. New socio-political, technical and economic conditions started to exert great influence on the development of cities, attracting people from rural areas with the promise of work in a factory. A factory chimney – symbol of the industrial society – was associated not only with mass industrial production. It was the 'embodiment' of such principles as standardization, centralization, bureaucracy or unprecedented accumulation of energy, wealth and power, which regulated the whole society – its structures and its needs. The advent of the industrial era is commonly identified with the development of steam engine, some epochal inventions in yarn making and advancements in metallurgy; geographically, it is attributed to Great Britain – the first European country in which the industrial revolution progressed, and in the way that is now considered classic.

1.1
Miners and shipyard workers are symbols of the industries that are becoming the thing of the past. Photo by Jack Corn, The U.S. Environmental Protection Agency.

1.2
The future will belong to the sector of services professionally dealing with creation, processing and dissemination of information. Photo credit: *Mlkshk*.

Just like the industrial era, the information era also has its symbolic starting point. It has been agreed that this was the moment when the number of manual workers employed in production of goods – *blue-collar workers* – was exceeded by the number of office workers – *white-collar workers*, which first happened in the United States in 1956.



1.3
The first artificial Earth satellite – Sputnik 1, launched into the orbit in 1957, was to initiate the conquest of space. Photo by Smithsonian National Air and Space Museum in Washington DC.

1.4
Sputnik 1 and the Apollo 11 mission, crowned with the first landing of man on the Moon in 1969, have become symbols of the information era and the world globalization. Photo by Neil Armstrong, NASA.

Another occurrence of great importance for the information society[2] was the launch into space of the first Soviet artificial satellite – Sputnik 1 – in 1957. Contrary to the enthusiastic interpretations prevailing at the time, this event – similarly to the Apollo 11 mission to land on the Moon in 1969 – had more to do, for the generation of its time, with world globalization than with outer space exploration.[3]

The years 1956 and 1957 were considered to be turning point years. A new economy had become reality, and this brought on an urgent need to develop a coherent vision of this reality which could be the foundation to fall back on when taking important decisions about life, investments, politics or space organization, just like it used to be in the 19th century Europe. Back then, using imagination and the knowledge available at the time, a mechanism had been constructed which promised people freedom, equality and chances for growth and which also presented them with a quite clear vision of the future. The society knew what to fight for, what interests to protect and what long-term plans to make. In consequence, people had the sense of identity and stability even in the most difficult transition period.

Attempts to describe the new economy emerging in the 1950s included the first cautious terms such as *postindustrial economy* stressing the fact that it was based on the sector of services. It reflected the traditional way of thinking about economy which assumed that it may be analysed only in the terms of goods or services. Deeper analyses proved, however, that the character of services had changed dramatically and the overwhelming majority of people employed in the sector of services were in fact dealing with creating, processing and dissemination of information. Hence, the most suitable name turned out to be *the information economy.*

Developing coherent premises for the information economy did not start until the late 1960s, and since the new processes were most clearly discernible in the United States, it was the American scientists who were the first to analyse them. The ongoing social and economic phenomena, as described by Daniel Bell, John Naisbitt or Alvin and Heidi Toffler, facilitated understanding the new trends and prepared societies for undertaking the necessary strategies of restructuring. They have been a useful source also for this book as they have helped to prepare a short list of characteristic features of the information economy presenting more comprehensively the concepts of manufacturing factors, production and workforce, the transformed basis of business organization systems, new needs of the public and their expectations from employers, trade unions and the state.

In order to create the necessary context for the description of the new economy, the major premises of the former – industrial – economy have been collected and presented in this paragraph in the form of bullet points. They were as follows:

– the major manufacturing factors were land, workforce and capital;

- production, i.e. manufacturing activity, presumed the use of physical raw materials, machines and muscle power;
- a small percentage of added value was created without manual work;
- the cost of manufacturing per unit was reduced proportionally to the length of the series of identical products;
- routine and repetitive work required predictable, replaceable and universal workforce;
- managing a business was facilitated by its pyramid, monolithic and bureaucratic organization;
- trade unions helped in the struggle for social security, which was the primary need of the industrial society.

KNOWLEDGE – THE NON-DEPLETABLE RESOURCE OF THE NEW ECONOMY

The major resource of the information economy is knowledge and the new technologies based thereon. In many cases, the wealth of companies is no longer defined in terms of their tangible fixed assets, but their strategic and operational ability to obtain (or create) and distribute knowledge. Let us now then have a closer look at its value from the perspective of potential applications in manufacturing projects.

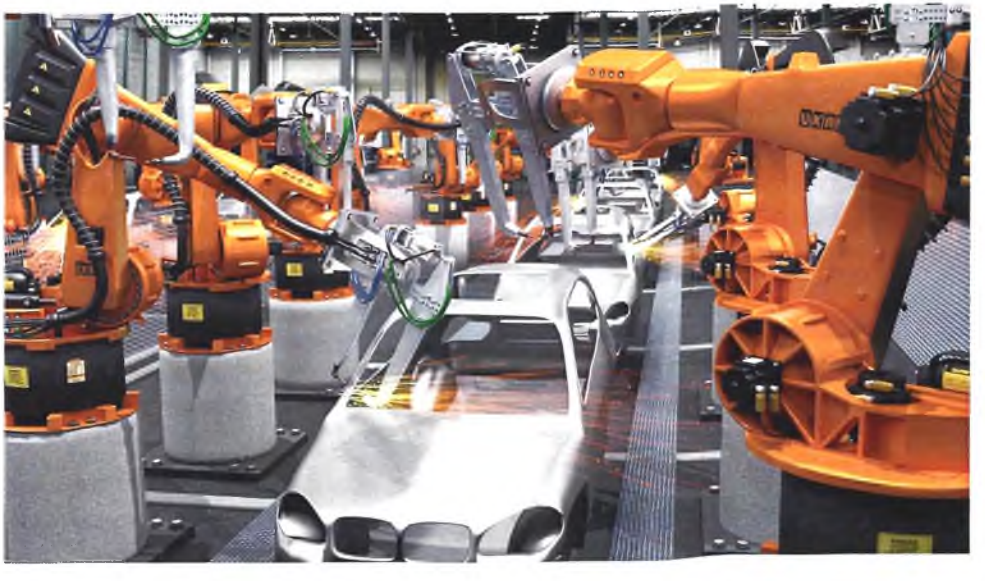
Owing to the ever more advanced technologies and production miniaturization, it is possible to manufacture smaller, lighter, more energy-efficient and less labour-consuming products. Modern computer-aided manufacturing techniques enable making short series of products, adjusted to precisely defined needs, without any additional costs. Contemporary manufacturing is now bidding farewell to mass quantities and replicability. Short series, lower weight and volume of products reduce the transportation cost and the demand for storage space. The latter is additionally reduced due to ordering deliveries at a precisely determined date – *just-in-time* – adjusted to the manufacture schedule. Such organization mode, supported by advanced communication and data collection techniques, enables considerable savings on time, and this again influences reduction of the manufacture cost per unit.

> *Since knowledge reduces demand for raw materials, workforce, time, space, capital and other production factors, we can safely call it a universal substitute: the main resource of the advanced economy. This in turn affects its value beyond measure.*[4]

Benefits generated by using the electronic channels of buying and selling products make it a necessity in the contemporary economy. E-commerce, which covers the three main categories – *business to consumer* (B2C), *business to business*

(B2B), and *consumer to consumer* (C2C), is constantly growing. According to *Statista* – a leading provider of market and consumer data[5] – only B2B commerce alone was worth globally 10.6 trillion US$ in 2018, which exceeds five times the value of B2C commerce.

1.5
Vintage Ford Assembly Line, 1941, based on the physical work performed by manual labourers. Photo from Western Slope Auto Official Blog.



1.6
A contemporary, fully automated assembly line. Photo from Silicon UK Technology & Business News.

First considerable savings made thanks to the Internet were observed in the automobile industry when – in the year 2000 – General Motors, Ford and Daimler-Benz created the largest in the world Internet market called Covisint, which was later joined by Renault and Nissan. Manufacturers and deliverers were able to save several hundred dollars on each vehicle through facilitated search for new sales channels, shortened storage times or reduction of supply costs.[6] At present, Covisint (Connecting People, Systems and Things) provides services, apart from the automotive industry, to manufacturing, oil & gas industries, consumer packaged goods, agriculture and healthcare.[7]

Using knowledge – in the broad sense of the word – in industry reveals a certain regularity related to implementation of new technologies. It tends to happen in three stages. In the first stage, technologies find application in the fields that do not cause any anxiety among the public, for example installing microprocessors in toys or using robots to do the jobs which humans find obnoxious or dangerous. In the second stage, the old processes are rendered more efficient and products upgraded, whereas in the third one, which is still difficult to image for us, inventions and their applications grow out of the technology itself. The world economy is now in the second of the abovementioned stages, i.e. in the period of ubiquitous presence of advanced technologies in industrial enterprises. It affects enormously the traditionally understood labour market and the interests of employees, which provokes waves of social unrest.

TRANSFORMATION OF THE LABOUR MARKET

The industrial economy used to be based on the work of unskilled labourers, most frequently using physical strength. Since the skills needed for manufacturing jobs were not particularly complicated, workers could easily and with little cost be transferred from one work station to another or dismissed and replaced with others. Manufacturing jobs were directly related to creation of goods, which – in turn – meant that the *added value* was generated mostly by the workers, with the non-manufacturing employees contributing only indirectly and to a limited degree. Office work was dismissively called "paper work."

However, the 1960s saw the advent of the extensive and irreversible process of transition from manual work to activities in the sphere of services and symbols, which process has been going on ever since. To an increasingly greater degree the economic *value* originates not from work – in the Marxist sense of the word – but from knowledge. New enterprises require specialized skills, which largely limits the universality of workforce. The proportion of industrial workers in the professionally active population is decreasing, and it happens so because more and more work, be it in agriculture, industry, education, healthcare or finances, must be done using the intellect.

Know-how, or specialist knowledge, is beginning to be a marketable commodity, and *knowledge management* has become an important component of any company policy.

A lot of research has been done in numerous academic centres with the purpose of documenting how the American economy was acquiring the "information character" to an ever increasing degree. The economy in America was the centre of attention as it was there where the processes of creating the new reality were progressing in the most classic way. All of the research points out to knowledge as the factor generating economic value. One of the first studies, carried out by economist Edward Denison, demonstrated that the most decisive factor triggering the economic growth in the United States in the years 1948–1973 was the radically greater than before access to knowledge and the increase in the amount of better educated workforce.[8] David Birch of the MIT, who headed a team carrying out cyclic analyses of the labour market, also confirmed that the economy "was leaving the sphere of manufacturing and entering the sphere of *thinking business*." The results of the research done by Birch indicated clearly that already in the 1970s only 5% of 20 million of newly created jobs were in the sphere of manufacturing whereas nearly 90% were jobs related to information and knowledge. It must be emphasized here that the discussed processes are still going on and now they encompass the whole world. As early as in 1995, the worldwide export of services and "intellectual property" was equal to the joint export of electronics and cars or the joint export of food and fuels.[9]

Work in companies requiring an ever increasing level of intellectual commitment is exhausting. Employees must meet very strict criteria – they are expected not only to apply their knowledge, intuition and imagination but also to react immediately to challenges, work flexible hours and sometimes be available 24 hours a day if they need to remain in contact with institutions operating in other time zones. Some experts are starting to talk about a new, previously unknown form of exploitation.

At the same time, however, there are signs indicating that an increasing number of employers begin to take a better care of their personnel. They realise that highly qualified employees, who would be very difficult to replace, work under constant pressure resulting from the great responsibility they bear and a very fast pace of work imposed by "time-based competition" – a new theory that has become a prevailing guideline in business nowadays. Working on the assumption that happy employees who do not have to struggle through the difficulties of daily life are more creative and therefore bring more profit to the company, employers do not only offer good remuneration but also take care to provide their employees with a nice housing environment, child care, good and flexible education system,[10] recreation and entertainment.

Changes in the work character also show the problem of unemployment in a different light. The group of labourers who have spent most of their working lives in the structures of the industrial era and now have lost their jobs almost without a warning

is still growing.[11] An effective strategy in the information economy does not consist in creating new jobs in the manufacturing sector by allocation of capital, as it used to be in the past, but by preparing those who have lost their jobs for taking up activities in the broadly understood services sector by allocation of knowledge. Access to education, new learning programmes adjusted to the changing economy, financing scientific research projects and creation of modern infrastructure are the priority demands

1.7
According to Alvin Toffler, the beginnings of prosumption may be traced back to the invention of the pregnancy test in the 70s of the 20th century. It enabled women to carry out the test themselves in the privacy of their homes rather than in the doctor's surgery, which had been hitherto the only option. Photo from Katherine Unique, Fashion & Lifestyle.

1.8
Prosumption is also filling up your car yourself at the petrol station, putting together the furniture you bought at IKEA or getting an air travel ticket on the Internet. Photo from Onet MOTO.

which the now forming knowledge-based society lays down before the state. Absence of adequate reaction or support from governments or reorganized trade unions is the reason why a great part of the public is opposed to automatic control, robotics and other revolutionary technological achievements, they see them as "job killers."

Another, though not so dramatic, symptom of the changes in the labour market is the growing *prosumption*, i.e. participation of consumers in the "production" of goods and services. Initially, prosumption was present in self-service bars, at petrol stations or in certain shops where we bought things in packages to be assembled at home following instructions. However, the real prosumption boom was brought about by the Internet, with the virtual commerce and services that came with it.

A classic example of the above phenomenon, given in numerous publications, is the purchase of an airplane ticket on the Internet. In the past, when we wanted to buy a ticket, we went to an airline agency or a travel agent's. Today, anyone may book a ticket themselves, pay for the flight using a credit card, print a boarding pass or even go through the check-in procedure. Another convenient thing, apart from the ease of carrying out the transaction, is the option to negotiate the price. At Priceline.com (where tickets and nights in hotel rooms are sold at auctions), the client defines the price they are willing to pay for an airline ticket to a selected destination. Priceline asks about the day of the week and how many times the customer is prepared to change the planes. The more flexible our requirements, the greater the possibility of price discounts – even down to 1/3 of the price initially set by the airline.

Prosumption, although it has already started to take up increasing amounts of our time, is still viewed by many as entertainment. Yet, it brings about results that are important for the economy and society, and one of such results is generating a portion of national income that is not included in any statistics. Other results of prosumption are, on the one hand, sucking jobs out of the services market, but, on the other, generating new services such as market counselling helping in making a rational choice when it comes to buying a computer, selecting a bank or insurance that would suit best our needs and capabilities.

SCALE OF UNDERTAKINGS AND THE DOMINANCE OF THE TIME FACTOR

Departure from unified, large-scale manufacturing, market segmentation and changes in the character of work result in the need to limit the size of enterprises. Gigantic factories fall apart and are replaced by much smaller, specialized companies with minimal numbers of staff, which outsource as many tasks as possible. Charles Handy of London Business School claims that such "microscopic, almost invisible organizations are the salt of the earth and the prosperity of our societies depends on them."[12] Another novelty in corporate organization is setting up interdisciplinary

international teams, in the type of "projects" or "special units," which are assigned one specific task and which are dissolved as soon as they have done the job. Flexibility is becoming the major feature of the information economy.

Keeping afloat in the modern, highly complicated market requires coordination of numerous activities, fast communication and information exchange between individual players on the market, often located on different continents. The economy is becoming increasingly more dynamic, and the requirements of staying competitive are so demanding that time is now considered to be the most critical factor. The economics of scale is being replaced by the economics of acceleration and the already-mentioned *time-based competition* assuming that "our competitors will not be able to keep up with the pace we impose." In such situation, efficient information channels using the now commonly applied satellite connections are becoming an indispensable component of the contemporary infrastructure, since they enable an instant reaction to the changes occurring on the market. It has been made possible thanks to overcoming the information inertia by reducing the distance between the sender and the recipient of information through limiting the time it spends in the communication channel to no more than a few seconds.

Due to the unprecedented acceleration of transactions, overcoming the information inertia is sometimes compared to another change – equally groundbreaking in its time – namely to giving up barter and replacing it with monetary transactions. Today, according to DuWayne Peterson, who has 40 years of experience in advising, mentoring and investing in start-ups with emphasis on information technology companies,[13] "money moves with the speed of light – information must spread even faster." It is by all means possible nowadays. Owing to modern electronic networks, any business may get done in almost real time, no matter in which part of the world.

> *Just like in the past transportation networks used to carry industrial products over distances, now the developing telecommunication network will carry new products of the information society. This new integrated communication system will be the driving force of the knowledge society, similarly to energy – electricity, oil, nuclear energy – which enabled survival of the industrial society, and to nature – wind, water, animal power – which sustained agricultural societies.*[14]

GLOBALIZATION OF THE ECONOMY

In the new information economy, briefly described above, all the countries in the world are becoming mutually dependent on one another. It is no longer possible to have separate, self-sufficient, national economic systems, like we knew them in the past; now they have all become inter-dependent parts of one global economy.

Modern telecommunication networks have enabled a situation in which the global market is being serviced by global production on a hitherto unimaginable scale. It is possible and – from the economic point of view – may be desirable to design products in the Silicon Valley, manufacture them in Singapore or Ireland and subsequently distribute by air to markets even thousands of kilometres away.[15]

The new situation is directly followed by a far-reaching process of production and work redistribution, which results in the following phenomena:

- deindustrialisation of economically developed countries of the world and reorientation towards great enterprises of the future based on electronics, biotechnology, alternative sources of energy, seafloor mining and robotics;
- achieving by the Third World countries (the name is now becoming more and more obsolete) a strong position in industrial production, which has been made possible by the huge and still growing workforce;[16]
- exchange of investment projects in the global scale and returning to barter, which allows expanding the cooperation to include those countries that cannot afford conventional trade of goods;
- exchange of work and investing into human resources in order to curb unemployment and prepare the ever growing masses of employees to take up new jobs in new occupations.

The inevitable character of the phenomena enumerated above means that we need to depart from shaping our tomorrow in reliance on declining industries and the old-fashioned way of thinking about industrial enterprises. Economists who prepare strategies of their countries' economic growth on the basis of the principles that do not fit in with the new economy "act as if they would like to foresee the future of a family solely by observing the grandparents."[17] Learning from the past was correct in the period of agriculture dominance. In the industrial society, it was the present time that was the most important; it was eminent in the short-term thinking – mine, manufacture, sell, make profit. The information society is dominated by orientation towards the future and long-term thinking. Now, we need to learn from the future in exactly the same way we used to learn from the past and present.

It may have seemed, following the logical chain of reasoning, that the global economy would undermine local grass-roots initiatives.[18] However, the opposite has turned out to be true – according to the maxim *think globally, act locally*[19] – we are witnessing a hitherto unprecedented growth of entrepreneurship. We observe the emergence of small companies, as they are easier to adjust to the requirements of information technology. Individual states, communes, towns or even individual companies maintain direct business relations with the whole world. Hence, it has now become possible to taste – e.g. in Denver (at a dinner party organized by friends)

– some rare fruit grown only in one place on the Earth – near Bogota in Columbia – because the climate is suitable for the purpose only there.[20]

Another important consequence of economic globalization, accompanied by a transition to more horizontal decentralized processes of decision making, is a crisis of democratically elected political representation – observed in many countries. It seems to be losing grounds to the economic power, which is not elected and which does not easily yield to any form of control.

1.9
Globalization of management, production or money flows has been made possible by the modern telecommunication networks. Image from FEE Foundation for Economic Education.

1.10
The 'Just In Time' delivery and the international container transportation done by sea freight enable efficient distribution of global products. Photo by Mike Blake/REUTERS.

It is more and more clearly visible in the international politics, though in the domestic politics it still remains more or less hidden, that the great capital, huge corporations and investment groups – efficiently managed and capable of immediate adjustment to new situations – gain advantage over the institutions of state..., now it is the great international capital that controls governments, parliaments and presidents of democratic countries... [21]

Economic globalization and growth of the telecommunication infrastructure are often subject of considerations related to international safety, particularly valid in the situation of tensions and unrest of the last decades. Sceptics, with Samuel Huntington among them, see the seeds of a future world war in the conflict resulting from cultural and religious differences. This conflict has its roots, though indirectly, in globalization and is still growing more and more acute. In turn, Noam Chomsky warns against the telecommunication infrastructure as the most effective instrument of enslavement. Similarly, Stanisław Lem, who – in his essayistic work *Summa technologiae* (1964) – expressed his trust in the positive powers of technology, yet in his later book *Bomba megabitowa* (1999) no longer had faith in "the false god of technology" and viewed the Internet as a place where much more foolishness gets spawned than wisdom, more evil than good.

There is one area in which the Internet may contribute to the evil faster, more easily and more surely than to any good... I mean here the domain of politics. The Internet is... such type of communication that makes it easier to identify the recipients of a given piece of information than the provider sending the information. In other words, at present the Internet allows information providers to remain anonymous, and in the sphere of politics such difference may signify even the difference between peace and war... Countries will rather harm each other anonymously than openly help and support each other.[22]

There are, however, optimists as well. John Naisbitt believes that the world, being one global economic village, gives us great hope for peace, so "instead of resisting the growing economic interdependence, we should embrace it... Once our economic interests become intertwined, we will probably cease to wish to drop bombs on one another and annihilate one another from the face of the Earth."[23]

Discussing the issues related to globalization, we may not ignore yet another noticeable effect. In spite of the earlier predictions that we would become one world with one mandatory language of communication – English, the growing interdependence of the world's economy is accompanied by a revival of cultural and linguistic distinctions. In a nutshell, according to John Naisbitt, "Swedes are becoming more Swedish, the Chinese – more Chinese, and the French... more French."

UNIFICATION OF MARKETS AND UNPRECEDENTED DIVERSITY

The publication prepared by the National Geographic Society in 1999 to celebrate the end of the century and discussing the condition of the contemporary world – *Millenium in Maps*[24] – presented five different products which had conquered all the continents and become "truly global products." They were: Coca-Cola – a well-known drink made from coca tree leaves and cola nuts (profits from the sale of Coca-Cola outside the United States amounted to 70% at that time); Toyota-Corolla – the best-selling car conquering the hitherto most hermetic markets of the world (1.3 million of these cars were sold in the USA at the turn of the century); the Star Wars trilogy – emphasizing the fact that more than 90% of films that made the largest profits in the history of the cinema industry are American productions; "National Geographic," which has been selling all of the world for over a hundred years; and the food products of the Swiss company Nestlé manufactured in 80 countries. It was not accidental that it was precisely the above-mentioned products which were selected to illustrate the tendencies of the last decades of by-going millennium. They were the symbols of the universally criticized phenomena – unification of tastes, Americanization and cultural homogeneity.

Standardization of lifestyles and introducing fads on the worldwide scale are the two things globalization and telecommunication infrastructure are most vehemently accused of, since they facilitate the access of the same products, images and values to the remotest corners of the globe. Nevertheless, fears that this kind of trends will keep up and continue to grow in the future are ungrounded. In fact, the process of consumer markets unification is the consequence of mass production and mass distribution, i.e. the characteristic features of the now passing old economy – the time when "all bathtubs were white and all telephones were black." Now, with the help of production automation and the new media, the world is entering the phase of unprecedented diversity. The market is undergoing decentralization, and the mass society is breaking up into groups representing a large array of preferences and values.

> *The Internet and the new media offer a great variety of ideas, images, symbols, data, knowledge and information flowing into human consciousness. Never in history has such a universally accessible medium existed that would present different viewpoints on politics, culture, religion, society and sexual life. The Internet is not a type of mass media, it belongs to a new generation of media that have liberated themselves from the stigma of uniform mass character.*[25]

The tendency towards a greater variety and the consequent demassification of goods and life models may be observed literally everywhere. "National Geographic" for example, after 107 years of being published in one language only – in English, started to come out in eight other languages in the 90s. The company Seiko is now

1.11
One of the symbols of the great variety of currently available goods is the shop 'Just Bulbs' offering 36,000 types of light bulbs manufactured worldwide. Photo courtesy of The Light Bulb Store.

offering thousands of types of watches,[26] Philips is manufacturing hundreds of television models. Even Coca-Cola is no longer just one drink. The type made according to the old recipes is now called Coca-Cola Classic. But there are others: Diet Coke, Caffeine Free Coke, Caffeine Free Diet.

One of the symbols of the great diversity in goods on offer is undoubtedly the shop "Just Bulbs" in Manhattan, which sells 36,000 types of light bulbs shipped from various parts of the world. In early 2017, the shop changed its location. The main reason for the move to the new, larger space was LED technology. For virtually every model of bulb, there is now a more environmentally friendly LED equivalent. So the shop's offerings have nearly doubled.[27]

One of the examples illustrating diversification of production lines in order to adjust the products to customers' individual preferences are the changes going on in the automobile industry. They started in the United States when a wave of European and Japanese cars flooded the American market for the first time giving buyers a larger array of options to choose from. As early as at the turn of the 50s and 60s of the 20th century, the Ford company (associated with the assembly line, mass character and reproducibility – hence the term *Fordism*, which a symbol of the above-mentioned characteristics) realized that "in order to gain the customer's trust, the manufacturer has to offer a car that would create the illusion of being unique."[29]

"Design your own Ford Mustang" was one of the advertising slogans illustrating the tactics of the company adjusting to the specific character of the times which are often defined as the era of *post-Fordism.*

Production of unique goods almost to individual orders by customers is now slowly becoming reality. Automation enables manufacture of such goods at prices close to those in mass production, and globalization together with telecommunications allow additional cost reduction (owing to the accessibility of cheap workforce) and unlimited distribution through fast access to various, often distant, markets.

The processes of fragmentation and diversification similar to those related to production of material goods are more and more discernible also in art, education and the whole mass culture. Explosion of creative activity, thousands of schools and artists, an enormous number of art works and events, greater than ever in history, testifies to the emergence of a multiple choice society. A great variety is also visible in construction works. According to Ada Huxtable – an architectural critic – starting from the postmodernism, which brought on "the atmosphere of ferment and change," the only unifying component is "the desire to use all the available options to achieve a richer and more diverse kind of architecture."

> *The sense of discovery and experimentation, drawing inspiration from the whole history and technology is the most important driving force of the new work... We are experiencing an active and happy time; we shall yet see a great number of inspiring, unsettling, provocative and promising buildings. It is a type of modern architecture completely different from the one we have learnt to love or loathe.*[29]

The unprecedented diversity in numerous areas of life will force people to keep defining their place in the society incessantly – choosing a job, a family model, religion, idols they would like to emulate and a sub-cult that suits best their individual disposition and the current stage of life.

What is better – the "either – or" choice or choosing from an excessive number of options? Having experienced for years the situation where we had very little choice or no choice at all, we would be more likely to opt for the latter, identifying it with the sense of freedom. On the other hand, the negative side of having excessive choice is that it forces consumers to participate in a complex decision-making process, which requires so much energy that – instead of feeling liberated – they may feel enslaved.

NOTES

* Quotations which do not come from original English sources (as specified in the footnotes) have been translated by the translator of this book.

1. Manuel Castells, *The Information Age: Economy, Society and Culture*, volume III, *End of Millenium*, Second Edition, Blackwell Publishers, Oxford 2000, p. 1.
2. The huge role of satellites in the globalization of the world was already predicted by Arthur C. Clark, a British science writer later known for his science fiction books. His most famous prediction related to the future is his proposal of using space satellites for global communication published in the *Wireless World* magazine in 1945. Not taken seriously at the time, within 20 years it became reality, with the launch, in 1965, of the first commercial geostationary communication satellite. Dylan Tweney, *May 25, 1945: sci-fi author predicts future by inventing IT*, https://www.wired.com/2011/05/0525arthur-c-clarke-proposes-geostationary-satellites (retrieved on 22.01.2019).
3. According to the Index of Objects Launched into Outer Space maintained by the United Nations Office for Outer Space Affairs (UNOOSA), there were 4987 satellites orbiting the planet at the start of the year 2019. The Union ofConcerned Scientists (UCS) keeps a record of the operational satellites, and their latest update provides details until the end of November 2018. The information from this database, together with the UNOOSA Index, reveal that there are currently 1957 active satellites in orbit, which represents just under 40% of the satellites orbiting the planet, https://www.pixalytics.com/satellites-orbiting-earth-2019 (retrieved on 22.01.2019).
4. Alvin and Heidi Toffler, *Budowa nowej cywilizacji*, Wydawnictwo Zysk i S-ka, Poznań 1996, p. 43.
5. *Statista* – the Statistic Portal, giving immediate access to over one million statistic data and facts from more than 22 500 sources, also indicates that "one of the trends in B2B eCommerce is the rise of vertical or specialized marketplaces. These portals offer a wider range of products in a particular category along with specialized value-added services. Companies also increasingly use big data to deliver a personalized customer experience. Another trend is the rising popularity of mobile shops, which can also be observed in B2B eCommerce." https://www.statista.com/study/44442/statista-report-b2b-e-commerce (retrieved on 22.01.2019).
6. Andrzej Lubowski, *Klapa z kropką. Potentaci na internetowych bazarach*, "Polityka" no. 46, 11.11.2000.
7. https://www.covisint.com (retrieved on 22.01.2019).
8. Interesting results of research into the character of information economy and labour market may be found in John Naisbitt, *Megatrendy*, Wydawnictwo Zysk i S-ka, Poznań 1997, pp. 29–61.
9. See Heidi and Alvin Toffler, *Budowa nowej cywilizacji*, *op. cit.*, p. 57.
10. In order to accommodate the needs of working parents, some schools in the Silicon Valley in California have a school year that lasts 12 months, and the child may be taken on a week's holiday at any time. In Bogumiła Dąbrowiecka, *Serce hight-tech*, "Wprost-Intermedia," 7th May 2000.

11. This problem is particularly acute in many American cities of the so-called "Steel Belt" (Chicago, Baltimore, Detroit, Milwaukee, Youngstown) – now called the "Rust Belt." For example, in Baltimore – a city which in the mid-20th century was one of the 20 most powerful industrial centres of the world – one out of three workers were employed in the manufacturing industry. At present, the unemployment rate here is 50%, and fewer than 5% of the jobs are in manufacturing. Maciej Jarkowiec, *Miasta upadłe*, "Polityka" no. 20, 2015, pp. 56–58.
12. Charles Handy – a well-known British social philosopher and one of the founders of London Business School – is generally ranked among the most influential management gurus of the past half century. He was the first to foresee such development as corporate downsizing and the emergence of knowledge workers who hop from company to company or freelance with numerous firms, https://www.london.edu/faculty-and-research/lbsr/handy-essentials (retrieved on 22.01.2019).
13. DuWayne Peterson is currently Vice Chairman of the Colorado Angel Investors and serves on Innosphere's Board of Directors, https://fortcollinsstartupweek2017.sched.com/speaker/duwaynepeterson (retrieved on 22.01.2019).
14. John Naisbitt, *Megatrendy*, *op. cit.*, p. 44.
15. Opinion expressed by James Davis in Stephen Graham, Simon Marvin, *Telecommunications and the City*, Routledge, London and New York, 1996, p. 136.
16. Forecasts made by the United States Census Bureau in the 1980s of the 20th century, which have already been proved to be correct, estimated that – by the year 2000 – the number of professionally active population stimulating the economic growth will grow by 10% in the developed countries, by as much as 55% in the region of Asia and Pacific and by the staggering 80% in Latin America and Africa.
17. John Naisbitt, *Megatrendy*, *op. cit.*, p. 100.
18. "Micro, small and medium-sized enterprises make up 99% of all businesses in the EU. In 2015, just under 23 million SMEs generated EUR 3.9 trillion in value added and employed 90 million people, constituting an essential source of entrepreneurial spirit and innovation, which are crucial for the competitiveness of EU companies. [...] Various action programmes have been adopted to support SMEs, such as the Small Business Act, Horizon 2020 and the COSME programme. Frédéric Gouardères, *Small and medium-sized enterprises*, Fact Sheets on the European Union – 2019, www.europarl.europa.eu/factsheets/en (retrieved on 10.03.2019).
19. Combining global potential with local interest is one of the components of the definition of *globalization*. More on the topic of the links between globalization and localization in Roland Robertson, *Globalization: Social Theory and Global Culture*, Sage Publications, 1992, and in Zygmunt Bauman, *Globalizacja i co z tego dla ludzi wynika*, Państwowy Instytut Wydawniczy, Warsaw 2000.
20. See *Rzadki owoc spod Bogoty*, an interview with futurologist Alvin Toffler on the 30th anniversary of publication of *Future Shock*, "Gazeta Wyborcza," 23–26 December 2000.

21. *Fala za falą*, interview with Alvin Toffler, "Gazeta Wyborcza," 24th December 1998.
22. Stanisław Lem, *Bomba megabitowa*, in Mirosław Pęczak, *Pan Cogito przed monitorem*, "Polityka" no. 39, 25th September 1999.
23. John Naisbitt, *Megatrendy*, *op. cit.*, p. 105.
24. The publication in question was developed by National Geographic Maps for the National Geographic Society, Washington D.C., 1999.
25. Alvin and Heidi Toffler, *Bitwa w poprzek*, "Polityka" no. 2, 13th January 2001, quote from "Los Angeles Times."
26. See Steven L. Goldman, Roger N. Nagel, Kenneth Preiss, *Why Seiko Has 3000 Watch Styles*, "New York Times," 9.10.1994.
27. Annie Correal, *Just Bulbs: Still Burning Bright on the Upper East Side*, "The New York Times," 28th March 2017.
28. The opinion of an expert in selling automobiles, in Alvin Toffler, *Szok przyszłości*, Wydawnictwo Zysk i S-ka, Poznań 1998, p. 260.
29. John Naisbitt, *Megatrendy*, *op. cit.*, p. 286.

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

1.1. Photo by Jack Corn, *Group of miners waiting to go to work on the 4 p.m. to midnight shift at the Virginia-Pocahontas coal mine #4 near Richlands, Virginia*, Environmental Protection Agency, Public Domain.

1.2. Image Credit: Mlkshk, in Jeff Saginor, US tech companies outsourcing fewer jobs, 15th February 2012, Digital Trends, https://www.digitaltrends.com/home/us-tech-companies-outsourcing-fewer-jobs (retrieved on 1.05.2019).

1.3. Photo by Smithsonian National Air and Space Museum in Washington DC, *Sputnik 1 replica*, in Michał Banach, *Sputnik 1 – pierwszy sztuczny satelita ziemi*, 6th November 2018, Smart Age, https://www.smartage.pl/sputnik-1-pierwszy-sztuczny-satelita-ziemi (retrieved on 1.05.2019).

1.4. Photo by Neil A. Armstrong, *Astronaut Buzz Aldrin, lunar module pilot, walks on the surface of the Moon during the Apollo 11 extravehicular ativity* (EVA), Image Credit: NASA, https://www.nasa.gov/mission_pages/apollo/40th/images/apollo_image_12.html (retrieved on 1.05.2019).

1.5. *Vintage Ford Assembly Line, 1941*, Western Slope Auto Official Blog, https://www.westernslopeauto.com/blog/ford-assembly-line-history-in-vintage-pictures/1941-assembly-line_0 (retrieved on 1.05.2019).

1.6. *Robots and the IoT (Internet of Things)*, in Roland Moore-Colyer, *General Motors Connects A Quartes Of Its Robot Workforce To The Internet*, Silicon UK, Technology & Business News, https://www.silicon.co.uk/data-storage/bigdata/general-motors-robots-iot-208671 (retrieved on 1.05.2019).

1.7. In Katherine Unique, *Test ciążowy – co to jest, kiedy wykonać, czy może się mylić?*, Fashion & Lifestyle, http://katherineunique.blogspot.com/2018/05/test-ciazowy-co-to-jest-kiedy-wykonac.html (retrieved on 1.05.2019).

1.8. In *Samoobsługa na stacjach LPG: na pewno dobry pomysł?* Onet MOTO, May 2015, https://moto.onet.pl/samoobsluga-na-stacjach-lpg-na-pewno-dobry-pomysl/xhpzxgv (retrieved on 1.05.2019).

1.9. Chelsea Follett, The Losers of *Globalization Didn't Lose from Globalization*, June 2016, FEE Foundation for Economic Education, https://fee.org/articles/the-losers-of-globalization-didnt-lose-from-globalization (retrieved on 1.05.2019).

1.10. Photo by Mike Blake/REUTERS, *When goods were traded, language often was* too in Nick Routley, This map shows how new words spread along trade routes, 10th April 2019, World Economic Forum, https://www.weforum.org/agenda/2019/04/mapping-the-spread-of-words-along-trade-routes/ (retrieved on 1.05.2019).

1.11. Photo courtesy of The Light Bulb Store.

2

Knowledge Society – New Organizational and Structural Forms

...relations within organized structures into which modern humans enter are changing at a higher rate than ever before in the past.

ALVIN TOFFLER[1]

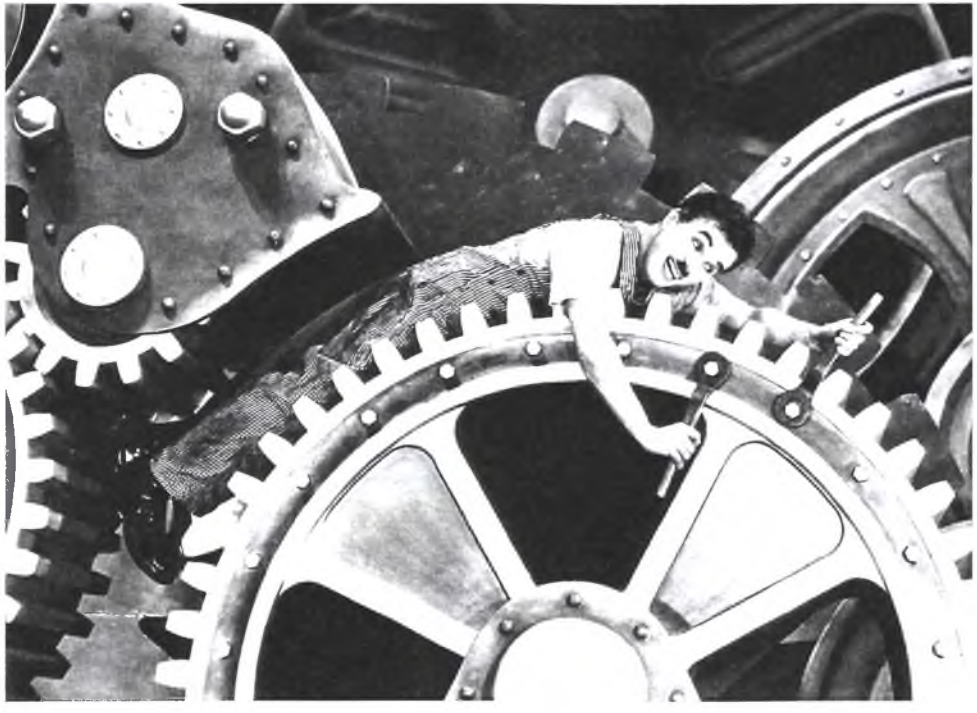
The emergence of advanced technologies, new production systems and the new employment policy, as well as the far-reaching changes taking place in the society as a whole, which now puts great emphasis on creative minds, complex personalities and exchange of information between them – all this makes the pyramid-shaped bureaucratic structures obsolete and no longer legitimate; in many situations, they give way to more flexible forms, which are less constrained by the legislation in force and more open to changes. At the same time, however, we may observe a whole range of various phenomena "perpetuating the achievements" of the industrial society, i.e. bureaucracy, scientific management and assembly line manufacture, together with their characteristic features, such as efficiency, calculability, predictability and reliance on uncreative minds of simple personalities, with communication between them constrained by regulations, routine and simplified action scenarios. The above phenomena are collectively referred to and defined as rationalization or "McDonaldization" of the society.

In this point, we shall characterize both of the apparently mutually exclusive tendencies that have been mentioned above and the principles on which their coexistence in the post-industrial reality is based. We shall also briefly discuss the phenomenon of the deepening social divide – related to the sphere of production activities, mostly to the distribution of labour and goods.

FROM BUREAUCRACY TO THE NETWORK

The foundation on which the contemporary views on bureaucracy have been formed were the works of the German sociologist active at the turn of the 19th and 20th century – Max Weber.[2] Weber praised bureaucracy, seeing in it an institutionalized mechanism which – with the use of laws, regulations and social structures – controlled people's actions and showed them the way to achieve the optimal goal. The traditional bureaucratic structure, be it in private enterprises or in public agencies, gave people a relatively predictable stabilization. They had a precisely defined place in the hierarchy, which came with clearly specified responsibilities, so – as long as they duly delivered what was wanted of them – they had the right to expect that the relations they were entering into with other people and with the structure itself were of a more permanent character. The career seen as climbing up the ladder of the stable and transparent company structure also seemed secured. And the decisions – in an equally invariable way – always came "from the top downwards."

The other, besides predictability, prescribed characteristics of bureaucracy are efficiency – often failing in excessively complex structures – and calculability, i.e. tendency to quantify everything. The focus on quantity limited to a considerable degree the evaluation of work quality and deprived people of the possibility to use



2.1
The well-known film *Modern Times* by Charlie Chaplin best illustrates how the institutionalized mechanism of bureaucracy dehumanizes people. Photo from Crystal Bridges Museum of American Art.

their own judgment as it was replaced by regulations and organizational structures. Almost totally automated work dehumanized employees, customers and recipients of public services and provoked protests among the public, who viewed the hierarchic structures as a beast or a machine from hell mercilessly dragging humans – powerless puppets – into their wheels.[3]

In the conditions of the new civilization, bureaucracy – regardless of its advantages and disadvantages – is becoming a thing of the past. The first person to declare convincingly the decline of bureaucracy in the 60s of the 20th century and to set out the direction of organizational changes aimed at building new structural arrangements was the American professor Warren Bennis[4] specializing in sociopsychology and management in industry.

> *Bureaucracy grew and had its glory days in certain specific conditions – where there was strong competition and yet, at the same time, stability and uniform environment, such conditions were present for example during the industrial revolution. The power was in the hands of a small group and formed a pyramid structure. Such social structure promoted development of routine. At present, meanwhile, certain fundamental changes which have taken place in our surroundings prevent this mechanism from working smoothly. The sense of stability is gone.*[5]

In most cases, the organized socio-economic structures are not as permanent as before – problems do not get easily solved using routine solutions based on high probability forecasting. Stable and predictable bureaucracy must be replaced by a new system. The questions: what it is and how it affects the economy, society and management will be answered in the following chapters.

The system which is pushing bureaucracy out has been called by Alvin Toffler "adhocracy;" by Warren Bennis, on the other hand, it has been characterised by the key word – "capacity." The names themselves suggest that the system is in its premises flexible and temporary, established *ad hoc*, i.e. immediately and for a specific purpose, with no intention to make it generally applicable. The faster is the change happening in a given environment, the shorter is the functioning period of subsequent organizational and structural forms. Indeed, it could be said that they fall, similarly to so many elements of our lives, within the "use and discard" category.

Faced with flexible structures, humans undoubtedly feel liberated from rigid personality-deforming frames, characteristic of bureaucracy. Routine tasks are taken over by machines, so large amounts of social energy may be directed at finding non-routine solutions. People start to demonstrate independence in their thinking, creative powers and responsibility. They gradually cease to feel the old loyalty towards the institution and the place they occupied within its structure. More and

more often they exhibit permanent readiness to change their job within the institution they are currently working for or beyond that institution.

Mobility nowadays also refers to the issues related to how professions are defined. Boundaries between individual fields of science and study are becoming increasingly blurred. Attempts to solve problems with a continuously growing degree of complexity require adopting an interdisciplinary approach. However, at times it does not suffice, so new narrow specializations are created, useful in new, single – as it may happen – applications. Employees have to undergo continuous training, retrain to do new jobs and create bonds with new people. According to Warren Bennis, such specialists are to be found more and more often – today they have the skills that will be common with the people of tomorrow:

> *Specialists in various professions draw true satisfaction from the sense of their own professional perfection, they expect recognition within their professional circles and simply enjoy doing a good job. They are not interested much in working for this institution or another, their whole energy is consumed by tackling difficult one-time tasks. They do not have to be bothered too much with bosses, they set the working standards for themselves... No company or institution may claim such employees to be "their people," since they avoid any involvement in the life of the institution, instead they focus on projects that allow "solving problems."*[6]

Psychologically prepared for the change and confident of their value, flexible specialists do not fit easily into the rigid pyramid structure of interdependencies. There is no time, either, to have problems travelling "up" and decisions travelling "down." The merciless acceleration enforces shortening of the information circulation route by leaving out the hierarchical levels. Communication systems are transformed – from vertical into lateral, i.e. horizontal. Numerous decisions are taken without participation of the highest levels of authority, directly in the production hall in response to the problems emerging there. In turn, the former peak of the pyramid is transforming into teams of "co-workers," who sometimes represent such narrow specializations that they are forced to take fragmentary decisions on their own, which will only later contribute to the global success of the whole project. As the professor of economy Joseph Raffaele aptly put it in his book *System and Unsystem*, "we are witnessing the process which leads to the emergence of the society of working people who are equal to one another in the aspect of qualifications and to the social arrangement in which the demarcation line separating the manager from the people who are managed is disappearing."[7]

Bureaucratic social structures, similarly to the situation in industry, are falling into decline. Young people – better educated and aware of their rights, brought up in respect

for democratic ideas – are beginning to organize themselves into less or more formal decentralized units based on the model of a network. These satisfy the human need of belonging, help initiate contacts and deal with the problems which are impossible to solve within the traditional structures. Networks permeate the whole society, they are egalitarian and offer what bureaucracy cannot provide – horizontal links.

In the present situation, even the efficiency of centralized governing structures is being questioned; in the industrial era they were founded on the middle class – a palpably existing majority sharing the same needs and aspirations. Nowadays, the previously homogenous society is becoming an amalgam composed of various minorities: ethnic, religious, professional, cultural, sexual and subcultural, manifesting their needs in a more and more pronounced manner and striving for their individual rights. As Alvin Toffler stated in one of his interviews: "today there is no longer any permanent majority which could be represented by a democratic government. For almost every issue, we need to build a new social coalition of various minorities."[8] So, the mechanisms and the structure of public authority must also change to follow the changes of the economy and society.

RATIONALIZATION IN THE POST-INDUSTRIAL ERA

The processes of rationalization are closely related to the concept of bureaucracy. The already mentioned German sociologist Max Weber considered nothing else but bureaucracy to be the exemplary embodiment of rationalization created by his contemporary Western societies. He realized that rationalized systems exhibited numerous positive features and that they benefited societies, yet he feared the menace potentially resulting from their inhuman character. He predicted that rationalization would govern all the areas of human activity, and "once we are completely entangled and totally subjected, we will see that we have found ourselves in an iron cage which we will be unable to open. Which we will be unable to escape."[9]

The American sociologist George Ritzer noticed a new model of rationalization that had just emerged in the 80s, based on the premises applied in fast food restaurants. Rationalization in the form modelled on the McDonalds' style of business operation had started to affect strongly not only the catering industry, but also the way of working, studying, spending free time,[10] being born and dying, waging war, publishing newspapers and exercising power – hence the emergence of the term *McDonaldization of the society*. The term has gained universal acceptance and has been used ever since. It has already made its way into the lexicon of sociology, and – as it refers to many aspects of social life – it is also used by representatives of other academic fields.

The problems of McDonaldization have been discussed in detail in George Ritzer's work *The McDonaldization of Society*,[11] which – although it crowned many years of

2.2
McDonald's is considered one of the most important inventions of America of the twentieth century, and McDonaldization – as a process of spreading the rules of operation of fast food restaurants – has an impact on almost every area of social life today. Photo by Jeff Roberson.

research into the processes of rationalization – was not intended by the author to be an academic work. It was aimed at the general reading public, and its main objective was to inform about the important social phenomenon which McDonaldization in fact is, point out the hazards it brings and finally offer the society some guidance as to what actions could be taken in order to improve the situation, or – in other words – "how to make the cage of rationality a more human place to work and live in."

People definitely like McDonaldized systems. The question arises – why?

The appeal of McDonaldization, and thus its success, lies in the following characteristics: efficiency, calculability, predictability and the manipulation potential. As could be seen, these features are identical as the features of bureaucracy formulated by Max Weber. In the previous paragraph, they were viewed as values that are inadequate for the nascent civilization, here we will focus on their positive aspects, or at least the ones commonly accepted among the public. And thus:[12]

Efficiency allows optimization of the method of satisfying needs. We may efficiently (or so it seems) feed our families, do shopping, learn the current news, entertain ourselves, lose weight, visit various countries or whole continents at great speed. The array of goods and efficient services are made accessible to a large number of people and to a lesser degree than in traditional systems depend on place and time.

Calculability, emphasizing the quantitative characteristics of the goods and services on offer, points out not only to their size, amount and price, but also to how much

time they save us – "Big Mac and large fries for half the price," "whole Europe in 5 days," "pizza in half an hour," "glasses while you wait, another pair free of charge." As may be seen, the amount, price and access time have become important factors in competitiveness. The client compares prices, which leads to a general increase of quality, yet to a certain degree averaged.

Predictability in the McDonaldized systems gives a warranty that the goods and services, as well as the "employee – customer" and the "manager – employee" relations, will always and everywhere be the same. It is also known that everybody will get the same type of treatment here, regardless of their race, sex or ethnicity. Predictability is the key to the fact that "in the world where everything is constantly changing, which makes it seem alien and hostile, the relatively stable, familiar and safe environment of McDonaldized systems has a calming effect on people."

Manipulation refers both to customers and employees. McDonaldized systems force customers to adjust to the rules of the game dictated beforehand – short stay at the place of service, behaviour facilitating the conveyor belt type of service and doing some of the work themselves. The employees, in turn, have to accept that their work is automated and requires no invention on their part and that they may be replaced by machines, which only some consider to be the advantage of the system.

Paradoxically, the dark side of rationality is, according to Ritzer, the "irrationality of rationality," which he lists at the fifth indicator of McDonaldization. Indeed, the rational systems in the form we may observe in the McDonaldized world (contrary to the dictionary definition: *rational* - based on or in accordance with reason or logic)

2.3
Disneyland in Florida and its European clone are the symbols of predictable and efficient family holidays, which have been effectively divested of any uniqueness, authenticity, spontaneous ideas or adventure. Photo from Disney Park Blog.

are an insult to reason, they dehumanize people, aggravate environmental problems, make our emotional experiences superficial, destroy good taste, drag us away from creative explorations and contribute to the crisis of family life.

Another question arises as we enter the post-industrial reality, the symbol of which is complexity – is McDonaldization only a remnant of the previous era and thus has to go, or is it going to stay for good in the era of knowledge? Unfortunately, there is no indication suggesting that McDonaldization is in any way limiting its presence in the lives of societies. Quite the opposite is true – using to a great degree the achievements of the information technology to its advantage, it reinforces its presence in the education system, health service, catering industry, organization of recreational activities etc., and all this in spite of the fact that it treats people as objects moving on the conveyor belt of "irrational rationality." George Ritzer argues that, contrary to the concepts related to the post-industrial society promoted by Jerald Hage and Charles Powers in their book *Post-industrial Lives: Roles and Relationships in the 21st Century*,[13] both the increased complexity and rationalization will play a dominant role, but not in the same social territory.

How to combat the "iron cage of rationality"?

This question will be discussed further on in the book, where we will analyse the adaptive powers of humans and their compensating reactions to advanced technologies, acceleration and rationality.

SOCIAL DISPARITIES

In many analyses of the contemporary reality, we encounter the phrase *the new world.* The use of this term may be justified by the dramatic changes in the economy, culture and social structures that were initiated in the 60s of the 20th century by three independent processes – the information revolution, restructuring of capitalism and the upsurge of social movements: libertarianism, feminism, environmentalism and fight for human rights.

> *Why is it a new world?... Integrated circuits and computers are new; the omnipresent mobile telephony is new; genetic engineering is new; the electronic, integrated and global financial market operating in real time is new; the closely interconnected capitalist economy encompassing the whole planet rather than some of its regions is new; the increase of the knowledge level of the majority of the urban workforce and application of electronic data processing in the advanced economy are new; the dominance of urban dwellers on the Earth is new; the downfall of the Soviet empire, the death of communism and the end of the cold war are new; the emergence of Asia and Pacific Region as an equal partner in the global economy is new;... the awareness of the need to protect the environment is new; and the Web society, based on the transmission space and timeless time is also historically new.*[14]

It would seem that, with the emergence of so many new things supported by new technologies, such phenomena as prosperity, solidarity, equality, sustainable development or democracy would become universally rooted in the whole world. Meanwhile, the dynamically growing global economy and the crisis of national states and social institutions, which in the industrial era were able to protect (at least to a certain degree) their societies from destabilization stemming from the uncompromising market logic, is now producing numerous processes commonly referred to as *the social divide*. The processes are usually classified into two basic groups in sociology.[15]

The first group comprises: inequality, polarization, poverty and destitution – phenomena related to the distribution of consumer goods.

Inequality refers to the unequal distribution of means (in the form of earnings and property) among individuals and human groups interconnected with one another through social arrangements.

Polarization is a special case of the previously defined inequality which emerges where the numbers describing the distribution of means in the society excessively grow at one end of the scale and diminish at the other end, with the simultaneous shrinkage of the brackets encompassing the mean values, which indicates the growing disparity between rich and poor people.[16] On a global scale, "the world's richest 1 percent, those with more than $ 1 million, own 45 percent of the world's wealth. Adults with less than $ 10,000 in wealth make up 64 percent of the world's population but hold less than 2 percent of global wealth."[17]

> *Those with extreme wealth have often accumulated their fortunes on the backs of people around the world who work for poor wages and under dangerous conditions. According to Oxfam, the wealth divide between the global billionaires and the bottom half of humanity is steadily growing. Between 2009 and 2017, the number of billionaires it took to equal the wealth of the world's poorest 50 percent fell from 380 to 42.*[18]

Poverty is defined by the institutionally determined standard indicating the level of financial means below which it is impossible to achieve the standard of living considered the minimum standard in a given society at a given time.

Destitution is extreme poverty, usually producing dramatic socio-economic consequences.

The other group of processes characterizing social disparities encompasses: individualization of work, excessive exploitation of workers, social exclusion and false integration – all of these phenomena are related to the sphere of production activities.

Individualization of work means, according to Castells, the practice of defining the range of production activities individually for each employee, which refers both to the situations of "self-employment" and to the contractual work relations, so difficult

to regulate and control. This type of processes characterizes primarily the spheres of urban economy operating informally, and this regardless of the degree of its economic complexity.

Excessive exploitation is organizing the labour market in such a way that allows imposing overwhelmingly greater responsibilities upon employees of a certain type, which in practice translates into discrimination against immigrants, ethnic minorities, women, young people and children.[19]

Social exclusion is a process which denies certain individuals and whole groups of people the possibility of achieving the position and basic living standard by cutting them off from employment and social benefits. Social exclusion is not only the result of people failing to have suitable qualifications for a job or otherwise having problems with finding employment, it is also the general inability to function within the society, which may be the consequence of diseases, addictions, illegal stay, having been convicted, a nervous breakdown or homelessness.

False integration – this term is used by Castells to describe involvement of the "excluded" in the criminal activities related to arms trafficking, smuggling of migrants, trafficking in women and children, prostitution, illicit trade in organs as well as drug industry and money laundering, all of which is the consequence of ineffective programmes of "positive" social integration.

2.4
Many small children are employed in the world to dismantle parts from electronic rubbish. Photo from Greenpeace Polska.

The processes creating social disparities discussed above are a component of a wider and more global process of world restructuring caused by merciless exclusion from access to information, and therefore from power and wealth, of whole sectors of the economy, territories and societies considered superfluous and thus of no importance in the global game. As Manuel Castells vividly describes it, the consequence is the emergence of "black holes of information capitalism" – regions "concentrating the whole destructive energy, with only one common attribute: poverty they originate from or are heading towards."

Areas plagued by social marginalization – "the black holes of social exclusion," make up the Fourth World covering huge regions in Africa and the impoverished rural regions of Latin America and Asia. "But they may be found in almost every country and every city [...], and everywhere they are inhabited by similar masses of homeless people, people kept in captivity, forced to prostitution or crime, abused, sick and illiterate. They are the majority in one place or the minority in another, they are a small percentage in the privileged areas. Yet everywhere their numbers are growing and they are becoming more and more visible as the waste products of the information capitalism."[20]

NOTES

1. Alvin Toffler, *Szok przyszłości*, Wydawnictwo Zysk i S-ka, Poznań 1998, p. 135.
2. Max Weber's most important book – his *opus magnum* on sociological theory – is *Economy and Society*, published after his death in 1921.
3. The well-known film *Modern Times* by Charlie Chaplin best illustrates how the institutionalized mechanism of bureaucracy dehumanizes people.
4. The book by Warren Bennis *Changing Organizations* published in New York in 1966 was the foundation of many ideas and reflections formulated by Alvin Toffler in his subsequent books: *Future Shock*, *The Third Wave*, *Powershift* and *Creating a New Civilization*.
5. Alvin Toffler, *Szok przyszłości*, *op. cit.*, p. 146.
6. Alvin Toffler, *Szok przyszłości*, p. 151. A lot of observations contained in the works cited here, mostly American from the 60s, 70s and 80s of the 20th century, on the nascent civilization of knowledge and the new society have remained entirely valid until today. Most of the predictions have already proved to be correct in the countries where the information economy is at a more advanced level of development.
7. Joseph Raffaele, *System and Unsystem: Ethnic View of Organization and Society*, Schenkman Pub. Co., Cambridge, Mass., New York 1974.
8. *Fala za falą*, an interview with Alvin Toffler, "Gazeta Wyborcza," 24th December 1998.
9. Max Weber, *Economy and Society*.
10. Disneyland in Florida and its European clone are the symbols of "predictable" and

"efficient" family holidays, which have been effectively divested of any uniqueness, authenticity, spontaneous ideas or adventure.

11. George Ritzer, *McDonaldyzacja społeczeństwa*, Warszawskie Wydawnictwo Literackie Muza SA, Warsaw 1999 (the first orignal edition 1996).
12. The statements cited in this point of the article, unless marked with a separate footnote, have been taken from George Ritzer's book *McDonaldization of Society*.
13. Jerald Hage and Charles Powers, *Post-industrial Lives: Roles and Relationships in the 21st Century*, SAGE Publications Inc., 1st edition, 1992.
14. Manuel Castells, *The Information Age: Economy, Society and Culture*, Vol. III *End of Millennium*, Blackwell Publishers, Oxford, second edition, reprinted 2001, p. 367.
15. The classification and definitions see Manuel Castells, *The Information Age...*, *op. cit.*, pp. 68–73.
16. Johannesburg – the city which hosted the Second Earth Summit between the 26th August and 4th September 2002 is, as was aptly pointed out by Herve Kempf, the "Le Monde" journalist, a metaphor of the contemporary world – on the one hand, spacious and comfortable villas worthy of the people owning gold and diamond mines, and on the other, slums with no fresh water or electricity, abundant only in unemployment and crime.
17. From Inequality OGR Reports, https:// inequality.org/facts/global-inequality/#global-income-inequality (retrieved on 24.01.2019).
18. *Ibidem*.
19. "Over 70 million children around the world work in hazardous conditions in agriculture, mining, domestic labor, and other sectors. On tobacco farms, children work long hours in extreme heat, exposed to nicotine and toxic pesticides that can make them sick. In Africa, Asia, and Latin America, child laborers in artisanal and small-scale gold mines work underground in pits that easily collapse and use toxic mercury to process the gold, risking brain damage and other serious health conditions." *Child Labor*, Human Rights Watch, https://www.hrw.org/topic/childrens-rights/child-labor (retrieved on 24.01.2019).
20. Manuel Castells, *The Information Age...*, *op. cit.*, pp. 167–168.

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

2.1 *Chaplin in one of the most famous and memorable scenes from "Modern Times,"* in Sara Segerlin, *Charlie Chaplin: Laughing at Modernism*, 19th September 2013, Crystal Bridges Museum of American Art, https://crystalbridges.org/blog/charlie-chaplin-laughing-at-modernism (retrieved on 4.05.2019).

2.2 Photo by Jeff Roberson, *A McDonald's restaurant logo and golden arch on Chicago's near North Side*, in Scott Hume, *Which came first: McDonald's or Burger King?*, Feb. 23, 2015, The Christian Science Monitor, https://www.csmonitor.com/Business/The-Bite/2015/0223/

Which-came-first-McDonald-s-or-Burger-King (retrieved on 4.05.2019).

2.3 In Robert Hitchcock, *In 'The Middle' of the Heck Family Vacation at Walt Disney World Resort*, May 14, 2014, Disney Parks Blog, https://disneyparks.disney.go.com/blog/2014/05/in-the-middle-of-the-heck-family-vacation-at-walt-disney-world-resort (retrieved on 4.05.2019).

2.4 In *Greenpeace publikuje ranking "zielonych" producentów sprzętu elektronicznego*, August 31, 2006, Greenpeace Polska, http://www.greenpeace.org/poland/pl/wydarzenia/swiat/greenpeace-publikuje-ranking (retrieved on 4.05.2019).

Telematics and the City – New Values and Experiences

3

Changes in Spatial and Social Relations in Cities

The city – as understood by urban theorists from Plato and Aristotle to Lewis Mumford and Jane Jacobs – can no longer hang together and function as it could in earlier times.

WILLIAM J. MITCHELL[1]

The fundamental binder holding cities together has always been the network of interrelations between home, the workplace and the place of daily services, deliveries and information exchange. The relations in question were the point of departure for creating relatively stable spatial and social structures, comprehensible for city dwellers, which were based on physical presence and time schedules determined in advance.

The development of information technology, which has considerably accelerated in the last decades, started to relax, and to a great extent too, the location requirements, which had been hitherto permanently linked to the basic functions of the city. It is also responsible for the fact that computer software is beginning to compete successfully with the traditional components of the urban environment related to almost all areas of life. In the past, we used to go to work, to the theatre, school or a shopping centre; today we may "get" to all these places without leaving the house at all. In the past, we used to meet other people in the square, at a café, in the church or in the main street, because buildings and public spaces were the places where we could enjoy the benefits offered by the city and perform our social roles. Today, the rich network of digital telecommunication defines totally anew our notions of urban fabric,

monuments, workplaces, meeting places, and of the community and city life. It also changes – expands or completely invalidates – many of the historically developed terms related to the city. What is more, contemporary transformations also give rise to the opinions that the term itself – *the city* – no longer reflects correctly the contemporary housing environment[2] and therefore it should refer only to the structures of the past.[3]

3.1
Today, the things we can do online include not only hunting down an attractive bargain on a Black Friday, but also 'going' to the museum, gallery or opera, getting a university degree or managing our bank account. Source: San Salvo.net.

TRADITIONAL COMPONENTS OF URBAN STRUCTURES AND THEIR ELECTRONIC EQUIVALENTS

It is easy to distinguish, in the spatial structure of historic cities, its two major components: the compact urban fabric and monuments or landmarks. The basic fabric was composed of houses with dwellings and workplaces, and its uniform character made it an excellent background on which the facilities of social importance could be distinctly visible – both the grand ones, like castles, town halls or temples, and the smaller features, like wells or city scales. Another regularity discernible in pre-industrial cities was the significant relationship between public spaces and the facilities adjacent to them, whose architectural solutions corresponded to the character of the "institution" that was housed in a given facility. The size, construction type, internal divisions and also, or perhaps first of all, the façade – its proportions and details – informed about the function of the building and its significance in the city. As early

as in antiquity, Vitruvius, defining one of the components of architecture – *decorum*, pointed out to the necessary compatibility of the building's form and its function and status. All the city buildings were designed bearing in mind the role they were supposed to play in defining the scale, shape and character of public spaces commonly shared by all inhabitants. The life inside the buildings was closely connected with the life throbbing in the streets and squares. The interior and exterior functions supported and complemented each other, one was the continuation of the other.

The principles, codes and values mentioned above are currently undergoing considerable revaluation. Affected by telematics, the significance of many hitherto important city facilities and functions is diminishing. Familiar forms are disappearing, transforming their functional and spatial patterns or modifying their position in the city. The above-mentioned tendencies will be discussed with reference to several selected components of the traditional urban structure which have for ages enjoyed the dominant position in the social system of values and have, therefore, always occupied the most prestigious locations in the city.

Theatre / opera house. The theatre could be characterized in the most general terms as a place of communion with highbrow culture, a place to experience emotions. Mehmet Murat Ildan once put it in words beautifully: "If you want to feel that you belong to something higher, to something even beyond this universe, then go to the opera!"[4] It was for this reason – among others – that Christopher Alexander, in his book *Pattern Language*, used one of the most captivating historic opera house interiors as an archetypal example of the "Magic of the City" pattern.[5] Yet, the objects in question are also places where certain content is communicated, so their shape, the materials that have been used and spatial organization always had to ensure the best visual and acoustic contact between the audience and what was happening on the stage. Obtaining the best possible visibility and adequate acoustics within the interior was the starting point of each design concept. Apart from complying with the basic functional requirements, architectural solutions, together with finishing details, had yet another very important job to do – demonstrate the talent of the builder, the wealth of the patron and the rank and character of the place which offered extraordinary emotional experiences. The theatre or opera house were also meeting places where the public went to see others and to be seen by them, so "frequenting the opera" meant something more than just watching or experiencing the performance. It was so because the reaction of the audience was extremely important, both the audience sitting in private boxes and first rows and the viewers occupying balconies and galleries. Their applause, booing or whistles were understood as the popular voice of the public not only on the issues related exclusively to the contents propagated from the stage.

The development of the radio and television resulted in a huge growth of the number of recipients absorbing the information delivered by the contemporary media. However, the absence of direct contact between the audience, now dispersed over large areas, and the actor, presenter or the author of a commercial made it more difficult to profile the information explicitly and see the reaction of the audience. Works on developing the network so that it would enable diverse amenities to this end have been going on since the early 90s of the 20th century; some of these amenities would include: liberation from one specific, often the only one, time of airing; interaction, i.e. offering the viewers/listeners the option to react to the aired content; selecting programmes from an extensive menu and choosing – in real time – the place from which one wants to see a stage performance or a sporting event (by controlling a virtual camera).

One of the programmes that invite people to travel and discover the diversity of opera is Opera Vision, which brings together 29 partners from 17 countries, under the editorial supervision of the European association of opera companies and festivals. Thanks to this project, you can, as was the intention of its creators, "view your favourite performances, subtitled, on demand. Learn about the art form and specific productions by browsing richly populated digital library, stories, and articles. Discover resources for young audiences and for artistic career development. In English, French, and German, thoughtfully curated, and free to browse and explore."[6]

As may be seen, transformations in the field of information transmission have broken certain bonds, introducing extremely fascinating new bonds in their place. The best concerts and theatre, opera or ballet performances from the greatest stages of the world may now be watched from wherever we want and whenever we want. When we feel like taking a seat in the audience, the screen of our computer becomes our private proscenium; should we choose to adopt the role of an actor tomorrow, the whole Web, almost the whole world will become our audience.

Museums / art galleries. Designing a good museum was traditionally all about arranging carefully a collection of exhibits, selecting appropriate lighting, most frequently using the natural light, and ensuring efficient circulation of individuals and groups moving from one exhibit to another and from one room to another in a certain pre-defined sequence. What museums usually offer are permanent displays presenting the museum's most valuable pieces and temporary exhibitions giving access to the collection in various thematic configurations.

The Information Technology has affected the art world enormously; its influence has democratized and considerably transformed it. For two decades now, we have had virtual museums – internet services of traditional museums, where we may look at digital images of real exhibits in various ways. One of them is "walking," following the

physical structure of the museum, through individual departments, such as painting, sculpture, military accessories or artistic handicraft. Another option is to explore the museum using the keys suggested by the database, for example the geographic or chronological key. People visiting an internet museum may spend a bit more time at the exhibits they find particularly interesting, they may turn them around, have a closer look to study a detail, find similar pieces using purely visual criteria, such as the set of colours, shapes, composition or proportions. It is possible to study certain selected pieces more thoroughly thanks to the detailed technical data and descriptions, prepared by experts and available in several languages, presenting the pieces against a broader historic and social background.[7]

Getting interested in art and experiencing it at a new and hitherto unprecedented level of detail regardless of the place of residence has been made possible *inter alia* by the Art Project initiated by Google in 2011. The initiative, rather modest in its early stage, consisted in creating – together with 17 museums and art galleries from all over the world – a virtual museum offering the option of moving smoothly through the interiors of selected galleries, creating one's own collection of art or admiring the most magnificent works of art in a very high resolution, which allows discovering even the minutest nuances of the viewed paintings.[8]

Now, the resources of the portal artsandculture.google.com are impressive. For example, choosing just one option from the menu – 'Street View, tour famous sites and landmarks' – we may explore iconic sites from every angle (e.g. Taj Mahal, the Palace of Versailles, the Great Pyramids of Giza; the Kiyomizu-dera Temple), step inside the must-see museums around the world (e.g. the British Museum, the Uffizi Galleries, MoMa, the Pergamonmuseum or the State Hermitage Museum), look up and discover some spectacular works of architecture (e.g. the Bolshoi Theatre, Sagrada Familia, the Guggenheim Museum in New York). We can also go up the Eiffel Tower, glide along the City of Water – Venice, take a stroll on the rooftops of New York, walk on the Floating Piers by Christo or admire such amazing natural wonders as: Machu Picchu, the Great Barrier Reef, Yosemite National Park or Mount Etna.[9]

A visit to the virtual world of Google Arts & Culture not only offers an extraordinary experience, but also demonstrates how fascinating may be combining the modern advanced computer technology and the magnificent artistic heritage of the bygone centuries. Internet services of this type, with the potential to reach everybody – children at school, students, specialists and ordinary people alike – open wide the door to a better understanding and appreciation of art. However, a question arises at this point – will the Museum of Modern Art in New York, the London National Gallery or the Hermitage in Petersburg, the real "brick and mortar" ones, still get visitors in the future? The answer given by the research done until now

is 'yes.' Nevertheless, the reasons why people will continue to go to museums will be slightly different, namely they will seek contact with the original work of art to experience it in concentration and in a contemplative manner, which is difficult to do when you do it through the medium of a computer screen. Should we want to see a larger number of exhibits, yet we only have a limited amount of time at our disposal, the museum service will plan an individual route for us, tailored to suit our interests and expectations.

Stands / shops / supermarkets. Doing shopping has traditionally been connected with "going to town," where the relations between a workshop or shop and a public space were clearly defined and the goods were displayed in a shop window. Market stands, initially put up separately, over time adopted a more unified architectural form (compare: the Cloth Hall in Krakow or the Gallery Vittorio Emanuele in Milan), and were sometimes grouped on more than one level, which was the prototype of the contemporary department store or of a more extensive supermarket.

Today "going shopping" begins to take on an entirely different meaning – it is a quick trip, with the use of the cursor, to places of enormous concentration of merchandise, where specialized departments, hitherto a physical category, have been turned into items on a computer menu. In the online sale system, the retailer, customer and product do not have be at the same place – it will suffice if they remain in electronic contact. All the necessary information on the product, together with its price and delivery time, is brought to the customer from the database. The information is not valid for a longer period, though. It is subject to continuous change, depending on supply and demand. Customers may make the purchase themselves or commission a specialized agent to do it for them. Once the product has been selected, a chain of actions is automatically triggered – delivery from the warehouse, data update and a safe financial operation.

Virtual shops are becoming more and more popular, because they greatly benefit both sides – the buyers and the retailers. The customer may choose from a greater stock of goods than in a traditional shop, with a faster service and lower prices. The retailers, in turn, are able to reach millions of customers worldwide, and once they are able to provide easy access to their internet offer, all the complex and costly marketing and commercial infrastructure becomes unnecessary.

E-commerce is growing at a very fast pace in the global scale. According to the predictions of the analysts from Planet Retail for years 2018–2022, the three fastest growing e-commerce markets in the world are China, the USA and India, with the growth in turnover at 666, 269 and 51 billion dollars, respectively. Poland occupies a place in the middle of the top twenty, with its growth of 6 billion dollars. At present, the estimated worth of the e-commerce market in Poland is 36–40 billion PLN.[10]

Schools / universities. "The underlying diagram of a school appears in its simplest and most beautiful form when disciples gather within earshot of a guru in a place made by the shade of a Bo tree."[11] Direct teaching, transmitting the teacher's convictions and experiences to the pupils used to be the only option of gaining knowledge. Subsequently, knowledge was written in books, books were rewritten and, following the invention of print, printed in an ever increasing number of copies. And so it was for centuries – books, copybooks and textbooks assisted teachers and their primary tools: chalk and blackboards. The functional and spatial pattern of educational institutions was also relatively stable; it was based on lecture halls complemented by laboratories, art studios, libraries and the whole system of more or less formal places for meeting and exchanging practical experiences and information. The traditional relations between the time and place of the lesson, lecture or seminar, based on schedules, timetables and appointments planned in advance also held on for quite a long time.

As the multimedia continued to develop, the chalk and blackboard proved insufficient.[12] Computers, projectors, visualizers and interactive boards and monitors became indispensable additions thereto. A teacher or lecturer nowadays is obliged to transmit not only their own thoughts, ideas and experiences, but also to comment and interpret the electronic resources of knowledge, which, completely liberated from paper, flow freely through space in the form of texts and images. However, the new possibilities and equipment do not give a sufficient warranty of a better education. An interesting explanation why it should be so was presented by Marc Prensky in his article *On the Horizon*,[13] in which he characterized the generation of *digital natives* and contrasted it with the generation of *digital immigrants*. All the pupils of today are digital natives – because "they were born in the era of new technologies, ... their natural environment is the Web, internet forums, computer games or social networking sites." Most of the contemporary teachers, however, are still digital immigrants, "for whom the new technologies are tools that will always remain something external, a technological addition to reality." According to Prensky, the conflict between these two groups manifests itself most vividly at school. "The clash happens when – during mandatory classes – digital immigrants try to impose their own conceptual framework upon the digital natives' minds, occupied by something completely different."[14]

The contemporary school must undergo extensive transformation. Classes that are still carried out in the form of a lecture do not contribute much. They fail to get pupils involved, who only liven up at home, in front of their computers,[15] where they study but also pursue their interests and passions. Jimmy Wales, the founder of Wikipedia, asks: "What is the use of a school that teaches facts if we have Google and

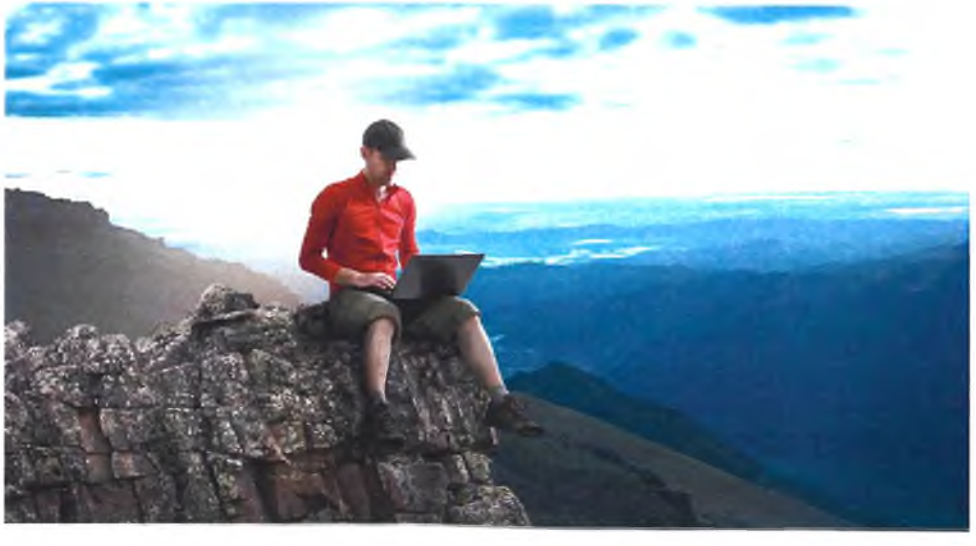
Wikipedia? It is more important that young people are taught how to analyse facts and connect them, how to understand the context. So that they would want to know more and more."[16]

Studying at virtual universities is also becoming increasingly more popular.[17] They offer an exchange of multimedia data between the lecturer and the student, lending books from electronic libraries, sending test assignments by e-mail, carrying out experiments in web laboratories. What is more, owing to video-conferences, both students and their lecturers may participate in classes while being in a different building, city, country or even continent. However, there are also certain critical voices to be heard in this chorus of enthusiastic praise. According to psychologists, nothing stimulates to action better than direct contact with another human being and the campus atmosphere. No remote contact can offer that, unfortunately, so virtual universities often organize direct meetings of academic staff and students, for example on the occasion of examinations or selected seminars.

THE PLACE OF RESIDENCE AND THE WORKPLACE

The option to "go" to the opera, school, museum or shopping without the need to leave the house, which has been discussed above, to an ever greater degree now refers to "going to work."

> *Being in the same time zone, speaking the right language, having the right software and being competitive within the global labour market – all this is becoming a lot more important than the physical presence in the same metropolitan area.*[18]



3.2
Sitting at the top of a high mountain, one can now work for a distant head office, which has been made real by the telematic infrastructure. Source: arrivedo travel & writing.

The number of teleworkers is systematically growing as the presence in the traditional office is becoming less and less important. In the situation where the material that is being worked on is information, the direct contact with an employee counts less than whether the job is done properly and whether the contact is possible when necessary.

According to the report of the European Commission,[19] the percentage of employed persons aged 15 to 64 in the EU who usually work from home stood at 5.0% in 2017. This figure was highest in the Netherlands (13.7%), followed by Luxembourg (12.7%) and Finland (12.3%), and lowest in Bulgaria (0.3%) and Romania (0.4%). Working from home was slightly more common in the euro area (5.7% of employed persons) than in the EU as a whole and slightly higher among women (5.3%) than men (4.7%). The frequency of working from home increases with age. Only 1.6% of 15–24 year-olds in the EU usually worked from home in 2017, rising to 4.7% of 25–49 year-olds and 6.4% of 50–64 year-olds.

In Poland, teleworking is not as yet very popular. The greatest interest in this form of work may be observed in Warsaw, and it most frequently refers to journalists, financial analysts, computer graphic designers, lawyers, IT specialists, translators, marketing and advertising specialists. An interesting research project has been recently carried out by two sociologists and an expert in culture.[20] The researches claim that, in spite of the many apparent advantages of teleworking, it may prove

3.3
Comfort, relaxation, informal atmosphere, originality and creativity – these are the terms used to describe the requirements for contemporary offices, equipped not only with standard desks, but also with pulpits to work on while standing or comfortable armchairs and pouffes where people could talk together or stretch out and work with their PC in their lap. Source: Posturite. Because Health Matters.

not to be a good solution in some sectors of the capitalist economy as we know it in Poland in the 2nd decade of the 21st century, i.e. in the country "where flats are small, salaries low and the affluent state not very generous."[21]

The concept of telework is very broad. In general, it means work done outside the office or at home with the use of information and communication techniques. The *Status Report on European Telework* emphasizes that a fundamental component of all types of telework is "using computers and means of telecommunication for introducing a change in the accepted geography of work." There are four basic types of telework: mobile telework (also known as nomadic); home based telework; working in telecentres gathering people from the same area working for different companies, and working in telecentres located in rural areas (telecottages).[22]

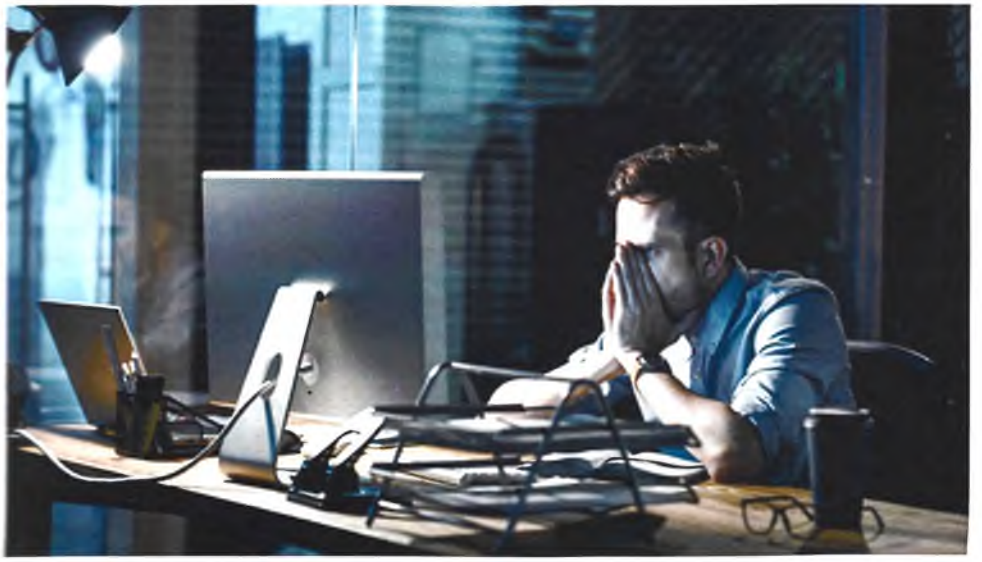
The development of teleworking is affected by many factors. One of the major ones is the ability to reduce the cost of maintaining office space. Traditional offices tend to lower the number of workstations permanently ascribed to particular employees in favour of the *hot desk* working system, where there is a pool of universal workstations which may be used by any employee upon prior reservation for a given date. The hot desks are usually supplemented by the so-called *touchdown* area, where employees may work without prior reservation. The workstations "rented" by employees comprise: a desk, a phone and the adequately fast internet connection where each employee may hook up their portable computer. An example of companies reorganized in the way described above at the dawn of the 21st century is the international consultancy specializing in management, technology and innovation PA Consulting Group from London, in which 650 people started to work at 250 desks, and the BT Group (former British Telecom), which encouraged the 10 thousand of its office workers to work from home providing them with all the necessary equipment. The company immediately registered discernible gains[23] – work productivity grew considerably and the annual operational cost of the company fell. Showing up at work less frequently also saves time and money spent on daily commuting and significantly reduces fuel consumption.[24]

Does it mean, though, that once we liberate ourselves from the constraints of location and are able to work from almost any corner of the world for a distant headquarters, we will turn into nomads unable to live in a stationary manner who will only temporarily occupy pre-selected territories? Surely, it will not refer to everybody and, surely, it will not happen very soon. The settlement patterns and social structures, developing for centuries, are incredibly persistent and they will withstand even the strongest pressure of change for a long time. Temporary occupation of a pre-selected territory is also inconsistent with the fundamental human need to belong permanently to a place, so the majority of us will opt for having a home where we

keep our favourite belongings, to where we return from travel and where live the people we hold dear and love. A long time ago, the industrial revolution enforced separation of the residential function from the work place, now the digital revolution and its unprecedented technological capabilities offer a chance to reintegrate them anew. Such option may seem particularly interesting for people who – for personal reasons – have to spend as much time as possible near their families, e.g. because they have small children or parents who require care, as well as for the elderly, the sick or people with disabilities, who would be able to become full-time employees without the necessity to leave their homes.

Our places of residence, faced with the new civilizational conditions imposing diverse functions onto them, will have to undergo considerable remodelling. One thing that may help to do that is, first of all, zoning the functions (well-known to everybody from historic cities), separating rooms of the private character, related to the functioning of families of various configurations, from rooms of a more office character, where certain flexible solutions help adjust them to diverse working schedules, including being available for 24 hours a day.

Living at the workplace and being "alert" 24 hours a day are a source of serious concerns that the home may turn its residents into slaves working without a moment of rest and without any control from trade unions or state agencies responsible for hygiene of work. Examples of such exploitation already begin to surface, and their most drastic forms could be observed in such prominent and strongly competitive hubs of specialists as the Silicon Valley[25] in California.



3.4
Long working hours spent in front of the computer at home and 24/7 connection to the Net are often at the root of occupational burnout, rising stress levels and many other serious health conditions characteristic of our civilization. Source: Times of Oman.

Remodelling of the relations between the place of residence and the place of work that has been effected by the information technology enables dispersion of development. However, it does not entail the emergence of suburbs going on for ever, but rather completely new diversified forms of decentralization.[26] In order to get an easier access to global connections and the more complicated office equipment, houses and flats – with their embedded workplaces – will gather in clusters adopting many interesting forms. Another focusing component will be the factor of location. Being able to settle down almost everywhere – with the only one criterion to be met, which is access to the internet – a lot of people will undoubtedly choose places with a mild climate, nice views and attractive recreation options.[27] A stimulating cultural and intellectual environment will also most certainly become a magnet attracting teleworkers, and so will interesting architecture and human scale of the urban complexes. Numerous historic cities, such as e.g. Venice, failed to meet the requirements of the industrial revolution and lost huge numbers of permanent residents in the past as they were unable to offer modern jobs beyond the tourist industry. Now, they may be getting a second chance to rebuild their former glory and create a community of the 21st century. New perspectives are also opening before degraded brownfield areas, which, in many countries, owing to the efforts of municipal authorities, are being transformed into well organized and profitable telecentres.

Residential complexes equipped with workstation facilities, be it new developments or remodelled districts of old towns or cities, will feature a vibrant community life focused around local services, such as schools, day care centres for children or elderly people, business centres, clubs, fitness and spa centres, cafés and restaurants. This scenario is the optimistic one, assuming that these new complexes will recreate what has always been a part of a human-friendly neighbourhood. However, there will also be places on the map that will fail to adapt to the new conditions. A lot of the existing developments cannot be transformed to meet the requirements of working from home. A lot of cities or decaying districts will not attract new intelligent and active residents. They will not be able either to finance getting connected to the global network. This process is not free from the hazard, and there already are some signals warning against it, that its end product may be the emergence of dual cities where introvert and wealthy communities, barricaded in their electronically monitored fortresses, will be no more than just bright spots in the vast areas of underinvestment and poverty – the last in line to get their telecommunication infrastructure and the skills to use it effectively and profitably. Architects, planners and politicians are now faced with the task of directing the growth of cities in a way that will protect them from the fate of dual cities, where there are only two possible options – "Happiness" or "Despair,"[28] and this is going to be their greatest challenge of the modern times.

A NEW CHARACTER OF SOCIAL CONTACT AND PUBLIC SPACES

Many publications on the theory of urbanism from various periods have expressed the opinion that "the history of cities is in fact a story of the enthusiastic efforts of man to facilitate contacts between people and taking action together."[29] Hence, cities have been for ages associated with coherent communities, with codes of conduct developed by these communities and the psychological safety net provided by being a member of a group of people usually living in the vicinity. Having the residential function, services, as well as administrative and cultural functions all gathered on a geographically limited area and supported by transportation and technical infrastructure facilitated the physical transmission of goods, people and merchandise, whereas conscious creation of diverse public spaces promoted direct contact between people and exchange of information, the latter – important from the point of view of the society.

Contemporary cities, affected by civilizational transformations, are more and more often associated with anonymity and absence of clear and straightforward ethical standards. Culturally established social structures, related to the traditional understanding of *time* and *space*, are disappearing. Much more relaxed structures are emerging in their place, operating in a new space and time context. The phenomenon of dissolution of the "mystical component," which for the cities have always been the permanent social units, was described and fiercely criticized by Louis Wirth as early as in 1938 in his, subsequently widely cited, essay *Urbanism as a Way of Life*.[30]

Social groups may be classified in the simplest way (following Ferdinand Tönnies[31] – a distinguished German academic from the turn of the 19th and 20th century, who is considered to be the founder of the system of general sociology) into "communities" – *Gemeinschaft* – and "associations" – *Gesellschaft*. The Gemeinschaft model is realised in the traditional homogenous communities. Members of such communities usually do various types of work and take upon themselves various responsibilities, because specialization refers only to a few areas of life and the manufacturing activity related thereto. The basic social units are considerably extended families, and close contacts as a rule take place within the same circle of people, many of whom are blood relatives. In daily communications, going on among a limited number of the "community" members, people are viewed mostly through their personalities rather than through their social or professional roles. Such type of community is also sometimes called "a multifunctional family."[32]

Societies of the Gesellschaft type are different. The interdependencies between individual members of the "associations" are definitely more complex. Bonds with relatives (primary bonds) are not as close as in the "communities" described before. Families spend considerably less time together, and the family home functions mostly

as a place where children are prepared to get by in the society on their own as soon as possible. Advanced economy enforces high levels of specialization and labour division. People have contacts resulting from their daily routine with numerous other people at a specified time and place, and they are perceived by others in these contacts almost exclusively through the role they play. Relations of this type (secondary bonds) have always been the foundation of urban life. Nevertheless, in pre-industrial cities, they were focused within a small area of the city or even one street. Their important role did not change in industrial cities either, yet people entering into relations of various types with one another, mostly at the work place and at places with high concentration of services, were scattered over a larger area, and their high mobility was made possible by the development of means of transport.

The Gesellschaft model often features non-uniform standards of conduct. Each person, or a group of people mutually related by certain circumstances, may formulate their own rules of good conduct in the society, and deviations from the standards traditionally considered appropriate are justified by the afore-mentioned fact that it is not the whole personality of a person that is subjected to judgment but rather just a part of it related to the performed social or professional function. Contact with numerous different ethical standards, inevitable in such situation, is criticized for depriving people of the sense of stability and of being fully anchored in the social environment they fully understand and accept. Nevertheless, there are also people whom the diversity they experience gives much appreciated sense of freedom, which is manifested in the well-known English and German sayings: *city air makes one free* and *Stadtluft macht frei.*

Considerations on the new models of social contacts which are emerging due to telematics often contain references to the "communities" and "associations" as described by Tönnies. The said references emphasize the fact that until recently the choice of the social environment we would like to live in (in the supportive, but significantly constraining local community or the big city community – associated with anonymity and alienation but offering much greater opportunities) involved the decision on where to live. At present, the theoretical possibility to connect almost any place in the world to the advanced telecommunication infrastructure is seen as liberating humans from the need to make the decision and choose between communities of the Gemeinschaft or the Gesellschaft type.

> *In an era of interlinked digital networks... you can live in a small community while maintaining effective connections to a far wider and more diverse world – virtual Gesellschaft... Conversely, you can emigrate to a far city, or be continually on the road, yet maintain close contact with your hometown and your family – electronically sustained Gemeinschaft.*[33]

Social contacts sustained with the use of digital links are becoming more and more popular. They are replacing direct contacts, which is particularly visible in secondary relations (with colleagues, officials, retailers[34]) and in relations between people who share the same values or interests and "meet" in Web in spite of being geographically scattered around. Until quite recently, the fastest way of communication was electronic mail sent from a computer at home or at work. At present, e-mails are losing ground to social media. The number of visits at these unreal meeting places is enormous. According to the latest survey by Gemius/PBI and the service Wirtualnemedia.pl, Facebook had over 21.69 million users in our country in May 2018 – almost 80% of all internet users, who spent an average of 5 hours and 43 minutes on this site. The next places on the list of the most popular social networking sites were occupied by: Instagram, Twitter, Wykop, Goldenline, LinkedIn and Pinterest.[35]

Creating the possibility of looking for friends and staying in touch with acquaintances with the use of the computer screen has been criticized for dragging people away from other people, from 'face-to-face' contact and traditional meeting places. The criticism seems to be justified in the light of sociological research indicating that our social capacity has its limits – if we devote our time to some relationships, we will necessarily neglect some others. However, numerous research results confirm two other regularities; namely – first – that the global mail and the internet chatrooms of the new type allow people to coordinate their schedules and make arrangements to meet in a pub, on the sports field or at a scientific conference faster and at a considerably lower cost, and – second – that telecommunication increases our openness and capacity to maintain relationships. Simultaneously, the free time, saved by elimination of journeying to work, offices or shops, will be spent rebuilding the primary bonds with family members, nurturing close relations with neighbours, participating in the activities of local institutions. The model of a university campus, abandoned not long ago, also seems to be experiencing a kind of revival, with its lively atmosphere remembered from lecture halls and seminar rooms, with its cultural and sports centres and with its open spaces shared and jointly enjoyed by the whole academic community.

Relations *online* tend to be very complicated at times. A lot of them do not gather people into clearly defined civic organizations, but instead they put them into social groups often founded accidentally and only for a brief moment, surfing freely in space, which are now one of the basic components of contemporary "associations." However, citizenship-oriented attitudes do not seem to be particularly threatened by access to telecommunication infrastructure. According to the research done by the American company Activmedia and sociological analyses done in 1998 on commission from the American internet magazine "Wired" and company Merill Lynch Forum, 'connected' people, i.e. people using computers, the internet, electronic mail, mobile

phones and pagers, are exemplary 'electronic citizens.' Yet, the citizenship virtues of 'the connected' are a source of anxiety for politicians, rather than satisfaction. They do realize that a new, well-conscious and strong social group has just emerged, which may challenge the traditional political institutions and change the way power is exercised.

> *"The connected" are well-informed and eloquent, they participate in the social life, they are declared proponents of freedom, they appreciate the role of culture in life, ... technology does not scare them, to the contrary – they view it as a tool to democratize the social life, ... to improve the quality of education and increase the economic potential. They would rather speak for themselves directly... and take their fate in their own hands, as they do not trust the theory or practice of the welfare state.*[36]

Regretfully, recent years have seen a lot of negative occurrences on the Web, which pose a serious threat to democratic attitudes. These are fake news and fake accounts, whose numbers on the social networking sites are growing dramatically. "At the time when messages spread fast and social media tremendously affect our lives – not only virtual, but also social – the fight with fake phenomena, monitoring them and swiftly eliminating becomes particularly important."[37] Facebook, being one of the largest social networking sites in the world (2.2 billion users), has initiated a campaign to eliminate the above-mentioned phenomena. "Contents that are inconsistent with the Facebook policy are removed, the distribution of contents which have been labelled as false news is restrained; users are offered more information on the content they see; companies that publish fake news even after being warned against it face consequences, and new tools are being introduced that enable reporting fake news."[38]

Telecommunication infrastructure not only entails the emergence of new models of social contacts. It also effects considerable changes in the repertoire of accessible public spaces, their character, the rules that govern them and the tasks they perform.

Traditional meeting places of city dwellers have always had their physical dimension even though their character has been subject to change over centuries. The size, proportions, location within the urban layout and the architectural expression have defined their function and rank in the city. Places accessible to everyone – streets, squares, the town hall or church – were governed by a familiar code, understood by all. The position of a given person was easy to identify. The attire, language, gestures, the manner of moving and behaviour, as well as the type of contact individual people used to come into with other people, defined their social position and its associated social role. Not all public places were equally accessible. There were "better" and "worse" addresses. There were places reserved exclusively for the elite, as well as somewhat less formal places for various people, often of the same age, profession or hobbies.

3.5
At traditional meeting points of city dwellers – in the streets, at squares, in the townhall or church – each person's social standing and the social roles related thereto were easy to identify. By Eugene Guerard, 1856, Musée Carnavalet, Paris.

Each familiar species of [traditional] public place had its actors, costumes, and scripts.[39]

Public places on the Web are losing their traditional physical dimension. The Web defies geometry and eliminates the division between "better" and "worse" locations. People do not have to make an effort of defining their value through attire and frequenting the right places in the right society circles. The formerly so informative code, previously associated with a specific place, costume and role, does not work anymore. Similarly to physical cities, not all places in the cyberspace are accessible to everybody. There are places where the entry is not subject to any restrictions (just like in the case of city streets and squares). As public places, they should be attractive, enable freedom of gatherings and taking civil decisions. In order not to emphasize differences, access to non-commercial education, general information services, health care consulting and discussion forums may not be limited only to home computers, but it should also be possible from various spots dispersed all over the city. There are also places on the Web where the access is strictly controlled – not by locks, doors or fences, but by logical paths, codes and passwords. These are places related to private zones of individual persons or institutions (e.g. e-mail boxes) or places accessible only by subscription, where the most current information important for a given field of knowledge or business is available from the best informed sources, which has always been the reason why certain spots in the city attracted people.

Another characteristic feature of traditional urban spaces, besides the spatial and social "clarity," was the fact that their operation was regulated by a schedule

defined in advance. People would meet physically at a market place, in a temple, in a workshop, at school or theatre. They would see and hear one another, and all the reactions were perceived instantaneously by everybody. The spatial structure of each city was subjected to the synchronicity of contacts and events. Each city had also developed its own individual rhythms – daily, weekly and seasonal. The first "synchronic cities" are considered to have emerged in the 12th century.[40] Monastery towers were furnished with mechanical clocks that would strike hours and thus introduce a chronological order into the city life.

3.6
Synchronous and asynchronous ways of transmitting information. Following *E-topia*.

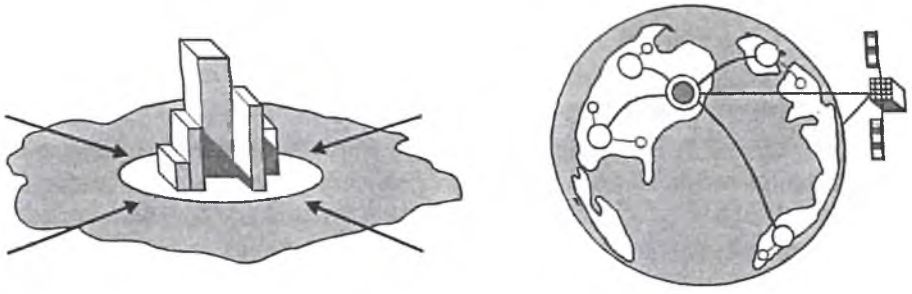
	Synchronous	**Asynchronous**
Local	Talk face-to-face	Leave note on desk
Remote	Talk by telephone	Send email

3.7
The advantages, disadvantages and costs of various interaction modes. Following *E-topia*.

	Synchronous	**Asynchronous**
Local	Requires transportation Requires coordination Intense, personal **Very high cost**	Requires transportation Eliminates coordination Displaces in time Reduces cost
Remote	Eliminates transportation Requires coordination Displaces in space Reduces cost	Eliminates transportation Eliminates coordination Displaces in time and space **Very low costs**

A great advantage of asynchronous communication is a considerable reduction of expenses in comparison with the synchronous option.[41] The cost of physical presence is as a rule very high. The possibility of arriving at the right place and at the right moment is a privilege requiring a lot of effort and cost. Its worth is measured by transportation expenses and its related energy consumption, by the expenditure required to build or rent a venue and paying for the privileged time and location. So, if we are presented with various options, we may make adequate calculations each time and use them to help us choose the most economical model of "presence" in a given situation.

> *...cities came to depend on combining synchronous and asynchronous communications – speech and text, orator and scribe, live and Memorex, handshake and written contract, agora and archive. Each had its costs, advantages, and disadvantages, and these had to be weighed when there was a choice. It was the beginning of the economy of presence.*[42]



The city

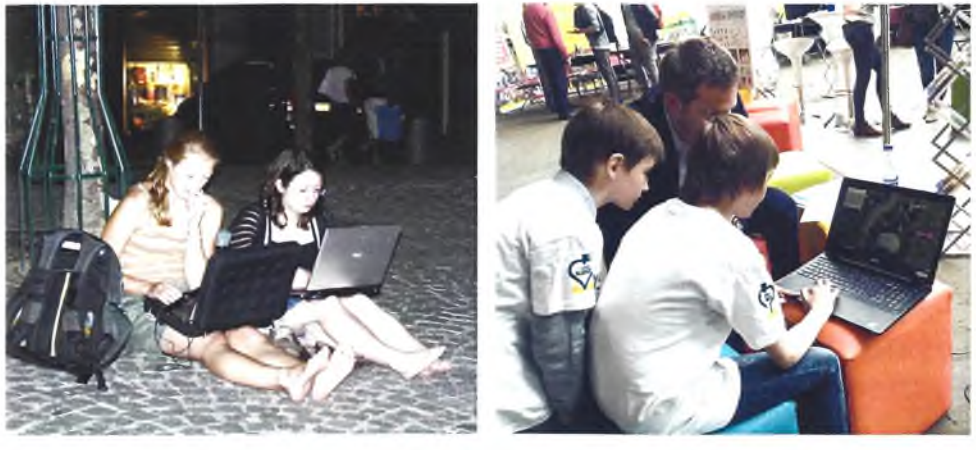
Telecommunications

3.8
Manners of overcoming spatial and time barriers. The city – function: to overcome time with space. Telecommunications – function: to overcome space with time. Developed by the author following *Telecommunications and the city.*

Taking into account the economy of presence in a traditional city (to a great extent synchronous) was manifested in making development compact – *by shortening the necessary distances, time barriers were also overcome.* The telematics infrastructure serves the same purpose, i.e. to facilitate communication (this time – asynchronous), *by overcoming time barriers, the spatial barriers resulting from dispersed development are also overcome.*[43]

Urban places based on buildings, streets, roads, and the physical spaces of cities	Urban electronic spaces constructed 'inside' telematics networks using computer software
territory, fixity, embedded, material, visible, tangible, actual, Euclidean/social space	network, motion/flux, disembedded, immaterial, invisible, intangible, virtual/ abstract, logical space

3.9
Terms characterizing urban places and electronic spaces. *Following Telecommunications and the city.*



3.10
If we really have to surf the Net, it is better to take the computer and sit at a table in a cafe or on the floor of a city square alongside other people than spend long hours in the virtual world sitting alone in a dark room at home. Photo (left) by the author, (right) MSCActions.

Various forms of presence and types of human interactions add new values to the social life, facilitate undertaking common projects and transactions, make available a wide array of educational options and a better job. Telepresence, asynchronous communication and cyberspace described with the use of totally different terminology than the physical urban spaces[44] will not completely replace the synchronous contacts, the 'face-to-face' presence and the real places. Certainly, the style of urban life will change considerably, but cities will continue to grow – this time as a rich mixture of real and electronic locations, objects and events.

NOTES

1. William J. Mitchell, *E-topia*, Massachusetts Institute of Technology, 1999, p. 3.
2. "The city no longer exists, except as a cultural ghost for tourists." Marshall McLuhan was one of the first to write about the downfall of cities in his essay: *The Alchemy of Social Change*, "Verbi – Voco – Visual Explorations," Something Else Press, New York 1967.
3. "The city... is nothing else but unwanted baggage inherited from the industrial era," in George Gilder, "Forbes ASAP" 27th February 1995.
4. Mehmet Murat Ildan – a well-known Turkish author and playwright, https://operavision.eu/en/library/operas (retrieved on 31.01.2019).
5. Christopher Alexander et al., *The Pattern Language*, Oxford University Press, New York 1977, p. 58.
6. https://operavision.eu/en/about-project (retrieved on 31.01.2019).
7. More information on the potential of museum internet services available already at the turn of the 20th and 21st century are to be found: in Jacek Borowski, *E-Rembrandt*, "Wprost-Intermedia," 20th Feb., 2000, and at websites of individual museums.
8. *Art Project – 17 największych muzeów świata dzięki Google na jednej stronie internetowej* – article of 2nd February 2011, www.wirtualnemedia.pl (retrieved on 3.02.2019).
9. See https://artsandculture.google.com/explore (retrieved on 5.02.2019).
10. https://www.wiadomoscihandlowe.pl/artykuly/rynek-e-commerce-w-polsce-i-na-swiecie-rosnie-w-ba,49268 (retrieved on 31 01. 2019).
11. William J. Mitchell, *City of Bits*, The MIT Press, 1999, p. 67.
12. As any new technology, the information technology too is greeted with mixed responses by the public. Following the period of fascination with the "electronic chalk" (in the early 80s of the 20th century) and following the declarations of complete dominance of the computer in the educational sector, the early 90s saw a triumphant comeback of the traditional chalk and blackboard. For example, their sales in Germany grew by 8% annually. At the same time, reverse tendencies were also observed. At the end of the 20th century, using the means of digital telecommunication had become a statutory requirement both for pupils

and teachers. See Monika Paluszkiewicz, *Elektroniczna kreda*, "Wprost-Intermedia," 23rd April 2000 and Jean Gimpel, *U kresu przyszłości*, Wydawnictwo Dolnośląskie, Wrocław 1999, pp. 30–32.

13. Marc Prensky, *On the Horizon*, MCB University Press, Vol. 9, No. 5, October 2001.
14. The quotations in this paragraph have been taken from: Aleksandra Pezda, *Raport z cyfrowej szkoły. Tablica, ksero czy komputer – i tak definicje trzeba wkuć na pamięć*, "Gazeta Wyborcza," 27th June 2013.
15. According to a survey by CBOS carried out in September 2018, 87% of children and young people in Poland use the internet, with the average time of 18 hours a week.
16. Aleksandra Pezda, *Raport z cyfrowej szkoły...*, *op. cit.*
17. The site OnlineUniversities.com helps students find the best universities online that would suit their individual needs and expectations.
18. William J. Mitchell, *City of Bits*, *op. cit.*, p. 103.
19. *Working from home in the EU*, European Commission, Eurostat News, 20/06/2018, https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20180620-1 (retrieved on 20.03.2019).
20. Jacek Gądecki, Marcin Jewdokimow, Magdalena Żadkowska, *Tu się pracuje. Socjologiczne studium pracy zawodowej prowadzonej w domu na zasadach telepracy*, Wydawnictwo Libron, Kraków 2018.
21. Rafał Woś, *Piekło polskiej telepracy: miała być wybawieniem, w Polsce stała się koszmarem*, Gazeta Prawna.pl, 2nd November 2018, https://serwisy.gazetaprawna.pl/praca-i-kariera/artykuly/1329913 (retrieved on 20. 03. 2019).
22. The classification into various types of teleworking see Marek Ścibor, *Telepraca czyli gorące biurka*, "Polityka-Internet" no. 16, 21st April 2001.
23. The rise in productivity in BT Group was estimated in the period under examination to stand at 45% (see Marek Ścibor, *Telepraca ...*), whereas the reduction of the company's annual operational cost – at 134 million pounds, and that without including the transit expenses (see Mariusz Wawer, *Domowe biuro*, "Polityka-Internet" no. 43, 21st October 2000.
24. Alvin Toffler calculated in his book *The Third Wave* that if it was possible to eliminate 14% of American employees' transit to work, the USA would not need to import any oil at all.
25. At the beginning of the 21st century, the average working week in the Silicon Valley, regardless of whether the work was done in the office or at home, already had 60 hours, and before launching a product into the market, the working day had no less than 15 hours. See Jan Palarczyk, *Republika XXI wieku*, "Wprost," 26th December 1999.
26. See the chapter of this work – *Urban centres vs peripheries.*
27. The locations of special interests for teleworkers are Aspen, Malibu and Tahiti, Florence and Venice. Krakow – with its cultural heritage – has the ambition to become a nucleus for the future Polish Silicon Valley. The 2018 world ranking list of the best locations for business

services centres gave Krakow the 6th place, right behind Asian locations of Bengaluru, Manila, Mumbai, Delhi and Hyderabad. At present, more than 350 international companies have their seats here, and – according to the ASPIRE report – by early 2020, they will be offering 91 thousand jobs in the SSC/ITO sector. The success of Krakow is not only the result of lower costs but also high quality of services. According to the ranking list prepared by HackerRank, Poland – being the third country with the best programmers in the world – has ranked higher than *inter alia* the USA (the first two countries were Russia and China). See Ada Chojnowska, *Outsourcing: Kraków awansował na 6. miejsce na świecie. W 2010 r. aż 90 tys. pracowników?*, "Gazeta Wyborcza," 5th February 2019.

28. Sławomir Gzell, *Z Radości do Rozpaczy*, "Polityka" no. 6, 5th February 2000.
29. Melvin Webber, *The urban place and the non place urban realm*, in *Explorations into Urban Structure*, University of Pennsylvania Press, Philadelphia 1964, p. 86.
30. Louis Wirth, *Urbanism as a Way of Life*, The American Journal of Sociology, vol. XLIV, July 1938, The University of Chicago Press.
31. Ferdinand Tönnies, *Community and Association*, Routledge & Kegan Paul, London 1953 (the first edition was released in print in 1887). Ferdinand Tönnies initiated a trend in sociology called formalism, which found its full formulation in the work by Georg Simmel *Gemeinschaft und Gesellschaft* (1887).
32. Reid Luhman, *The Sociological Outlook*, Collegiate Press (5th edition), 1996.
33. William J. Mitchell, *E-topia*, *op. cit.*, p. 22.
34. Numerous research results indicate that, in spite of the new possibilities, the culturally established real façades of buildings and the direct contact with people working in these buildings will still long continue to be the warranty of the intellectual and commercial stability of cities.
35. See Wojciech Kulik, *Gdzie dziś przesiaduje polski internauta*, http://www.benchmark.pl/aktualnosci/najpopularniejsze-serwisy-spolecznosciowe-polska-2018.html (retrieved on 20.03.2019).
36. Marzena Hausman, *Elektroniczny obywatel*, "Wprost-Intermedia," 3rd January 1999.
37. Following the article by Agnieszka Przewoźniak of 21st June 2018, discussing the results of *Raport Strategiczny Internet 2017/2018: Social Media /Strategic Report Internet 2017/2018: Social Media/* prepared by the Internet Industry Employers' Association IAB Poland, https://iab.org.pl/aktualnosci/raport-social-media (retrieved on 20.03. 2019).
38. See Łukasz Dębski, *Fake news: jak Facebook zwalcza nieprawdziwe treści*, "Prowly magazine," https://prowly.com/magazine/fake-news-jak-facebook-zwalcza-nieprawdziwe-tresci (retrieved on 20.03.2019).
39. William J. Mitchell, *City of Bits*, *op. cit.*, p. 8.
40. Lewis Mumford, *Technics and Civilization*, Harcourt Brace Jovanovich, New York 1934.
41. William J. Mitchell, *E-topia*, *op. cit.*, p. 138.

42. *Ibidem*, p. 131.
43. Stephen Graham, Simon Marvin, *Telecommunications and the City*, Routledge, New York 1996, p. 115.
44. *Ibidem*, p. 116.

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

3.1 In *BLACK FRIDAY: in Abruzzo +42% di acquirenti online*, San Salvo.net, 22nd November 2018, http://www.sansalvo.net/notizie/attualita/28103/black-friday-in-abruzzo-42-di-acquirenti-online (retrieved on 23.05.2019).

3.2 In Claudia Arestegui, *Live the Work and Travel Dream as an Arrivedo Writer*, arrivedo travel & writing, 19th October 2016, https://blog.arrivedo.com/2016/10/19/live-the-work-and-travel-dream-as-an-arrivedo-writer (retrieved on 23.05.2019).

3.3 In Zoe Thomas, *Why workers hate hot-desking – and how you can make it work*, Posturite. Because Health Matters, Jan. 30, 2019, https://www.posturite.co.uk/blog/workers-hate-hot-desking-can-make-work (retrieved on 23.05.2019).

3.4 In Antara Bose, *5 Signs you are overworked*, Times of Oman, T-Mag Recreaion, 1 Aug. 2018, https://timesofoman.com/article/139116 (retrieved on 23.05.2019).

3.5 By Eugene Guerard, 1856, Musée Carnavalet, Paris, in Mark Girouard, *Cities & People*, Yale University Press, New Haven & London 1985, p. 289.

3.6 Table following William Mitchell, *E-topia*, *op. cit.*, p. 136.

3.7 *Ibidem*, p. 3.

3.8 Diagram developed by the author following Stephen Graham, Simon Marvin, *Telecommunications...*, *op. cit.*, p. 115.

3.9 Table following Stephen Graham, Simon Marvin, *Telecommunications...*, *op. cit.*, p. 116.

3.10 Left: photo by the author
Right: photo MSCActions, in Marie Skłodowska Curie Actions , #ILoveScience Festival in Brussels, April 2018, https://twitter.com/MSCActions/status/989845818365612037 (retrieved on 3.12.2019).

4

Trends in Research into How the Information Technology Affects Cities[1]

Looking at the city–telecommunications relations is a part of a broader process of analysing the relations between technology and society.

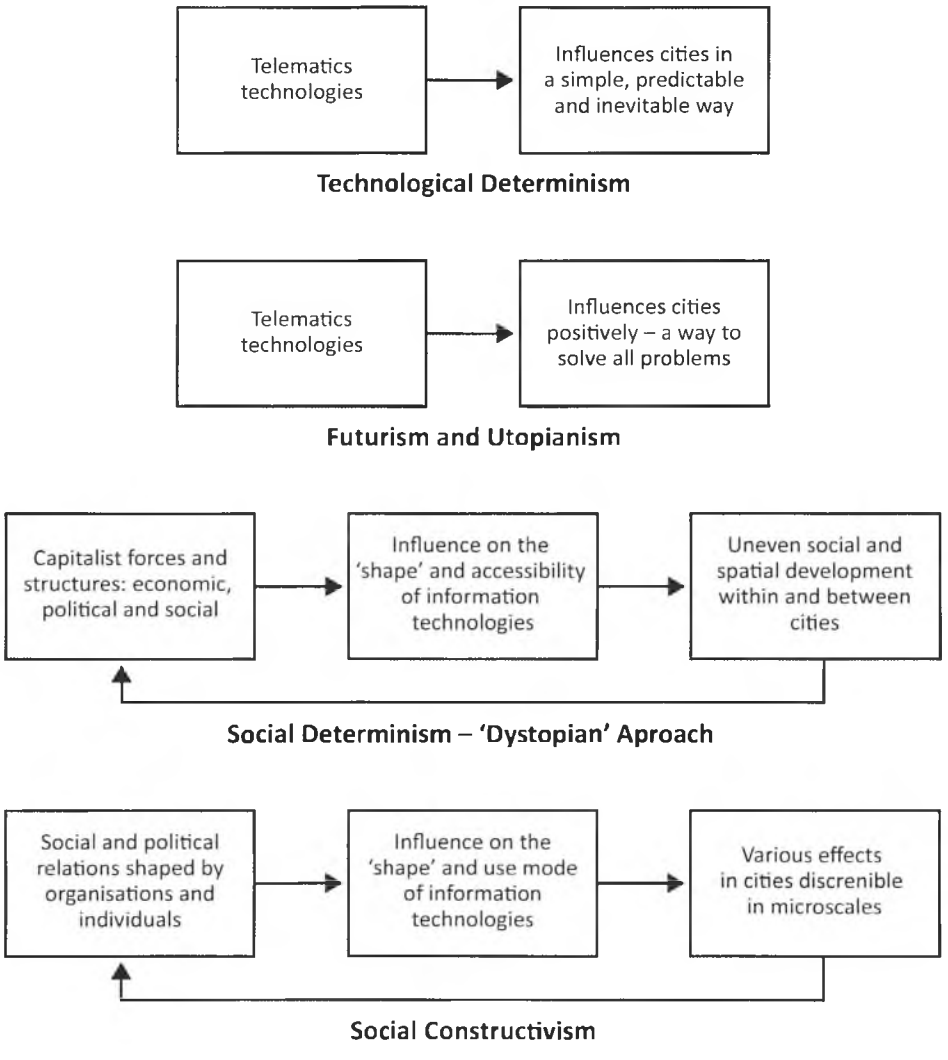
RON WESTRUM[2]

The numerous concepts related to how technology and the information economy affect cities are – similarly to any more in-depth studies into the influence of the technological progress on societies – usually developed in isolation. It is so because practically no common platform for discussion and critical evaluation of the assumptions characterizing individual research trends has been created so far.

In this point, we are going to discuss briefly four most important approaches[3] based on different ideological and theoretical premises used in social sciences:

- *technological determinism*, which argues that the influence of telecommunications on cities is simple, easy to predict and impervious to social modifications;
- *futurism* and its related *utopianism*, which view the information technology as a cure for all the problems of contemporary cities;
- a more critical *dystopian approach* based on political economics, which claims that 'the shape' of the telecommunication infrastructure and its influence on cities depends on the distribution of power and capitalist structures; and
- *social construction of technology approach*, looking into the ways in which social elites shape and use the telecommunication infrastructure in microscales.

Comparing different, sometimes contrasting, approaches to the relations existing between technology and society seems to be useful in the search for a new integrated research method enabling analysis of the structure of physical and virtual urban spaces against a broader background of social context and the changing socio-political systems.[4]



4.1
How technology and information economy influences cities – research trends. Developed by the author following *Telecommunications and the City*.

TECHNOLOGICAL DETERMINISM

The dominant approaches among the numerous different concepts characterizing the relations between telecommunications and city are the ones collectively characterized as technological determinism. The two principal premises of this trend, formulated by Robert Fogel,[5] may be summarized as the convictions that technological progress is the decisive growth factor and that it is to a great degree independent of any initiatives aimed at controlling it in any way.

> *Technology... shapes destiny. Public actions do modify outcomes; social movements redirect them temporarily. But, ultimately, how we live, where we live and near whom we live depend on the underlying forces inherent in technological evolution and subsequent economic change.*[6]

In compliance with the logic presented above, the influence of telecommunications on cities is viewed as simple and direct, and its primary, easy to predict effects are believed to be: decentralization or even disappearance of cities, transition to the information economy and the non-material urban life, as well as explosion of telework and the growth of culture based on tele-interaction. The directions in which the above-mentioned transformations are heading are characterized as "inevitable," so the research undertaken under the premises of technological determinism focus on how societies can adapt to the unavoidable changes rather than on developing a policy that could modify them.

> *Each of the technological determinist positions tend to see the technological 'frame' as autonomous, with social and cultural transformations being the consequence, as a technologically-inspired trajectory, not the creators of this path.*[7]

FUTURISM AND UTOPIANISM

Periods of civilizational transformation have always encouraged speculations as to the changes awaiting the society in the newly altered conditions. So the problems related to the future of cities are featured very significantly in the futurist reflections spun at the advent of the new era. The prognoses in this respect are optimistic. Futurists assume that the urban societies of the West will enter together – as a whole – the new stage, and the most important phenomena defining this new stage, such as the outburst of electronic services and proliferation of virtual spaces, will affect positively both the physical dimension of cities and all the remaining aspects of city life. Additionally, the telematic network – democratic in its nature – has a chance to annihilate the social class divisions, thus solving, thanks to technology, also other ailments of contemporary cities.

Futurism, viewing the digital technology as a tool enabling improvement in the quality of life and elimination of numerous problems of the economic, environmental

and spatial nature, is strongly affiliated with utopian concepts, which – since the time of the flagship English projects: Owen's *New Harmony* (1818), Fourier's *Falanster* (1845) or Richardson's *Hygea* (1876) – have been searching for the ideal living conditions for ideal societies. Contemporary utopias, based on components of telematic infrastructure that are incredibly stimulating for the imagination – satellites, teleports and information highways, promise alleviation of the problems stemming from overcrowding in cities, a better use of human potential thanks to offering people flexible employment forms, increasing the range of available goods and services, facilitating access to high-quality education, culture and entertainment, finally – better health care, clean air and respect for natural resources. Referring to the expected achievements in the last of the above-mentioned fields, the telecommunication network is often called 'the alternative fuel.'

Futurist reflections also abound in prognoses telling us that information available "always, everywhere and to everybody" will bring on the decline and fall of cities as we know them. Societies will turn their back on living in mass communities and rebuild smaller settlement forms, drawing on the once-popular visions of Ebenezer Howard and Frank Lloyd Wright.[8] New societies will emerge where everybody will be "connected to the Web," we will have "electronic homes" and "smart cities," and the next development stage may be complete cybernation and automation of urban communities and emergence of cities operating as "huge systems of control" oriented at achieving maximum economic profit and effective environmental protection while ensuring social benefits that would be egalitarian and available for everybody.

SOCIAL DETERMINISM – 'DYSTOPIAN' APPROACH

Another trend in the research into the influence of telecommunications on cities has originated from the criticism of the attitudes described above and is now known under the name of social determinism or the dystopian trend since the visions of the future it presents are really alarming. According to its general premises, the technological progress is not a direct determinant of the changes, nor may it be viewed as a miraculous cure for all the aberrations present in contemporary cities. Taking political economics as their theoretical base, including mostly the neo-Marxist concepts, representatives of the trend in question are seeking to prove that the way in which the telecommunication infrastructure is designed and implemented, as well as the influence it exerts on cities, are totally dependent on the political, economic and social distribution of power, and thus on the system of exerted pressures characteristic of the mature capitalist regime.

The logic and structure of capitalism, developed in the era of Fordism so that it would best serve the main objective of achieving the maximum profit with the minimum risk, do not work well in the present conditions. It is so because telematics

nas enabled almost perfect mobility of information, labour, capital and services as well as free crossing of spatial and time barriers. This aggravates the contemporary crisis which consists in excessively large organizations slipping from under control of industrial elites. In order to regain their position, the elites strive to create a new model of integration and coordination of the dispersed workforce, suppliers and markets not only with the use of the telecommunication infrastructure but also using new physical structures, limited in size but giving companies and their projects the necessary anchorage in the real world.

Telecommunications technology is not neutral, it definitely serves the dominant forces better. Enabling introduction of new methods of competing and information exploitation and manipulation, it is becoming the main foundation for capitalism restructuring, whose goal remains the same as it used to be – the maximum accumulation of goods and consolidation of power. The process of huge international corporations (TNCs – Transnational Corporations) building "a space of flows" and controlling access to it is – according to Manuel Castells – the beginning of a new era in which the telecommunications infrastructure will support new manufacture and consumption concepts so that they would be most satisfactory for the strongest.

Contrary to the dream dreamt by utopians about an equal access "to everything, always and for everybody," unfortunately, this game will have its winners and its losers. And the most important dangers listed by dystopians, which are now already signalling their presence in many parts of the world, are:

- petrification of the divisions between developed and "developing" countries, with the latter "strengthening their position" as centres of cheap workforce and suppliers of raw materials rather than really developing and modernizing;
- polarization of cities, i.e. exacerbation of the unequal social development caused by unequal access to the telecommunications infrastructure;
- destruction of the power of cities and their losing control over their own destiny determined now by economic and political globalization promoting the interests of huge transnational companies at locations selected by them;
- decentralization of many urban functions and debilitating the social dimension of public spaces resulting from activation of life focused on the computer and the Web;
- exploitation of weaker social groups undertaking telework by requiring them to be available 24 hours a day and shifting the responsibility of organizing and maintaining the work place to the employees.

In the light of the above considerations, we realize that cities may not be viewed and analysed either as artefacts created by technology or as environments where all the problems may be solved by using technology. Cities and telecommunications are

intertwined with each other in a much more complicated way, founded on complex processes of political and economic transformations. The approach presented by dystopians questions the vision of a healthy environment and decentralized urban life focused around the place of residence. It also refutes as absurd the expectations that telecommunications will ensure freedom and annihilate the long-established inequalities. On the contrary, political economics supports prognoses which view telematics as a force used to intensify unequal social and geographic growth in all areas, as well as to consolidate centralized power in one hand. The book by George Orwell *Nineteen Eighty Four* is considered to be the scenario that symbolically illustrates the last of the listed points.

SOCIAL CONSTRUCTIVISM

The last approach to the problem of how telecommunications affects cities is social constructivism, known in the English-speaking literature on the subject as SCOT (Social Construction of Technology). It rejects both technological determinism, which sees telecommunications as an autonomous force affecting cities "from without," and the arguments of the political economics emphasizing the fundamental significance of capitalist structures and socio-political forces in determining the way in which telecommunications transforms cities. In the light of the premises of social constructivism, technology is viewed as an inherent part of the society, which greatly facilitates understanding most of the changes that are happening in the contemporary world. There is no universal "logic" or "the best way" of directing the technological progress. There are, however, choices to be made on many socio-economic planes which may help design and implement technologies in the most beneficial way at a given place and in a given situation. In compliance with the above premises, the objective of the research trend under consideration is – similarly to the economic and political approach – demonstrating how the society affects technology. Nevertheless, this time the research is focused on the processes related to human activity not in the global scale but in local scales.

> *Technology development should be viewed as a series of choices, which begins with whether or not to explore a certain technological area, continues through the design process, and concludes with a decision on whether or not to adopt. Potential design options at various stages can maximize different sets of goals and values... The strategy which designers choose, and therefore whose goals get optimized, is usually more dictated by the distribution of economic and political power than by technological necessities or opportunities.*[9]

Viewing technology as a part of a larger network of interdependencies, in which it is subjected to pressure from influential forces striving to perpetuate their own objectives in the society and their own way of approaching problems makes

the technological development impossible to predict. It is also impossible to define precisely one "influence" of telecommunications on cities that would encompass all cases because it is a sum of numerous and complicated processes of "social construction of technologies" – changing in time and space in consequence of the decisions taken by individuals and organizations created by these individuals, grouped in larger systems and networks of interdependencies.[10]

> *...the relationship between technology and society is genuinely an interaction, a recursive process; 'causes' and 'effects' stand in a complex relationship.*[11]

THE INTEGRATED APPROACH – THE QUEST

Finding a common platform for carrying out integrated research into the problems related to how telecommunications affects cities is greatly desirable at the present time. Stephen Graham and Simon Marvin, in their book *Telecommunications and the City*, started their quest for such platform from reviewing the four research trends pursued contemporarily. They rejected the first two approaches: technological determinism and futurism as unsuitable to become a potential foundation for a new trend. The first approach is universally criticized for simplifications and presenting telecommunications as an "autonomous force" or "impersonal logic" transforming cities and their structures with no participation or influence from the society. The other of the above-mentioned approaches is reproached for its superficiality and excessive optimism fueled by the electronic industry, whose actions are viewed critically as "carefully prepared marketing campaign" aimed at winning new markets and obtaining attractive subsidies. Widespread promotion of the opinion that new technologies are by nature positive, easy to predict and fair blocks local initiatives and genuine social debates aimed at gaining control over the direction in which the influence of telecommunications on cities is going.

The opinions characteristic of the two remaining approaches: social constructivism and the approach based on political economics (both of which emphasize the fact that all innovations originating from telecommunications that appear in cities are affected by a set of social, political and cultural factors) have been approved by the two above-mentioned authors and have helped them to formulate the three fundamental premises defined as the starting point for the integrated system of research.

- A new perception of time and space, new methods of manufacture and consumption, globalization and restructuring of capitalism – all this creates the need to redefine cities and "construct" them anew with the awareness of the interpenetration and collaboration, but also of antagonisms and tensions, between anchorage and flows, the visible and the invisible, what is built of brick and what is based on the logic of the Web, between real and virtual spaces.

- The cityscape: huge corporate skyscrapers, centres of services, transportation networks, guarded residential fortresses, but also slums, ghettoes and other underinvested and poor areas – all this is the consequence of the struggle for power, control and material wealth. The same social tension accompanies building the telematics infrastructure interpenetrating with physical structures or connecting distant locations "in real time."
- The goal of the social struggle for the shape of both real and virtual urban spaces will not be limited to increasing profits drawn from controlling these spaces. It will also focus on the question of representation of individuals and groups of various cultural "backgrounds" and their identification with the city.

Space structures people's perceptions, interactions and sense of well-being or despair, belonging or alienation.[12]

NOTES

1. This article was published in Polish in "Kwartalnik Architektury i Urbanistyki," PAN, Komitet Architektry i Urbanistyki, zeszyt 1-4/2004, Warszawa 2006, pp. 48–54.
2. Ron Westrum, *Technologies and Society...*, in Stephen Graham and Simon Marvin, *Telecommunications and the City*, Routledge, London and New York 1996, p. 78.
3. The classification and general characteristics of the trends see Stephen Graham and Simon Marvin, *Telecommunications...*, *op. cit.*
4. For more on this see *Ibidem*, chapter *Approaching telecommunications and the city – competing perspectives*, pp. 77–122.
5. Robert Fogel – winner of the Nobel Prize in economics in 1993. See *Information Highways Worldwide: Challenges and Strategies*, "I&J Magazine," Spring 1994.
6. Anthony Pascal, *The Vanishing City*, "Urban Studies" 24/1987, p. 597.
7. Stephen Hill, *The Tragedy of Technology*, Pluto, London 1988, p. 23.
8. The above passage refers to Ebenezer Howard's "garden-cities of tomorrow" and Frank Lloyd Wright's "Broadacre" – concepts now increasingly viewed as historic models that may successfully be adapted to suit the modern times.
9. This point of view is presented by Kednal Guthrie, in Stephen Graham and Simon Marvin, *Telecommunications...*, *op. cit.*, p. 105.
10. The research into „constructing" technologies in a specific social context is not particularly abundant due to the complex character of the interactions going on between technology and society. It is usually focused on a descriptive comparison between ways of applying the same technology, which change under the influence of different policies of the key socio-political forces operating at selected locations. An example of such type of research may be the analysis of different systems of public information that have been developed

in California cities under the influence of local authorities and also residents themselves; in "Policy Studies Journal" 20/1992, pp. 574–597.

11. David Edge, in Stephen Graham and Simon Marvin, *Telecommunications...*, *op. cit.*, p. 106.
12. Sharon Zukin, *Landscapes of Power*, Berkeley, University of California Press 1991, p. 269.

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

4.1 Diagram developed by the author following Stephen Graham and Simon Marvin, *Telecommunications...*, *op. cit.*, p. 79.

The Place of Man in the Real World

5

Contemporary Transformations and the Adaptive Capacity of Man

The changes happening at a steadily increasing speed are a considerable force which penetrates deeply our private lives, continuously compels us to play new roles and confronts us with a new, very disturbing mental disorder. This new disease may be compared to being overwhelmed by the future, it could be called 'the future shock.'

ALVIN TOFFLER[1]

The term *future shock* was first used in the article that was published in the American magazine "Horizon" in 1965. Alvin Toffler, an advocate of social thought recognized worldwide, gave this name to the harrowing stress and disorientation experienced by people exposed to excessively great changes in a too short time. The phenomenon of 'being overwhelmed by the future' and the diverse strategies of dealing with it got Toffler so interested that, from the mid-sixties onwards, he devoted himself completely to the research into all aspects of change and into the future in general. The work bore fruit in the form of the bestselling, translated into thirty languages, *Future Shock* (1970) and the subsequent books, in which the questions of adaptation, although no longer the focus, were always present and subjected to verification from the perspective of the passing years.

The problem stemming from the fact that societies have not fully developed the skills necessary to adapt to the new times is still very serious and dangerous. The contemporary world, although it is being expanded by the virtual reality, does not seem to offer everybody the comfortable living conditions giving satisfaction and the sense of

fulfilment. The overwhelming anxiety, absence of goals in life, social isolation and stress are becoming the sign of our times, and it is happening so because the human brain, human needs, emotions and desires had been evolving in the environment that was dramatically different from the physical and social structures surrounding man today.

> *If the fifty thousand years of human existence were to be divided into lifespan units, approximately sixty two years each, it would turn out that we have already had 800 such units.*[2] *We had lived the full 650 out of these 800 in caves. Only in the last 70, we have been able to establish communication between individual units – it was made possible by the invention of writing. Only in the last 6 units, humans have had access to the printed word on a mass scale. Only in the last 4, we have been able to measure time with acceptable accuracy. Only in the last 2 units, someone somewhere had been using the electric engine. The prevailing material goods that we use every day now have been manufactured in the last lifespan unit. This 800th unit witnesses a violent break-up with the whole past experience.*[3]

The experiences gained in the past, which are useless in the current reality, the accelerated pace of life, the single-use culture, temporariness and 'loneliness in the crowd,' for which the blame is laid at the loosening of family and neighbourly bonds – are the phenomena that are particularly acutely felt by many people. A new threat has also emerged as a consequence of the growth of the Internet – infoholism (or in other words: netoholism) – an addiction, which is, according to doctors and psychologists, exceptionally dangerous because it has a destructive impact not only on the health of the affected individual, but also on their closest surroundings: their family, friends and work.

ACCELERATION AND TRANSIENCE OF THINGS, PEOPLE AND EVENTS

Confronted with the external world, people enter into relationships of various nature with things, places, other people, institutions, opinions and ideas. The conviction that these relationships are stable has always helped humans to function in the society, build their habits and visions of reality on which they based their behaviour, methods of action and decisions.

At present we experience the sensation that the world is moving faster and faster. A lot of scientists can no longer keep up with the development of their specializations; thoughts, facts and data become outdated and sometimes even change their meaning in the period between being collected and published. We keep finding ourselves in completely new situations which we cannot handle because we do not have the necessary experience. Our relations with neighbours, colleagues and often even with our own kin remain loose and superficial. We buy things, use them for some time and then throw them away. The single-use modality, modularity and

5.1
Notre Dame, Parisian tenements, booksellers' stalls along the Seine – these are the symbols of permanence and continuity which humans find indispensable for living. Photo by Beata Redzimska.

following fads begin to symbolise art. It may also be seen in architecture, i.e. in this part of the environment which in the past used to affect the strongest the human sense of permanence, identified with tradition and cultural heritage. Kenneth Clark, initiating a series of programmes on British television entitled *Civilisation*, illustrated his talk with the images of the Louvre, Notre Dame, Parisian tenements and booksellers' stalls along the Seine. He argued that "civilisation... develops in equilibrium between qualities of thought and feeling, ideals of perfection in reasoning, in justice, in physical beauty... It is a matter of stability, too, or... permanence."[4] And the solid stone walls of Parisian edifices, just like thoughts stored in books, were for Clark the symbols of precisely this permanence that humans find indispensable for living.

Similarly to whole buildings and cities and to values passed on from one generation to another, people have always viewed the home as an anchor, an unshaken harbour during a storm, a place giving humans something to lean on, connecting them both to nature and to the past. Nowadays, in the times of great evanescence, we are witnessing a consequential process of diminishing the role of place in human life, which is also shrinking in size.[5] Places, like disposable things, tend to be abandoned after some time, and the increased mobility of individuals is more and more discernible in all the technologically advanced countries.

> *The fast flow of people to and fro across the surface of the Earth (and sometimes under it) is one of the characteristic features of the superindustrial society. Preindustrial countries, in contrast, seem to be fossilized, frozen and their inhabitants greatly attached to one place... This contrast has profound economic consequences. It also has subtle cultural and psychological implications that often go unnoticed. Wanderers, travellers and nomads are not the same kind of people as those who do not move from their place.*[6]

For millions of people who adapt quickly to the civilization of knowledge, home is where they are currently residing, and mobility has become their life style, confirmation of freedom, conscious liberation from past bonds, a step into a prosperous and promising future. Modern nomads "exhibit an extraordinary ability (which is sad) to break up contact with people who have become a burden for them and to establish relationships with those who may help them."[7] They frequently refuse a deeper social involvement – do not seek contact with their neighbours, do not participate in public life, they do everything piecemeal, cutting short relationships with places, things and people.

However, not everybody has the ability to adapt smoothly to the pace and character of the changes. Surely, generations already brought up in the reality of growing acceleration are better prepared to deal with it, yet there are still a lot of people who need help. They feel disoriented and helpless, and they find the continuous verification of their life choices painful and tiresome.

> *In the new spinning world, no life strategy other than the strategy of being flexible will ever work, and humans need at least a minimum level of mental stability.*[8]

Finding stability and peace and defining the most important values in life are things of extreme significance for any individual. This need lies at the root of the concepts of "slower progress zones" and "sanctuaries of the past," of the emergence of antique objects factories, nostalgic music, literature and retro fashion. Nevertheless, one cannot shut off all the changes completely. They guarantee growth and progress. Therefore, we need to focus on finding adequate proportions between continuity and change, and the compromise must reflect the level of tolerance towards novelty exhibited by a given community, group or individual since each person and each culture has a slightly different adaptive capacity.

LONELINESS AND MALADJUSTMENT IN THE LIGHT OF EVOLUTIONARY PSYCHOLOGY

The recent years have seen aggravation of serious social problems – alienation and depression, and – at the opposite end of the scale – crime and aggression, all of which has fuelled worldwide debates on maladjustment. Evolutionary psychology,

now experiencing an unprecedented revival, looks for its causes in human genes. It emphasises that the species called *homo sapiens* had developed in completely different conditions from the ones people are living in today, which makes them behave in a manner that is very distant from their natural reactions.

It is impossible to recreate in detail the whole series of subsequent pictures shaping the image of the environment our ancestors used to live in. We know, however, that the most important driving force for any human action was to increase the chances to pass on one's genes to the next generation. Brutality, agility, cunning and hard work were initially the only warrant of propagating one's genes. However, together with the evolution of more complex social structures increasing the chances of survival, human brain – through natural selection – started to acquire 'infrastructure' enabling it to experience more complex feelings – friendship, love, gratitude, trust, pride and parental care. However, people did not experience solely feelings that were pleasant or positive in their consequences. Negative emotions, such as anger, cruelty, sadness, gloom and sorrow, were also present in their lives. They did not last long, though. They were perceived as completely normal and passing experiences allowing people to avoid making mistakes in the future.

5.2
Superficial relationships between people and comparing oneself and one's life with unreal people and situations seen in albums or on television are the major causes of maladjustment, social isolation and loneliness in cities full of people. Photo by Maciej Bernas (left), Svetlana Belyaeva (right).

The feelings of despair, anxiety or social failure – present in every period of evolution and in every culture as they are part of human genetic equipment – only at the present time are turning into helplessness, indifference, apathy and depression sucking all vital forces out of individuals.[9] Evolutionary psychology views social isolation as the most important cause of this situation, noticeable mostly, which sounds paradoxical, in cities full of people. In old tribal villages, the living environment was characterised by high levels of stability – people were living in close contact with the same group of relatives and fellow tribesmen for whole decades. Obviously, such tight interdependence could only exist at the expense of privacy understood in the modern way, but various types of benefits flowing from such social familiarity were worth the price. As late as in the early 20th century, anthropologist George Peter Murdock noticed that it was not uncommon among women from the aboriginal tribe of Aranda in Australia to breastfeed the babies of their neighbours who, at the time, were busy foraging. Today, lending a neighbour a glass of sugar is a rare occurrence.

Another phenomenon now popularly blamed for the increase in the amount of mental disorders is urbanization. Yet, good neighbourly relations had existed in small towns or city districts until very recently – almost everybody living in one street or even larger areas knew each other, had similar needs and aspirations, helped each other, understood each other and thought in a similar way about achieving their goals. It was only the suburbanization[10] and the great modernist concepts of urban restructuring that broke the formerly closely-knit local communities and created barriers impeding social dialogue. Relations between people, once close and direct, have been replaced by loose and fragmentary contacts. More and more often, when we talk about our neighbours or even, which will sound shocking, about our closest kin, we say 'they' instead of 'we.' And this is precisely what leads to the increasing sense of loneliness and frustration.

> *The accumulating problems of the contemporary life result not so much from 'oversocializing' of the society as from the fact that we are 'undersocialized' or, in other words – very few of our contacts with other people are social contacts in the natural, friendly meaning of the word.*[11]

The ever more shallow contacts also lead to the diminishing of mutual trust between people. Trust, as Francis Fukuyama argues in his book *Trust*, is becoming one of the scarcest resources in our lives. People are getting increasingly more alienated from each other, and the structure of contemporary societies destroys the altruist human instincts developed through evolution.

In the late 20th century, television used to be held responsible for the increasingly more common loneliness among many people. Robert Putnam, a professor at Harvard University, in his essay *Bowling Alone*, focused on an important trend – 'asocial

entertainment.' He pointed out to the fact that although electronic technologies enable a considerably higher levels of satisfying individual tastes, it happens at the expense of the social contentment, hitherto associated with simpler, more natural forms of common entertainment.[12] On the other hand, psychiatrist Randolph Nesse warned against the danger of television transforming the way people see themselves. Humans – genetically equipped with the social need to compete (a higher status increased the chances of an individual to propagate their genes) – have always been comparing themselves to others. However, in the past they compared their features and skills with the capabilities of other people from their tribe, village or town. Therefore, it was relatively easy to find a domain in which they were better than others and thus make their mark in the community, gain respect and acceptance – indispensable factors for maintaining mental equilibrium. Now we compare ourselves and our lives with unreal people and lives watched on television, and the comparison is inevitably and undeservedly negative for us.

> *Our own wives, husbands, fathers and mothers, sons and daughters – all of them seem to us, because of the comparison, to an enormous extent imperfect, so we are dissatisfied with them, and we are even more dissatisfied with ourselves. We are far less than delighted with the standard of life we are living and with the environment that surrounds us.*[13]

Each human being also has a genetically developed need to compare the assets in their possession with the wealth accumulated by people from their closest environment. An interesting phenomenon was observed by American psychologist David Myers[14] while he was studying these problems. It turned out that the number of American citizens who described themselves as 'very happy' stayed at the same level (1/3 of the survey respondents) throughout the whole period of comparison between 1957 and 1990 although the income per capita had doubled in this period. As could be seen, increasing the amount of material goods may not necessarily be the answer to human needs and aspirations. Psychologist Timothy Miller explains in his book *Wanting What You Have* that wanting slightly *more* than you already have stems directly from human nature. People who are generally happy with their lives truly believe that they have almost everything they need. However, 'slightly more' would make them feel that they have fulfilled their dreams completely and they would have nothing more to wish for.[15] Unfortunately, such conviction – says Miller – is only an illusion embedded into human consciousness as a result of natural selection. Its task is to entice a person to keep trying to increase, in this case through material success, their chances of propagating their genes. Nevertheless, in the modern world, this obsession of accumulating wealth rarely produces the results anticipated by evolution, which points out to the fact that not all the previously programmed

impulses are good for the society at a given stage of its development; hence, it does not have to yield to all of them. The instinctive, yet in effect useless, desire to possess may, for example, get in the way of supporting the gentle, warm and 'collective' side of our nature, which is so important nowadays.

Evolutionary psychology is far from formulating precise recommendations that would lead directly towards the desired shape of human living environment in cities. However, planners and decision-making bodies dealing with these issues more and more often base their actions on the assumptions derived from the genetic equipment of the human species, and creation of conditions cultivating their 'social instinct' seems to be the most important step towards eliminating loneliness, social isolation and maladjustment.

SOCIAL PERCEPTION OF THE MEDIA

It is a generally accepted opinion that it is easy to differentiate between what is happening on the screen of a television set or a computer from what is really happening, and the cases of treating the media as equivalent to reality may easily be corrected owing to experience, education or simply by giving it a bit more thought. Meanwhile, it turns out that such conviction is wrong. It is so because human genetic equipment makes us, among other things, perceive the media and respond to them in a specific, seemingly irrational, way.

> *Treating the media broadcasts and reality as the same (media equation) is neither rare nor irrational. It is a commonplace occurrence, it is easy to induce, does not depend on any sophisticated equipment, does not disappear as a result of conscious reflection..., refers to everybody, happens all the time and to a great extent consistently.*[16]

The above quotation sums up the research carried out for many years at Stanford University into how humans react to mass media. It has proved, surprising even the scientists themselves, that media are not perceived as 'tools' and 'images' but as real people, places and events, and human response to them is determined by the same rules that govern social relations and our orientation in the real world. All people, regardless of their cultural background, age, level of education or experience with technology, feel threatened and dodge when something on the screen darts in their direction, they treat their computer so as not to hurt its feelings or attribute a complex personality to a cartoon character schematically drawn with just a few lines. The responses described here just to give some examples are natural, subconscious and automatic. The contrary response, i.e. treating the media 'reasonably,' requires a lot of effort and concentration.[17]

The way people treat the media, which – in a way – defies common sense, results from the absence of evolutionary adaptation to modern technology. Human

5.3
In entertainment, people are constantly in search of engaging adventures to run away from everyday routine. Thanks to multisensory films (5D) and virtual reality (VR), the audience can actually get into the story, as they become actors in the narrative. Photo from Red Raion.

brain, experiences and responses were evolving at the time when everything that surrounded humans was real, and only real people were able to exhibit complex social behaviours. Therefore, the media world – displaying the features that are so easily identifiable with real physical and social characteristics – provokes automatically natural responses, the same as those that have facilitated orientation in reality for the whole period of human kind evolution. Because advanced technologies have been present in human lives only for a short time, no specific protocols of thinking or experiencing have been developed yet that would be activated in the brain with a 'special switch' the moment we are faced with the virtual world. In consequence, human behaviour continues to be based on the experience of the real world, which we have known for much longer.

> *Human response shows that the media are something more than just tools. The media are treated politely, they may invade our personal space, they may have personalities... they may be members of a team and activate stereotypes... The media may also provoke an emotional response, require focusing our attention, threaten us, affect our memory and change the perception of what is natural. The media are fully fledged participants of our social and real world.*[18]

Universal understanding of the fact that people respond to the media simply in the human way may bring tangible benefits. One of many would be mitigating the numerous negative attitudes towards the media resulting from the conviction that they are complicated, and using them skilfully requires studying complex principles

described in highly academic textbooks and impossible to master. Designing computers, television sets, interfaces and any other new media taking into account the universally known and easy to predict social and physical laws will make using advanced media technologies easier and more satisfying for people, thus becoming a starting point for building conscious, open and active societies.

INFOHOLISM AND ARTIFICIAL PARADISES

The social perception of the media, enabling fast adaptation to the conditions of the virtual world, is also, unfortunately, a source of many dangers. One of the most serious is infoholism, i.e. addiction to being constantly hooked up to the Internet. This new and rapidly spreading type of addiction may have various backgrounds, it may also entail diverse consequences.[19]

Information and the easy access thereto play an ever increasing role in business. In many professions, overlooking some information is viewed as equivalent to failure, and finding oneself off line equals, according to the laws of the new economy, being marginalized or even rejected. In consequence, people in high positions never part with their cell phones out of fear that some decision may be taken without their knowledge. They never switch off their phones, not even at the theatre, concert hall, restaurant, during weekends or holidays and likewise, they demand from their subordinates to be available 24 hours a day. Gartner Group – a company carrying out research into addictions to electronic communication in work-related matters – demonstrated that "in the lives of 40% of American citizens, cell phone conversations, texts and electronic mail are present 24 hours a day, 7 days a week."[20]

Falling victim to addiction to modern communication techniques does not refer solely to the class of executives. Computer chats, games, entertainment, shopping – all these things that attract us on the Internet are a symbol of a better world for many people. The virtual world eliminates the drags of the real life, gives a sense of security, warrants anonymity, liberates from the sense of shame. Surfing the cyberspace helps overcome shyness, complexes, forget disabilities, combat gender-related stereotypes, adopt any identity. The possibility of unrestrained creation of the surrounding world and oneself, accompanied by no need to take responsibility of one's actions, seems delightful and irresistible. Death, lie, love and any obligations may easily be invalidated by a simple *log off*. However, return to reality is becoming increasingly more difficult. People do not want to remember about their own imperfections, the expeditions into the virtual world bring relief and in the end it becomes the life itself.[21]

The net is accessible for people of all ages. Owing to mass communication, they have access to the same images, information, discussion forums[22] and entertainment models. Homogenization of contemporary culture blurs not only the differences

5.4
The Internet enabled organization of a chess duel between a representative of the e-generation – four-year-old Stephanie Hale and the chess master of all time – Garry Kasparov in 1999. Photo from Reuters.

between social classes or groups but also the differences in age. Since the publication of article "Children are growing too fast" in Life magazine in 1962, a debate has been going on in academic circles on the influence the media have exerted on acceleration of children's and youth's intellectual maturing. There is also another, in a way reverse phenomenon that is currently more and more a subject of discussion – "the regression of adults, who can no longer cope with the tensions experienced in real life and escape into kitsch, children computer games and amusements."[23]

The time a person spends in front of the screen, in spite of the information exchange and communicating with other people on the Internet, only aggravates their loneliness. Contemporary entertainment brings about similar effects. It is so because popular contemporary amusements, such as techno parties for example, are mostly oriented towards 'individual trans,' 'independent experience,' 'electronic ecstasy,' 'the sound of the loudspeakers harmonizing with the metabolism,' 'fun that permeates the body and soul.' Sociologists describing the changes in social practices occurring under the influence of the media have noticed that entertainment has lost its collective character. The spirit of rivalry is fading away replaced by the desire to get lost in the unreal world, in the illusion supported by computers and complex electronics.

The orientation towards pleasure in life, reinforced by popular glossy magazines and the entertainment offered by television, is becoming an ever

increasing directive not only for young people... Mass imagination is being fed with the vision of incessant fun... .[24]

Individual consumption of pleasurable sensations without establishing any more permanent bonds in enjoyment most often leads to neurosis, brief adventures in artificial paradises – to frustration, and once the intoxication, spontaneity and ease are gone, what is left is only the agonizing loneliness.

NOTES

1. Alvin Toffler, *Szok przyszłości*, Wydawnictwo Zysk i S-ka, Poznań 1998, p. 20.
2. In order to make the quotation more expressive, the numbers of units given in words in the original text have been provided in digits here.
3. Alvin Toffler, *Szok przyszłości, op. cit.*, p. 24.
4. Kenneth Clark, *Civilisation*, BBC Publications and John Murray, London 1969, in Geoffrey Broadbent, *Emerging Concepts in Urban Space Design*, E&FN Spon, London 1969, p. 3.
5. More and more people, who can afford to rent a large flat, opt for living in small "holes" only 10–15 m^2 in size. "Their occupants are citizens dedicated to the cause, who cook on tiny cookers and have fridges built into the wall. They have given up the wealth accumulated for years, and now they get by with two shirts, two pairs of trousers, one mug and one fork so that they can fit into something that is equivalent to a monk's cell in size." And they do it in the name of thrift, frugality, responsibility and simplicity, which is consistent with the latest trend to impose self-limitations. See Vadim Makarenko, *Dziuple*, Wysokie Obcasy Ekstra, November 2011, p. 112.
6. Alvin Toffler, *Szok przyszłości, op. cit.*, p. 84.
7. Seymur Lipset, Reinhard Bendix, *Social Mobility in Industrial Society*, in Alvin Toffler, *Szok przyszłości, op. cit.*, p. 120.
8. *Fala za falą*, an interview with Alvin Toffler, "Gazeta Wyborcza," 24th December 1998.
9. Research done by anthropologists on the subject of mental condition of communities on different levels of development have demonstrated that *cortisol* – a biochemical product accompanying the state of anxiety – may only be found in minimal quantities in the organisms of people living in farming villages of the Polynesian archipelago of Samoa (when compared with the standard quantities found in developed countries). Members of the Kalui tribe from New Guinea exhibited no traces of *cortisol* at all. See Robert Wright, *The Evolution of Despair*, "Time," 28th August 1995.
10. Suburbanization is to a great extent a product of mass motorization. Alan Ehrenhalt in his book *The Lost City* remembers with irony how Henry Ford built in the 60s a replica of his home town, complete with gravel paths and gas lamps. He did it, as he himself was saying, to "recover the reasonable and sweet part of life," which, as we well know, he – and no other – helped to destroy for ever.

11. Robert Wright, *The Evolution of Despair*, op. cit., p. 37.
12. Robert D. Putnam, *Bowling Alone*, Simon & Schuster, June 2000.
13. Robert Wright, *The Evolution of Despair*, op. cit., p. 37.
14. David G. Myers, *The Pursuit of Happiness: Discovering the Pathway to Fulfilment, Well-Being and Enduring Personal Joy*, Avon Books, June 1993.
15. Timothy Miller, *Wanting What You Have: A Self-Discovery Workbook*, New Harbinger Publications, December 1998.
16. Byron Reeves, Clifford Nass, *Media i ludzie*, PIW, Warsaw 2000, p. 15.
17. I am talking here about the research project "Social responses to communications technologies," carried out in the 90s by Byron Reeves and Clifford Nass, whose results were presented to the general public in book *The Media Equation. How People Treat Computers, Television and New Media Like Real People and Places* published in 1996 by Cambridge University Press.
18. Byron Reeves, Clifford Nass, *Media i ludzie*, op. cit., p. 294.
19. There are 5 types of Internet addictions: cybersex addiction, computer addiction, addiction to cyber relationships, informational addiction, online compulsions. http://valiantrecovery.ca/5-types-of-internet-addiction.html (retrieved on 29.03.2019).
20. Mariusz Kowalczyk, *Realny świat irytuje infoholików, a nawet ich przeraża*, "Wprost-Intermedia," 22nd July 2001.
21. See Edwin Bendyk, Joanna Podgórska, *Dekalog plus. Przykazania na nowe czasy. VI – Żyj na jawie*, "Polityka" no. 1, 4th January 2003.
22. In his book *The Soft Edge: A Natural History and Future of the Information Revolution* (1997) Paul Levinson tells a story of a man wildly in love with a person with whom he was corresponding electronically. When he decided to leave his wife for her, he accidentally found out that his beloved was 11 years old. The story cited here illustrates how easy it is, using a medium without sound or vision, to create freely one's personality, to manipulate other people's feelings or evade fulfilling obligations.
23. Jerzy Bobryk, *Spadkobiercy Teuta. Ludzie i media*, WU Press, Warsaw 2001, p. 72.
24. Mirosław Pęczak, *Jak się bawi samotny tłum*, "Polityka" no. 46, 11th November 2000.

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

5.1 Photo by Beata Redzimska. In *Urokliwe zakątki nad Sekwaną. Paryscy bukiniści*, July 2015, https://beatared.com/w-cyklu-urokliwe-zakatki-nad-sekwana-paryscy-bukinisci/ (retrieved on 01.12.2019).

5.2 Left: photo by Maciej Bernas, in MMscene Magazine, https://www.malemodelscene.net/fresh-faces/arkadius-maciej-bernas/ (retrieved on 7.12.2019).
Right: photo by Svetlana Belyaeva, in Aoun Zia, Fashion & Photography July 2017,

https://medium.com/fashion-creeks/fashion-photography-969819e05d89 (retrieved on 7.12.2019).

5.3 In: *What's the difference between 5D and virtual reality (and what do they have in common*, REDRAION, http://redraion.com/whats-the-difference-between-5d-and-virtual-reality (retrieved on 3.06.2019).

5.4 Photo *Four year old chess wizard Stephanie Hale consider her next move in an internet chess game with chess Master Garry Kasparov, London. But being a child prodigy has both its pros and cons. REUTERS.* In Rebeca Davis, Who'd want to be a child prodigy? February 2012, Daily Maverick, https://www.dailymaverick.co.za/article/2012-02-16-whod-want-to-be-a-child-prodigy (retrieved on 3.06.2019).

6

High Tech and the Society's Choices

Considerable transformations increasing the pace of life, explosion of novelty and absence of any perspective with reference to the hitherto unknown processes and phenomena, as well as the more and more clearly discernible weakening of the emotional bonds which used to be created among people by common decisions, experiences and aspirations – all this makes us increasingly more anxious when we ask questions about the shape of our future. Meanwhile, as contemporary sociology instructs us, it is impossible to determine the future in advance – the society is not a passive spectator of events but an active participant in the continuous process of 'happening,' which means that various avenues of possible action open in front of the public at each historic moment that may bring about various scenarios for the future fate of the world. What the future will be like depends to a great degree on what people are going to do today, and it refers to the actions on the part of decision-making bodies, the general public and individual people alike, who – out of concern for the high level of their self-awareness – should co-create, alongside professionals, the best possible future for themselves and others, also leaving the new generations some room for action.

DILEMMAS OF THE CONTEMPORARY MAN

The society of today is faced with a great variety of options to choose from. Nevertheless, finding the right way is more difficult than ever, because in almost each situation we need to choose between opposing trends and their related values, which may determine our style and quality of life in the future in a number of ways, each of them difficult to predict today. Below are presented the most important dilemmas facing

the human kind at the beginning of the 21st century.[1] The necessity to opt for one of the two possible options in each case is considered the greatest challenge of our time.

Globalisation	or	**local identity?**
Uniformity of industrial products, uniformity of culture, knowledge, art and life style effected by information technologies		Striving to preserve local individual characters – regional products, specific life styles, culture, language, ideals
Mass production	or	**protection of quality?**
Universally desired goods, such as education, culture, tourism, motorization, made available on a mass scale		Protection of quality of goods by assuming that their availability must be limited, which leads to a certain degree of elitism
Affirmation of the individual	or	**social bond?**
Emphasis on the good of the individual, their responsibility for their destiny and deeds, competitiveness and readiness to take risks		The need of social bonds and reliance on the support of the community, cooperation and co-experiencing, thinking about oneself and others using the pronoun 'we'
Selfish desires	or	**higher values?**
Striving to satisfy one's own selfish desires and interests based on cold calculation		Looking for comfort and support in the realm of higher and permanent values, whose realization may require certain sacrifice for the sake of others
The cult of novelty	or	**continuation of tradition?**
Fascination with the enormous range of new products, experiences and changing trends in culture and fashion		Looking for the equilibrium between feelings and thoughts, fairness, physical beauty and permanence identified with cultural heritage
"To have"	or	**"to be"?**
Succumbing to the contemporary religion of progress and consumption, acceptance of hedonistic attitudes, greediness and hyperconsumption – *the having mode*		The need to transform attitudes, give up material values and the ethics of technology, going into *the being mode*
Fetishization of information	or	**permanent wisdom?**
'Flooding the senses' with unlimited profusion of the increasingly more easily accessible information: facts, images, empirical data, statistics		Limiting the information noise and image intoxication; looking for permanent wisdom, invariable values, signals and meanings

Loose relationships	**or**	**stable family?**
Staying in loose and superficial relationships with life partners, neighbours, friends and family members		Looking for support in a permanent and stable family among responsible people one feels close to, enjoying mutual trust
Work of the 'project' type	**or**	**long-term career?**
Satisfaction drawn from the sense of mobility, readiness to retrain for a new profession and change of job within the same company or beyond it		Yearning for a comprehensive plan for life, loyalty on the part of the company and predictable career within its stable structures
Rule of the representatives	**or**	**public discourse?**
Transferring decision-making and responsibility for human fates to an economic power, which has not been elected by anybody and which does not easily yield to control		Better educated and aware of their rights people uniting into pressure groups, whose structure is based on the egalitarian network model

The trends appearing as first in the presented pairs, labelled in a slogan-like fashion as: globalization, mass production, affirmation of the individual, self-interest, the cult of novelty, the having mode, fetishization of information, loose relationships, work of the 'project' type, power in the hands of the privileged few, are the ones which begin to dominate in the situation of accelerated transformations related at present to building a new civilization. Choosing them is seen by the society as a chance to follow the spirit of the times. At the same time, *the social reflectiveness* is beginning to effect the turn towards the alternative values, defined as: local identity, protection of quality, social bonds, higher values, continuation of tradition, 'to be,' permanent wisdom, stable family, long-term career, public discourse – all of which continue the familiar old days. Hence, it is people's conscious reflection on their situation and the direction the world is heading towards in which we shall find hope for departure from one-sidedness and for emergence of approval for diverse models of human existence. So, undoubtedly, the conjunction in the pairs or trends presented above should not be 'or' but, still for a long time to come, 'and.'

COMPENSATORY REACTIONS

As early as in the 60s, when advanced technologies (*high tech*) in the developed countries were entering almost all areas of life, appearing in factories, health care institutions, communication and transportation systems, in flats and in offices, certain reactions of the public (*high touch*) were first observed which opposed the soulless technology on the grounds that it contradicted the human nature, in many aspects unchanged

throughout whole millennia. Wherever the modern technology somehow contributed to dehumanization of life, there also immediately emerged humanizing reactions. Where, however, there was no response from the society or the compensatory actions were impossible, the technology was rejected or accepted only with great difficulty.[2]

Compensatory reactions, also observed today, adopt various forms, sometimes (as it seems) rather loosely related to the accomplishments that provoked them. And for example – advanced technologies applied in medicine, *inter alia* in heart and brain surgery, or new possibilities of organ transplantation, trigger an increased interest in the role of the family doctor, 'humane' childbirth and complex nursing care organizationally connected with small health centres providing services for the surrounding neighbourhood. The continuous development of the art of life support evokes the longing for 'the art of dying.' The movement for building hospices and organizing attentive and kind home care for the elderly and fatally ill is getting stronger and stronger worldwide. Professor Christiaan Barnard, who was the first to have transplanted a human heart, later became an ardent advocate of dignified death, which is after all the last part of life. "The fear of dying" – he wrote – "is the product of contemporary civilization, because it has distorted the concept of death. What people used to bear with dignity, is now accompanied by fear, as if death was merely an accident, the result of someone's incompetence, a penalty inflicted only upon a few."[3]

Another interesting example refers to less final things – namely telephone communication, whose introduction was considered certain to cause a significant reduction in direct contacts between people. The now anecdotal intuitive compensatory reaction was displayed even by the inventor Alexander Bell himself, as the first words spoken to his assistant Tom Watson on the yet imperfect, because still at the stage of trials, telephone were: "Mr. Watson, come here, I want to see you."[4] As it turned out later, the good old telephone was 'very human' as it allowed contact, albeit only of the acoustic nature, with a living person. It was the introduction of various kinds of recording devices that to a great degree dehumanized telephone connections, and so a lot of people still do not respond favourably to answering machines fearing the discomfort of talking to a computer. An example of such conversation was described jokingly in "Washington Post":

> *The person you are calling, Tom Watson, is temporarily absent. If you wish to record a message, please, do so after the beep. If you wish to listen to your recording, please, dial 7. If you wish to change the recording, please, dial 4. If you wish to speak to someone else, please press the asterisk and dial the four-digit extension number. If you wish to terminate the connection with the answering machine and endeavour in vain, I repeat, in vain, to reach a human of flesh and blood, please, dial 0, because to us you are a zero.*[5]

High tech devices of the ever newer generation are beginning to haunt us at our workplaces and in our flats, and all we can do is to try out various methods to alleviate the consequences of this omnipresence.

6.1
Food is a great way to connect with family and friends and change the system. This slogan, along with the picture *Friends Cooking Vegetarian Food Together*, advertises one of the actions by Greenpeace promoting easy ways to share the importance of reducing meat and dairy with the people you love. Photo from Greenpeace.

6.2
Growing fruit and vegetables at home (even in boxes on the terrace or balcony) brings numerous benefits. Not only does it encourage family contacts, help to save money or improve your diet, but also alleviates stress. *You're outdoors, you're getting exercise, and best of all, the activity often takes your mind off work and other stress in your life.* Photo from Money Crashers, Family & Home.

A reaction to the introduction of word processors and computers into offices is the fashion to write letters by hand as well as to write notes and orders on small yellow stick-on slips of paper, considered by many to be one of the most useful inventions ever to facilitate the life at home and at the office.

A counterbalance for mixers, food processors, coffee makers and ready-made meals, which we devour on the run in our laboratory kitchens or sitting alone in front of the TV, is the chopping, grating, boiling and grilling with our own hands, crowned with a meal shared with others while seated at the table. The need to have such meals has its roots in our longing for the sense of security and prosperity humans have always drawn from family meetings at the table for dinner.[6]

A compensation for minimalist and impersonal living interiors, often based on space technology, advertised in architectural magazines, is the cosiness of our eclectic homes, where one-of-the-kind furniture and accessories reflect the human need of continuity and tradition; they also bear witness to the general public gradually learning how to take independent decisions concerning their surroundings, liberated from mass production, mass tastes, trends and fashions.

A compensation for intensive intellectual work and hours spent locked up in a room motionless in front of the computer or television screen is in turn the explosion of various types of hobbies connected with physical exertion (active sports, gardening, house renovation and repairs) and the rush to nature resulting from realizing the fact that "humans have such mental structure that they cannot ignore smells, sounds, colours or shapes, the sight of the starry sky and the season of the year..., and when they lose the ability to respond differently to the day and night, the sun, the moon and the stars, they lose a part of their own self."[7]

Let us now try and give some thought to how advanced technologies influence our social condition. It turns out that the more decisions we take with the use of telecommunication devices, the easier it is for us to initiate virtual contacts, the wider access we get to entertainment on the Web, the more we want to be with people in real physical meeting places. Forecasts that the telephone would allegedly make long-distance travel superfluous were wrong. In spite of the more than twenty-fold increase of international telephone calls made from the USA in 1997 (in comparison to year 1980), the number of international flights, the considerable majority of which are private journeys, did not decrease.[8] It was also in the 90s, at the time of the great boom of advanced telecommunications, that the demand for hotels and conference centres grew. Employees of modern institutions, now more loosely linked to each other, like to meet from time to time to renew contacts, discuss objectives, sustain the company stability and the trust its employees and clients put in it. What is interesting, most of the arrangements related to the planned direct face-to-

face meetings are done with the use of the phone, fax and electronic mail,[9] which – according to the forecasts – were to contribute considerably to the weakening of precisely such direct contacts.

The abundant offer of 'telelife' lived through the screen will not, as sociologists emphasize, succeed in chaining us to our homes. People need to *get dressed and get out of the house*, and these phrases in fact mean: *be needed, be seen, feel appreciated, find one's place in life, belong to an environment*, and they are indispensable components of the definition of psychological comfort of the society.

We do not go to the cinema solely to see a film and to a disco solely to dance, but to cry, laugh and move our bodies to one rhythm with others, to be a part of an event, not just its spectator.

We do not go to work solely to do our assigned tasks the best and the fastest we can, but also to demonstrate our knowledge and talents, the ability to cooperate and learn from others so that we become part of the undertaking, not just one loose link.

We do not go to a shop in *ulica Floriańska*, in *Kärtner Straße* or in *Oxford street*, to a supermarket or to a shopping centre with the view of getting the product we have spotted (either in the traditional shop window or at the shop's online display) as quickly as possible, but to participate in the 'drama' of shopping with its inherent element of astonishment and surprise.

Everything points out to the fact that telework, tele-entertainment and tele-shopping will not replace the cinema or traditional theatre with their inimitable magic, they will not replace working among other people, small corner shops or supermarkets – the modern 'temples of consumption.'[10] They will be an attractive alternative selected by some if they find them better suited to their family situation, health condition, time options and or, first of all perhaps, to the degree of tolerance for change, which is related to one's personality and cultural background.

An important condition for new technologies to be accepted by the public is, apart from a generally positive attitude towards them, their reliability. Each of us more and more often has to suffer various types of inconvenience resulting from being surrounded by smart places and objects in our closest environment. When they are in working order, we often use only a fraction of their potential functionality, when they break down, we are unable to fix them, and this refers not only to our computers, but also cars, radios or our children's toys. We are then confirmed in our conviction that information technology serves only the elite who are able to master it, whereas for everybody else – quite the opposite is true, it contributes to stagnation and generates unnecessary expenditure.

When a domestic appliance breaks down, it is an inconvenience, but information system failures in companies are genuine disasters. A company that has lost all of

its computer-stored data is able to survive from a few hours to a few days, but the financial losses are dramatic. Special groups of IT specialists are therefore set up, ready to go immediately to the place where a failure has occurred. James Wilbur, the head of one of the first such groups in the United States, is presented as 'Red Adair of the IT world,' which is a reference to Red Adair – the famous specialist on extinguishing oil rig fires and the hero of the industrial world. James Wilbur and his team removing all the inconveniences of the contemporary technology but also helping the public to recognize and use its potential within the range enabling social adaptation is a symbol of the new era, a touch-and-go for advanced technologies in our lives.

DISCIPLINE, ETHICS, RESPONSIBILITY

Although the need to preserve balance between man and technology is a universally acknowledged fact, we still like to place great hopes in new inventions.

> *We are still waiting for a new magic pill that will allow us to eat what we want and as much as we want and not put on weight, burn as much petrol as we like and not pollute the air, enjoy life in the possibly most unreasonable way and avoid getting cancer or heart failure.*[11]

John Naisbitt warns against the danger of putting our indiscriminate trust in technology and of expecting that it will free us from all the problems, including personal discipline and responsibility. The directions in which contemporary technology and scientific research are going indicate that it is precisely self-discipline and responsibility that are the heaviest burdens put by technology upon the shoulders of both individuals and the whole society. The convergence of the information technology, biotechnology and new forms of energy, which has already been initiated in the recent decades, may be a foretaste of a great leap in the evolution of man, it may also jeopardise the very survival of human kind on the Earth. Atomic energy, nuclear, biological and chemical armament, cloning of humans, growing spare organs, the emerging capability of radical transformations of our physiological and mental condition – all this gives rise to a lot of concerns and a lot of questions:

- which side are we going to take in the gigantic moral, political and environmental conflicts that will most certainly change the face of the future?[12]
- at which point the interventions into human genome and into the characteristics of human beings will reach the sufficiently advanced level to blur the borderline between what is human and what is inhuman (or 'posthuman')?[13]
- should we resign ourselves to the fact that certain instances of abuse may possibly occur in scientific research or should we introduce bans thus risking shutting off an avenue that maybe leads to creation of technology which may, one day, turn out to be beneficial for humanity?[14]

Scientists have been trying to define the vocation of science and its true role in the society for a long time. Their views tend to focus around two types of concepts. The first one, which was aptly summarised by Jacques Monod, sings the glory of the pure and objective knowledge and bestows supernatural rights upon scientists.

> *The only goal, the highest value, the most important good in the ethics of science is not the happiness of the human kind, even less its temporary power or comfort, not even the Socratic 'know thyself,' but the pure and objective knowledge. I think that we need to systematize ethics... We do not need to hide that the ethics in question here is severe and it imposes duties; if it sees the human kind as a carrier of knowledge, it defines a value higher than man.*[15]

Apart from the concepts deifying knowledge and considering it to be a more precious value than human life, there are also others revealing enormous doubts scientists have in this respect. As early as in the 17th century, Francis Bacon, the author of the famous phrase: *human knowledge and human power meet in* one, voiced his concern about the dangers entailed by carrying out some experiments. Sharing Bacon's concerns, British professor M. W. Thring formulated in mid-70s of the 20th century an oath for scientists similar to the Hippocratic Oath taken by young doctors, which – protecting the human kind from technological dangers – will supposedly ensure its secure future.

NOTES

1. Based on Piotr Sztompka, *Szok przyszłości – dziesięć dylematów XXI wieku*, "Wprost," 5th January 2003. The original list has been edited, put into the tabular form and complemented to reflect the problems discussed in individual chapters of this work.
2. *High tech / high touch* – in the sociological literature published in English they signify the way in which the society reacts to new technologies. In the Polish edition of John Naisbitt's book Megatrends, they have been translated as *ultratechnologia / ultrastyk*.
3. Paweł Walewski, *Przedostatnia posługa*, "Polityka" no. 44, October 1998.
4. *The New Book of Knowledge*, Grolier International, Danbury Conn. 1986, Vol. B, pp. 134–135.
5. Michael Schrage, *Calling the Technology of Voice Mail into Question*, "Washington Post," 19th October 1990.
6. Margaret Visser, *A Meditation on the Microwave*, "Psychology Today," XII 1989, p. 40.
7. According to the opinion formulated by a distinguished Swiss zoologist and anthropologist from Basil – Adolf Portmann, in: *Kształtowanie krajobrazu a ochrona przyrody*, Konrad Buchwald [ed.], Państwowe Wydawnictwo Rolnicze i Leśne, Warszawa 1975, p. 58.
8. *Millennium in Maps*, National Geographic Society, Washington, D.C. 1999.
9. William J. Mitchell, *E-topia*, the MIT Press, Cambridge, Ma / London 1999, p. 91.

10. Shopping malls in the United States are listed as the third place (following work and home) where people most often spend time. William S. Kowinski in his book *The Malling of America: An Inside Look at the Great Consumer Paradise* calls them modern 'temples of consumption,' to which people go in order to practise 'the religion of consumers.' We are observing a similar phenomenon escalating in Poland.
11. John Naisbitt, *Ten New Directions Transforming Our Lives*, Futura Macdonald & Co, London & Sydney 1984, p. 53.
12. Alvin and Heidi Toffler, *Nadciąga Czwarta Fala*, "Polityka" no. 52, December 1999.
13. *Przyszłość już nadeszła*, an interview with Alvin Toffler, "Polityka" no. 2, January 2000.
14. Marie-Jeanne Husset, *Bioethique: faut-il une loi?*, "Science et Avenir," 1990.
15. Fragment of a lecture by Jacques Monod in College de France in 1967, in Jean Gimpel, *U kresu przyszłości. Technologia i schyłek Zachodu*, Wydawnictwo Dolnośląskie, Wrocław 1999, p. 118.

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

6.1 Photo *Friends Cooking Vegetarian Food Together*, in *Things you can do with friends and family*, Greenpeace, https://lessismore.greenpeace.org/things-you-can-do-in-your community/_mg_9586 (retrieved on 7.06.2019).

6.2 In Heather Levin, *How to Start a Home Vegetable Garden – Benefits & Saving Money*, Money Crashers, Family & Home, https://www.moneycrashers.com/how-to-save-money-with-a-home-garden (retrieved on 7.06.2019).

7

Searching for New Ethics in Urban Design

In the distant past, 'design without designers' was common among indigenous peoples. They used both their observation skills and their intellectual instinct to provide a product that we today view as recyclable, harmonious, sensitive to nature, and creative in its use of local materials. It is true that the scale of our contemporary urban design and architectural creativity is different [...], but it is equally true that we have basically lost much of our ancestors' sensitivity to the natural environment because of our deficiency and lack of ethic in urban design and management of urban growth.

GIDEON S. GOLANY[1]

Ethics[2] is a tool we use to 'measure' what is good and what is bad. It is a group of moral principles and obligations established by the society which warrant the physical and spiritual survival of individuals and structures created by them of various sizes and various degrees of complexity. The city is the largest and the most multithreaded of all endeavours collectively undertaken by humans. A characteristic feature of its structure are overlapping historic layers and interweaving evolutionary threads representing social, behavioural and economic factors as well as the ones resulting from the properties of the natural environment within which the city grew. The city is often compared to a living organism due to the complex nature of its structure, interdependence between its parts, the fact that it possesses its inherent characteristic pulse, fabric, heart and network. It also undergoes the continuous process of change, similarly to living systems – some fragments are growing whereas others declining and passing.

In all historic periods, the structure and function of subsequent settlement forms were based on sociocultural values which helped to ensure balance between the social environment and the physical environment built by man. The principles of cooperation between individuals and larger social groups, defined by clear and consistent standards encompassing all areas of life, enabled people – in the preindustrial era – to satisfy most of their physical and spiritual needs and made them feel safe in cities. It was also easier to achieve the sense of belonging, cultural identity, positive interpersonal relations and belief of all the society members in their value and skills. Philosophy, religion and the ethical norms based thereon defined the attitude of man towards the natural environment and the limitations imposed by it. It was unquestionably accepted that nature is subject to the same cycles as human life and so the two must remain in harmony rather than in opposition to each other. Societies of the past also appreciated with special sensitivity the role of nature as the source of beauty and spiritual inspiration.

Starting from the 19th century, with the development of technologies enabling the effective 'conquest of nature,' societies began to lose – on a hitherto unprecedented scale – "the contact with the earth on which man treads and the heaven that stretches above the human heads,"[3] which had been viewed in our ancestors' philosophical concepts as a guarantee of survival and emotional growth. The cultural homogenization of cities and the new confidence in the ethics of technology and materialistic values resulted in the loss of clear and uniform social norms. The setting for these norms used to be the physical environment not only facilitating coexistence of people but also communicating with them with the use of comprehensible information, signals and meanings encoded in the forms of buildings, streets or squares, their detail and location in the city.

The effect of the disturbing phenomena listed above is the universal loss of the multidimensional stability of cities. Social conflicts, disintegration, tensions and dissatisfaction have become the 'norm,' and the contemporary decision-making organs and designers do not seem sufficiently prepared to deal with them. Hence, new concepts are gaining more and more prominence which argue that the only and at the same time the most certain source of 'enlightenment' is to be found in old cultures, and the new premises of urban ethics – adequate to the era of knowledge – should be developed on the basis of the historic experiences.

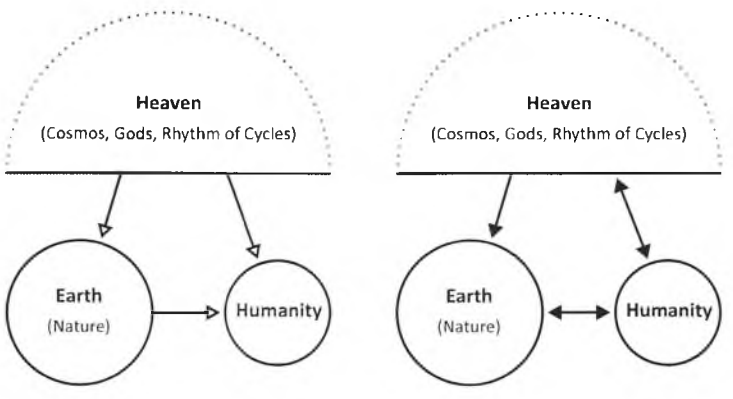
In our search for new social norms which are to contribute to the improvement of the standard of living environment in cities, we cannot ignore the role of contemporary education. Today, its new forms should replace or support the religious philosophies responsible in the past – as they were universally accessible – for passing on to people the principles of conduct towards the physical environment, natural resources and other people.

THE PAST, THE PRESENT AND THE FUTURE – THE INDISPENSABLE CONTINUUM

Analysis of the historic development of human settlements – from the most basic forms, reflecting the life style of nomadic tribes, to the diverse agrarian settlements, to cities of the classic type and, finally, to the megalopolises of today – not only helps to understand the problems of contemporary cities, but it is also an indispensable component of planning a prosperous future. However, turning to the past cannot be solely a manifestation of nostalgic glorification of past societies, completely separated from the realities of the contemporary technoworld. It should be treated as a source of good examples of how habitats may be adjusted to the climate conditions and how to use 'low-tech' solutions to considerably reduce consumption of energy and resources. It should also become the foundation on which we could reconsider our relations with 'the earth and heaven.'

Almost all ancient civilizations which were the first to have developed mature urban organisms were based on firm environmental standards related to agrarian practices and consumption of natural resources and on sociocultural norms maintaining social equilibrium. The evidence of the above may be found in the philosophy and ethics of Judaism, Hinduism, Buddhism and Shintoism.[4]

The awareness of nature was more prominently present in the culture of China than in the cultures of Mesopotamia, the Indus Valley or Egypt; it influenced all the areas of human life and activity. The world in the philosophy of ancient Orient was organized around three closely related components: *nature, people and cosmos*. However, the dependencies between man, earth and the heaven were seen as operating only in one direction. The earth with its resources and the heaven governing biological cycles (and also being the abode of gods and the place where dead ancestors were residing) promised to ensure prosperous life to anyone on



7.1
The differences in the attitude of man towards the natural environment between the philosophy of ancient Orient and the contemporary practice of the West. On the left – the concept of unity between man, earth and cosmos (unilateral relations); on the right – human intervention into the balance between heaven and earth (bilateral relations). Developed by the author following *Ethics and Urban Design*.

one provision only – that they will care for the condition of nature and will not dare interfere with the cosmic rhythms.

Devotion to nature and profound respect therefor were reflected in the mythology and in all types of artistic creation. Beauty, purity and perfection of natural landscapes inspired poetry, prose and painting. Natural forms and materials, associated with harmony, sense of comfort and undisturbed peace, also affected the standard of utilitarian objects and spaces, thus supporting social order.

In the Chinese architecture, relations with nature manifested themselves invariably in all historic periods – in the harmonious integration of nature with the built environment and in the elegant application of native materials both as structural elements and as decorative fabric. The process of erecting individual buildings as well as whole cities was permeated with profound symbolism. Houses, neighbourhood complexes, city gates, streets or monumental buildings were given names related to objects found in nature, seasons of the year and astronomic phenomena.

The character of complex design principles referring to the structure and form of whole urban organisms are best discernible in capital cities, most often built upon the order of the ruler in a short period of time and following a complex plan prepared by theoreticians, philosophers and builders. The design, in which great emphasis was put on selection of the city location, on the religious and environmental considerations, cosmology and spatial standards resulting from the class organization of the society, was based on: *feng shui* – the Chinese art of selecting the site in an open and urban environment; *ying guo* – the system of urban design and management; *feng li* – the principles of operation in the scale of neighbourhood complexes, and on other detailed design rules and concepts.

> *There are numerous design principles evident in the ancient Chinese urban centers. These include the use of open space, the use of below-ground space, the merging of agrarian and commercial facilities, the integration of residential and commercial needs, and aesthetic configurations that enhance the quality of the environment. Chinese urban design recognized that the physical environment contributes significantly to the well-being of society. Courtyards were used throughout the cities as a common public space, and gardening and natural landscaping were combined with bodies of water to enrich the environment.*[5]

Spatial organization of Chinese cities also reflected the cultural patterns adopted by the whole society. The most important of them – unity and harmony – were achieved by locating residential development around shared courtyards, separate for each family, group of families, a larger neighbourhood and the whole city. The ever more capacious clusters of development, thus created and walled, offered their residents the sense of belonging and security even in cities of almost million inhabitants.

7.2
Siheyuan is Beijing's traditional courtyard-style residence. It is called siheyuan because the houses in it are constructed in such a way that the main house, the wing house and the house facing the main house are connected with walls and the whole complex creates an enclosed square courtyard. This kind of architectural form has been in use for hundreds of years since it first took shape. Photo/CFP.

The unique character of cities built in the cultural circle of Orient originated from a number of factors, some of them were: large populations of inhabitants, treating the whole city as one monument (which resulted in the fact that even important buildings did not dominate its skyline), the uniform sociocultural codes universally adopted by the society and the role of the city as the centre of commerce and administration rather than symbol of power and expansion into new territories. Nevertheless, the most important distinguishing factor was reverence for the beauty of nature and the conviction that destroying even one of its elements will entail the loss of environmental coherence and balance. It should be stressed here that, in Chinese culture, the very term *environment* was strongly associated not only with nature but also with morality, ethics, human behaviour and with social balance and aesthetics, thus becoming a design model which we would now call *environmental design*.

The 19th and 20th centuries – defined as *the present time*[6] in considerations on evolution of settlement forms – are associated more than any other historic periods with exceptionally dynamic changes in the natural, physical, social and economic environment. Human self-awareness also experienced dramatic transformations at that time.

> *As the industrial progress advanced..., we had this growing feeling that here we are – on the path leading towards unlimited production and, which follows, towards unlimited consumption; that technology makes us omnipotent and science – omniscient. That here we are – on the path to*

become gods, supernatural beings who can create a different world using the natural world as building blocks for our new creation.[7]

It is true that we are witnessing an unprecedented development of science and technology and that the general prosperity of societies measured by the level of consumption has grown. However, the price humanity has to pay for progress is high – wasteful exploitation of natural resources and destruction of the biosphere, as well as the growing disparities in the world economic development – areas of wealth and of frightening poverty.

The contemporary 'religion of progress and consumption' affects the way we define the fundamental objective of human activity, which we see in maximizing profit rather than in human self-realization. In the opinion of Erich Fromm, one of the most distinguished philosophers of the 20th century,[8] contemporary civilization promotes the existence model that he calls *the having mode*. However, for Fromm, the most important criterion of whether a society is successful is not the material progress – "the unrestrained satisfying of all the desires does not bring happiness..., we wake up from the dream of being independent masters of our lives with the awareness that we have become, all of us, together with our thoughts, feelings and tastes, just cogs in the bureaucratic machine, manipulated by the government, industry and means of mass communication..." The way out of this dramatic situation is, according to Fromm, a radical transformation of human attitudes and values, i.e. giving up material values and the ethics of technology and switching into *the being mode*. He repeats after Gandhi that "what the humanity needs most is consistent implementation of the truths which have otherwise been for long well known to humanistic religions, and not new discoveries."[9]

7.3
Air pollution is just one of many examples of the dramatic degradation of natural environment resulting from subjecting human activity to the contemporary 'religion of progress and consumption.' Source: European Environment Agency (EEA).

Lack of communication between the ethics subjected to the dictates of technology and the ethics of sociocultural values based on the social norms of *the* past distorts the equilibrium and dehumanizes the urban environment. Contemporary cities lose a lot of their charms, and instead of being associated, as it used to be in the past, with access to culture and the arts, diversified social life and a variety of choices in all exciting areas of life, they are now associated with serious problems, such as: homelessness, loneliness, sense of no security, high crime rates, abandoning old people, filth, contamination, noise and environment degradation. Additionally, the cities of *the present time* are perceived more and more frequently as a uniformed, cosmopolitan physical environment providing setting for the international life style. The danger related to it is that various ethnic and cultural communities will be absorbed by one universal world urban culture, and it seems particularly grave now when the above trends are commonly accepted by urban societies and, in many cases, also by agencies responsible for designing and developing cities.

No considerations on ethics in urban and regional design would be complete without the example of Holland. Difficult geological conditions and the fact that 40% of its territory lies below the sea level made the whole country face the shared challenge, which is reclaiming land from the sea, restraining the size of cities and maintaining a relatively uniform distribution of settlement. The American urban designer Gideon S. Golany demonstrates, based on research, a strong correlation between the size of a country, the degree of its technological development, the limited amount of natural resources and population density on one side and the universal awareness of the need to improve standards and their accompanying ethical codes on all levels of designing – local, regional or national. That is why, among other factors, Holland, alongside Japan or Israel, provides evidence that it is possible to reach a consensus in the scale of the whole country on matters related to planning and design.

Consensus and the dominant position of social ethics were definitely easier to get at the time when 'designing was done without the designer.' At present, social values and needs are confronted with the ethics of professional designers, who very often do not see their profession as service for the needs of the society.

> *The architect is not like other artists. His works are works on the surface of the earth; that is each architectural work, no matter how small in scale or how individualistic, occupies a spot of a public space. Very often it is done with public money... Architecture, therefore, must be responsible to public issues; it must be moral; its intentions must be good ones and its meaning must focus on mankind.*[10]

Further on, the author of the quotation cited above – Anthony C. Antoniades – argues for the urgent need to change the criteria in evaluating works of architecture so that their social values would get the highest recognition.

Architectural works possessing no meaning, with unclear intensions, with no moral concern should rank low in our esteem. Perhaps they should be totally dismissed.[11]

TOUCHING THIS EARTH LIGHTLY

The saying of the indigenous inhabitants of Australia – 'one must touch this earth lightly' – reflects a profound understanding of the mutual relations that should take place between an object and the place in which it is located. The most direct interpretation of the Aboriginal adage is the idea of a building that is only a temporary guest in a given place, so that – once it is removed – the area where it used to be remains practically untouched. Examples of such objects are 'homes' of nomadic tribes, which they are able to 'relocate' together with the rest of their possessions on the backs of pack animals from one place to another.

The black tent of the Bedouin is woven from the hair of goats, sheep and camels. When erected, the tent cloth adopts a low, aerodynamically efficient profile to avoid damage by high winds; it is kept in place by long ropes, also woven from hair, and supported by a very few wooden poles, because wood is a scarce resource in the desert.[12]

Although – with the exception of only a few remaining wandering tribes – the human race has finally abandoned the nomadic life style (at least in the sense of relocating together with one's whole homestead), we may still find, among contemporary architectural creations, designs which show great sensitivity to the context of place and profound awareness of the environmental dangers in a much larger scale than the closest surroundings.

The author of such truly exemplary solutions shaped by the landscape and climate of his native Australia is Glenn Murcutt – the winner of the Pritzker Architecture Prize in 2002. Murcutt designs small and modest objects, often referring back to the local traditions of showing respect to nature. Why then such a prestigious distinction? The answer to this question may be found in the opinions of the members of the jury.

Glenn Murcutt occupies a unique place in today's architectural firmament. In an age obsessed with celebrity, the glitz of our 'starchitects,' backed by large staffs and copious public relations support, dominates the headlines. As a total contrast, our laureate works in a one-person office on the other side of the world from much of the architectural attention... He is an innovative architectural technician who is capable of turning his sensitivity to the environment and to locality into forthright, totally honest, non-showy works of art. Bravo![13]

His houses are fine tuned to the land and the weather. He uses a variety of materials, from metal to wood to glass, stone, brick and concrete – always selected with a consciousness of the amount of energy it took to produce the materials in the first place. He uses light, water, wind, the sun, the moon in working out the details of how a house will work... One of Murcutt's favorite quotations from Henry David Thoreau is 'Since most of us spend our lives doing ordinary tasks, the most important thing is to carry them out extraordinarily well.' With the awarding of the 2002 Pritzker Architecture Prize, the jury finds that Glenn Murcutt is more than living up to that adage.[14]

7.4
Glenn Murcutt – the laureate of the Pritzker Architecture Prize in 2002 – refers back in his designs to the local traditions of showing respect to nature; he calls the process of creating buildings 'reading the landscape.' Source: National Museum Australia.

The excerpts from the verdict of the Pritzker Prize Jury cited above demonstrate that Murcutt's works have been appreciated somewhat against the contemporary trends, which fact may in turn be seen as evidence of a return, at least on the declarative level, to the 'philosophy of architecture and nature,' which Murcutt himself calls 'reading the landscape.'

Houses designed in a warm climate, where the objective is to have them maximally ventilated, may literarily *touch the earth lightly*. In the cold climate, quite the contrary, the job of the house is to create an enclosed space, ensure warmth

7.5
Houses designed by Glenn Murcutt, floating above the ground, behave like living organisms responding to their surroundings: partitions change depending on the light, walls may be slid open and roofs raised in the simplest of ways. Photo by Anthony Browell.

and protection against the hostile forces of nature. One of the ways to meet all these requirements while at the same time respecting the natural assets of the site is to integrate the building with the ground, which was successfully practised by the British architect Ernest Gimson, active in the early 20th century. The houses he designed in Leicestershire seem to grow out of their surrounding rocky land. The use of natural local materials, a variety of plans, which were adjusted to the existing land configuration and the needs of their residents, make these houses look as if they were erected by local folk craftsmen drawing from the experience passed on from generation to generation. Yet, in the case of Gimson's designs, the simplicity of solutions and the maximum integration of the objects with their surroundings resulted from the architect's intentional submission to the unquestionable priorities and the severe discipline he imposed upon his works prohibiting any unnecessary extravagance that would contradict nature.

Touching the earth lightly does not only mean – as the direct interpretation would suggest – delicate, non-destructive location of individual buildings so that they would not harm their surrounding nature. It is also a call for a special environmental sensitivity with reference to function and location problems of whole cities. Cities 'nourishing their residents,' floating habitats, developments on steep slopes and under the ground, using the thermal properties of the ground – these are the new design challenges featuring in all debates on the contemporary urban ethics. It turns out that also in this respect we may rely on the centuries-long experience of our ancestors.

NOTES

1. Gideon S. Golany, *Ethics and Urban Design. Culture, Form and Environment*, John Wiley & Sons, New York 1995, p. 2.
2. According to *the Dictionary of the Contemporary Polish Language*, *ethics* are a system of values and norms of conduct valid in a given community or at a given period. According to *Cambridge Academic Content Dictionary*, *ethics* are a set of beliefs about what is morally right and wrong.
3. Following the premises of Confucianism – the religious and philosophical doctrine of the ancient China.
4. The areas which are considered to be 'the cradle of urbanism' are: Mesopotamia, the Valley of the Indus, Egypt and northern China. The early urban centres, although characterised by numerous individual cultural features, also manifested many similarities referring to: the selection of the city location, the significance of the river, construction of monumental buildings, the role of commerce, development of astrology and astronomy, the selection of the climate zone and submission to the cycles of nature, as well as the length of individual stages in the evolutionary process of development of settlement forms preceding the emergence of cities. For more on the ancient urban civilizations and the ethical norms developed by them, see Gideon S. Golany, *Ethics...*, *op. cit.*
5. Gideon S. Golany, *Ethics...*, *op. cit.*, p. 87. For more on the urban design in the ancient China; See Gideon S. Golany, *Urban Design Ethics in Ancient China*, Edwin Mellen Press 2001.
6. According to G. Golany, *the past* was the period from the nomadic settlements, through the evolution of agrarian settlements, to the development of the classic city; *the present* started from the deep transformations of cities effected by the industrial revolution, whereas *the future* will be shaped by the information revolution.
7. Erich Fromm, *Mieć czy być?*, Dom Wydawniczy Rebis, Poznań 2000, pp. 35, 36.
8. Erich Fromm (1900–1980), called 'the man who changed the way we think about the 20th century,' addressed in his work the important philosophical and social problems of the contemporary civilization. His most famous books include: *Escape from Freedom* (1941), *The Sane Society* (1955), *The Art of Loving* (1956), as well as the books published later: *The Revolution of Hope, toward a Humanized Technology* (1968), *The Anatomy of Human Destructiveness* (1973) or *To Have or to Be?* (1976, Polish edition *Mieć czy być?* 1995).
9. Quotations in his paragraph come from: Erich Fromm, *Mieć czy być?*, pp. 37, 23, respectively.
10. Anthony Antoniades, *Architecture and Allied Design*, Kendal/Hunt Publ. Comp. 1992, p. 81.
11. *Ibidem*, p. 82.
12. Brenda and Robert Vale, *Green Architecture: Design for an Energy-conscious Future*, Bulfinch Press, London 1991, p. 141.

13. J. Carter Brown – Pritzker Prize Jury Chairman, *Australian Architect Becomes the 2002 Laureate of the Pritzker Architecture Prize*, https://www.pritzkerprize.com/laureates/2002 (retrieved on 01.04.2019).
14. Bill Lacy – Pritzker Prize Jury Executive Director, *Ibidem* (retrieved on 01.04.2019).

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

7.1 Diagram developed by the author following Gideon S. Golany, *Ethics...*, *op. cit.*, pp. 21, 25.

7.2 Photo/CFP, in *Culture insider: 10 types of residential houses across China*, 23. 06. 2014, China Daily, http://www.chinadaily.com.cn/culture/2014-06/23/content_17605526.htm (retrieved on 01.04.2019).

7.3 In Christer Ågren, *EU air pollution emissions still exceeded*, October 2015, AirClim, Air Pollution & Climate Secretariat, source: European Environment Agency, June 2015, http://www.airclim.org/acidnews/eu-air-pollution-emissions-still-exceeded (retrieved on 01.04.2019).

7.4 *Lerida Estate Winery building designed by Glenn Murcutt*, in 2002: Glenn Murcutt wins the Pritzker Architecture Prize, National Museum Australia, https://www.nma.gov.au/defining-moments/resources/glenn-murcutt (retrieved on 01.04.2019).

7.5 Photo by Anthony Browell, in Jessica Mairs, *Glenn Murcutt covers bushland home in zinc panels to protect it against wildfires*, September 2017, dezeen, https://www.dezeen.com/2017/09/14/glenn-murcutt-donaldson-house-architecture-bushland-zinc-sydney-australia (retrieved on 01.04.2019).

PART 2

New Challenges

New Forms of Settlements

8

Urban Centers vs Peripheries[1]

The centre is a place which is the focus of something, where something is going on. It is also an important management hub, a headquarter. "The periphery" is an opposite term – it is a point located far away from the centre, a remote place and – metaphorically – a place of lesser, more marginal importance.

For whole centuries, the processes of city creation consolidated the dominant position of that city part that played the role of the heart – the centre where all the events of any importance for its residents took place. That part was usually located at a merchant route, navigable river, later on near a railway line or a fast motor way. Over time, city centres, long dominated by trade, which used to be the economic base of cities, started to push it out of its bounds and adopt new functions, thus becoming centres of finances, politics and office services. Mastering the technology enabling construction of skyscrapers, which were not only meant to represent the power of important players in domestic and international markets, but were also testimony to the ambitions of municipal authorities, frequently unmitigated by common sense, reinforced the dominance and "visibility" of *Central Business Districts (CBDs)* when compared to other areas of the city.

Deep reorganization and globalization of economies, which is now happening as a result of *Information Technology*, greatly affects the economic condition of countries, the type and distribution of jobs, social structures and processes of population migration. It is also a powerful force affecting cities – it may bring about an increase of their significance and prosperity, or the opposite – their stagnation or even downfall. However, creation of a clear classification of contemporary cities according to the economic functions they perform in the new globalized world turns out to be an extraordinarily difficult task.[2] The location of cities on the map of the world does not help much in this classification, nor does the industrial dominance – recognizable

in some of them until recently. It is so because in developing countries, for example, we may find cities such as Lagos, whose economy is still based on primitive trade and outdated industry, but also cities like Bangkok, which have now entered into a period of extraordinary prosperity, developing manufacture of advanced telecommunication appliances and equipment. On the other hand, cities which used to be strong industrial centres, such as Detroit or Marseille, lose their leading positions. Others – like Birmingham or Glasgow – continue to grow because they have invested in high tech industrial projects and provision of telecommunication services. Yet others, like Macao, rely on incomers and promotion of the region, often neglecting the needs of their permanent residents, who become a kind of observers of their own place on Earth, or sometimes even its servants.

As may be seen all around the world, cities adjust to their new economic reality in various ways that do not always fit into rigid frames of classification. Very often, the increase of their significance or progressing marginalization are not the consequences of their local potential or social aspirations, but depend on the choices made in the headquarters of global economy.

> *Decisions made in London, New York, Tokyo or Sydney affect jobs, wages and economic health of locations as remote as Kuala Lumpur, Malaysia, or Santiago, Chile.*[3]

London, New York, Tokyo, Sydney, Los Angeles – representatives of the old world are listed alongside cities such as: São Paulo, Shanghai, Hong Kong, Mexico, Beirut and Buenos Aires representing the developing world. They are jointly referred to as Global Cities, which reflects the fact they are taking over the responsibility of decision-making, management and control of the complex and dispersed global market.

The types of functions that cities perform within a region, continent or the world are determined by their multifunctionality. In Europe, the cities performing the largest numbers of functions are London and Paris. Other cities aspiring to the status of metropolises are Berlin and Moscow. Another group comprises approximately thirty cities of supralocal functions. Their location on the map resembles the outline of a banana – hence the names: *Blue Banana, European Backbone, Blumerang;* they stretch from Liverpool, via London and Paris, along the Rhine, via Zurich, to Turin and Milan.

For many cities, the fact that they are at top positions in the new economy does not mean that they offer the same conditions to all their residents. The terms of centralization and peripherization, understood to mean enclaves of wealth and poverty, are no longer related primarily to the geographic division of the world into the rich North and poor South, like it used to be in the past. Huge differences appear everywhere, and global cities, which – in publications on the subject – are increasingly more often associated with the term *Dual Cities*,[4] are no exception here.

Since they are recognized centres of trade, banking services and business, global cities have more and more power and influence, they are also leaders of "information product manufacture" and innovative industries development. They perform tasks of strategic importance for the world economy, and hence they are the first to be equipped with the cutting-edge telecommunication infrastructure and – thanks to this – they are the first to get all the key information. In recent years, they have achieved the highest ever level of business and employment concentration and the peak indicators of development density; their centres – saturated with facilities designed by the best architects and erected on "the most expensive snippets of land in the world" – *Peak Land Value Intersection (PLVI)* – continue to reinforce their significance not only as the core parts of their parent metropolises, but also as the hearts of world-wide organisms.

Focused around the centres of wealth and power, representatives of prestigious professions earn fabulous money securing a high living standard for their families and high quality education for their children, thus fixing their privileged position in the future. An increase in the number of jobs in financial consulting, law firms and design studios, in advertising and media, where the employees are people with excellent education and salaries making up the ruling *upper class*, also generates a great demand for auxiliary staff (secretaries, analysts, technicians, catering service providers) and unskilled labourers, employed as door attendants, housekeepers, carers for children

8.1
Luxurious apartments of the representatives of the *upper class* frequently neighbour on the slums populated by *the marginalised*, with only a fence separating the two; this creates a threat that "the social dynamite" will explode. Photo by Luiz Arthur Leirao Vieira.

or elderly people, drivers or cleaners), who make up the ancillary *underclass*. The low-paid jobs are most often taken by immigrants,[5] who live in substandard conditions, with no access to quality education, with no perspectives and often with no hope.

... cities have become hopeless reservoirs for all kinds of social despair.[6]

Numerous social problems – such as polarization, which causes enormous tensions – have become the sign of our times and are present, albeit with various intensity, in all major cities and in all regions of the world. The same goes for functional and spatial problems – they exhibit a lot of similarities, and although there are certain differences, they result from local conditions and the position a given city occupies in modern economy. The most distinctive phenomena related to urban centres comprise: a minimal number of permanent residents, excessively dense development, prevalence of facilities serving the needs of finances, business, media, expert consulting and government agencies and state institutions; inefficient transportation system, excessively heavy vehicle traffic and absence of car parks.

Poor functional variety of development and prevalence of office buildings, which contribute to a high level of activity of Central Business Districts during the day and their emptying after working hours, narrow down the repertoire of strategies aimed at rendering the central parts of cities more attractive and vibrant and make them all generally very similar in many regions of the world. The number of permanent residents in the City of London, which used to be around 120–140 thousand in the early 19th century, is now approximately 7 thousand.[7] The last census, done in 2011, points out to a number of phenomena, also present elsewhere – a disproportionately high level of education of the residents as compared with other parts of the city and the country, considerably higher salaries, yet with differences between the earnings of men and women, a high proportion of small households, including single-person households, and a large number of residents who do not own a car and move around on foot or use the means of mass transportation.[8]

In order to liven up the City of London by diversifying its functions, the municipal authorities have the ambition to introduce at least ninety flats a year into the area. Corporations – the main tenants – are leaving pre-war buildings as they are now too small for office needs, which are then adapted for residential purposes. New buildings of this type are also being built, new hotels as well as commercial and entertainment centres are opened, accompanied by carefully arranged public spaces with a network of squares and gardens.[9] Efforts are also being made to extend the opening hours of the existing shops, cafes and pubs and to keep them open at weekends.

The last decades have also seen energetic actions aimed at revitalisation of downtown areas in many American cities. Their gradual degradation, which finally

8.2
The centres of global cities are full of structures designed by starchitects on the world's most expensive scraps of land as showpieces of transcontinental corporations, and their functional uniformity makes them totally deserted after working hours. Source: Flanders Today.

turned them into ghettoes inhabited by ethnic minorities, started when the better-off residents escaped into suburbs out of fear of growing racial problems, increasing crime rates and difficulties in finding a parking space. Reversing the negative trend and introducing new values resulting in strengthening the position of city central areas and presenting them as places where the symbolic "magic of the city" could be experienced are the objectives of the processes called gentrification.

Economic, social and cultural gentrification is achieved through actions aimed at improving living conditions and introducing prestigious functions into downtown areas, such as university facilities, government agencies, medical centres, theatres or museums as well as recreational and sports facilities surrounded by greenery. Developing the commercial and services functions, in the form of multifunctional malls, operating to a great extent as "temples of entertainment and consumption" accessible 24 hours a day, also make these areas more attractive. However, the gentrification activities must be undertaken with great caution. Offering excessive privilege to wealthy people and creating enclaves of affluence with walls and gates increases the exclusion of the "excluded" and makes the threat of "social dynamite" explosion ever more imminent.[10] Moreover, it runs against the well-known principle of creating "healthy communities" which may be characterised with the following slogans: mixing, integration, shared growth defying class, racial and cultural divisions.

Riots, police brutality and hatred have become everyday reality particularly in the American "fallen cities," such as Chicago, Baltimore, Detroit, Milwaukee or Youngstown – former industrial centres of the so-called "Rust Belt," which used to be the "Steel Belt." For example, in mid-20th century, Baltimore "was one of the six largest and richest cities in America and one of the 20 most powerful industrial centres of the world. [...] As late as in the early 70s, one out of three working persons was employed in manufacturing, [...] wages were high both for black and white people, including thousands of new immigrants."[11] Today, half of the city population live in the enclaves of poverty, called the Third World, where the unemployment rate exceeds 50%. These areas have also the worst statistics as regards crime, poor level of education, the number of single mothers and fathers in jail. Meanwhile, the attractive plots of land in city centres are being intensively developed.

8.3
Degradation of the central areas, racial problems and rising crime rates are particularly discernible in these American cities which used to be powerful industrial centres and which have now fallen into disrepair and form the so-called *Rust Belt*. Photo by Patrick Semansky.

> *From the perspective of the middle class moving into these new developments, the cities are doing fine, they are growing more beautiful and offering good jobs. At the same time, nothing is getting better in the ghettoes. More and more impoverished and barren, they turn into blocks of shabby terraced houses without a single strip of greenery, with no job or hope.*[12]

As has already been mentioned, throughout centuries, the processes of city growth consolidated the fundamental differences between a vibrant centre and

poorly developed, not infrequently marginalized outskirts. Yet at present, the difference – once so clear and pronounced – is getting more and more blurred. It is so because, new cities emerge as a result of civilizational transformations generating both new needs and new possibilities of action in the globalized world, and they are focused on functions which for long used to characterize city centres, but today they are being transferred into peripheral areas.

New cities receive new names which can be generally divided into two groups. The first group includes names evoking associations with suburbs (suburban business districts, urban subcentres, suburban cores, suburban downtowns), which indicates that the considerations on new forms of settlement accept the traditional assumption contrasting peripheral areas with central areas. The second group of names (minicities, galactic cities, technoburbs, perimeter cities, major diversified centres, superurbia, service cities) recognize the polycentric character of the appearing structures and point out to the great dynamism of economic, social and cultural phenomena in places which were previously mostly identified with dormitory towns on account of their suburban locations. However, the most popular term associated with new cities is "edge city" – this name acts as a symbol of the *new metropolises* of information economy.

The term "edge city" was first used in 1991 by Joel Garreau – a writer and a journalist of "Washington Post" – who described some cites growing around the intersections of expressways and significantly changing the environment of human life and work in his book *Edge City: Life on the New Frontiers*. The phenomena which led to the formation of edge cities were characterized by Garreau in three short paragraphs:

> *First, we moved our homes out past the traditional idea of what constituted a city. This was the suburbanization of America, especially after World War II.*
>
> *Then we wearied of returning downtown for the necessities of life, so we moved our marketplaces out to where we lived. This was the malling of America, especially in the 1960s and 1970s.*
>
> *Today, we have moved our means of creating wealth, the essence of urbanism – our jobs – out to where most of us have lived and shopped for two generations. That has led to the rise of Edge City.*[13]

The first nineteenth century concepts of suburbanization, which may be exemplified by buildings around London erected for representatives of the middle class, were related to the use of the means of mass transport enabling faster commuting. The acceptance of the principle of locating buildings within pedestrian access to railway or underground stops significantly limited the excessive growth of suburbs. Small suburbs – combining the values of the countryside with those of a city – were not transformed into endless forms until the development of motorization. However, regardless of

8.4
Model suburbs – once flourishing because spatially limited by their location around a railway or underground station – have been turned into the endless urban sprawl by the development of motor vehicle. Photo by David Shankbone.

the stage of their development, regardless of whether they were situated within the administrative boundaries of a city or beyond them, suburbs depended on the centre and contributed to the strengthening of some specialized functions inside it. An active city centre was always perceived as the heart of the city – the centre of manufacture and employment as well as the core of civilization and culture.

The contemporary intensive developments in peripheral areas do not have much to do with traditional suburbs depending on the city centre. Since – however – new forms of settlement usually emerge out of former suburbs, alongside the term Edge Cities, they are often referred to as post-suburbs. The first post-suburbs include Orange County and Silicon Valley in California and Fairfax County in Virginia – the old, typical suburbs of Los Angeles, San Francisco and Washington. In the 1980s, they achieved an unheard-of economic growth and dynamism comparable to the most important urban centres in the world.[14] These days, they are fully self-efficient units including residential, commercial and service complexes, offering employment, entertainment and cultural events.

All individual functions of *Edge Cities* in most cases are not available in one place, but at various small specialized centres linked to one another with a web of meandering alleys of hierarchical structure (most frequently without any sidewalks for

8.5
The most prominent features of Edge Cities, considered to be the symbol of new metropolises of the information era, are multicentricity, multithreading and (unfortunately) a complete reliance on the car. Source: wiki voyage.

pedestrians) which are connected to expressways. The development usually takes the form of loosely composed complexes of complicated – though scattered – structures, often producing the sense of disorientation. For this reason, it is the multicentric and multithread character of spatial forms that is the most distinctly recognizable feature of *Edge Cities*, sometimes also called *pepperoni-pizza cities*. Other features include changing their character from provincial into cosmopolitan and submitting to the requirements of consumer culture. However, the most significant factor, without which the abovementioned transformations would not have been possible at all, is the gradual transition from traditional capitalist economy to some new forms of information capitalism, which began in the 1960s. Increased mobility[15] within *Edge Cities* coupled with considerable distances between their individual components result in a slightly different perception of time and distance by their residents. The functional, social and spatial concepts related to people's living environment are not based on the traditional *geography of distance* but on the *geography of time*. Distance is not associated with the length of an urban block frontage, with the distance between mass transport stops or with the range of pedestrian access. More and more often, questions about a distance are answered in units of time.

Good motorways and comfortable cars do not make a 45-minute drive to work or a 15-minute drive to a service centre especially troublesome. Thus, residents choose those functions and locations which suit them best and construct their own mental map of the environment they identify with. The inhabitants view their city based on this new *scale of time* as a "set" composed of a place of residence, a place of work, one large service centre, some smaller clusters of shops located along the road and one traditional centre of the old type. Such a set is not permanent – one can always drive somewhere else as long as the other chosen destination is situated within an acceptable "temporal distance."

> *The continuous flow of cars through a web of motorways and local roads seems to be both an illustration of the basic infrastructure of contemporary suburbs and a metaphor of social life which goes on inside them.*[16]

The fact that residents are only loosely connected with the functional and spatial elements making up their living environment and the character itself of these elements – dominated by motor vehicle transportation – do not seem to promote social contacts or creation of a distinctive and authentic local culture. This is the price people are ready to pay for freedom understood as the freedom of choice, for a prestigious job and safety,[17] as these are the values associated with *Edge Cities.* However, research shows that shared urban spaces based on pedestrian traffic are not the only recipe for community making. People need contacts with other people and will be looking for them always and everywhere, whatever the obstacles. Some observations confirming this thesis were presented by anthropologist Edie Bakker investigating the behaviours of some members of the wandering tribe of Bahinemo living in Hunstein Forest, Papua New Guinea, who managed to build a complex and lasting community based on shared decisions and activities.[18]

* * *

Although first observed and described in the United States of America, the emergence of cities characterized by a new functional and spatial structure is becoming a worldwide trend. They are a consequence of introduction of telematic infrastructure, the "rule" of the car identified with freedom and prestige and consolidation of the tendency to run away from the hustle and bustle of densely developed and crowded big cities. European models of *Edge Cities*[19] are slightly different from their American prototypes. The density of development is greater, it happens that they are founded on small historic centres and the individual car transport is often complemented by mass railway transportation system. They also exhibit closer links to the metropolitan centres in the vicinity of which they are situated.

NOTES

1. The article has been submitted for publication (in Polish) at the Oficyna Wydawnicza AFM.
2. American sociologists Mike Savage and Alan Warde distinguished five major types of cities in the 90s of the 21st century: Third World cities, global cities, former industrial cities, cities of the new industry and socialist countries cities. The authors did realise, however, how imperfect and ambiguous this classification was. Mike Savage, Alan Warde, *Cities and Uneven Economic Development*, in *Urban Sociology, Capitalism and Modernity*, Macmillan Press Ltd 1993.
3. Saskia Sassen, in *The City Reader*, Richard T. Le Gates, Frederic Stout [eds.], Routledge, London and New York 1997, p. 69.
4. Among the texts that are still considered valid and most often cited in publications on the transformations going on in contemporary societies and contemporary cities are the books by the outstanding sociologists associated with the American academic circle, such as Saskia Sassen, *The Global City* (1991, 2000), *Globalization and its Discontents* (1999), *Losing Control?* (1996), *Cities in a World Economy* (1994) or Manuel Castells, *The Information Age: Economy, Society and Culture* (the subsequent volumes of the trilogy were released in years 1996, 1997 and 1998).
5. A good example is London's labour market characterized by processes of occupational polarization. A disproportionate number of London's low-paid jobs are now filled by foreign-born workers. More in Jon May, Jane Wills, Kavita Datta, Yara Evans, Joanna Herbert and Cathy McIlwaine, *Keeping London working: global cities, the British state and London's new migrant division of labor*, Blackwell Publishing Ltd, London, November 2006.
6. Saskia Sassen, *A New Geography of Centers and Margins*, in *The City Reader*, *op. cit.*, p. 73.
7. The population of City of London was 7,375 according to 2011 Census. The next census in England and Wales is scheduled for 2021.
8. *Population Estimates for England and Wales, Mid 2011 (Census Based)*, Office for National Statistics, 25th September 2012.
9. In 2010, a new commercial centre One New Change was opened in a prestigious location near St. Paul's Cathedral, and in 2011 a new complex Heron Plaza was completed, with apartments, a hotel and commercial and entertainment functions. The projects related to the Olympics hosted by London in 2012 also undoubtedly promoted the growth of the City and the much desired diversification of its functions.
10. As early as in 1945, St. Clair Drake and Horace Cayton called the poor and declining central districts starting to emerge in great cities "social dynamite." The contemporary publications on the subject more and more often discuss the concepts of how to deal with the tensions resulting from the widening gap between poverty and wealth, "happiness and despair."
11. Nowadays, less than 5% of the workforce are working in manufacturing. Maciej Jarkowiec, *Miasta Upadłe*, "Polityka" issue 20, 13–19th May 2015, pp. 56–58.

12. *Ibidem* (Both quotes have been translated into English by the translator of this text).
13. Joel Garreau, *The Search for the Future Inside Ourselves: Life on the New Frontier*, in *The City. Critical Essays in Human Geography*, ed. Jacques Lévy, Routledge, New York 2016.
14. Towards the end of the 20th century, the value of trade in Orange County, owing to its exports, was estimated at around 70 billion USD annually, which made the economy of this region the 30th biggest economy in the world. Source: Rob Kling, Spencer Olin, Mark Poster, *Post-suburban California*, University of California Press, 1995.
15. Since the car is the sole means of transportation, it is a highly addictive factor for residents of Edge Cities. In order to be able to maintain the necessary mobility, families are forced to keep several cars.
16. Debra Gold Hansen and Mary Ryan's opinion, in Rob Kling, Spencer Olin, Mark Poster, *Post--suburban California*, *op. cit.*
17. Crime rates indicate that a considerably lower number of crimes are committed in post--suburbs. It is related to the scattered and low-density development, which makes it difficult to "get lost in the crowd." There is another concept, though, which says that it is the contact with nature that contributes to the fact that the calm and gentle side of human nature prevails. This thesis may be found – among others – in the texts by Frank Lloyd Wright describing Broadacre City.
18. Stephen Foskett, *Urban Forms in Suburbia 2: History to Today*, http://blog.fosketts.net/about/publications/urban-forms-suburbia-rise-edge-city/urban-forms-suburbia-history-today (retrieved on 14.08.2018).
19. The Edge Cities Network (ECN) brings together cities on the edge of the major capitals of Europe. They share the same economic, cultural and social challenges originating in their geographic situation. Around February 2008, it was decided to carry out a joint project related to business development and internationalization as a way to study and exchange new ways of promoting employment and improving their living conditions (Innovation Hubs for Edge Cities INNOHUBS), https://www.keep.eu/keep/project/839 (retrieved on 14.08.2018).

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

8.1 Photo by Luiz Arthur Leirao Vieira, São Paulo, *the classic image of eco-apartheid, from the perspective of the sky, in which socio-ecological inequality is both gruesome and frozen*, in Daniel Aldana Cohen, *How New York Mag's Climate Disaster Porn Gets it Painfully Wrong*, July 2017, https://medium.com/@aldatweets/new-york-mags-disaster-porn-gets-it-painfully-wrong-33f49e039999 (retrieved on 01.12.2019).

8.2 Photo *Lloyds of London building at One Lime Street*, in Alan Hope, Lloyd's of London to open office in Brussels, 31st March 2017, Flanders Today, http://www.flanderstoday.eu/politics/lloyds-london-open-office-brussels, (retrieved on 30.04.2019).

8.3 Photo by Patrick Semansky, *A Man walks past a burning Police vehicle In Baltimore on April 27, 2015*, in Nolan Feeney, *The Wire Creator Calls for End to Violence in Baltimore*, Time, http://time.com/3837651/baltimore-david-simon-the-wire (retrieved on 30.04.2019).

8.4 Photo by David Shankbone, *Suburbia*, Wikimedia Commons.

8.5 Tysons Corner, Virginia, https://de.wikivoyage.org/wiki/Tysons_Corner (retrieved on 18.11.2019).

9

A Place for People in Twenty Years' Time[1]

In 1986, organizers of the international competition *Los Angeles Prize* invited representatives of various professions related to shaping built environments to present their visions for 'Place for People in the Year 2010.' At that time, the year 2010 was a distant perspective, which made it possible to develop some long-term prognoses, usually based on predicting certain facts instead of viewing them holistically. The introduction to the competition recommendations emphasized the unprecedented development of science and technology, which began to influence the increase of human opportunities as well as the intensive growth of creative processes that always accompanies the birth of grand civilizations. It was predicted that such phenomena as introduction of new means of communication, replacement of direct interpersonal contacts by those of audiovisual and computerized character, robot-based production, more and more links between a workplace and a place of residence, new possibilities of organ transplantation and increasing lifespan, colonization of outer space as well as preparing our species to live outside the Earth may soon become everyday reality. It was suggested that, having received tools for building a world with a new shape and a new dimension, the human race was obliged to accept more and more daring challenges.

Since most concepts presented at the competition were spun out of a rather unreflective fascination with innovative materials and technologies, they showed how these could be applied in developing new models of living in experimental earth structures and orbital units. There were a very limited number of proposals referring to the needs of Nature or basic physical and psychological human needs, which have not really changed. Equally few and far between were entries addressing

the wrongs done to the Earth by humankind and the imminent dangers of their continuing to act like thoughtless destroyers of earthly possessions of which they should be prudent administrators.

One of the few works which indicated the need to restore what had been recognized in our ancestors' philosophical concepts as the guarantee of our survival and emotional development – "contact with the earth man treads on and with the sky which spreads above people's heads"[2] – was presented by a team from the Faculty of Architecture, Cracow University of Technology[3]: Anna Palej and Grażyna Schneider-Skalska. Their work assumed that new achievements of the human mind should contribute to the creation of healthy and beautiful architecture offering conditions for realization of the values of social coexistence, where free, happy, active and sensitive human being, fulfilling their various talents and passions, could mature and develop in unity with Nature.[4]

Time flies – the year 2010 came and went. All the phenomena enumerated in the introduction to the competition whose potential appearance was described in the conditional mode, have become facts. Strangely enough, we are not living in circumterrestrial stations or deep in the oceans. It turns out that more cautious forecasts were more accurate – they called for sustainable design, which nowadays includes seeking alternative sources of energy, processing, adapting and recycling what already exists as well as solving problems related to the mental condition of man. The sense of community, safety and peacefulness are getting more and more important in a housing environment. The approach to design paying attention to humans and their needs developed in the process of evolution, cultivating our social instinct, supporting the gentle, warm and 'communal' side of human nature can also be found in actions propagating the lifestyle which values *being* above *having*. Such an approach has a chance of bringing "recesses of happiness" closer to the information society: "a bird, a garden, a neighbour's handshake, a child's smile, a cat basking in the sun..."[5] We need such things because they humanize our lives. Thus, when it comes to "our place on Earth," the most expressive options we should (or would like to) have, including a more distant perspective, are the following:

- a *smart house*, connected to Nature, associated with a workplace, implementing the contemporary principles of frugality and simplicity, responding to individual preferences with respect to the size, location and neighbourly relationships,
- a *livable city*, free from cars, whose fabric is characterized by mixed functions and a human scale, where public spaces help to maintain social contacts.

A SMART HOUSE

In short, the basic characteristics of intelligent objects can be defined as satisfying their users' various needs and managing natural resources necessary for their maintenance

in an economical manner. The first intelligent residential buildings began emerging in the United States in the 1980s. The most famous example was Xanadu – Bill Gates' extravagant residence serviced by sixty kilometres of optical fibres. The first European 'Internet house'[6] was erected in 2000 in the town of Watford near London by the Cisco company. The structure looked just like any ordinary detached house in a housing estate, with a regular functional layout and architectural expression. Its intelligence resulted from the technology which discretely filled the surroundings. When the facility was being built, its originators and builders emphasized the fact that it was not a house of the future but of the present because everything inside it could be bought in regular shops.[7] They also cited the Moore's law[8] promising that the term *accessibility* would soon include general financial accessibility, too.

The basic offer of intelligent houses encompasses monitoring weather conditions, indoor temperature, voice, motion and light intensity; managing water and energy consumption; closing and opening doors; keeping suitable air temperature in the rooms and water temperature in the household network. The operation of all the installations (electricity, heating and ventilation) is integrated, which makes it possible to increase the functionality and comfort of the building and reduce the maintenance costs at the same time. Intelligent houses take care of the safety of their inhabitants as well. They are equipped with smoke detectors; they 'recognize' their residents and automatically open the gates; when they 'see' strangers, they inform security services; they roll down burglar-proof blinds and switch on alarm systems.

An interest in smart houses is huge all around the world. In 2000, there were 650,000 buildings of this kind in the United States alone. In 2003, their number reached ten million. At present, intelligent installations, which improve the comfort and safety of living as well as contribute to broadly understood environmental protection, are becoming a standard. The Smart Audio Report from NPR and Edison Research indicate[9] that at the end of 2017 16% of Americans (or around 39 million people) had a smart speaker at their homes working as a virtual assistant. Such device – playing the role of a central feature in the home – helps not only to play music from your Smartphone or the cloud...

> *... but if you start talking to it, the speaker will respond to your commands. It can do things like look up the weather and sports scores, turn on your coffee maker, read you a book or even change the channel on your TV.*[10]

Only a decade ago, Poland had a limited number of residential buildings equipped with integrated systems of needs monitoring. Most of them were residences of 800–1,200 m², which explains why they were called 'toys for rich people.' Today, according to experts' estimates,[11] the Polish market of solutions applicable in smart homes is valued at 100 million PLN, and the most desirable appliances are the ones

9.1
The Polish Smart House designed by BXB studio is equipped with numerous smart control systems which may be managed with the use of a smartphone. Photo by BXBstudio.

that control security systems through mobile devices and energy-saving solutions. In the perspective of 5 years, the market of intelligent systems is expected to increase more than six times – to 600–700 million PLN as a result of increased awareness of users,[12] availability of solutions in their basic versions and the expanding offer of innovative gadgets that make life more pleasant. However, what was luxury yesterday is a standard today. Not so long ago, visitors to the Xanadu mansion were amazed by the fact that the house recognized each resident, displayed their favourite images on plasma screens and played their beloved music from the speakers – now most systems in the standard offer can do that.[13] Tomorrow, systems may take control of us and "our own lodgings will read Descartes' *Collected Works* on the Internet in our absence and then text us 'I think therefore I am. Sincerely, your house.'"[14]

The array of services which intelligent houses provide to their inhabitants is ever expanding. In the Eindhoven Research Centre, opened by the Dutch concern Philips in 2002,[15] a fragment of one office building was transformed into a flat for a two-generation family. In this peculiar laboratory named HomeLab, new designs are tested by groups of volunteers whose behaviour is observed ("Big Brother" comes to mind...) by research teams who then verify the usefulness of the suggested experimental solutions from the technical and psychological perspective. The main objective is to see to what degree the general public are ready to accept them and, consequently, to change their habits. All the designs in Eindhoven are prepared by a team of 450 people whose average age is thirty.

9.2
"HomeLab – Philips' Home Electronics R & D Incubator where home technology prototypes are tested under the most realistic conditions possible – has generated its first commercialised product: Mirror TV," which gives access to the current news, provides information on the health condition and makes cleaning teeth in the bathroom more enjoyable for children. Source: New Atlas.

Here are some sample solutions tested in Eindhoven and at many other research centres[16]:

in the living room – a space-saving huge screen that can be effortlessly rolled up away and out of sight; a superhigh-resolution short-throw projector that turns any white wall into your own personal movie theatre; an armchair which automatically sets the positions of the footrest and the headrest at "regeneration and contemplation" as soon as the owner returns from work, and wall panels making it possible to admire the Grand Canyon, Trinidad or underwater landscapes of coral reefs; Internet-connected gear for homes inhabited by the elderly, allowing adult children to monitor their aging parents;

in the kitchen – a computerized refrigerator which displays data on the amount of calories in selected products, watches the expiry dates, prepares a shopping list based on its contents and orders food online; smart oven outfitted with a camera and a digital thermometer helping to monitor food as it cooks or bakes; a 3D food printer helping to create intricately shaped meals;

in the bedroom – a smart mattress with sensors measuring your sleep metrics; a smart aromatherapy alarm clock which senses when you've reached your sleep cycle's lightest point and releases a wake-up scent of your choice; interacting closet filled with clothes tracking health markers and habits and even changing shape and colour based on your feelings;

in the bathroom – a mirror which recognizes a member of the household and, depending on his/her age and preferences, displays a timetable for a given day, the scheduled time of leaving home, abridged news and a stock exchange bulletin or – in the case of children – shows an animated cartoon which encourages children to wash carefully and informs their parents about a necessary appointment with the dentist; a high-tech bathtub inducing relaxed brain waves and a nose-geared gadget letting you program and control your own aromatherapy session while you soak;

in the garden – an integrated garden management system using a mobile application or web browser providing data on soil moisture, temperature and light intensity, allowing to plan lawn mowing or economical irrigation.

The latest wave of home-focused technology is about making everyday life better, easier and more pleasurable. However, the most important task of the systems used in homes and flats is still intelligent energy consumption. In larger scales, they are already beginning to restructure urban and regional infrastructure. In the case of electric energy, changes will aim at replacing large monopolistic companies which dictate prices with a highly decentralized network of small deliverers, including individual buildings which produce solar or wind energy exceeding their own needs. Intelligent management of a network of small producers will differentiate payments for energy at periods of increased and limited power consumption to a much larger extent than before. The same principle will regulate payments for water consumption, using telecommunications networks or access to the latest news.

The appearance of a growing number of intelligent and interconnected elements in the scale of a person, a room, a building, a neighbourhood, a metropolitan area and in the global scale will transform the urban tissue, lay individual items of information on it,[17] engage our senses and attention in various manners. Owing to wireless

9.3
"Using electric-car batteries, solar power and fuel cells, Nissan's Smart House of the Future, or NSH-2012, is a home that could be deployed to stricken areas without power amid a crisis. Fully functional even when it's impossible to connect to the power grid, electronic appliances inside 'talk' to each other to ensure maximum energy efficiency, while stilt-like 'legs' on wheels ensure portability." Source: Nissan Channel 23 Blog.

connections and automatic adjustment of different appliances, this network will satisfy new and more advanced needs of people, cities and Planet Earth, acting as a 'Guardian Angel.'

A LIVABLE CITY

There is no single satisfactory definition of the term "livability." Professionals who deal with urban planning and management usually formulate it from the point of view of contemporary challenges and relate to such values as: robust and complete neighbourhoods, accessibility and sustainable mobility, a diverse and resilient local economy, vibrant public spaces and affordability.[18] For city residents themselves, this term is also difficult to define unequivocally. For some, it is intrinsically tied to physical amenities, such as parks and green spaces; for others to the cultural offer, career opportunities, economic dynamism, or some reasonable degree of safety to raise a family.[19] There are also those who, when describing a friendly environment, refer it to humanistic attitudes which urge people to build cities where "children play and run around, people stop to talk with their neighbours, where everybody feels that they stand in front of their home, in their own street."[20]

Contemporary transformations have removed happy children from sight in cities, they are now rarely visible in urban spaces and the residents' sense of belonging to their surroundings, just as the delicate relationships between the physical components, so visible in historic cities, have been weakened or lost completely. Edoardo Salzano, a former member of the City Council and the Dean of the Faculty of Urban Planning at Venice University, described this phenomenon in a very vivid and witty manner:

> *In general terms, we can say that the modern city is built up as a lot of houses linked by a lot of roads covered by a lot of cars. It is built as a continuous conglomerate of concrete and asphalt: on the back of houses and roads lies some open space – free for children and garbage, often for the two of them together.*[21]

Such conditions do not promote building a community in which people are ready to live together and talk to other people. It has even been said that the very idea of cities, whose construction can be characterized as eternal, enthusiastic efforts aiming to make human contacts and shared actions easier, has been called into question.

In previous decades, the rising awareness of the shortcomings of *information cities*[22] (mainly in the field of socialization and cooperation) triggered a series of interdisciplinary debates and initiatives[23] aimed at improving the standards of urban environment and making a city existence better, more comfortable and safer, but also – which is especially important from the psychological point of view – at strengthening the affiliation of an individual to a group of people from the neighbourhood.

Taking a more comprehensive look at the questions of urban comfort has effected establishing certain fundamental principles which say that a *livable city* is the one in which public spaces support development of social and environmental competence as well as celebration of the feeling of autonomy and identity. An *inhabitant-friendly city* is the one where people can see and hear each other, where human conversations resound and children's laughter is not drowned by the roar of traffic. The best examples of such structures are Centro Storico in Venice or the Old Town in Krakow.

Venice, often defined as a *museum city* flooded by tourists, is usually treated as a special case – the builders' answer to extraordinary locating conditions. For this reason, it does not seem to represent values which could work anywhere else. Strangely, it is not the case. Venice is not just a testimony to what may be achieved when humans listen to the rhythms of nature in a unique scenery but also a proof of how a consistent culture of construction, concentrated on collective values, translates directly into a high quality urban life. In no other city, the relationship between an urban form and the patterns of social life seems more natural. Because of this, Venice should be viewed as a model to follow. The exemplary functional and spatial solutions, easy to test here, include: eliminating vehicular traffic, organizing the rhythm of everyday life within the framework of clearly marked neighbourhoods, preserving the human scale of urban enclosures and following the principle of mixing functions. Lewis Mumford emphasized the question of the universality of these solutions in his significant work *The City in History*, where he wrote that "the homework Venice assigned for us has not been done yet."[24]

At this point, doubts could appear whether it is reasonable to copy old models or see them as starting points for new solutions and whether they are able to meet contemporary societies' needs and aspirations at all. It turns out, however, that the dynamically developing Information Technology has breathed a new life into many historic cities, which, unable to meet the requirements of the industrial age or offer any modern employment options other than in tourism, have turned into museums and lost a significant number of their permanent residents. Nevertheless, nowadays, since it is incredibly easy to introduce the telematic infrastructure into historic urban tissue and thus facilitate teleworking and running a business in the global village, cities of this kind receive a new chance for restoring their old grandeur. It is now happening in Venice, which – being an information city – attracts a multitude of young people who want to live and work here, although frequently they work for a distant client or distant headquarters. The magnets which attract people to settle down here are undoubtedly the mild climate, breath-taking views, the stimulating intellectual community, unique architecture and the human scale of urban enclosures. The high quality of life is one of the primary objectives of

the current policy of the municipal authorities, which try to create the image of Venice as a modern city with an extensive base of specialist knowledge, excellent educational institutions and artistic events of the world rank on one hand, and a safe and quiet lifestyle supported with a vast array of social services on the other hand.

What other cities could envy Venice most is the fact that it has a water transport system instead of cars, whereas its streets are reserved solely for people. It is true for the old part of the city – *Centro Storico*, which can be reached from the mainland across a causeway by a railway and a motorway. Trains and buses stop at stations situated close to each other, whereas vehicles can be left at the multilevel car park on Tronchetto – an island connected with the stations by means of a modern fast railway called People Mover built in 2010. After entering the main part of Venice, one can walk or use passenger transport: water trains – *vaporetti* and *traghetti*, which are usually overcrowded in high season, or water taxis – *lance*, popular with wealthy people who enjoy travelling in luxurious conditions but also with those in a hurry. All kinds of merchandise are also delivered by water with the help of transport boats – *mototopi*, *peate* and *burci*. Traffic on the canals, especially the biggest ones, such as Canale Grande, Canale della Giudecca or Canale di San Marco, is really congested. That is why the number of individual vehicles – *gondole*, *sandoli*, *topo* and *sampierotte*, which are equivalent to private cars – is strictly limited. It is very difficult to get a license for driving motor boats along the canals (its price is another serious problem).

9.4
In the old part of Venice – Centro Storico – the only available means of transport is water transit, which makes the streets human-friendly. Photo by the author.

9.5
Venice is safe for children not only because there are no cars, but also because children play in the streets and squares under the eye of adults whom they know from the neighbourhood. Photo (left) by Oliver F. Lehmann, (right) by the author.

The fact that cars are stopped at a certain point in the city does not cause any serious inconvenience for its dwellers. Owing to the shape of the island and Canale Grande, which resembles a reversed "S" letter, the radius of access to the densely spaced water tram stops does not exceed 500 meters from most points in the city. Venice is a city of short distances, which is additionally supported by the high density of development and the uniform saturation of the areas with little shops integrated with residential buildings, which make department stores or supermarkets practically useless. Kindergartens, schools, outpatient clinics, assisted living facilities or even university buildings and hospitals are also located inside residential districts. Research done in the late 1990s proved that 63.4% of trips from home to work or school were on foot; 35.5% by water tram; only 1.1% by private car.[25] Given the rising proportion of young people in the total number of permanent city dwellers, who willingly engage themselves in environmental movements and often choose the teleworking option, it is predicted that the described tendency will not alter much in the future.

No doubt, absence of vehicular traffic and the ability to move freely across Venetian streets and squares help to improve safety, especially for elderly people and children. The intensiveness of development, mixed functions and intermingling public and private domains offer conditions for maintaining social contacts in the

9.6
Campo Santa Margherita is situated in the centre of a large residential district. Local residents cross the square on their way to work or school, they do most of their shopping here and they also come here when they want to sit on a bench for a while and have a chat with their neighbours. Photo by Randy D. Bosh.

most natural manner. The fact that your workplace, your place of residence and your favourite grocery are all so close to one another makes the streets and squares of your city hospitable, and this promotes social stability and good management of processes which should be the object of shared concern.

Campo Santa Margherita[26] is the most commonly used example of a physical and social environment which offers ideal conditions for socialization of children and adolescents. In the first global ranking list of unique urban squares published by the Project for Public Spaces (PPS) in December 2005, Venice's Campo Santa Margherita came sixteenth. Since this square is located in the centre of a relatively big residential district, it is used by its inhabitants every day. People do most of their basic shopping here and cross the square on their way to work or school. Elderly residents stroll by, sit on benches or chat with their neighbours. One can also meet children – playing, chalking shapes on the pavement, riding their bicycles and skateboards or even playing football. By sharing the space of the square with others, children learn to negotiate the rules of using it: football players are careful not to hurt anyone, while adults are expected to accept children's natural need to remain in motion, learn new experiences, take challenges and act together.

The Main Market Square in Krakow is of different character. As the heart of the Old Town, which was first entered on the UNESCO World Heritage list in 1978 as

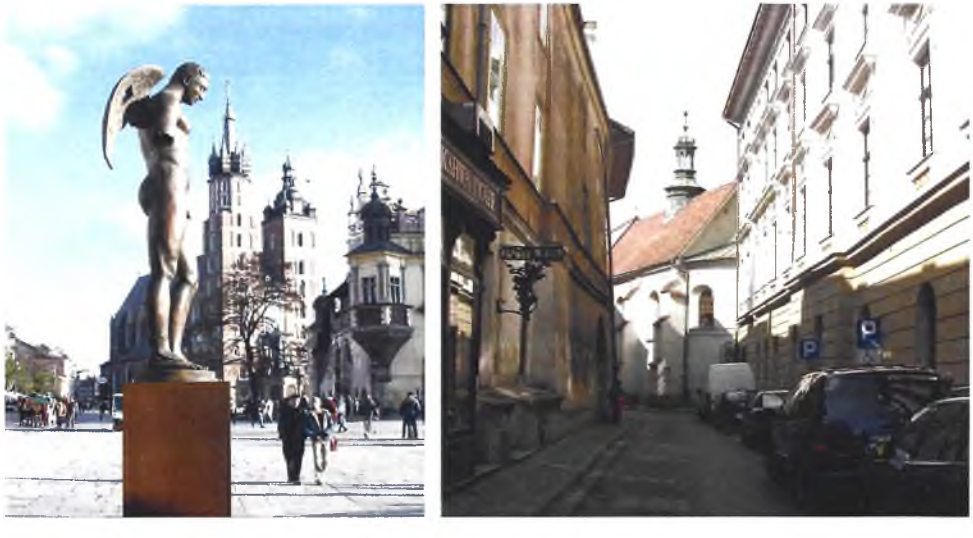
9.7
The Main Market Square in Krakow is the largest and one of the most beautiful mediaeval squares in Europe. Photo by Jorge Lascar.

an urban whole, it is definitely a more formal place. The Market Square is Krakow's showcase. It is the largest square in Europe and – as it turns out – 'the best square in the world' as well. In the abovementioned ranking list of the PPS – an institution which has been supervising actions for the revitalization of public spaces for more than thirty years – Krakow's Main Market Square came first leaving such places as Piazza Navona in Rome (third) or the Old Town in Prague (seventh) behind. The criteria of assessment included: the overall image, identity of the place, additional attractions and conveniences, adaptability to changing needs, versatility of the offer, accessibility and efficiency of management. In the PPS jurors' opinion, "the scale used in evaluation proved to be inadequate for the Market Square in Krakow"[27] because it has so many assets.

The Market Square has magnetic properties – eleven streets and two passageways lead to it. This square is always filled with people: passers-by just walking across its area; people planning to do some shopping or just sitting in cafe gardens; tourists listening to the bugle-call from the St. Mary's Church tower; children feeding pigeons under their parents' eye; secondary school graduates jumping around the monument of poet Adam Mickiewicz "for luck;" lovers buying bunches of flowers; elderly people sitting on the benches along the Cloth Hall; all those who come here at the beginning of every December in order to admire traditional nativity cribs[28] – the pride and joy of young and older makers.

A wonderful setting for the city residents' daily routines and for tourists' magic moments, the Market Square evokes numerous recollections and reflections. For Polish citizens, it is an extraordinarily important place which builds national awareness and the society's collective memory – it has been witness to numerous events significant for Krakow and the entire country. Aristocratic families resided in the buildings around the Market Square, Members of Parliament stayed here, great feasts were given here by kings and for kings, the first Polish post carriages were sent to Venice from here. Monarchs and important royal guests, welcomed with songs and flowers, arrived at Wawel crossing the Market Square under a wooden bridge shaped like an arch of triumph at the end of Grodzka Street.

The Market Square in Krakow as well as the entire Old Town, surrounded with an urban park established at the place of demolished medieval fortifications following the Viennese fashion, seems to be the most beautiful illustration for Camillo Sitte's book *Der Städtbau nach seinen künstlerischen Grundsätzen*.[29] As we know, the author of this book, published in 1889, emphasized positive psychological effects produced by harmonious and beautiful urban spaces clearly defined by their walls. He encouraged people to acquire creative experiences through careful analysis of historical models. In the opinion of numerous architects and theoreticians of architecture, Krakow deserves to be praised particularly for the artistic values of its urban spaces, which help to build the identity of the city. The streets and squares form a clear compositional grid, making it easy for people to move around and find their bearings, and thus helping to build the sense of safety and affiliation, secure direct contacts, shared experiences and mutual concern for the inhabitants and their guests.



9.8
The Main Market Square and the whole Old Town in Krakow are appreciated not only for their unique artistic value but also for the ability to create a magic atmosphere. Photo by the author.

Campo Santa Margherita in Venice and the Market Square in Krakow are very different squares. The former is focused on everyday life, whereas the latter – on playing the role of one of European cultural showcases. Both, however, fulfil a similar role: they are components of a *livable city* whose public spaces have always made people feel good. At present, the features they represent acquire additional special significance because communing with people, both in places visited every day and 'once in a blue moon,' somehow compensates for the pace of changes, the sensation of being haunted by technology and all the long hours spent in seclusion, motionless in front of a computer screen.

Both Venice's Centro Storico and Krakow's Old Town are exceptionally beautiful places. However, beauty is not the only thing that attracts us to something. In ancient Greece, this notion was related to spirituality, morality, mind and reason. Contemporary research confirms the impact of beauty and its opposite – ugliness – on the formation of human character, which may be summarized in the following manner:

> *In an ugly city, the principles which govern its physical environment – boredom, monotony, conflicting relations between objects or uncontrolled development – may be understood by the inhabitants as a consent or even an incentive for confrontational behaviours and uncontrolled aggression.*

And quite the opposite:

> *The acknowledged principles of design which can be found in a beautiful city, such as harmony, well-chosen proportions, suitable relations between buildings, continued public spaces, unity and diversity, do not refer to physical structures only. They are also treated by people as a model of positive attitudes.*[30]

Therefore, we should finally do the homework which the LIVABLE AND BEAUTIFUL VENICE as well as the LIVABLE AND BEAUTIFUL KRAKOW have been assigning us for so long.

* * *

In conclusion, let us ask ourselves:
– will the ruminations presented in this paper be relevant in twenty-five years' time or will our dreams and aspirations lead us towards experiments and visions of living in neo-structures on Earth, deep in the ocean or in interplanetary spaces again?
Or perhaps things will change course...

NOTES

1. This article entitled *Place for People in the Year 2035* was published in *Future of the City. Eco Rahab 3 Cracow 2012*, Wydawnictwo Techniczne, Cracow University of Technology, Kraków 2012, pp. 13–24. This part of the article which refers to Venice in entitled *Venice – a city good not only for children* was also published in Polish and English in Czasopismo Techniczne/ Technical Transactions, issue 13, year 109, Wydawnictwo Politechniki Krakowskiej, Kraków 2012, pp. 91–102.
2. According to the assumptions of Confucianism – the religious and philosophical doctrine of ancient China.
3. Anna Palej and Grażyna Schneider-Skalska's work, prepared in 1986 for the competition *Los Angeles Prize* "Place for People in the Year 2010," was presented in publications meant for American schools of architecture.
4. Anna Palej, Grażyna Schneider-Skalska: *Środowisko życia człowieka w roku 2010*, in "Teka Komisji Urbanistyki i Architektury," Vol. XXV, Kraków 1992, p. 81–91.
5. Pam Brown, in Robert Idem, *Kształtowanie mikrośrodowiska jako miejsca wspólnoty*, Gdansk University of Technology Press, Gdansk 2012, p. 1.
6. www.cisco.com/go/ihome (retrieved on 27.06.2011).
7. *Ibidem*, In 2000, the furnishings of an 'Internet house' cost $10,000. According to the contractors' declaration, the costs of installing the appliances pay off quickly thanks to the 'intelligent' maintenance of the building.
8. The Moore's *Law* is in fact an observation made by Intel co-founder *Gordon Moore* that "the number of transistors on a chip doubles every year while the costs are halved."
9. http://nationalpublicmedia.com/wp-content/uploads/2018/01/The-Smart-Audio-Report-from-NPR-and-Edison-Research-Fall-Winter-2017.pdf (retrieved on 17.11.2018).
10. Mike Prospero, *Best smart speakers* 2018, https://www.tomsguide.com/us/best-smart-speakers,review-4480.html (retrieved on 17.11.2018).
11. From the conversation between the Newseria Biznes information agency and Radosław Borkowski, the director of Somfy Polska, which manufactures smart home solutions, https://biznes.newseria.pl/news/rynek-inteligentnych,p1432688098 (retrieved on 17.11.2018).
12. According to a survey conducted in 2017 by MEC Analytics Inside, 84% of Poles have heard of the concept of a smart home. It is mainly associated with remote control (43% of respondents) and treated as synonymous with modernity (39%) and energy efficiency (31%). 88% of respondents are convinced that a smart home increases the safety of the home and family members. Aleksandra Zborowska, *Myślę o tobie. Twój dom*, "Newsweek" no. 48, 19–25th November 2018.
13. Piotr Stasiak, *IQ rośnie, cena spada*, "Polityka" no. 38, 20th September 2007.
14. *Ibidem*, p. 110.

15. For more information on this see *Ambient Intelligence In HomeLab*, Emile Aarts, Berry Eggen [eds.], 2002 Royal Philips Electronics, Eindhoven, The Netherlands.
16. Examples of solutions according to: *Ambient Intelligence In HomeLab*, *op. cit.*, Rachel Tepper Paley, *This Is the Smart Home of the Future*, 16 February 2018, https://www.bloomberg.com/news/articles/2018-02-16/this-is-the-smart-home-of-the-future (retrieved on 17/11/2018) and Radosław Zieniewicz, *Spraw sobie smart ogród*, http://www.najlepszedomy.pl/wokol_domu/105/spraw_sobie_smart_ogrod,3118.html (retrieved on 17.11.2018).
17. We mean the possibility of reading, e.g. with the use of intelligent glasses, various information sets (depending on a recipient's needs) concerning a given city: tourist advice, historical data, information on the value of buildings on the real estate market etc.
18. According to Missions & Goals, Livable City San Francisco, https://www.livablecity.org/missiongoals (retrieved on 26.11.2018).
19. Chris Ling, Jim Hamilton and Kathy Thomas, *What makes a city livable?*, CRC, 19 December 2006. Community Research Connections is dedicated to building civic literacy and useful knowledge for integrated decision-making around critical social issues, particularly Canadian community development that is more sustainable, https://www.crcresearch.org/discover-crc/about-us (retrieved on 26.11.2018).
20. From the manifesto of Team 10, in Alison Smithson, Peter Smithson, *Team 10 Primer*, Cambridge, Massachusetts, MIT Press, 1968.
21. Edoardo Salzano, *Designing for Urban Life*, in *Making Cities Livable*, Susanne H. Crowhurst Lennard, Jürgen von Ungern-Sternberg, Henry Lennard [eds.], IMCL1997, pp. 33–34.
22. *Information cities*, according to a definition by the world-famous sociologist Manuel Castells – the author of the inspiring trilogy *The Information Age: Economy, Society and Culture* – are cities which remain under the influence of advanced technologies and the information revolution. Let us notice that every city remains under such influence these days.
23. The best-known international forums for exchanging experiences in the field of building livable cities are: Project for Public Spaces (PPS) – an American non-profit organization founded in 1975, acting for the revitalization of urban public spaces, and a series of conferences organized since 1985 under the common slogan of Making Cities Livable (the 55th edition was held in May 2018 in Ottawa, Canada).
24. For more information on this subject see Lewis Mumford, *The City in History*, Penguin Books, U.S.A and Great Britain 1961, pp. 368–376.
25. For more information on this subject see Egon Grund, *Venice: A Model of a Car-free City?*, in *Making Cities Livable...*, *op. cit.*, pp. 209–212.
26. In the first global ranking list of urban squares, published by the Project for Public Spaces (PPS) in December 2005, Venice's Campo Santa Margherita came sixteenth.
27. http://www.krakowlife.pl/54,Najlepszy_Rynek_swiata.htm (retrieved on 17.11.2018).
28. Originally, Krakow's nativity cribs were small richly decorated theatres with many towers and

a tiny stage for showing events related to the birth of Jesus Christ. In the 2nd half of the 19th century, some architectural features developed which distinguished cribs made in Krakow from others. They were influenced by the patterns of historic edifices, mainly churches. In order not to let this tradition disappear, a contest for the most beautiful crib was organized at the feet of the monument of Adam Mickiewicz in 1937. After the war, the contest was revived. Its 76th edition will take place at the Main Market Square in December 2018.

29. The English translation entitled *City Planning According to Artistic Principles* helped to propagate Camillo Sitte's idea in Europe as well as in the United States.
30. Based on the research presented in Henry L. Lennard, Susan H. Crowhurst Lennard, *Forgotten Child. Cities for the Well-Being of Children*, A Gondolier Press Book, International Making Cities Livable Council, Carmel, California 2000, p. 25.

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

9.1 Photo by BXBstudio, in *Smart House – inteligentny dom wpisany w krajobraz*, http://www.bryla.pl/bryla/56,85301,23225101,smart-house-inteligentny-dom-wpisany-w-krajobraz.html (retrieved on 30.04.2019).

9.2 In Mike Hanlon, *Philips HomeLab creates Mirror TV*, 4th June 2004, New Atlas, Around the Home, https://newatlas.com/go/2003 (retrieved on 30.04.2019).

9.3 In Ian Rowley, *Smarter Living in Disaster Zones*, Oct. 4th, 2011, Nissan Channel 23 Blog, https://blog.nissan-global.com/EN/?p=754 (retrieved on 30.04.2019).

9.4 Photo by the author.

9.5 Left: photo by Oliver F. Lehmann.
Right: photo by the author.

9.6 Photo by Randy Bosh, *A Quiet Bench in the Busy Campo*, in *Campo Santa Margherita*, Dec 18, 2010, Renaissance Rules, https://renaissancerules.wordpress.com/2010/12/18/campo-santa-margherita (retrieved on 30.04.2019).

9.7 Photo by Jorge Lascar, *Sukiennice and Main Market Square as seen from St. Mary's Basilica, Krakow, Poland*, Wikimedia Commons, https://pl.wikipedia.org/wiki/Plik:Sukiennice_and_Main_Market_Square_Krakow_Poland.JPG (retrieved on 30.04.2019).

9.8 Photo by the author.

10

Forms of Settlements in the Scenarios for the Future Shape of the World[1]

Big cities work like magnets. They attract newcomers with a vision of employment, better education and happy life. People also want the urban magic – access to information, high-brow culture, luxurious goods, various kinds of activities, impressions and experiences. Those who are prosperous associate a metropolis with such terms as fascination, richness, consumption, power, business and money. Those who are not successful describe it with the following words: exclusion, poverty, alienation, loneliness, lack of control over one's life and surroundings.

Because big urban organisms are polarized, which aggravates both social differences and complex economic, environmental and spatial problems, big cities seem to be the focus of most research and debates related to urban issues. However, this situation is beginning to change as the notions of *big city*, *medium city* and *small city* are getting more and more flexible. It happens so because cities are elements of a Network these days and most opportunities and contemporary problems are the same in variously sized urban centres. It is true that any form of a city may be developed almost anywhere, yet in a smaller urban settlement, it is a lot easier to implement a 'slowdown' strategy by getting a foothold in the local tradition, have urbanity with a human face and introduce sustainable development. Small towns can also adjust more easily to the scenarios for the future condition of the world, formulated for short and long periods and from different perspectives.

The expectations of contemporary people as regards the future of the world, including the future of cities, have always varied as they have always reflected changing human pursuits and fascinations as well as anxieties and fears. Concepts resulting from faith in the unprecedented development of science and technology

were long based upon the conviction that it would contribute to general prosperity, measured with consumption levels, and that the main objective of human actions was to maximize profit rather than achieve fulfilment. As regards cities, special hopes have been recently laid on Information Technology enthusiastically believed to be a remedy for all the social, economic, political and environmental problems of the industrial age. It was also hoped that it would free mankind from the limitations of the body, race, sex, place, time and nationality opening a boundless potential of living in a new reality.

A factor called *social reflectivity* by sociologists has – for quite some time now – been getting in the way of the development of concepts which place humankind in *the new world* and promote an existential model known as *the modus of possessing*. This factor is beginning to effect a change in the generally accepted model of existence steering it towards some long rejected and forgotten values which, nevertheless, remain familiar to humanity as they are strongly connected with culture, tradition and the character of evolutional processes which shape a person they promote an existential model called *the modus of being*.[2] Social reflectivity always sets in with a little delay as a reaction to new phenomena. First, it takes on the form of intellectual disputes, philosophical ruminations and scientific research; then it involves more open, spontaneous actions transforming into social movements in which the general public may demonstrate their opinions and expectations followed by activities undertaken by government agencies and nongovernmental organizations.

Erich Fromm, an outstanding and versatile twentieth century thinker, was one of the first authors who discussed the important civilization problems of *the present*, warning societies against "the religion of progress and consumption" with its rapacity, hedonistic attitudes and hyperconsumption.[3] He also criticized big cities for their lack of communication between the ethics subordinated to the dictate of technology and money and the ethics of sociocultural values based on the proven social norms of *the past*. This lack of communication distorts the state of equilibrium and dehumanizes urban environments. An important issue in academic disputes on the matter have been the contested uniformity and cosmopolitism of the urban physical environment. It creates the framework for an international lifestyle, which in turn poses a threat that ethnically and culturally different communities will be incorporated into one universal urban culture.

The theory of Patrick Geddes – a Scottish geographer, sociologist, philanthropist and planner – presented in the early twentieth century is still regarded to be an important link between *the past* and *the present*. He said that urban design had remained in a close relationship with the natural and social environment since antiquity. For that reason, decisions referring to the construction of cities were usually taken after a detailed investigation of location conditions and the possibilities

of using natural resources, the character of the needs of the environment and man as well as the kinds of human activity related to a given profession and responsibilities resulting from affiliation of an individual to society. Patrick Geddes perceived the environment as a composition of three elements: *a place, people* and their activities – *work*.[4] For him, the starting point in the design of cities was a multisided analysis of the foregoing elements and the interdependence between them combined with constant referring any views or perspectives to *the past, the present* and *the future* treated as a continuum.

These days, the concepts of Geddes, called the first Western environmentalist, are regarded as a rational model of regional planning and an enlightened analysis of the responsibilities of urban design. They have become the basis for development of an interesting approach attributed to Alberto Magnaghi – a professor at the University of Florence in Italy and the author of a number of significant theoretical and design works. His book entitled *The Urban Village: A Charter for Democracy and Local Self-sustainable Development*[5] was met with an international response.

The starting point for the abovementioned approach, outside Italy called *the Territorialist School* (*Scuola Territorialista Italiana*), was an observation that the contemporary European model of territorial development supports the homogenization of areas, cultures, lifestyles and consumption models under the influence of integrative actions, and that the processes are not coordinated by any one holistic spatial vision. They are often a result of the interests and, consequently, pressures of various sectors of economy, an effect of short-term infrastructural interventions or individual design decisions referring to the regeneration of urban tissue. The commonly adopted concepts of sustainable development are usually concentrated on global strategies of quantitative character. They mainly focus on improvement of the natural environment overlooking other local values.

Alberto Magnaghi's widely propagated approach aims at protecting and using broadly understood local potential, promoting solutions oriented at quality instead of quantity and defining the principles of sustainable development which promote a high degree of local self-sufficiency. Special emphasis is placed on fulfilling human needs – both material and spiritual, on citizenly responsibility, the ability to take decisions collectively and 'taking things in one's hands.' Three groups of action are expected to help fulfil the assumed tasks:

- recognizing the heritage of every *territory* supporting its inhabitants' identification with their surroundings, including the values of the natural and urban landscape, culture, knowledge, art and craftsmanship;
- extending the competences of local authorities and increasing inhabitants' participation in decision-making processes;

– increasing the possibilities of local employment using the potential of a given territory – its resources, know-how and productive capabilities.

The foregoing action groups should be conducive to the maintenance of balance between people and the environment characteristic of a given location. According to Magnaghi, the biggest obstacle on the way to positive changes is the residents' separation from their nearest surroundings making them unable to act in their own best interest.

In spite of having formulated quite clear patterns, *the Territorialist School* does not offer one distinctive model for developing settlement forms. It just distances itself from the hierarchical *city centre/suburbs* model and from solutions where historical fragments of cities are transformed into open-air ethnographical museums or 'theme parks.' It suggests the possibility of taking spaces shaped by history as the starting point for creating individualized solutions designed in accordance with the principle of preserving mutual relationships between natural systems and communities without domination of any kind. Thus, this approach is close to horizontal solutions understood as the fractal structure of cities, towns and villages – each of their element has its own centre, public spaces, identity and environmental assets.

Undoubtedly, the Italian method, focused on regionally anchored smaller forms, works towards creation of happier human communities with strong identities – important as a counterweight for the homogenized contemporary world. Similar goals can be found in a worldwide grassroots movement called *Transition Towns*, whose starting point for more detailed ruminations is an assumption that climate change, the decreasing amount of fossil fuels and serious economic fluctuations are the strongest factors of all that will be shaping the human future in a shorter (10–30 years) and longer (the twenty-first century and further on) temporal perspective.

10.1
Both approaches – the *Territorialist School* and the *Transition Towns* movement – have the same objective, which is identifying and reinforcing the local cultural and environmental assets of a given region, as well as preparing the society for the changes that will happen in all areas of life in consequence of the convergence of peak oil and climate change. Source: Visit Devon.

The profile of the *Transition Towns* movement,[6] which works towards increasing the awareness of the need for a sustainable lifestyle, was developed by Rob Hopkins in Ireland. It was based on the principles of permaculture presented in David Holmgren's significant publication entitled *Permaculture: Principles and Pathways Beyond Sustainability* (2003). Its initial premises, calling for creative solutions in such fields as energy production, health, education, economy or agriculture referred to the sustainable future of small cities. Therefore, the English town of Totnes (pop. 8,000) in Devonshire was chosen as the grounds on which the pioneering ideas were to be implemented. The ideas soon gained widespread popularity and evolved into *Transition Initiatives* emphasizing that the principles may be implemented in communities of any size: villages, islands, city districts, entire big cities, or even larger regions.[7]

Projects realized by local communities are mostly simple actions promoting a sustainable lifestyle. For instance, they search for methods of reducing energy consumption by shortening long chains of delivery of basic commodities, mainly food. They create community gardens, promote exchange of information about unconventional farming methods, plant trees, organize exchange of recyclables between companies, promote local barter and trade – activated owing to the introduction of local currency. However, the main objective of the foregoing activities, however desirable they are *per se*, is to prepare individuals and communities for adaptive behaviours in the rather unpredictable future. Therefore, one of the elements of *Transition Initiatives* is an attempt to build scenarios for the future

10.2
The Transition Network, founded in the small town of Totnes, England, in 2006, is a charitable organization which aims to "inspire, encourage, connect, support and train communities as they self-organize around the Transition model, creating initiatives that rebuild resilience and reduce CO_2 emissions." Source: Naked Wild and Free.

condition of the world and searching for modes of existence based on a higher extent of self-sufficiency and solidarity.

In the 1970s, an avant-garde architect Yona Friedman signalled the hazards of founding most planning strategies exclusively on the hypothesis of prosperity. He presented two possible and rather pessimistic scenarios for the future.[8] One of them was *Scenario for the poor world*, which presented the world entering a period plagued by all types of shortage (food, medicine, energy, shelter). The other was *Scenario for sporadic/periodic poverty*, which discussed the situation where there are sudden crises lasting long enough to produce dangerous results. Examples of such situations include local military conflicts, serious electric grid breakdowns or even volcano eruptions. As they are bound by various procedures, government agencies are too slow to bring immediate help to the public in all kinds of crisis situations. In Yona Friedman's opinion, the spontaneous, grassroots division into urban villages and small well-organized communities has a chance of supporting survival in a much more effective manner.

Spontaneous, grassroots and effective adaptive actions make the basis of *Transition Towns*. However, this movement mostly tries to address the needs of the world in the era of climatic anomalies and decreasing access to cheap fuels, as described by David Holmgren in his four possible scenarios. They were presented in 2009 in a publication entitled *Future Scenarios: How Communities can adapt to Peak Oil and Climate Change* and on website www.futurescenarios.com.[9] The scenarios differ from each other in the following aspects: the pace of changes referring to the climate and accessibility of fuels, settlement forms adjusted to the expected conditions, kinds

10.3
Abridged presentation of David Holmgren's four scenarios with different paces of climate change and access to sources of cheap energy. Developed by the author following *Future Scenarios*.

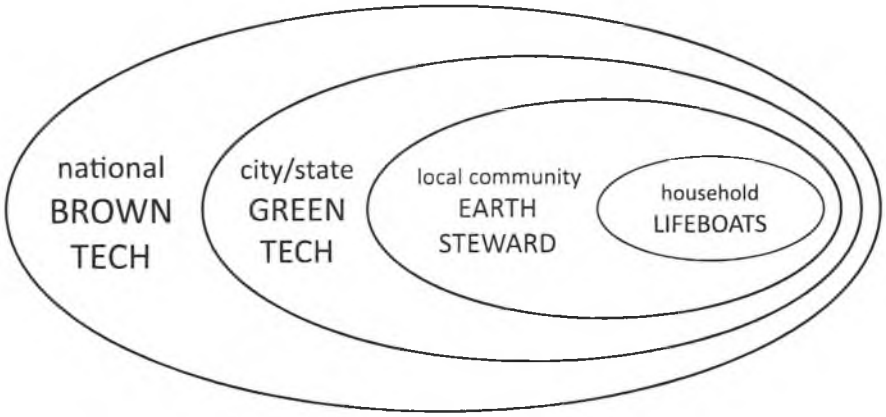
SCENARIO	ENERGY & AGRICULTURE	SETTLEMENT FORM & MOBILITY, MONEY & FUNDS
BROWN TECH FAST CLIMATE CHANGE, SLOW OIL DEPLETION	centralized power generation (non-conventional, oil, gas, coal, nuclear), 'high-tech' efficiency; bio-shelter agriculture	high density cities, electric private transport, abandonment of the countryside, mass migration; national banks & currencies
EARTH STEWARD SLOW CLIMATE CHANGE, FAST OIL DEPLETION	energy distributed locally (hydro-energy, methane), industrial salvage; forest, organic & garden agriculture	ruralisation of suburbia, rural resettlement, minimal mobility; local currency, barter
LIFEBOATS FAST CLIMATE CHANGE, FAST OIL DEPLETION	energy distributed locally, industrial salvage; forest, rangeland, oasis agriculture	hamlets and gated communities, nomads; household economy, barter, precious metals as currency
GREEN TECH SLOW CLIMATE CHANGE, SLOW OIL DEPLETION	diversification of networks, renewable energy sources (gas, wind, solar), energy conservation; forest, organic agriculture	compact towns & small cities, electric public transport, telecommuting; regional currencies & funds

of mobility, basic sources of energy, models of managing and financing enterprises, selection of cultural and spiritual values.

- ***Brown Tech.*** This scenario assumes an escalation of climate change and a relatively slow decrease in energy supply. Those in power – the state and its elites comfortably established in the contemporary systems of economy and management – will make any effort to maintain the status quo trying to minimize the destabilizing impact of climate change, shortages, disasters and mass migrations. Cities, including metropolises, stand a chance of surviving.
- ***Earth Steward.*** This scenario assumes slow climate change and a relatively fast decrease in cheap energy supply. Mobility and food delivery will be limited; people will abandon cities and move to areas supported by local economy and agriculture.
- ***Lifeboats.*** This scenario predicts bitter results of both climate change and limited access to energy sources. General shortages will contribute to the atomization of society and settlement forms as well as to the development of nomadic groups and confined estates.
- ***Green Tech.*** Only this scenario – predicting slow changes – offers conditions for positive and coordinated actions in accordance with the ideas of contemporary environmental sustainability. Small compact cities supported by renewable sources of energy will become the dominant settlement form. The transport of people and commodities will proceed in a highly effective manner owing to advanced technologies.[10]

Today, it is difficult to assess how probable the foregoing scenarios are or predict which of them will prevail. David Holmgren admits a situation when all four scenarios exist simultaneously being 'nested' in one another. It can be influenced by the scale of areas and interventions adjusted to them, the kind of decision-making structures and various priorities of individuals, groups and entire societies[11]:

- the state authorities and big, frequently global, corporations will be interested in the maintenance of metropolises and the introduction of solutions in line with their competences, thus realising the *Brown Tech* scenario;
- small businesses and the local authorities will be able to introduce strategies appropriate for the *Earth Steward* scenario;
- individual households and small communities will be able to introduce solutions described in the *Lifeboats* scenario;
- medium-sized businesses using local resources and supporting local markets together with the authorities of cities and bioregions acting for sustainability will introduce more diverse and smaller solutions, thus implementing the *Green Tech* scenario.



10.4
Schematic diagram showing the simultaneous existence of David Holmgren's four scenarios. Developed by the author following *Future Scenarios*.

* * *

The expectations of contemporary people as to the future of the world, including the future of cities, have always varied. Mankind tends to build visions in which science, new technologies and cheap energy are expected to guarantee happy life in flourishing metropolises. For quite some time now, however, problems related to the devastation of nature, overpopulation and uncontrolled urbanization have become more apparent than before. Climatic disasters and the threat of a global energy crisis have become facts. People's mental condition is also alarming, as it has been adversely affected by absence of community spirit, security and identification with their physical and social surroundings. It seems obvious now that some far-reaching changes in human awareness are necessary.

> *By shifting our mind-set, we can actually recognize the coming post-cheap oil era as an opportunity rather than a threat and design the future low carbon age to be thriving, resilient and abundant – somewhere much better to live than our current alienated consumer culture based on greed, war and the myth of perpetual growth...* [12]

... and smaller, regionally anchored settlement forms stand a much greater chance of offering us all that than the not-always-flourishing-metropolises.

NOTES

1. This article was published in Polish in Monografia Tom 1 *Przyszłość miast średniej wielkości*, pp. 475–482, and in English in Monograph Vol. 2 *Middle-sized cities of tomorrow*, pp. 455–462, Wydział Architektury Politechniki Śląskiej, Gliwice–Łódź 2013.

2. For more on the search for new ethics in urban design and the dilemmas of contemporary man see Anna Palej, *Miasta cywilizacji informacyjnej. Poszukiwanie równowagi pomiędzy światem fizycznym a wirtualnym*, Monograph 294, Wydawnictwo Politechniki Krakowskiej, Kraków 2003, pp. 162–174 and 179–185.
3. Erich Fromm: *Mieć czy być?*, Dom Wydawniczy Rebis, Poznań 2000.
4. In Gideon S., Golany, *Ethics and Urban Design. Culture, Form and Environment*, John Wiley & Sons, New York 1995.
5. Alberto Magnaghi, *The Urban Village: A Charter for Democracy and Local Self-sustainable Development*, Zed Books, London 2005.
6. A movement of communities coming together to reimagine and rebuild our world, https://transitionnetwork.org (retrieved on 27.11.2018).
7. The *Transition Initiatives* movement is developing very quickly. By September 2013, there were 1130 initiatives registered in 43 countries, https://en.wikipedia.org/wiki/Transition_town (retrieved on 27.11.2018).
8. Yona Friedman, *Well-being in Cities and the Future*, in *The Environment of Human Settlements*, Proceedings of the Conference held in Brussels, Belgium, April 1976, Pergamon Press, Oxford 1976, pp. 303–308.
9. David Holmgren, *Future Scenarios. Mapping the cultural implications of peak oil and climate change*, www.futurescenarios.org (retrieved on 27.11.2018).
10. For more details on this topic see Philippe Vandenbroeck, Michiel Dehaene: *Cityscapes for the Post-Carbon Age. The small city as a Localised Utopia*, in *The Mid-Size City as a European Urban Condition and Strategy*, Journal for Architecture, OASE 89, naio10 publishers, Amsterdam 2012.
11. David Holmgren, *Future Scenarios...*, *op. cit.*
12. See *Life beyond oil – threat or opportunity?*, Yahoo Group Transition Town Westcliff, UK & Ireland, 14th August 2013. See also https://pl.wikipedia.org/wiki/Transition_Towns (retrieved on 27.11.2018).

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

10.1 *Stable cottage – Totnes castle*, in Visit Devon, https://www.visitdevon.co.uk/explore/towns-and-villages/totnes (retrieved on 1.05.2019).

10.2 *Totnes car free day*, in *Totnes Sustainability Town*, 16th November 2015, Naked Wild and Free, https://nakedwildandfree.com/totnes-sustainability-town (retrieved on 1.05.2019).

10.3 Following David Holmgren, *Future Scenarios...*, *op. cit.*, www.futurescenarios.org (retrieved on 1.05.2019).

10.4 *Ibidem.*

New Needs for Physical and Mental Safety

11

Images, Signs and Symbols in the Space of the Information City[1]

Two distinctive civilization breakthrough periods – the Industrial Revolution, initiated in the second half of the 18th century, and the Information Revolution, happening in front of our very own eyes, have dramatically influenced cities – their significance, development and functional and spatial character, as well as the emotions they induce and the way we interpret the information, symbols and signs placed in public spaces.

Industrial cities, particularly the biggest ones, exploding both in the aspect of the area they took up and the number of inhabitants, were perceived in different ways by their contemporaries. Hippolyte Taine's report on his stay in Manchester in the 50s of the 19th century reflects his profound terror caused not only by the bleak images but also by social disparities. The report read: "Earth and air seem impregnated with fog and soot. The factories extend their flanks of fouler brick one after another, bare with shutterless windows, like economical and colossal prisons... and inside, lit by gas-jets and deafened by the uproar of their own labour, toil thousands of workmen, penned in, regimented, hands active feet motionless, all day and every day, mechanically serving their machines... But they [the rich] are powerful... they are the generals and rulers of human toil."[2]

However, the same place inspired true fascination in other observers of the early industrial era. In his novel *Coningsby*, Benjamin Disraeli called Manchester "the most wonderful city of modern times" and wrote of "illuminated factories with more windows than Italian palaces, and smoking chimneys taller than Italian obelisks."[3]

The captivating charms of the modern city were becoming more and more numerous over time. Besides the chimneys and illuminated factories, there were

mass produced goods emerging in abundance, people crowding the streets and café terraces, the increasingly more popular automobiles and trams, as well as the rapidly spreading advertising, initially viewed as a component of the city magic.

Already in the early 20th century, it was brought to the general attention, e.g. in the essay by Georg Simmel *The Metropolis and Mental Life*, that the perception of the city is primarily a visual experience, and the gaze plays the role of cognition, knowledge and comprehension. The dominance of the sense of sight in the urban culture stemmed out of necessity – it was essential that city dwellers should be able to take in their whole surroundings at one glance and spot the potential dangers. The daily interactions with other city residents were in turn perceived as "elementary particles" of human contacts, which – once crystallized – encouraged the emergence of larger social structures.[4]

The visual culture and savouring the city in all its manifestations gave birth to the figure of the *flâneur*, whom Charles Baudlaire described as "a solitary aesthete stroller, leisurely walking down crowded streets and alleys of the 19th-century Paris and lovingly watching the urban scenery as if it were a staged dramatic play."[5] Walter Benjamin in his essays completed the image of the *flâneur*, for whom the street is home. "In

11.1
The visual culture and the inclination for savouring the city in all the manifestations of its life have given life to the figure of a flâneur – a lonely aesthete-stroller... lovingly watching the urban scenery as though it were a staged dramatic play. By Gustave Caillebotte, 1887, Art Institute of Chicago.

his eyes, the shining enamelled signboards are just as worthy wall decorations as oil paintings in the drawing room of the bourgeoisie. The walls are the pulpit against which he props his notebook; newsagent's stands are his libraries and café terraces are the bay windows from where – after work – he looks at his belongings."[6]

The factory chimney as the symbol of the industrial era and the hitherto accepted logic defining the human dimension, the type of the physical and social structures surrounding humans and the essence of the processes characterizing urban life are now undergoing a radical revaluation as a result of the development and growing significance of the infrastructure of the previously unprecedented capacity as well as of the enormous range of services on offer that have emerged owing to digitalization of the mass media and telecommunications coupled with computer technology. New possibilities have brought new symbols, values and phenomena, though not as permanent as before. The most distinctive of them, which are related to the problems of the role an image plays in the lives of contemporary societies – vividly present in the academic debate and journalistic commentaries – and which are reflected in urban public spaces, will be briefly discussed in the points that follow.

SPATIAL ORDER AND URBAN MARKETING

The comfort and richness of urban life depend to a great degree on the quality of public spaces and on how well they satisfy both the human physical and psychological needs. There have been many concepts as to the appropriate form and function of these spaces, yet, invariably, the said 'appropriateness' resulted from the significance attributed to communications – not only in the sense of transportation, accessibility or contacts between people, but also – to a great degree – in the sense of transmitting comprehensible information, signals and meanings encoded in the spaces of the city to its residents. Creating conditions encouraging the broadly understood communication strengthened the sense of identity and security, and together with the continuity, order and beauty of the transmitted communicate, promoted participation in public life. Kenneth Clark, opening the series of programmes entitled *Civilisation* on British television, illustrated his talk with the photographs of the Louvre, Notre Dame, Parisian tenement houses and booksellers' stands along the Seine. He argued that "civilization develops in equilibrium between the qualities of thought and feeling, ideals of perfection in reasoning, in justice, in physical beauty... It is a matter of stability too, or... permanence."[7]

Clarity of the communicate, as well as the permanence and consistency thereof, are values that have been increasingly harder to find, for many decades now, in the cityscape which might be compared to a jungle overgrown in result of unreasonable and wasteful competition and marketing activities.[8]

11.2
We are assailed with a confusion of words, names, slogans in all sizes, in all forms, in all colors and shapes–a never-ceasing roar that moves, blinks, flashes warnings, pleads and cajols, demands, reminds, but seldom instructs.
Source: Rethinking The Future.

Man struggles through a tangle of people-packed, building-choked, traffic-snarled streets and a multitude of signs which are an assault on the senses and the eyes; all the elements seem to work at cross-purposes, incomprehensible to him and contradictory to one another... Whether on Peachtree Street in Atlanta, Market Street in San Francisco, Broadway in New York, Piccadilly in London, the Piazza del Duomo in Milan, or on Main Streets throughout the world, we are confronted with a vulgar and mistaken notion of free enterprise, expressed in the sign language of our time. We are assailed with a confusion of words, names, slogans in all sizes, in all forms, in all colors and shapes – a never-ceasing roar that moves, blinks, flashes warnings, pleads and cajoles, demands, reminds, but seldom instructs.[9]

Signs in public spaces are undoubtedly needed as they have a certain function to perform, yet only if they are adequately designed, placed and understood, they may become a new kind of heraldry enriching both individual buildings and the whole cityscape. It seems important here that a certain differentiation must be assumed between signs performing some social roles – administrative or instructive – and signs advertising goods and services. The former must be subject to slightly different rules than the latter. In both cases, however, the objective of the decision-makers regulating the discussed questions and acting in teams composed of architects, designers, planners and city officials should not be to create a standardized city image,

but to provide visual satisfaction and introduce order derived from discipline, which imposes certain constraints but is not censorship. City residents, too, need to bear some responsibility for the common space. However, they need to be continuously taught responsible behaviour – not by decrees and bans, but by constructive discussion, showing good examples, providing technical and financial support, or – generally – by initiating 'a social process of shaping imagination and satisfaction.' A good starting point should be "a certain urban libertarianism, i.e. the right of free people to be themselves and to manage their own place, yet with the simultaneous desire to reach an agreement as to the fundamental principles consisting in willingness to respect the expectations of others."[10]

One thing needs to be emphasized in our considerations related to reaching the necessary agreement allowing everybody to 'be themselves' in 'their own city,' and that is the fact that at the time when the information society is still developing, the needs of city residents as to what image their common spaces should adopt may vary. Some need stability – this need gives rise to concepts of zones of slower progress, related not only to the physical environment but also to music, literature or fashion. Others, most frequently young people making up the creative class of new city residents,[11] hold dear the transience, mobility and – as Zygmunt Bauman put it – "the lightness and speed, as well as the novelty and variation, which should be promoted by lightness and speed and given an ever faster rate."[12]

Attracting the class of new city residents, made up of scientists, artists, media people and professionals from the field of new technologies, is becoming an important element of development strategies of cities. It is so because residents whose jobs involve a creative approach to tasks and looking for innovative solutions play an important role in building the city image – improving its appeal and competitive edge, and – in consequence – making it successful and prosperous. However, they look for special places to settle down in - open, diverse and multi-ethnic, responding to their need of stimulation, inspiration and intense experiences. A symbolic response to the new expectations towards architecture and public spaces in cities, are becoming, as it were, architectural events – contemporary objects of small scale and sophisticated form, usually designed by recognized architects, introduced into urban enclosures "as carriers of momentary formal and functional values. Their inherent transience and changeability allow spatial modifications, which are a source of dynamism [...] and an encouragement to experiment with the space."[13]

Architectural events, which are usually of a high artistic rank,[14] have a chance to become a tool for aesthetic education of the society and to attract the popular attention to the need of introducing small and beautiful components of strictly utilitarian character, indispensable in city dwellers' daily lives, into public spaces.

11.3
Temporary art pavilions, designed by distinguished architects, appear every year in Kensington Gardens in front of the Serpentine Gallery in London as a response to the need of introducing momentary functional and formal values into public spaces of the contemporary city. Photo by Fred Romero.

We are used to the fact that bus or tram stops, newsagent's or food stands and public toilets are as a rule unattractive objects, ill-treated by their users, ignored by city authorities and disregarded by architects as undesirable design commissions. Meanwhile, these objects, when functional, innovative and technologically advanced, may – just like architectural events, only permanently – improve the quality of a given space, encourage social contacts, help combat sloppiness and vandalism resulting therefrom,[15] or even become a symbol of the city, like the Art Nouveau entrances to the metro in Paris or Wagner's pavilions of the Vienna municipal railway.

Focusing efforts on building cities that are good to live in, with a diverse and dynamic programme, rich in attractions and full of charm, though an element of urban marketing, seems a most desirable strategy to adopt. However, more and more often we encounter concepts striving to commoditize cities and generate profits 'at all costs,' which usually means at the expense of local communities. Policies of this kind are introduced in cities which used to be strong industrial centres and which are losing their leading position in the new information reality, or they are the product of excessive ambitions of city authorities. They effect a change in the role of the city – from an environment oriented towards inhabitants into an environment focused on business and profits, and the consequence of this change is the emergence in cities of such structures as theme parks, exhibition areas, posh golfing infrastructure or

gambling facilities. In this model people seem to be less important than promoting the region and city outside, and they become spectators of their place on earth and sometimes even its servants.

Building marketing strategies, city authorities usually focus on the unique character of a place. One has to be careful, though, adopting such approach – excessively aggressive marketing strategy, or one that just has not been carefully thought through, may often lead to irreversible destruction of the unique assets of a city or its parts. As David Harvey[16] writes in his book *Rebel Cities*, "drawing profits from a unique character of a given place kills its uniqueness." The author also warns against appropriation of the symbolic and cultural capital developed by a community or financed from public resources. The growing capital often brings about an increase in property values and in consequence leads to local communities being pushed out of the unique and 'atmospheric' place they collectively helped to create. An 'excellent example' (of redistribution of profits from the public to the private sector) "is the High Line – a municipal park in the western part of Lower Manhattan created on the former railway line – West Side Line. Property prices and rents in the area have almost doubled, which means that some of the residents will have to move out, although the park was built using the municipal funds and – what is more – at the initiative of a non-profit organization called *Friends of the High Line*."[17]

11.4
The High Line Park in New York, set up on the former elevated railway viaduct at the initiative of the local community, effected a considerable rise in property values in the neighbourhood and – in consequence – pushing out of the former residents from the unique place created by a common effort. Source: ZinCo Life on Roofs.

SEDUCING WITH AESTHETICS AND CRISIS OF UNDERSTANDING[18]

The development of image reproduction methods following the progress in the field of telecommunication has saturated the contemporary reality with information cloned in a variety of ways and more and more often transmitted with the use of visual means. It may seem that this phenomenon would be most desirable for the information society, which we are now becoming, and it would be met with universal acceptance. Meanwhile, the contemporary philosophy and theory of culture – disciplines dealing *inter alia* with the role of image in the lives of societies – are viewing with concern the present situation described as communication ecstasy, copy intoxication or mindless consumption inebriation. 'Ecstasy,' 'intoxication,' and 'inebriation' are conditions similar to the narcotic or alcoholic trans leading to a certain kind of stupor and distracting one's attention from reality. It is becoming particularly dangerous when it refers to architecture and – in broader terms – to the city, both closely related to visual representation and perception.

Another phenomenon characteristic of our time is the 'information noise.' It manifests itself in an avalanche of information falling down on an individual in such amounts that it is impossible to segregate, evaluate and absorb it. "We live in a world," as the French cultural theorist Jean Baudrillard has claimed, "where there is more and more information, and less and less meaning."[19] In the situation of continuous increase of transmission effectiveness, fast information is becoming more important than verified and certain information. Additionally, speed – in the social perception viewed as a positive attribute of a communication means – also starts to define the way information functions in human mind. Contents sent and received in an instant escape the memory a moment after, they do not build knowledge and experience – a solid base useful in various situations, like it used to be in the past. Furthermore, the absence of a permanent support humans used to rely on, such as invariable values, signals and meanings, including the ones encoded in city structures characterized by continuity, triggers a phenomenon defined almost 30 years ago by the American sociologist Orrin E. Klapp as 'the crisis of understanding,' manifesting itself in the fact that "people see a lot of nonsense around them, and there is very little of what really matters." And the interpretation of the built-up environment and all the phenomena and events, both happening in the close vicinity and at distant places, is becoming, out of lack of reliable references, "improvised, relativist and occasional."[20]

The constant push of information and images, their separation from the multithread cultural background and frequent use to hide or simulate what is real leads to the situation where reality is being replaced by a 'hyperreality,' in which everything is transferred to the realm of aesthetics and objectified, evaluated only on the grounds of its appearance. "This culture of reification," Neil Leach writes in

his book *The Anaesthetics of Architecture*, "objectifies the whole act of viewing, such that any appreciation of depth, perspective or relief is reduced, promoting instead 'a gaze which sweeps over objects without seeing in them anything other than their objectiveness.'"[21] In such situation, everything becomes art. And art penetrates the contemporary reality to such extent that we start to experience total aestheticization of the world, the natural consequence of which is universal liberalization of the term *work of art* nullifying the principles hitherto indispensable for differentiation between what is and what is not a work of art. "When everything becomes aesthetic, nothing is either beautiful or ugly any longer, and art itself disappears."[22]

Aestheticization permeating the contemporary culture, perceiving objects solely as images, deprives these objects of their context and a large part of their original significance therewith. It contributes to the development of practices bestowing the rank of museum exhibits to marginal objects, devoid of any deeper meaning. The most explicit and at the same time most controversial symbol of this phenomenon are Piero Manzoni's steel tins,[23] treated as works of art, one of which is part of the Tate Gallery collection. Their content, in order to dispel any possible doubts, has been described in four languages: Italian, English, French and German as "Merda d'Artista," "Artist's shit," "Merde d'Artiste," and "Künstlerscheisse." Another example is viewing events in aesthetic categories, which may change the way they are interpreted, and so even terribly tragic events may lose their depth and catastrophic dimension due to aesthetic references. Unexploded bombs stuck in façades of buildings, light patterns drawn on the sky by missiles or parts of houses, tree stubs and wrecked cars and

11.5
Considering events in aesthetic categories changes the way in which they are interpreted, and even extraordinarily dramatic situations may lose their depth and catastrophic dimension due to the aesthetic references. Source: Medal of Honor.

boats mixed up in a disorderly pile by a tsunami wave – such photographs, capturing human tragedies, are viewed – unfortunately, sometimes following their authors' intent – as fascinating collages, products of an artist's creative imagination.

Being constantly bombarded by visual stimuli overwhelms and intoxicates humans. As Susan Buck-Morss notices in her article *Aesthetics and Anaesthetics*, an excess of aesthetic experiences flooding the senses bring about, similarly to anaesthesia, the effect of hibernation and insensibility of the organism. The legitimacy of this observation finds its confirmation, according to the author of the above-mentioned text, *inter alia* in the etymology of the words *aesthetics* and *anaesthetics* revealing the unexpected affinity between these two words. The ancient term *aisthesis* referred to experiencing, stimulation of the senses, inducing emotions. *Anaisthesia* – the opposite term – was understood as insensibility, the organism's self-protection from excessive stimulation.[24] Taking the above definitions into consideration allows viewing the processes of aestheticization as activities increasing the human aesthetic absorbing capacity. However, the increased emphasis on one type of perception, visual perception in this case, weakens or even reduces its other types and separates the society from the external world and from the rich diversity of life experiences.

The growing fascination with images, more and more prominently present in the contemporary world, caused some concern among artists, architects and philosophers even before the development of the media-dominated society and before advertising – transforming humans into consumers – had become firmly established in our reality. As early as in the 60s, the well-known French artist Guy Debord in his book *La société du spectacle*[25] warned against stepping into the world of total simulation, where the role of the image is so dominant that reality becomes a show, people are no longer masters of their lives but, instead, only spectators, and even the most personal gestures are perceived by them as alien and distant. The disturbing social consequences mentioned in this context are not only people becoming separated "from the goods they produce and consume, but also from their own experiences, emotions, creativity and desires."[26] The consequences for architecture, in turn, are the transformation of social commons into fetishized abstractions difficult to comprehend for their users. This phenomenon was brought to attention many times by Allan Jacobs and Donald Appleyard, who described in their publications how, since the early 80s, architecture has been clearly withdrawing "from social engagement back to formalism. Supported by semiology and other abstract themes, much of architecture has become a dilettantish and narcissistic pursuit, a chic component of the high art consumer culture, increasingly remote from most people's everyday lives, finding its ultimate manifestation in the art gallery and the art book."[27]

Architects' focus exclusively on creating images and on the excessive and intoxicating stimulation of the senses by these images will result, according to many contemporary philosophers and theoreticians of culture, in lowering social awareness and the decline of the ability to undertake a reliable and meaningful debate not only referring to the perception of works created by architects. "In a culture of mindless consumption," Neil Leach writes, "the only effective strategy is one of seduction."[28] This, however, will lead to the consolidation of the aesthetics of seduction, which – in turn – will reduce the role of architectural design to a superficial play of empty, though tempting, forms and limit the role of design philosophy to intellectual glaze justifying the use of over-aestheticized images. Further on, the author brings up Las Vegas as a warning – a city emerging from the desert only after dark, „a shallow, depthless world where irony rules over content, pastiche over historical sensibility... the city not of architecture but of the commodified sign, the empty, seductive triumph of the superficial."[29]

11.6
Las Vegas is a city that emerges from the desert only after dark – a shallow depthless world where irony rules over the content, pastiche over historical sensibility... the city not of architecture but of the commodified sign, the empty, seductive triumph of the superficial. Source: Draft Tournament.

THE STRUGGLE FOR RESPECT, MEMORY AND IDENTIFICATION

Research into the influence of telecommunication and information economy on cities is carried out from many different perspectives. However, one observation always emerges, regardless of the adopted research approach, that public spaces – both in their physical and virtual dimension – are becoming an arena of social conflict,

consisting not only in competing for marketing profits drawn from controlling these spaces. More and more often, groups with different 'backgrounds' and the resulting different cultural, ethnic or institutional preferences lead battles for participation in creating the identity of the city by placing comprehensible codes, symbols and meanings in its spaces with which they could easily identify.

The methods of fighting for acceptance, hope and fair treatment may be different. Architects have undoubtedly a lot to do in this field. A study done at the University of California shows that there is a lot to be learnt in this respect from the builders of historic cities. It may be easily noticed while analysing traditional public spaces that the buildings lining them are different – they are more or less the same height, which resulted from the necessary submission to certain regulations in force in the city which cared for the consistency of its image. Yet, the decisions as to the selection of the style, detail, solutions related to the attic, bays or portals we left to the owners. Proceeding in this way was consistent with the principle which may be briefly described as 'diversity in unity' and which communicated to the city residents that being exceptional or different does not have to entail rejection, and mutual respect and harmony between people and between buildings reinforce their beauty and individual expression.[30]

Besides long-term strategies, visible in the layers of diverse physical and social structures making up the city, openness and multiculturalism may also be promoted by projects of considerably smaller scale. An inspiring example of the above are the actions undertaken by the Copenhagen authorities aimed at celebrating the unique and international character of the Nørrebro district of the city and uniting its residents coming from many different cultures. The dedication brought results in the form of Superkilen – a linear urban space realized in 2012, designed jointly by the world-famous architectural studio Bjarke Ingels Group, an art group Superflex and the Berlin-based landscape architecture studio Topotek1.

Superkilen is composed of three parts, which have been given strong identification characteristics, additionally emphasized with colour. Yet, "the most interesting thing about this project is how it highlights the presence of more than 50 different nationalities in the public spaces and the park. Instead of furnishing the area with typical street and park furniture provided by the city authorities, people from the neighbourhood were asked to select specific objects, such as benches, litter bins, play facilities for children, manhole covers, information signs and even trees characteristic of their country of origin." Bringing one hundred and eight objects from the most distant corners of the globe turned the place in question into a kind of "surreal collection of world diversity, which reflects the true multicultural character of the district instead of creating a petrified image of a homogenous Denmark."[31]

The Superkilen project set up new standards for designing public spaces in the existing urban fabric – it reinforced the sense of community and mutual tolerance. A readiness to share distinct cultures and art replaced conflicts stemming from the differences in traditions and world outlooks, and 'the otherness' highlighted here by 'visibility' has been viewed as a value facilitating actions in a multicultural society.

The debate on the place of 'the alien,' 'the different' and 'the rejected' in the contemporary society and their presence in the spaces of the city is getting some contributions from artists nowadays. Two of them undoubtedly deserve attention in this context – Shahram Entekhabi and Krzysztof Wodiczko – artists using diverse performative practices.

The works by Entekhabi, a graphic designer and architect of the Iranian descent, working mostly in Europe, "are always located in the urban scenery and they draw inspiration from the 19th-century concept of a *flâneur*, described by Charles Bauderlaire."[32] The artist "is trying to attract attention to the people who are usually isolated in the urban space: marginalized, ignored or forced into self-ghettoization. These are emigrants and their culture, and first of all the communities of the Middle East and their diaspora. He is particularly interested in the question of visibility and invisibility," which may be exemplified by his installations *Flower*, *Walkout PM* or the series *Migrants*. In spite of certain references to the figure of *flâneur*, figures created by Entekhabi are not wealthy collectors of sensations living in slow motion. "These are people who are usually ignored or who are seen as a threat."[33]

Krzysztof Wodiczko, dubbed the artist of the urban space, similarly to Entekhabi, "uses the city as a place of coming into existence and exerting influence." However, the context plays a special role in his projects – "the work speaks [...] together with the place where it is situated; the meanings of the work and the place are mutually intertwined, reinforced and complemented." Public viewings also 'feature' the words of the presented characters alongside the images – "the artist gives voice to those on whom the society turns a deaf ear in normal life." The buildings used as screens are not selected randomly. "The Krakow Town Hall Tower[34] once a seat of authorities associated with justice and the rule of law, [...] has spoken with the voice of drug addicts, homosexuals, homeless people, abused women. [...] Wodiczko, using the potential of the installation which gives voice not only to the matter of the work itself but also to the place where it is exhibited, shows much more than just pictures out of projectors. He addresses social, ethical and political issues. He also affects the perception of architecture and the city."[35]

'Invisibility' in the contemporary urban space also refers to the bygone eras. Many of the symbols, information items and signs, which used to be comprehensible for the public in the past, are completely incomprehensible to us, or we refuse to

11.7
The Jewish Culture Festival Singer's Warsaw celebrates the former inhabitants of the capital city. It also bears witness to the rich history and traditions of Jews, Poland and Warsaw. Photo by Sebastian Szufler.

read them because of the pace of life we are used to. Understanding them would require 'losing' some time and putting in some effort in order to experience the city in a slow and deliberate manner, and we are unwilling to do that. Yet, we need to speak up for the past images and events and the people who were here before us. Various cultural events may be of use in this respect, as they help us slow down, if only for a moment, and switch from the daily perception mode: hasty, blurred or selective, into the leisurely and festive one, focused on discovering anew the values of continuity, heritage and genius loci.[36]

NOTES

1. This article was published in Polish in *Foto-obrazy architektury. Fotografia jako medium referujące i projektujące architekturę*, Piotr Wróbel [ed.], Oficyna Wydawnicza AFM, Kraków 2016, pp. 95–108.
2. Mark Girouard, *Cities & People*, Yale University Press, New Haven & London 1985, pp. 257 and 258.
3. *Ibidem*, p. 258.
4. For more on this, see Elżbieta Wiącek, *Nowe wcielenie flâneura. Postać emigranta i „pasożytnicza architektura" w twórczości Shahrama Entekhabiego*, in *Miasto. Między przestrzenią a koncepcją przestrzeni*, M. Banaszkiewicz, F. Czech, P. Winskowski [eds.], Jagiellonian University Press, Kraków 2010.

5. *Ibidem*, p. 356.
6. Walter Benjamin, *Anioł historii. Eseje, szkice, fragmenty*, in Elżbieta Wiącek, *Nowe wcielenie flâneura...*, *op. cit.*, p. 357.
7. Kenneth Clark, *Civilisation*, BBC Publications and John Murray, London 1969, in Geoffrey Broadbent, *Emerging Concepts In Urban Space Design*, E&FN Spon, London 1996, p. 3.
8. "Urban spaces oversaturated with advertisements" were classified as the first on the list in an Internet survey *Polska brzydota – 10 grzechów głównych / Polish ugliness – the 10 deadly sins*, carried out in 2012 by portal BRYŁA – www.bryla.pl. The second was "pastelosis," i.e. overusing all colours and patterns.
9. Mildred Constantine, Egbert Jacobson, *Sign Language for Buildings and Landscape*, Reinhold, New York 1961, p. 9.
10. Quotes come from a conversation between Dawid Hajok and Krzysztof Frysztacki – profesor of Jagiellonian University, head of the Department of Applied Sociology and Social Work UJ, *Nie wierzę w nakazy*, "Gazeta Wyborcza," 16th May 2008.
11. For more on this, see Richard Florida, *Narodziny klasy kreatywnej*, Narodowe Centrum Kultury, Warszawa 2010.
12. Zygmunt Bauman, *Bauman o popkulturze*, WAiP, Warszawa 2008, p. 20.
13. Ewelina Woźniak-Szpakiewicz, *Wpływ zdarzeń architektonicznych na przestrzeń publiczną współczesnego miasta*, PhD thesis, Faculty of Architecture CUT, Kraków 2013, p. 10.
14. A very interesting whole series of events take place in Kensington Gardens in London. The Serpentine Gallery located there is one of the most popular contemporary art galleries. Since year 2000, a temporary summer pavilion has been erected each year on the lawn in front of the historic building of the gallery designed by the most distinguished world architects, including Zaha Hadid, Toyo Ito, Frank Gehry, Alvaro Siza, Jean Nouvel or Peter Zumthor.
15. For more on this subject, see Phyllis Richardson, Lucas Dietrich, *XS: Big Ideas, Small Buildings*, Thames & Hudson, London 2004; Phyllis Richardson, *XS Green: Big Ideas, Small Buildings*, Thames & Hudson, London 2007, and Anna Palej, Bartłomiej Homiński, Michał Palej, *Architektoniczne huby: dobudówki, doklejki, zszycia – awangardowe kreacje czy wyraz nowych potrzeb / Architectural parasites: outhouses, inserts, seams – vanguard creation or expression of new needs*, Czasopismo Techniczne, seria Architektura, 1-A/2/2012, Kraków 2012, pp. 67–79.
16. David Harvey – Professor of anthropology at the City University of New York, a social theoretician and one of the greatest contemporary geographers. Since 1970s he has been dealing with the problems of inequality and uneven development of the global capitalist system.
17. Quotes in this paragraph come from a conversation between Michał Sutowski and David Harvey, "Krytyka polityczna – Bunt miast (2)," http://krytykapolityczna.pl/swiat/bunt-miast-2 (retrieved on 20.08.2018).
18. This issue was previously discussed by the author in *Uwodzenie estetyką a estetyka uwodzenia*, „Architektura & Biznes," May 2002.

19. Jean Baudrillard, *The Implosion of Meaning in the Media*, in Neil Leach, *The Anaesthetics of Architecture*, The MIT Press, London 1999, p. 1.
20. Mirosław Pęczak, *Pan Cogito przed monitorem*, "Polityka," 26th March 2006.
21. Neil Leach, *The Anaesthetics ...*, *op. cit.*, p. 5.
22. Jean Baudrillard, *Transpolitics, Transsexuality, Transaesthetics*, in Neil Leach, *The Anaesthetics...*, *op. cit.*, p. 6.
23. In 1961, Piero Manzoni, an Italian artist (1933–1963), manufactured 90 tins of *Artist's Shit*, numbered from 001 to 090. One of them, number 004, is an exhibit at the Tate Gallery. *Artist's Shit* has been classified on the first place of the list of 9 *Unbelievable Pieces of Art that Actually Sold*. One of the tins was sold in 2007 by the auction house Sotheby's – trading in luxurious goods – for € 124,000, http://www.oddee.com/item_98781.aspx (retrieved on 20.08.2018).
24. Susan Buck-Morss, *Aesthetics and Anaesthetics*, in Neil Leach, *The Anaesthetics...*, *op. cit.*, p. 44.
25. Guy Debord, *The Society of the Spectacle*, Zone Books, NY 1994. The first edition in French appeared in 1967.
26. Sadie Plant, *The Most Radical Gesture*, Routledge, London 1993, p. 1.
27. Allan Jacobs, Donald Appleyard, *Toward an Urban Design Manifesto*, in *The City Reader*, Richard T. LeGates and Frederic Stout [eds.], Routledge, London and New York 1997, p. 167.
28. Neil Leach, *The Anaesthetics...*, *op. cit.*, p. viii.
29. *Ibidem*, p. 70.
30. Henry L. Lennard, Suzanne H. Crowhurst Lennard, *The Forgotten Child*, A Gondolier Press Book, International Making Cities Livable Coucil, Carmel, California 2000, p. 25.
31. Agnieszka Arendt, *Park Superkilen – rewitalizacja dzielnicy Nørrebro w Kopenhadze*, http://rewitalizacje.blog.pl/2015/01/07 (retrieved on 31.07.2015).
32. From the artist's statement, http://www.entekhabi.org (retrieved on 31.07.2015).
33. Quotes in this paragraph Elżbieta Wiącek, *Nowe wcielenie flâneura...*, *op. cit.*, pp. 357, 364.
34. This refers to Krzysztof Wodiczko's projection *Słowa i gesty Wieży Ratuszowej / Words and Gestures of the Town Hall Tower*, which took place in Krakow in 1996.
35. Quotes in this paragraph are from: Justyna Budzik, *Znikające warstwy miasta-palimpsestu. Projekcje publiczne Krzysztofa Wodiczki*, in *Miasto. Między przestrzenią a koncepcją przestrzeni*, *op. cit.*, pp. 345, 346, 347.
36. An example of a successful initiative of this kind is the cyclic project *Próżna Street*, realized since 2006 as part of the Jewish Culture Festival SINGER'S WARSAW (and particularly the exhibition within the space of the street *Próżna Street 2010: the Memory of the Tenement Houses*) or the World Kinetic Art of Light Festival – Light.Move.Festival displaying the charm of Łódź historic urban fabric in an unusual way.

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

11.1 *Rue de Paris* by Gustave Caillebotte, 1887, Art Institute of Chicago, public domain.

11.2 *A visual hodge-podge in the narrow shopping streets of Japan*, in Akshaya Muralikumar, *The love-hate relationship between Advertising and Built Environment*, Rethinking The Future,https://www.re-thinkingthefuture.com/article/the-love-hate-relationship-between-advertisement-and-built-environment (retrieved on 07.07.2019).

11.3 *Serpentine Pavilion 2016 in Kensington Gardens*, photo by Fred Romero, in Craig White, *Serpentine Pavilion Coming to King St West in Toronto*, Urban Toronto, July 09, 2018, https://urbantoronto.ca/news/2018/07/serpentine-pavilion-coming-king-st-west-toronto (retrieved on 19.11.2019).

11.4 In *High Line Park, New York City*, ZinCo, Life on Roofs, https://zinco-greenroof.com/references/high-line-park-new-york-city (retrieved on 07.07.2019).

11.5 Scene from a computer game Medal of Honor, in Łukasz Wiśniewski, *W samo południe z najsławniejszym terrorystą świata*, 04.05.2011, gram.pl, https://www.gram.pl/artykul/2011/05/04/w-samo-poludnie-z-najslawniejszym-terrorysta-swiata.shtml (retrieved on 19.11.2019).

11.6 Source: Draft Tournament, https://www.drafttournament.com/blog/portfolio/lasvegas (retrieved on 07.07.2019).

11.7 *Próżna Street, Warszawa*, photo by Sebastian Szufler, Religie – Wiara, https://religie.wiara.pl/doc/927686.W-sobote-Festiwal-Kultury-Zydowskiej (retrieved on 07.07.2019).

12

Agro-urban Concepts as a Guarantee of Security and Sustainable Development of Cities[1]

Production of food in cities, which means growing vegetables, mushrooms, fruit, herbs and edible flowers as well as raising small livestock – mainly chickens, rabbits, fish and prawns but also snakes or guinea pigs, has been until recently viewed as a marginal activity undertaken by the city's poor to improve their diet in the short term or associated with country people coming to the city lured by the prospect of a better life continuing their rural habits. Meanwhile, agriculture in cities seems to have a history that is as long as the history of cities themselves.

HISTORIC CITIES

Archeologic research indicates that urban agriculture was present in all cultural circles and did not result solely from the thrift of individual inhabitants but was universally recommended and supported by rulers and by democratic governments. As early as thousands of years BC, people waited with the decision to create larger urban settlements until they managed to develop effective ways to produce food (in the direct vicinity) in the amounts sufficient to feed all the inhabitants – hence the first great cities of Sumer (Uruk, approx. 3500 BC, Ur approx. 3100 BC) or Egypt (Faiyum approx. 4440 BC, Merida approx. 4300 BC or Memphis approx. 3100 BC) were set up in river valleys, where it was possible to build irrigation systems.

Food production in cities adopted diverse forms, very imaginative at times, making the maximum use of the available space, access to natural light, water and waste that could be applicable in growing vegetable or raising livestock, as well as of the proximity of potential markets enabling the sale or barter of any production

12.1
Advanced engineering solutions, such as marshland drainage, slope benching or great networks of canals, increasing the acreage of arable land and improving the soil fertility accompanied the emergence of larger urban settlements in various historic periods and in different cultural circles. Photo Jialiang Gao, peace-on-earth.

surplus. Natural site conditions were often supported by additional devices or structures serving, for example, transmission of sun rays into the desired direction, protecting the crops from frost or storing the harvest. The urban farmers were also familiar with more advanced engineering solutions, such as marshland drainage, slope benching or building great networks of canals, which usually accompanied urban organisms that were mature in their structure.

Farming – as an urban function important from the economic and social point of view – was removed from cities on all continents (although it did not happen everywhere at the same time) and the process took place regardless of the financial status of cities and their inhabitants. The reasons for this occurrence in the urban practice of the West were, according to the academics from the International Development Research Center in Ottawa,[2] strong connotations attached in Europe to the Hellenistic culture, which attributed to the countryside the role of feeding cities, whereas the cities were obliged to receive the agricultural produce, provide industrial products and offer a wide array of services, including securing the logistics. However, contrary to many opinions, excavations in the Mediterranean region point to complex ancient practices related to food production also in cities. They manifested themselves *inter alia* in the fact that, as early as at the stage of designing districts planned for the poorer society strata, special spaces were secured in them for small-scale gardening and raising animals. In Pompeii, each house had its own garden used not only to grow

herbs, but as a central place in the house serving family contacts. Arabs, too, set up most beautiful house gardens – complete with fruit trees and diverse water features – pools, artificial streams, and water cascades. They spread their gardening ideas wherever they settled down. Gardens, called kitchen or herb gardens, as well as fruit orchards were also always to be found in the Renaissance cities, and that in spite of the limited space resulting from the fortification systems enclosing the urban fabric.

THE INDUSTRIAL ERA

The rigid division of roles into rural and urban began to solidify in Europe in the early period of the Industrial Revolution, when – due to sanitary reasons – any food production was removed from house gardens situated in central parts of cities, whose layout usually went back to the Middle Ages.[3] Another reason for elimination of small-scale urban farming from cities was privatization of land, in which process most undeveloped plots of land in cities were bought out by the rich elites, who were not interested in temporary cultivation of the acquired plots, often waiting for many years as wasteland to be sold with a profit. Both practices – 'clearing' the cities and buying any free land as speculative investment – were transferred by colonial authorities to the cities in Asia and Africa, rapidly switching to industrial production. Using health considerations to justify implementation of the above measures seemed devoid of any sense as the diseases, epidemics and pathologies of all kinds were to a great extend the result of overwork, malnourishment, catastrophic degradation of the environment and substandard housing, which was the reality of the workers flooding in great numbers to cities in search of a better life, and not form the 'unhygienic' production of small quantities of food, which, with proper organization, could only have improved the situation.

The economic depression in the United States in years 1893–1897, which brought about dramatic impoverishment of large parts of the society and enormous unemployment, revealed the need to organize shared communal gardens in cities. The mayor of Detroit – the city that was particularly seriously hit by the depression – approached the owners of undeveloped plots in the city asking them to allow the unemployed to grow vegetables on them (mostly potatoes) to supplement their generally poor diet. It was assumed, and quite rightly so, that getting people occupied with a bit of gardening will not only improve their sustenance and thus, indirectly, their financial situation, but will also give them the sense of independence, responsibility and self-respect. The idea of gardens set up on wastelands, called *Potato Patches*, was revived anew at the time of the Great Depression (1929–1939) in the form of programmes called *Relief Gardens, Vacant Lot Gardens* or *Welfare Gardens*, supported by municipal authorities and non-governmental organizations, whose aim was primarily to combat famine and raise people's spirits by making them feel useful and empowered.[4]

12.2
At the time of economic depression in the United States towards the end of the 19th century, the authorities of Detroit and Buffalo gave undeveloped plots of land in the cities over to the unemployed so that they could grow vegetables on them – mostly potatoes, hence the name of the campaign – the Potato Patch Plan. Photo from WNY Heritage Press.

All the actions undertaken to improve the tragic living conditions of workers in cities and the desire to get as many city dwellers as possible away from the noise and pollution of great metropolises inspired a number of promising urban planning visions that appeared in the first decades of the 20th century. Two of them – Ebenezer Howard's concept of the garden city[5] and Frank Lloyd Wright's Broadacre[6] – aimed to combine the benefits of country living, stemming – among others – from self-sufficiency achieved through small-scale food production, with the advantages of city life.

PATRIOTIC VICTORY GARDENS

During the 1st World War, getting involved in urban farming became a patriotic act, enriching people not only in the physical but also in the psychological sense. The military conflict started in late July of 1914. All the men employed in agriculture were drafted and went to war leaving unharvested crops in the fields, most of which was lost due to the lack of working force. In Europe, vast amounts of arable land were situated in the zones of military operations for the greater part of the war, which rendered their cultivation impossible, and shipping food from the United States was difficult because of the aggressive operations of German submarines. Nonetheless, the United States took upon themselves the responsibility to send provisions to the starving allied countries imposing serious food limitations at home and taking measures to considerably increase agricultural production. In March 1917, soon before the USA entered the war, the National War Garden Commission was established "to encourage Americans to contribute to the war effort by planting, fertilizing, harvesting and storing their own fruits and vegetables so that more food could be exported to our allies."[7]

With the use of an extensive promotional campaign – posters, comic books, press articles – city dwellers were persuaded to turn their private lots, together with any idle land, parks, school grounds and land owned by businesses, into food

producing gardens. In order to make the amateur farming more efficient, brochures were distributed with instructions where and what to sow, what plants to choose to guarantee good crops, what fertilizers and pest protection measures to use and, finally, how to preserve the surplus by drying or canning.[8] Children were also mobilized to 'sow the seeds of victory,' by the U.S. School Garden Army (USSGA) founded by the Federal Bureau of Education.

The collective efforts of the citizens and the institutions supporting them made the whole project a great success. The scale of urban farming produce grew to an astonishing size. In Dallas alone, there were 20,000 gardens in 1918, whereas in the whole of the United Stated, there were 5.2 million,[9] which produced over 1.35 million litres of preserved and canned vegetables and fruits. It was then that the idea of urban food production (in a way modelled on the gardens from the period of economic depression) was born.

12.3
During 1st and 2nd World Wars, Victory Gardens were a vital source of food production as well as a remarkable illustration of American patriotism. Today the Victory Garden concept is making a comeback as Americans again embrace the idea of gardening and home-grown food as a way to maintain a healthy diet and environment. Source: U.S. Department of Agriculture.

At the beginning of the 2nd World War, Victory Gardens re-emerged on the land previously used for agriculture in the depression or during the 1st World War. New gardens sprang up, too – not only in American cities but also in the allied countries.

> *In Britain, 'digging for victory' used much land such as waste ground, railway edges, ornamental gardens and lawns, while sports fields and golf courses were requisitioned for farming, vegetable growing... or sheep-grazing.*

Additionally, in order to set up a good example,

> *... sections of lawn were publicly plowed for plots in Hyde Park, London..., while allotments growing onions in the shadow of the Albert Memorial also pointed to everybody, high and low, chipping in to the national struggle.*[10]

Agro-urban war concepts, alongside the numerous later experiences gained by city dwellers at times of instability (for example, during prolonged periods of food rationing in the post-war era, from difficulties in getting provisions during the oil embargo or from the threat of complete paralysis of urban life, samples of which are repeatedly provided by contemporary military conflicts) inspired global debates on the necessity to restore food production in cities, which – in situations of crisis – could give them a chance to survive. Already in the 70s of the 20th century, Yona Friedman – in his widely quoted speech at the international conference in Brussels on safety in cities[11] – was arguing for preparing urban environments in advance for temporary or long-term break-downs, and the most important strategies were, in his opinion, the ones that secured spaces for food production[12] (recalling the ancient rule always locating the well within the city walls) and promoted the design of buildings to be flexible and easily adaptable to changing ways in which they could be used, again following the example of a number of historic buildings.

VICTORY GARDENS – CONTEMPORARY TASKS

The expected crisis situations are not the only reason why the interest in gardening and small livestock raising in cities is growing. The progressing globalization of economies in the last twenty years has made many cities dependent on distant sources of supplies, often without any sense of security that the supplies would actually be delivered without fail. Universal access to basic provisions, until recently ensured by the welfare state, is becoming to be increasingly limited, which turns food into a luxurious commodity for the poorer city dwellers. The situation contributes to the decline of the myth – functioning for many generations – that cities are privileged at least when it comes to access to the basic good, which is for humans food. Food production in cities is becoming an ever more urgent necessity, paving the way for a great comeback of the idea of Victory Gardens,[13] and the term 'victory' refers now not only to making city residents independent from the institutionalized systems of food production and distribution but also to many other battles contemporary societies have to fight.

Research centres supporting food production in African, Asian or South American cities[14] point out to many tangible benefits it brings to the poorest strata of the society. And thus, urban farming:

- is a way to improve the lives of the urban poor[15] by offering them a better diet, creating the option of selling the surplus and buying fuel for cooking the foodstuffs they have, thus reducing the morbidity and mortality rates;
- offers employment (at least partial) and generates income, and a part of it, hitherto spent on food, most often goes to educating children;

- improves the levels of cooperation within neighbourhood groups, and the experience in self-organization is later used in projects undertaken in order to improve the conditions related to other areas of life, reducing the need for help from charity organizations.

Agro-urban concepts are spreading very fast. *Urban Agriculture, City Farming* or *Cities Feeding People* are now slogans that are universally familiar, not only in association with combating poverty, unemployment or exclusion, but also more and more often with projects corresponding to strategies of sustainable development for cities, in which the considerations related to frugal management of all resources play an enormous role. Hence, the list of potential benefits arising from urban farming that have been mentioned before should be complemented with some more. And so further on, urban farming:

- plays an important role in organic waste and sewage recycling that enables utilizing thereof (following adequate, strictly monitored reprocessing it into animal feed, fertilizers and water for irrigating the crops), which considerably reduces the size of landfills and the levels of water courses pollution;
- puts urban wastelands to use and performs a number of protective functions towards them, fending off pest infestation, theft, squatting, vandalism and illegal waste dumps;
- is a part of strategies for nature revitalization in cities, which treat small farming patches, orchards, small greenhouses, vineyards and meadows as elements of protected natural, cultural and landscape heritage representing the wealth of spatial forms and layouts and supporting the diversity of fauna and flora;
- activates interpersonal contacts by organizing campaigns directed at the general public, e.g. to plant more trees in cities, or through *Urban Guerrilla Gardening*, creating green settings for daily activities such as children's play and care, common cooking in the open air, hanging up laundry, small woodwork repairs or other DIY activities.

However, in order to make any shared activities in a sustainable beautiful and safe urban environment possible, it is necessary to introduce intensive environmental education addressed to the whole society as the attitude of the general public towards *inter alia* soil, the sun or insects needs to change. The need of continuous education of this type was recognized already in the late 80s of the 20th century by the founders of the City Farmer movement, who said the following at the 20th International Science Education Symposium about Urban Agriculture:

> *Ideally we believe that simply by changing from suit to jeans, digging up a bit of lawn, and planting vegetable seeds, the city person will begin asking questions*

about his environment and about his urban behavior and thinking patterns.

To most city people soil is simply mud or dirt, not a substance in which food is born. Rain, means 'no beach.' It is not seen as a drink for thirsty plants. Sunny days are 'tanning days,' not givers of food energy. There are no such things as 'beneficial insects.' They're all big game for a can of 'Raid.' Big toothed dogs are nice animals to feed. Egg producing chickens are not. Left-over food, minutes after a delicious meal, becomes garbage to be trucked away out of sight rather than a valuable homemade soil conditioner.[16]

The growth rate of urban farming in the last decades of the 20th century is best illustrated by the figures successively presented in the reports prepared by the International Development Research Center – IDRC.

In 1993, 15 percent of the world food production came from urban farms, whereas in 2005, it was around 30 percent.

The percentage of families producing food in Moscow grew from 20 to 65 percent in years 1972–1992.

In Argentina, the number of city dwellers involved in common agro-urban programmes grew from 50 thousand to 550 thousand in years 1990–1994, and the number of institutions providing support for this type of activity grew from 100 to 1,100.[17]

On the other hand, some facts related to farming listed by the Food and Agriculture Organization (FAO) presented below indicate not only the growing awareness of the numerous diverse benefits that farming in cities brings to their inhabitants but also certain dangers that have to be taken into account in formulating strategies for this type of activities.

There are some 200 million urban farmers in the world, supplying food to 700 million people, about 12 percent of the world population.

Urban farming provides for 30 percent of vegetable consumption in Kathmandu, 50 percent in Karachi and 85 percent in Shanghai.

Commodities such as fruit, vegetables, pork and poultry provide for some 10-40 percent of the nutritional needs of urban families in developing countries, thus making a major contribution to urban food security.

Small livestock are an important part of city farming. For example, livestock are raised by 17 percent of urban households in Kenya.

The average Latin American urban family spends 1 to 1.5 working days a week on its urban garden and saves 10-30 percent on its food bill.

Flowers, trees and gardens associated with urban farming provide an aesthetic benefit in the otherwise stark urban environment.

Crops grown by the poor in cities must be low value (to discourage theft), have

12.4
Urban farming uses any available wastelands performing a number of protective functions towards them. It also looks for new sites suitable for use as farmland, and rooftops of buildings make excellent sites for small-scale farming. Source: greenroofs.com

a quick rotation (because of land uncertainty), and must be hardy and adaptable to uncontrolled conditions (because of lack of shelter and proper tools).

Since many city authorities take no pride in making their cities appear rural, urban farmers face severe political and regulatory obstacles, including legal action and confiscation of products.

Tanzania's National Urban Water Agency estimated that 35 percent of its fresh drinking water supply was lost through leakage and illegal tapping by urban farmers; it therefore imposed a penalty fee on the agricultural uses of water in cities.[18]

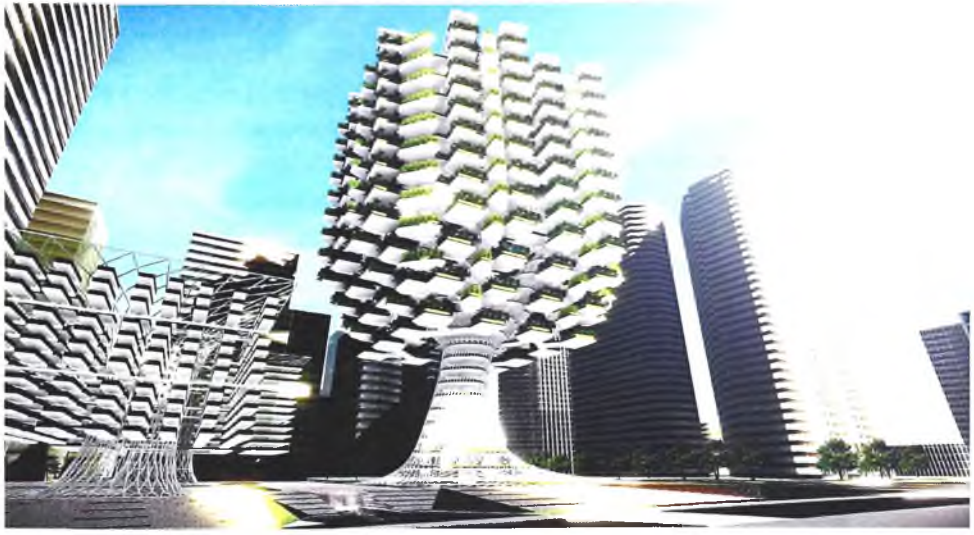
Information and figures on urban food production have been collected for years and systematically updated by many institutions monitoring agro-urban projects worldwide. Their objective is to create a uniform data base that would facilitate:

- education on what and how to produce, what plant cultivation and livestock raising methods to apply to increase the crops and profits without polluting the environment or creating hazards to public health;
- exchange of information between institutions that have already gained some experience in partnerships working for urban farming (such as: municipal authorities, agencies responsible for water and energy management, motorways operators, ports operators, or even military bases) with those that want to get engaged in such activities but have as yet no knowledge on how to do it;

- lobbying decision-making bodies for changes in legal regulations related to using plots of land in cities which often have no development value (too small, excessively shaded, steep, infertile) but would make an excellent site for temporary or permanent farm growing edible plants or raising small livestock;
- persuading financial institutions that granting even small loans or subventions for starting farming activities in cities could be beneficial and profitable; at present, urban farmers, in spite of their high productivity, are not eligible for such financial assistance, contrary to large-scale agricultural enterprises, which enjoy a multitude of state aid forms.

In spite of the still not quite regulated legal status, food production is doing quite well in many cities of the world. Research into urban fabric carried out systematically by independent institutions in various countries indicate that the areas or spaces actually used for farming are considerably larger than shown in the official reports or land use maps. Farms growing edible plants and raising small livestock are omnipresent in cities due to their mobility and truly extraordinary adaptation capacity.[19] They are becoming more and more efficient, too, because the people who work them (out of necessity or as a hobby) have enormous expertise and experience in choosing the right site, the right methods of selection and provision for plants, trees and animals that are best suited for urban farming.

12.5
Small-scale urban farms often use innovative designs, such as the Vicinity system that allows growing 50 plants (leafy greens, herbs and small root vegetables) per square metre of the single- or double-sided farming wall. Source: Vicinity.



12.6
The Urban Skyfarm is a vertical farm design proposal, inspired by the ecological system of giant trees, for a site located in downtown Seoul. Its main task is to support local food production and distribution while at the same time contribute to improving the environmental quality through water, air filtration and renewable energy production. Source: Aprilli.

What 'urban farmers' have already accomplished in the hearts of our metropolises, even with very little help from authorities, and the objectives they still set themselves is the evidence of the enormous human ingenuity and determination.[70]

An interesting topic, not to be missed in the considerations on urban food production are urban farms designed nowadays in skyscrapers and pyramids by famous architectural studios in cooperation with leading academic centres. However, both the technologically and environmentally advanced 'vertical farms' and the activities of 'urban farmers' using any undeveloped patches of land or even balconies and window boxes equally support the efforts of contemporary societies to change the image of cities and make them a part of natural environment and producers – not just consumers – of food.

NOTES

1. The problems discussed in this chapter were previously presented in the following publications: *Koncepcje agro-miejskie jako gwarancja bezpieczeństwa współczesnych społeczeństw*, "Teka Komisji Urbanistyki i Architektury / The Papers of the Urban Planning and Architecture Committee," volumes XXXVI–XXXVII, 2004–2005, Polish Academy of Sciences, Krakow Branch Press, Kraków, pp. 57–63 and *Farmy miejskie – przedsięwzięcia wspomagające strategie zrównoważonego rozwoju miast*, Czasopismo Techniczne/Technical Transactions, Journal 14, 6-A/2/2008, volume II, Wydawnictwo Politechniki Krakowskiej, Kraków 2010, pp. 39–44.
2. In Luc J. A. Mougeot: *Cities Feeding People – Report* 8, IDRC (International Development Research Center), Ottawa 2001, p. 6.
3. The earliest purge of medieval city centres of food production took place in Holland in the late 17th century, which is considered to be the first instance of zoning urban functions.
4. *History of Urban Agriculture, Depression Relief Gardens*: 1929–1939, https://sidewalksprouts.wordpress.com/history/relief-garden (retrieved on 06.01.2019).
5. The concept of garden city, which included the option of land cultivation not only to satisfy one's own needs, emerged in England in 1898. Its author – Ebenezer Howard – published it in his book *Garden Cities of Tomorrow*.
6. Broadacre City was the concept presented by Frank Lloyd Wright in his book *The Disappearing City* in 1932; it proposed not only decentralized urban layouts but also new social solutions based on granting each citizen the right to one acre of land, which they were to farm themselves.
7. Laura Schumm, *America's Patriotic Victory Gardens*, https://www.history.com/news/americas-patriotic-victory-gardens (retrieved on 06.01.2019).
8. Victory Gardens became popular in Canada in 2017, too. The campaign organized by the Ministry of Agriculture "A Vegetable Garden for Every Home" encouraged growing vegetables and raising chickens in every backyard and in flower gardens both in cities and in the country. See Ian Mosby, *Victory Gardens*, https://www.thecanadianencyclopedia.ca/en/article/victory-gardens (retrieved on 06.01.2019).
9. *History of urban agriculture, First World War Liberty Gardens*: 1917–1919, https://sidewalksprouts.wordpress.com/history/vg (retrieved on 06.01.2019).
10. *Victory Garden*, https://en.wikipedia.org/wiki/Victory_garden (retrieved on 06.01.2019).
11. Yona Friedman: *Wellbeing in Cities and the Future*, in *The Environment of Human Settlements*, Pergamon Press, Oxford 1976, pp. 303–308.
12. Yona Friedman expressed his concerns on the subject a long time before that conference – in the early 60s of the 20th century, when he formulated his '10 principles of new urban design.' In this document, he spoke for 'farming, which should take the place of industry in big cities' claiming that 'an urban farmer is a social necessity,' in Izabella Wisłocka: *Dom i miasto jutra*, Arkady, Warszawa 1971, p. 88.

13. One of the more distinctive projects of the recent years corresponding to the idea of urban gardens producing food during the 2nd World War is, in general opinion, 'the Victory Gardens 2007+' – the concept developed by *the Garden for the Environment* organization and the City of San Francisco's Department for the Environment. The pilot project designed to last two years (2007–2008) was supposed to make city dwellers aware that they could change their urban backyards, front gardens, window boxes, rooftops of residential buildings and any free patches of land into places of effective food production. The mission of the VG+ programme was also to provide support to the network of urban farmers spreading throughout the whole city by: distributing starter kits for home gardeners; educating through lessons, exhibitions and web sites and starting and maintaining a city seed bank. For more on the subject, see http://www.futurefarmers.com/victorygardens/what.html (retrieved on 10.01.2019).
14. One of the leading institutions carrying out and monitoring projects all around the world within the movement of *Cities Feeding People* is the Canadian International Development Research Center – IDRC.
15. Small loans for launching a business are a special kind of aid for people trying to lift themselves out of poverty. Grameen Bank in Bangladesh, founded by Muhammad Yunus, grants such loans, usually 12–15 dollars, mostly to women. For the development and implementation of the concept of microloan, Yunus received the Nobel Prize in 2006. In the document accompanying the award of the prize presented by the Nobel Committee, it declared that "lasting peace cannot be achieved unless large population groups find ways in which to break out of poverty." According to the data provided by the organization Microcredit Summit Campaign, more than 205 million clients used microfinancing services until the end of 2010, which translates into benefits drawn by 687 million of their family members. Loans are also granted for farming in cities – it has been calculated that each dollar invested into urban farming brings 6 dollars of profit – hence, even the smallest loan may change people's lives. In spite of relatively high interest rates, almost 98% of the loans are paid back on time. For more on the subject, see Muhammad Yunus, *Bankier dla ubogich. Historia mikrokredytu*, ConCorda, Warszawa 2012.
16. *Urban Agriculture Notes* published by City Farmer, Canada's Office of Urban Agriculture, http://www.cityfarmer.org/subcityF.html (retrieved on 11.01.2019).
17. International Development Research Center (IDRC) Annual Reports, https://www.idrc.ca/en/about-idrc/accountability/annual-reports (retrieved on 11.01.2019).
18. *Feeding the Cities, the Role of Urban Agriculture*, Food and Agriculture Organization, http://www.fao.org/docrep/x0262e/x0262e22.htm (retrieved on 11.01.2019).
19. Innovative methods of farming, e.g. without using soil, are gaining popularity; the range of eco-friendly food, which uses renewable sources of energy in the production process, is also increasing.
20. Luc J. A. Mougeot, *Cities Feeding People – Report 8*, IDRC (International Development Research Center) 2001, p. 6.

12.1 Honghe Hani Rice Terraces in Yunnan Province, China. Photo by Jialiang Gao. This file is licensed under the Creative Commons Attribution-Share Alike 3.0, https://commons.wikimedia.org/wiki/File:Terrace_field_yunnan_china_denoised.jpg (retrieved on 11.01.2019).

12.2 *The Depression of 1893-1897 Buffalo's Urban Farms*, photo from WNY Heritage Press, http://fixbuffalo.blogspot.com/2009/04/buffalos-urban-farms-1893.html (retrieved on 11.01.2019).

12.3 Left: *Join the United States school garden army – Enlist now*, Library of Congress, treehugger, https://www.treehugger.com/lawn-garden/vintage-photos-world-war-ii-victory-gardens.html (retrieved on 11.01.2019).
Middle: Jake Swearingen, *12 Fantastic Victory Garden Posters*, May 2013, Modern Farmer, https://modernfarmer.com/2013/05/12-fantastic-victory-garden-posters (retrieved on 11.01.2019).
Right: *US Posters of WWI*, History of Graphic Design, http://historiadesigneteoria.blogspot.com/2010/05/chapter-29-propagandaposters.html (retrieved on 11.01.2019).

12.4 Ryerson *Urban Farm*, Greenroofs, Connecting the Planet + Living Architecture, https://www.greenroofs.com/projects/ryerson-urban-farm-formerly-ryes-homegrown (retrieved on 11.01.2019).

12.5 The Vicinity Greenwall System can grow 50 plants per square meter, Vicinity, http://southafrica.greenwalls.vicinity.za.com/urban-farming (retrieved on 11.01.2019).

12.6 *Aprili Design Studio has created a concept for an Urban Skyfarm*, in *Urban Skyfarm concept would provide inner city farming space*, New Atlas, Architecture, 15th July 2014, http://www.aprilli.com/urban-skyfarm (retrieved on 19. 11. 2019).

Education and Upbringing

13

Historic Paradigms and Their Role in Contemporary Teaching and Design Practice[1]

Today people are looking to the past and the future in order to cope with the present.

ANTHONY ANTONIADES[2]

Learning about the past, using the experiences accumulated therein, climbing onto the shoulders of our predecessors is a natural mechanism granting development of all fields of knowledge. It helps us understand better the problems of the present day and gives us the necessary preparation for any attempt to predict what our tomorrow might be.

> *We are dwarfs that have climbed on the shoulders of giants. We see more than them and our sight reaches further not because our eyes are sharper or we are taller. It is them, with their gigantic size, that have allowed us to rise high above the ground.*[3]

The interest in historic examples of architecture and urban planning as well as bestowing the timeless dimension upon them has become clearly discernible recently both in the contemporary theoretical concepts and in the design practice. It does not mean, naturally, that we may copy historic patterns without any alterations capitalizing on the fact they are still socially accepted. It is impossible to turn back time just like that, because, besides the many stable elements in human lives and culture, there are also others, which have undergone deep and permanent transformations. However, regardless of the progressing transfigurations of the contemporary world, urban design must continue to rely on the knowledge of the historic process in

order to understand the contemporary structure of cities and be able to adequately shape its further growth. The return to the theories and models of urban spaces that worked in the past also allows us to appreciate the necessary rules embedded in the spatial grid of streets, squares and defined open spaces providing the setting for individual architectural objects. The rules should be followed, but not without a dose of flexibility permitting a diversity of styles and forms, a diversity of scale and character of buildings, and thus permitting creation of interesting and coherent bonds between the old and the new.

> *It takes more than good architects and landscape architects to create good cities; it takes good rules – rules that may not guarantee quality in every instance, but that help prevent disasters.*[4]

However, good cities are not only the ones that grow according to rules. They must also take into account the human need of continuity, tradition and permanent life principles, invariably associated with preserving the delicate relations between individual components of the city – the relations of *roads with buildings, buildings with buildings, trees, seasons of the year, ornamentation, with occurrences and with other people.*[5]

Discussions, going on for years, on the subject of spatial organization of cities seem to indicate unambiguously that there are certain rules, developed by generations and tested from many different perspectives, the implementation of which may also today contribute to creating widely accepted solutions. Several such rules will be presented below as ideas, compositional guidelines or a reminder of certain desirable relations between individual components of urban spaces. They will be illustrated with some examples, mostly historic and well known to everybody, which have acquired the status of model solutions. The author has decided to abstain from presenting contemporary solutions in this chapter fearing that they may be understood or applied as a direct inspiration rather than as examples helping to understand certain concepts and ideas.

COMPACT URBAN FABRIC AND MONUMENTS

Analysing the spatial structure of historic cities, it would be difficult to miss the compact urban fabric, neutral in its expression, providing background for buildings of the monumental character or spaces playing a special social role, which were made to look more prominent against this background. Such was the specific nature of city building, accepted by practically all preindustrial societies and applied for ages. The homogenous basic structure, demonstrating that the principle of equality was highly respected among the townspeople, was made up of residential houses with their embedded work places, such as retail shops or workshops. All deviations from

this rule were reserved for components that were important from the point of view of the community, both the grand ones, bearing witness to the power of the ruler, the role of the church or the wealth of the city, and the ones of a smaller scale but indispensable for the smooth functioning of the collective daily life.

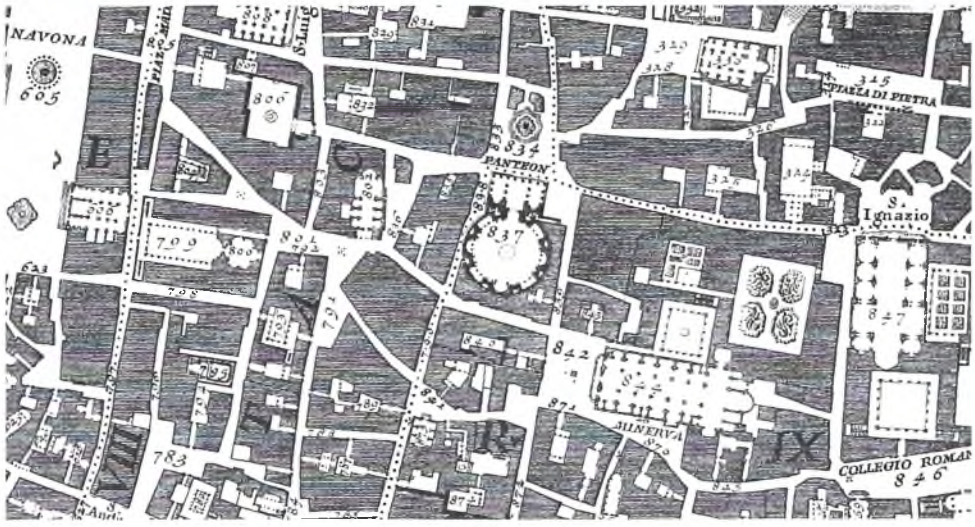
The clear separation in the structure of the city between the compact fabric and buildings of individual character, additionally highlighted by giving the latter symbolic significance (e.g. the castle, city gates – the power and authority; temples – respect for God, but also the pride of the city; the market square – the place of information and goods exchange), was so deeply encoded in the social awareness that it was also often reflected in the way city plans were drawn – important objects were presented as three-dimensional elements dominant among the 'flat' residential urban blocks which only had their outlines marked out.

Some urban functions and their related symbols had undergone considerable transformations to follow civilizational changes. New functions emerged to occupy important positions in the changing system of values. The railway station, bank, school or museum had acquired a new status and, accordingly, were given the rank entitling them to exist as objects distinguishable from the background. However, the principle began to be seriously abused, particularly in the 20th century. The ideas related to loosening up development density to improve the hygienic conditions in cities, 'needs' of the advertising industry and also in many cases architects' vanity (who refused to recognize the fact that adjusting the designed building to the existing urban fabric does not in the least diminish the gravity of the design task) resulted in proliferation of 'single' objects which did not deserve to be so prominently showcased as they played a rather modest social role.

> *... we cannot build our towns as a collection of demonstration objects – that would be rather like building a house from sample materials accumulated in architectural offices.*[6]

Nevertheless, designing new buildings in the city and taking the decision as to their character, the designer is not limited in their choice solely to the two options: fabric or 'single object.' It often happens that the most adequate solution is to adjust the building to the urban fabric and at the same time to give the individual expression to one of its parts or to only one façade, which – due to their location in the city structure – are predestined for such treatment. Joining in the discussion on the compromise in question, Pierre von Meiss, in his book *Elements of Architecture. From Form to Place*, presents the State Bank building in Freiburg, erected in years 1977–1981, as the best example of such solution. Meiss also writes: "If this head office had been built during the 1960s, on the same site, the entire building would probably have been treated as an object to the detriment of the urban fabric."[7] This statement illustrates

the undoubtedly noticeable change in the approach towards the structure of the city and methods of its rehabilitation initiated in the late 60s. The demise of the modernist ideas and widespread examination thereof, mostly critical at the time, contributed to the rediscovery of the traditional components of urban structures.



13.1
Iconographic plan of Rome of 1748, authored by Giovanni Batista Nolli, shows in a very clear way the relations between the compact urban fabric, monuments and public spaces in the city. Drawing from: *Mapping Cultural Space Across Eurasia*.

The most valuable historic lesson, teaching great sensitivity to the urban context and the skill of working towards a coherent urban structure resulting therefrom in a flexible way, is beyond doubt the Plan of Rome of 1748 developed by Giovanni Battista Nolli. The plan is an exceptionally interesting typological document, which should also greatly inspire contemporary solutions. It shows the interiors of larger public objects of the religious, social or state function in the same way and with the same level of accuracy as the streets and squares of the city (in white, marking out the structure of the buildings and the organization of open spaces) and in contrast to the general urban fabric encompassing the housing and commercial stock of the city and its work places (marked in the plan in dense hatching). It is easy to see that the dense basic fabric gives shape and strong three-dimensional definition to the urban spaces, even more figurative than the one of the fabric itself. Public buildings are rarely free standing objects. Their role is defined most frequently by broadening the area in front of them and giving it a form of a plaza. The façade then announces that the space unfolds outwards and inwards in order to integrate and mutually enliven all the interpenetrating 'urban rooms.' For Nolli and his contemporaries, public spaces and interiors of public objects were inseparably connected, constituting a unity of thought and experience.[8]

DIVERSITY IN UNITY

In historic cities, based, similarly to individual buildings, on a set of rules including: the hierarchic arrangement, formulas of comparability, orders and canons of beauty, it was easy to achieve 'diversity in unity,' i.e. harmony and continuation of public spaces, while preserving the strong unique character of individual objects. For Vitruvius, Palladio or Alberti, beauty was supposed to result "... from beautiful forms and the proper relation of the whole to its parts, between the parts and of the parts to the whole, since a building should present itself as a whole and complete organism, in which one member corresponds to another and all of them are necessary for the intended whole."[9] The definition of beauty in creating cities was similar.[10] The city as a whole was divided into parts. The regulatory grid of streets and squares defined urban blocks, which were in turn divided into plots and thus made up a framework for successive introduction of smaller elements. With such general premises, there was no room for accidental actions – all it took was filling in the already prepared spaces. Another guarantee of the adequate relation of the whole to its parts, between the parts... and so on, was the commonly used language of forms advising everybody of all the characteristic points in the whole city and in each building.

> *Special objects spoke of the role and significance of the city; extended corners of the houses situated at crossroads indicated their spatial significance. Everybody, regardless of their qualifications, an architect, a foreman or a simple craftsman knew that – when building a house – they needed to emphasise all the edges delineating the structure and mark out all the entrances and window openings according to the hierarchy of their importance..., regardless whether it was in the Gothic, in the Romanesque or Rococo styles.*[11]

There are some well-known and admired examples of urban spaces around which all the buildings were erected in a way demonstrating both the knowledge of the symbolic code on the part of their builders and that they were aware of the responsibility for the common space resting upon them; these are Kramgasse street in Bern, the Swedish town of Visby, the Market Square in Zamość, Długi Targ (Long Market) street in Gdańsk or the development surrounding the port on the bay in the little town of Hydra on the Peloponnese. There are plenty of such examples everywhere. Each of these places is different, built in a different period, different conditions and to suit different tastes. Yet, they are all characterized by uniformity – it is so because the unified structure, the applied materials and the architectural detail effectively balance the unique features of individual buildings, their sizes, proportions and the look of the façades.

13.2
The historic development around the bay on the Island of Hydra is an admired example of how a uniform structure, traditional materials and the architectural detail effectively balance the unique characteristics of the individual objects – their size, proportions and solutions applied in the façades – creating an exceptionally harmonious whole. Photo by Dave Briggs.

A city grows over centuries, its face usually bears traces of different styles coming one after another. This changeability may give the cityscape richness and charm, but only if the stones in the mosaic make up a harmonious whole, if the impression of diversity is accompanied by the sense of order.[12]

UNITY OF THE WALLS AND THE FLOOR OF A PUBLIC SPACE

The scale and the mood of public spaces and, which follows, the way they are perceived by their users depends to a great degree on the proportions and character of their walls (how much they open up, the type of openings, the detail) and on the relations between these walls and the surface of a street or square they are lining. The way the floor itself has been laid down and how the other components have been arranged, both the dominant features and the smaller elements, e.g. greenery, a sculpture or a water accent, are also of considerable significance. The above mentioned problems are illustrated in the model way by many well-known historic complexes.

Piazza del Campo in Siena is a magnificent example of how dense development, making up the three-dimensional edges of the square, visually reinforces its openness. Walking down cramped winding alleys, nobody expects that an open space is going to explode in their faces in a moment. The shape of the square resulting from the configuration of the surrounding streets has been reinforced by the radiant pattern on its surface and the fact that it slopes down towards the most important structure – Palazzo Publico with its dominant feature – the tall and slender tower tying the whole

composition together. Unification of the character and height of the development surrounding the square highlights its role in keeping the square a coherent public space.

Piazza del Campidoglio – the Square on top of the Capitoline Hill in Rome is in turn the best illustration of the masterly skills of Michelangelo, who – complementing the existing 'walls' and changing their character (by building a museum to be a symmetrical reflection of the Palazzo dei Conservatori) and introducing 'the floor,' with its characteristic pattern and different levels, uniting all the elements of the composition – transformed a disorderly place into a strong and harmonious and at the same time sophisticated whole.

Yet another lesson may be learned from the solution applied in Piazza Ducale in Vigevano. The square had been created earlier and performed certain functions related to the summer residence of the Sforza family. Three of its frontages were lined with arcades for a unified expression. In the mid-17th century, a decision was taken to build the St. Ambrose cathedral to make the fourth frontage of the square, which until then had been the foreground of the main entrance to the palace. The geometry of the plot where the church was to be erected remained in certain conflict with the geometry of the square. The builders decided that the most important role of the object was to co-create the public space it was to become a part of and hence the front façade of the church was designed to serve precisely this purpose. They did not hesitate to give it a considerable independence from the rest of the building, and they even made it longer than its volume so that it went beyond the building and partly overlapped the neighbouring structures.

13.3
Piazza Ducale in Vigevano – a harmonious whole was achieved here by using arcades along the three frontages of the square, introducing a unifying pattern in the paving and conforming the façade of the church with the geometry of the public space. Photo from: Patria Indipendente.

One of the first theoreticians who emphasized the positive psychological effects of harmonious and beautiful urban spaces clearly defined by their walls was Camillo Sitte. In his book *City Building According to Artistic Principles*,[13] which was released in 1889, he spoke against diving an area into building plots, which was a typical building practice in the 2nd half of the 19th century and which normally did not take into account the existing natural or cultural conditions, and he called for learning from the past by careful analysis of historic models. The transformations and infills he proposed for the area of the cathedral located in the important part of Vienna near Ringstrasse contributed to the creation of a small and cosy courtyard in front of the church and to binding the discussed part of the city with its surroundings to form a harmonious whole, and thus it became a model solution itself and it greatly affected the understanding of the principles of 'artistic' creation of contemporary urban spaces.

GREAT STREETS – 'PATHS' AND 'PLACES'

Streets are an incredibly important component of any urban structure. They are not only the two-dimensional linear elements we know from plans that allow people and goods to move from one place to another, also providing free public access to properties; they are three-dimensional spaces performing numerous responsible social functions in the city, with the educational function being just one of them, though by no means the least important. Results of the research carried out simultaneously in many academic centres have demonstrated that the configuration of streets and squares, the form and function of buildings, their aesthetics and the ideas they convey may be extremely effectively used to teach such values as beauty, consistency, respect or justice.

Creation of cities that are considered good and streets that encourage social life requires developing a certain set of general design principles which could be relied on in practice. Apart from the classic compositional principles, we need to recall here a few other fundamental rules which – if they are correctly applied – provide for streets that are evaluated as decidedly better than others. And the most important of them are the following:

- clear definition of the street, marking out its boundaries, the beginning and the end;
- inviting potential users to enter the street and stay there;
- maintaining the human scale by selecting the adequate height of the walls in relation to the distance between the two frontages lining the street;
- bearing users' comfort in mind, i.e. taking into account all likely weather conditions and applying materials that facilitate comfortable use of the street and maintaining it in a good condition;

– transparency, i.e. interpenetration of the public and private domain;
– ensuring the presence of interesting images engaging the sense of sight, which, however, should not introduce chaos or disorientation.

It would seem that the recommendations as to the scale, harmony, order, unity and variety as well as the definition of the functional character of streets resulting from their location within the city are sufficient grounds to build models and define the physical and functional parameters of streets that are most adequate in given conditions. However, even the best proportions and detail, the best location and the most effective accessibility (the attributes of a good 'path') do not suffice for a public space to earn the name of 'place.' Paraphrasing Aldo Van Eyck, we may say that PLACES and OCCASIONS occur only when we add people to the TIME and SPACE.[14] People are necessary for public spaces, they enliven them, give them a meaning, character and identity. Public spaces are necessary for people, too, as background for their daily routine, as places where they can find psychological support or places that make human experiences deeper and more intense. Streets and squares will perform this function only if they are noticeable for people and easily remembered, they must attract us, make us want to be there. The criteria related to the perception of the city with the use of various senses and the matters related to human psychology often refer to the phenomena described with the word 'magic,' because what draws us to some streets are precisely these passing, unreal qualities, and we hang out there not because we have to but because we want to.

> *There is magic to great streets... The best are as joyful as they are utilitarian. They are entertaining and they are open to all. They permit anonymity at the same time as individual recognition. They are symbols of a community and of its history... They are places for escape and for romance... On a great street we are allowed to dream; to remember things that may never have happened and to look forward to things that, maybe, never will.*[15]

The above phrase seems to be the most accurate definition of 'a great street,' especially because it only provides a framework into which we may insert both what is tangible, objective and utilitarian and what is unreal, subjective and magical.

There are hundreds of great streets in the world – in Pittsburgh, Rome, Barcelona, Paris or Beijing. It would be very difficult to pick just one or a few of them and say that they are model solutions. In this case, it is worth resorting to 'the great book' on the topic, which is undoubtedly *Great Streets* by Allan B. Jacobs.

GREAT URBAN SEQUENCES – SENSITIVITY TO CONTEXT AND DYNAMIC RECEPTION

Urban sequences tend to be seen as a separate category in the classification of public spaces. They encompass ensembles made up of a larger number of components that only together create an inspiring whole. The examples of such sequences are the system of canals in Amsterdam, the French Quarter in New Orleans, the kilometres of sidewalks covered by arcades, which are the distinguishing characteristics of Bologna or the small-scale, cosy lanes of Bath, always remembered as interconnected with others. The Royal Route in Krakow – a tract Polish kings used to follow when they headed towards the Wawel Castle – does not quite fit the category defined as above. It is undoubtedly one the most beautiful 'great urban sequences,' yet at the same time it allows its main components – Floriańska street, the Main Market Square or Grodzka and Kanonicza streets to preserve the status of separate great wholes.[16]

13.4
The Royal Route in Krakow is one of the most beautiful 'great urban sequences,' allowing their main components – Floriańska street, the Main Market Square as well as Grodzka and Kanonicza streets – to preserve the status of separate great wholes. Photo by the author.

The Krakow's Royal Route is not featured at all as an example of 'a great urban sequence' in foreign publications on the subject, which is a bit odd as it is set against the background of the Old Town, an urban complex of extraordinary value, reflected *inter alia* by the fact that it was included on the first list of UNESCO World Heritage Sites in 1978. However, another urban complex with a Polish accent, composed of

a few urban enclosures of individual character strung on one shared compositional axis, have lived to enjoy a lot of extraordinarily favourable opinions. The place in question is the group of squares in Nancy, designed by Emmanuel Héré and built at the initiative and following the guidelines of the former Polish king Stanisław Leszczyński in an exceptionally short time – in years 1752–1755. The ensemble is composed of the regularly shaped Royal Square and the elongated La Carrière, filled with greenery, connected with the Royal Square by a short street and a monumental gate pavilion. La Carrière leads to le Palais du Gourvenement, with its semi-circular colonnades, and a garden behind the palace, open to the public and accessible from the main axis through an openwork clearance under the building.

The ensemble – known as a whole under the name of Place Stanislas – is still considered to be one of the most important historic models and described as an architectural work of unequalled value. The following aspects are viewed as particularly admirable:

- extraordinary sensitivity to the urban context (the complex combined into one organism two parts of the city that had been previously turned away from each other);
- the use of the existing features of the place (the designers made conscious and consistent reference to the orientation and width of the old mediaeval tournament field and preserved the previous gateway function of the place by introducing a pavilion in the shape of a triumphal arch into the new composition of squares);
- the idea of adding to the architectural ensemble some functions directed to the general public: administrative, educational, cultural, healthcare-related and recreational;
- highlighting the presence and role or greenery and making it accessible to the public,

and last but not least, or perhaps – first of all:

- the fact that *the new components were used in a way ensuring combining them with the existing elements to create a new, inspiring and vibrant spatial unity.*[17]

Segmentation of the whole ensemble, its human scale and the principles of dynamic perception, embedded in the very design concept, providing for movement, transition, going from one 'urban room' to another – these are the attributes that should also characterize contemporary urban compositions, as they far too often exhibit solely static qualities.

BRIDGES TEEMING WITH LIFE

The idea of clear sequences of public spaces and the principle of preserving their continuity are related to the idea of 'bridges teeming with life' also known as *living bridges*. Bridges are built where there is a need to overcome a natural barrier – a river, a gorge, a ravine – or a barrier created by man – a canal, a railway line, a motorway. The structure and the deck supported on it or suspended from it are the potential base on which we may easily locate objects performing other functions than merely crossing over the barrier.

13.5
One of the first, and certainly the most famous 'living bridge' is Ponte di Rialto in Venice, supported on one arch spanning 28 m and raised 7.5 metre over the level of the *Canale Grande*. Three flights of stairs run parallel across the bridge, with the middle one lined with shops selling gold jewellery or souvenirs. Photo from Pxleyes.

The history of bridges colonized by various functions started in 1141, when the Great Bridge in Paris became a place for changing money. The Middle Ages saw bridges that were locations of mills, shops, taverns and chapels. They were also frequently used as city gates, and then they performed a defensive function and became temporary lodgings for the defence crew. The famous Ponte Vecchio in Florence, built of stone in 1345 and surviving until the present day, was the location of shops selling basic products satisfying the daily needs of the city residents in the period just after it had been built. They were later replaced by luxurious functions, such as trading in gold or silver. With the advent of the Renaissance, the spontaneously erected mediaeval bridges had to give way to more formal and classic designs, usually commissioned to specific master builders. Antonio dal Ponte is the author of the single-span concept, very audacious for its times, for Ponte di Rialto in

Venice. Since 1591, when it was built, the bridge has continuously inspired awe with its elegance and functionality. It is worth remembering that Andrea Palladio also designed his own version of this bridge in 1570, and it was his creation that has been a source of inspiration for painters and architects for ages.

The 18th and 19th centuries saw a great multitude of designs, in their greatest part never realised, such as: triumphal bridges, bridges for storage and trade, bridges demonstrating fascination with new inventions. New materials and technologies enforced in a way, for the first time in history, a division of competences between architects and engineers, they also required close cooperation between the two professions. The early 20th century was the age of continuation of experiments – new designs emerged for bridges that were supposed to be art galleries, bridges related to large-scale residential development or bridges-garages. Most of the above-mentioned ideas, however, never went beyond the design stage. Proposals for multifunctional bridges of the 60s – megastructures to hang over the roofs of Paris, Salzburg or Tunis – were met with the same fate. Yet, there was one initiative that was undoubtedly most influential in disseminating the concepts of multifunctional bridges – it was the competition for a bridge over the Thames[18] and the following great exhibition *Living Bridges*, organized after the competition was completed in late 1996 at the Gallery of the Royal Academy of Arts in London. Visited by great numbers of viewers, not only by architects, it became the highlight of the season.

In contemporary cities, multifunctional bridges, running not only 'over' but also 'under' obstacles, help maintain continuity of public spaces and restore to them the character of intensively used places dominated by pedestrian traffic. It is also easily noticeable that – to an ever greater degree – they celebrate diversity, a multitude of elements, contrasting functions, technologies, materials and also management methods that move away from the well-trodden paths, familiar typologies and habits. These qualities characterize hybrids – new components emerging in the structure of cities.

The sign of the new times is hybridization.[19] Will it change the way of thinking about the city? Will it put to doubt the legitimacy of relying on historic models? The answers to these questions may be found with the help of the statements quoted below, taken from the *Metapolis Dictionary of Advanced Architecture*.

> *It is time for hybridization... In a world that is changing every second... we need to work with systems, processes and mechanisms... that allow us to join all information and process it into a complex new piece of architecture.*
>
> *Because of their scale, urban composition strategies should be added to hybrids. The definition of a hybrid includes perspective, grid insertion, dialogue with other urban landmarks and interrelationships with the surrounding public space.*[20]

The above observation gives us faith that historic models of urban spaces and the values they represent will remain robust and valid still for a long time to come.[21]

Historic realizations that have acquired the rank of model solutions are being given a new special role in contemporary education and architectural practice. They are considered to be sources of inspiration and reference points indispensable in evaluation of old and new solutions alike. Yet, they are also viewed as incredibly effective tool of communication. Illustrating the presentation of their design intentions with examples of well-known and user-tested realizations, the architect evokes unambiguous associations in their audience as to the appearance of the place, its scale, proportions, ambience and social reception manifested by the frequency and intensity in which the space is used. It is a simple yet effective way of clearly defining one's design intent, and developing the skill of doing it seems particularly important now that we are faced with the increasing integration of systems of architectural education and the global labour market. Encouraging students to add successively other values they consider important and solutions they consider helpful in understanding them to the collection presented in this text may bear fruit of future architects' enriched set of design skills and, which follows, contribute to creation of urban public spaces of high functional and spatial quality and met widespread public approval.

NOTES

1. Submitted for publication at Oficyna AFM /AFM Publishing House/.
2. Anthony C. Antoniades, *Architecture and Allied Design*, Kendal/Hunt Publish. Comp., 1992, p. 377.
3. Bernard of Chartres, in Wacław Ostrowski, *Wprowadzenie do historii budowy miast. Ludzie i środowisko*, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 1996, p. 15.
4. Robert Campbell, *The Choice: Learn from the Past* or *Fail in the Future*, in Roger Trancik, *Finding Lost Space*, Van Nostrand Reinhold, New York 1986, p. 20.
5. From the manifesto of 'Team 10,' founded in the 50s of the 20th century by representatives of the humanistic approach to urban spaces design, in Alison Smithson, Peter Smithson, *Team 10 Primer*, Cambridge, Massachusetts, MIT Press, 1968.
6. Pierre von Meiss, *Elements of Architecture. From Form to Place*, Van Nostrand Reinhold (International), New York 1990, p. 78.
7. *Ibidem*, p. 77.
8. Edmund N. Bacon, *Design of Cities*, A Studio Book, The Viking Press, New York 1968, p. 147.
9. Andrea Palladio, *Cztery księgi o architekturze*, PWN, Warszawa 1955, p. 10.
10. "A house is a small city. Building it, we must take into account everything that refers to city construction...," in Leon Baptista Alberti, *Ksiąg dziesięć o sztuce budowania*, PWN, Warszawa 1960, p. 189.

11. Jakub Wujek, *Mity i utopie architektury XX wieku*, Arkady 1986, p. 104.
12. Wacław Ostrowski, *Wprowadzenie do historii budowy miast...*, *op. cit.*, p. 240.
13. Original title: *Der Städtebau nach seinen künstlerischen Grundsätzen.*
14. Aldo van Eyck, in Anthony C. Antoniades, *Architecture and Allied Design*, *op. cit.*, p. XXV.
15. Allan B. Jacobs, *Great Streets*, Cambridge (Mass.) – London 1996, p. 11.
16. More on the Royal Route in Krakow may be found in Anna Palej, Beata Malinowska-Petelenz, George Berry, *Wielkie ulice – ich krótka charakterystyka i współczesna rola w mieście*, "Kwartalnik Architektury i Urbanistyki," volume XLV, journal 2/2000, Wydawnictwo DiG, Warszawa 2001, pp. 167–178.
17. Siegfried Giedion, *Space, Time and Architecture*, in Roger Trancik, *Finding Lost Space*, *op. cit.*, p. 220.
18. Seven most distinguished world architects together with their teams were invited to participate in the competition. The first award was won ex eaquo by Zaha Hadid and Antonio Grumbach. Readers wishing to learn more about the competition entries are encouraged to study architectural magazines from the period of 1996/1997.
19. For more on this, see Michał Palej, *Hybrydy – nowe elementy w strukturze miast*, Czasopismo Techniczne/Technical Transactions, Architecture, 6-A/2010, Wydawnictwo Politechniki Krakowskiej, Kraków 2010, pp. 57–64.
20. *The Metapolis Dictionary of Advanced Architecture. City, Technology and Society in the Information Age*, ACTAR, Barcelona 2003.
21. For more on this, see Anna Palej, *Historyczne modele przestrzeni ulicznej a nowe manifesty*, in *Przestrzeń dla komunikacji w mieście*, Zeszyty Naukowe Instytutu Projektowania Urbanistycznego Politechniki Krakowskiej nr 9 /Academic Journal of the Institute of Urban Planning at CUT/, Kraków 2001 and Anna Palej, *Współczesna problematyka przestrzenna miast i jej historyczne tło*, in *Elementy analizy urbanistycznej*, CUT Press, Kraków 1998.

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

13.1 *Nolli Map of Rome 1748*, in *Mapping Cultural Space Across Eurasia*, accessed July2019, http://dighist.fas.harvard.edu/projects/eurasia/items/show/206 (retrieved on 16.07.2019).

13.2 *Hydra Island Greece*, photo by Dave Briggs, in *Athens day trip to Hydra*, Dave's Travel Pages, https://www.davestravelpages.com/athens-day-trip-to-hydra (retrieved on 21.08.2019).

13.3 La Piazza di Vigevano, in Tomaso Montanari, 2017: per la rivoluzione Della bellezza, Patria Indipendente, http://www.patriaindipendente.it/persone-e-luoghi/servizi/2017-per-la-rivoluzione-della-bellezza (retrieved on 16.07.2019).

13.4 Photo by the author.

13.5 *Ponte Rialto created by ea8322*, Photo(shop) Contests, http://www.pxleyes.com/photography-picture/5b4b74abbe0f9/Ponte-Rialto.html (retrieved on 16.07.2019).

14

Alvar Aalto – the Inclusivist Architect[1]

"Architecture is a synthetic phenomenon covering practically all fields of human activity."[2] It is a kind of applied art that serves man even when it adopts the most sophisticated forms. Therefore, considering the question of architects' imagination and creations, we may not focus on only one aspect – the artistic one – and thus support the idea of a flicker, of a peculiar spark, intuition and individualism; we should talk about inclusion[3] instead, about complexity, team work and the intellectual approach to tasks backed up by diligent study and commitment. Such was the attitude towards the practice of architecture represented by Alvar Aalto (1898–1976) – one of the most versatile architects of the 20th century, whose significance was fully appreciated only after his death, because while he lived his achievements were overshadowed by the accomplishments of Frank Lloyd Wright, Walter Gropius, Le Corbusier or Mies van der Rohe.

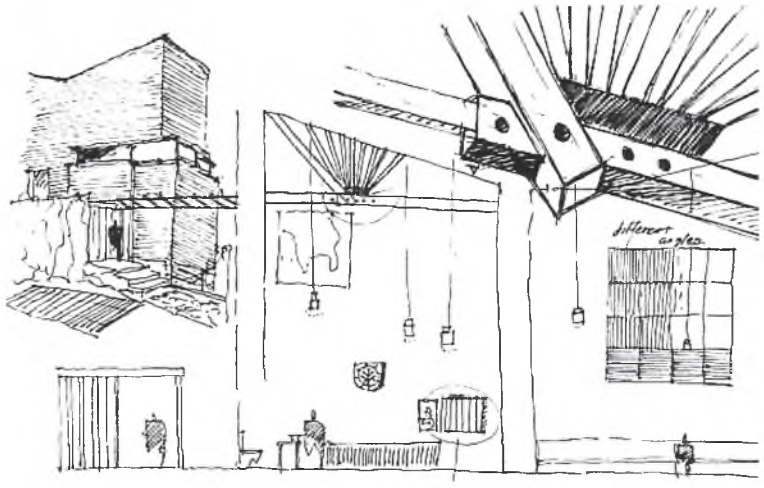
Aalto was an architect on a quest, evolving throughout his whole life, who had never fallen victim to a style or a capricious fad. Hard work, travels, observations, sketches, diverse reading experience and exceptionally good contact with people helped him continuously to perfect his professional skills. They also allowed him to develop a set of model qualities of an inclusivist architect – caring for the needs of the users and the interests of the client, respecting the laws of nature, taking into account, while working through the design process, a whole range of various conditions and parameters: environmental, functional, formal, structural, material-related, psychological, symbolic and even metaphysical.

The figure of Alvar Aalto had been ignored in textbooks and specialist publications for years, and the objects he had designed were discussed only under the category of 'regional' or 'vernacular.' At present, his life and work are subject of in-depth analyses, as they are considered the most magnificent context for the

development of the idea of inclusivist architecture. In order to understand its essence properly, it is worthwhile remembering certain facts, qualities, skills and challenges related to Alvar Aalto.

A MAGICAL LIVING LINE

The interest in Alvar Aalto's drawings has recently reached its apogee. They are being shown at exhibitions in many countries, they illustrate important books on architecture, they have been included in the series of the American publishing house Garland presenting archives of famous artists. Drawings from Alvar Aalto's studio have been collected, reproduced and carefully catalogued. They are stored in the master's former design atelier – now the seat of the Alvar Aalto Foundation in Munkkiniemi in Helsinki.



14.1
AlvarAalto's sketches and drawings are authentic recordings of his creative process – not only do they register the general idea of the form and function but also analyse the acoustics, lighting options or the users' possible movement paths within and around the building.
Sketch by Alvar Aalto

What makes this collection so attractive to architects and academics from all over the world? Is it the nostalgia of an older generation pining for the bygone time, wooden drawing boards and a T-square made of pear- or plumtree wood, not always perfectly straight? When it was commonly understood that a building is not a Swiss watch and an architect's centimetre sometimes had the right to turn into a builder's inch. When an uneven detail, a curve going beyond the outline of the building in a way that had not been previously planned left some room for certain corrections, certain decisions which ultimately enriched the work.[4] What is it that makes these drawings and sketches, frequently modest in their expression, an object of study and admiration? It is the power of the line and its magic. It is the way in which it bends and flexes, shows the wealth of the world of ideas and translates it into a disciplined form. The sketches and drawings characteristic of the hand that made them are

an authentic reflection of the creative process, a record of the general idea of the form and function, as well as the elusive metaphor of humanity, which had always accompanied Alvar Aalto.

Quick sketches and drawings were extremely important in Aalto's work. This is what he himself wrote about their role in the design process:

> *I forget the entire mass of problems for a while, after the atmosphere of the job and the innumerable different requirements have sunk into my subconscious. I then move into a method of working which is very much like abstract art, I just draw by instinct, not architectural syntheses, but what are sometimes childlike compositions, and in this way, on this abstract basis, the main idea gradually takes shape, a kind of universal substance which helps me to bring the innumerable contradictory component problems into harmony.*[5]

In order to begin a design, to get himself into the mood of spontaneous decisions and observations, Aalto sketched using a thick, soft pencil held loosely in his hand. It produced the effect of a shaking, modulated, seemingly uncertain line. At the stage of an introductory search, hardly touching the paper, he left delicate, noble lines, being just a blurred impression. In the course of the development of an idea, the drawing condensed. Aalto concentrated, studied various kinds of closings and openings, checked the quality of spaces and their sequences in three-dimensional relations, too. His drawing technique made it possible to find the most important places in the design – lines, drawn repeatedly, overlapped generating a certain value and creating a strong illusion of depth.

Aalto also used drawings and sketches to analyse lighting options, acoustics or the users' possible movement patterns around and inside the building. He paid enormous attention to drawing studies of details, and he used materials "as a means to the ultimate sensual, emotional and poetic end"[6] with great skill.

The sketches done while travelling, which usually recorded historic works of architecture, played a different role for Aalto than his conceptual drawings. He did not care at all for the end result while making them, he treated them solely as a recording of a certain method of viewing and collecting visual experiences, so he did not pay much attention to their value and kept them shoved at the bottom of his drawer.

> *The landscape sketches and annotations on the buildings of the past are rather a kind of spiritual exercise, a putting into practice of Aalto's basic method: to filter clearly perceived separate entities through the unconscious so that a viable synthesis arises... The goal is not to create artistic sketches or interesting paintings but to train sensibilities.*[7]

Perfecting the skills of using a drawing, a schematic representation, a sketch, helped Aalto to develop a truly extraordinary ability to focus on his thinking process.

14.2
The sketches done while travelling – usually recording historic architecture – were treated by the author as a record of a certain way of looking and collecting visual experiences as well as an exercise in sensitivity. Source: *La España de Alvar Aalto*.

In the initial period of his professional career, he drew a lot, searching for the ultimate functional and formal solutions. In later years, he would only bring small scraps of paper to his office with the drawings showing a completely developed design. The only thing left to do was to write in the dimensions.[8]

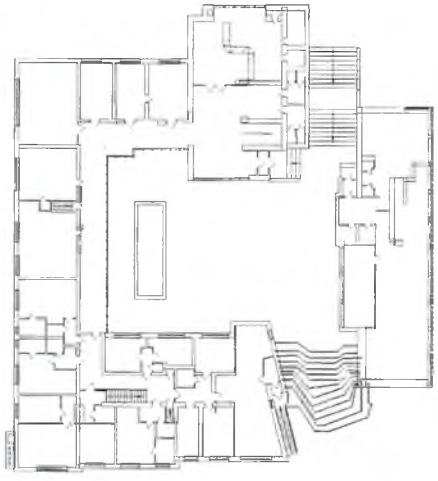
THE THEORY OF THE SITE AND THE CONCEPT OF THREE PATHS

Alvar Aalto designed various buildings: houses, blocks of flats, sanatoriums, libraries, town halls, theatres, churches and many others. He also used various technologies and building materials. Leonardo Benevolo, an Italian historian of architecture, emphasizes the great variety of functions, structures and materials found in his works and sees him primarily as a typologist. However, we need to remember here that Alvar Aalto gave the types of his buildings a very personal interpretation, which would suggest destruction of associations established in culture rather than anything else.[9] The interpretation stemmed from the assumption that the characteristics of the site – its morphology, span, orientation, utilities and relations with its surrounding areas and structures – are the most important determinant factor for spatial solutions.

The principle of site development which Aalto dutifully followed almost throughout his whole professional career stipulated that the object erected on the site should be split into two clear components connected with a human-friendly public space. Viewing the building and its surrounding area as equivalent components of the design task was a response to the negative examples of modernist buildings surrounded by functional and spatial void.

One of the most difficult architectural problems is the shaping of the building's surroundings to the human scale. In modern architecture, where the rationality of the structural frame and the building masses threaten to dominate, there is often an architectural vacuum in the left-over portions of the site. It would be good if, instead of filling up this vacuum with decorative gardens, the organic movement of people could be incorporated in the shaping of the site in order to create an intimate relationship between Man and Architecture.[10]

In his designs, Alvar Aalto attributed a significant role to public spaces and made them accessible for everybody: not only for the users of objects and invited guests but also for common passers-by who stayed there for no more than a moment. Those spaces usually took the form of a courtyard, not entirely enclosed, often terraced in the amphitheatre-like fashion, compositionally connecting its surrounding volumes and establishing a relation with the rest of the site. Additionally, Aalto treated his courtyards as 'components of memory' that enable registering the former character of the site. The geometry of the courtyard, materials, the kind of decorative elements or a slightly changed character of some otherwise utilitarian elements (e.g. stairs covered with grass) were able to evoke the mood of the site from before the construction of buildings. Analysing certain details and formal layout solutions, we are able to figure out whether a given site was originally an urban, a suburban or a rural plot. What is more, the record, resulting from responding to the existing features of the surroundings, added the third element – Nature – to the desirable unity of Man and Architecture.



14.3
The concept of the site development created by Aalto was based on dividing the facility into clear components connected by a human-friendly public space. It would usually adopt the form of a courtyard, often with terraces going down in an amphitheatre-like fashion, binding the volumes of its surrounding structures with the rest of the area and also offering the possibility of preserving the former character of the place. Photo by Michał Palej, plan: ht – Human Technology.

In Alvar Aalto's works, the concept of the site and the manner of developing it was closely related to the concept of three 'paths.' The first path was the route of the sun placing both the object and the site it had been built on in time and space. The second path was related to the pedestrian movement around the building, while the third one, of the functional character, was related to the movement patterns inside the building, the accessibility of utilitarian components and the kind of human activity for which the object had been designed. The last path was conceived so as to enable users to explore the space or, as Aalto understood it, to develop a series of experiences. In Aalto's interpretation, the term 'function' was founded on human actions and experience. Designing his structures, Aalto never favoured any of the paths over the others; quite the opposite, he tried to reach the highest harmony between light – path 1, the object/the site – path 2 and the function – path 3. In practice, this harmony was achieved by a carefully prepared composition of horizontal and vertical planes building the object and a pattern of openings in the planes, i.e. windows, doors and stairs.

Alvar Aalto's designs were always notable for their extraordinary mastery in handling the light. One of his travels to the Mediterranean at an early stage of his career aroused an interest in him for strong sunlight and its aesthetic effects. However, he did not treat it solely as a tool useful for modelling the form. In compliance with the Finnish tradition, always craving for sunshine, he understood and used its enormous significance also for enhancing the functional and health-promoting values of structures. And thus, light had become the major determinant factor for the solutions he postulated in his designs. The best examples of the above are the library in Viipuri (the major function – reading) and the tuberculosis sanatorium in Paimio (the major function – therapy).

14.4
Alvar Aalto's designs were always notable for their extraordinary mastery in handling the light. However, he did not treat it solely as a tool useful for modelling the form. In compliance with the Finnish tradition, he understood and used its enormous significance also for improving the functional and health-promoting values of structures. Photos (left and right) by Michał Palej, Helsinki Design Week (middle).

INSPIRATION WITH THE EPIC AND TOPOPHILIA

Alvar Aalto always began discussing his works at international meetings with a presentation of some landscapes typical of Finland – traditional wooden settlements, lakes with crystal clear water, extensive forests and a blanket of snow covering endless spaces with glistening whiteness. He claimed that it was impossible to understand his designs of buildings without any knowledge of his country. So it was indeed. Finnish nature, ancient legends, folk songs, the warm family home, classical education – all these strongly influenced Alvar Aalto's concepts, attitudes and philosophy of design. Sigfried Giedion put it very aptly in his famous work *Time, Space, Architecture*, where he wrote: "Finland is with Aalto wherever he goes. It provides him with that inner source of energy which always flows through his work. It is as Spain is to Picasso or Ireland to James Joyce."[11]

Discussing the profile of Alvar Aalto and searching for some Finnish inspirations in his works ought to begin with *Kalewala* – a national epos, classified as one the oldest manifestations of folk activity in the world. *Kalewala* exalts harmony between man and nature, describes people, their experiences, work, collaboration and struggle for survival. It is also a story of *topophilia*[12] – people's attachment to their country and an encouragement to celebrate living in an open space: among forests, lakes, at sea and in settlements on long winter days. The legends and songs of Finland and Karelia, created by nameless authors and passed on in the oral tradition, were

14.5
Alvar Aalto always started discussing his works at meetings abroad from a presentation of typical Finnish landscapes – traditional timber hamlets, lakes with crystal clear water, extensive forests, an austere sea coastline and the shining white snow shroud covering endless planes. Source: The Telegraph.

14.6
Alvar Aalto claimed that it is impossible to understand his designs (be it buildings, furniture or daily use objects) without getting at least some perfunctory knowledge of his country. His native landscape was for him the most important point of reference and a source of enormous energy that emanated from his works. Source: fanpop. Finland Club.

collected and edited as an artistic whole in the first half of the 19th century. Since then, they have strongly influenced both literature and art. Even the latest comments on contemporary Finnish architecture include some references to *Kalewala* and the architecture of the region of Karelia the epos helped to discover. Alvar Aalto spoke of the Karelian house with the highest admiration in his texts and comments, too.

> *Uniformity is the first essential feature of Karelian architecture... a pure forest-settlement architecture in which wood dominates almost one hundred percent both as a material and as a joining method... in most cases bare, without the dematerializing effect that a layer of paints gives. In addition, wood is often used in as natural proportions as possible, on the scale typical of the material... Another significant special feature is the manner in which the Karelian house has come about, both its historical development and its building methods... The Karelian house is in a way a building that begins with a single modest cell or with an imperfect embryo building, a shelter for man and animals, and which then, figuratively speaking, grows year by year... The possibility of a larger and more complete building is always open. This remarkable ability to grow and adapt is best reflected in the Karelian building's main architectural principle, the fact that the roof angle isn't constant.*[13]

Undoubtedly, Karelian artefacts and nature, as well as folk wisdom, propagating attachment to one's land, developed the feeling of national and regional pride in Alvar Aalto. Despite the fact that various ideas and trends fascinated him in the course of his long professional career, he remained faithful to his country, worked for a better

understanding of the nature of the region and maintaining strong ties with nature. A biography of Alvar Aalto written by Göran Schildt says that his "... ambition was to attain the same kind of harmony with the cosmos as he imagined the Karelian village once had."[14]

One of the ways in which Alvar Aalto followed the architectural traditions of his country was his preference for natural materials. He readily used timber, copper, stone and brick in the façades of his buildings.

> *An ordinary brick... a primitive product... if it is made correctly, properly processed from the country's own raw materials, if it is used in the right way and given its proper place in the whole, then it constitutes the basic element in mankind's most valuable and visible monuments and it is also the basic element in the environment that creates social well-being.*[15]

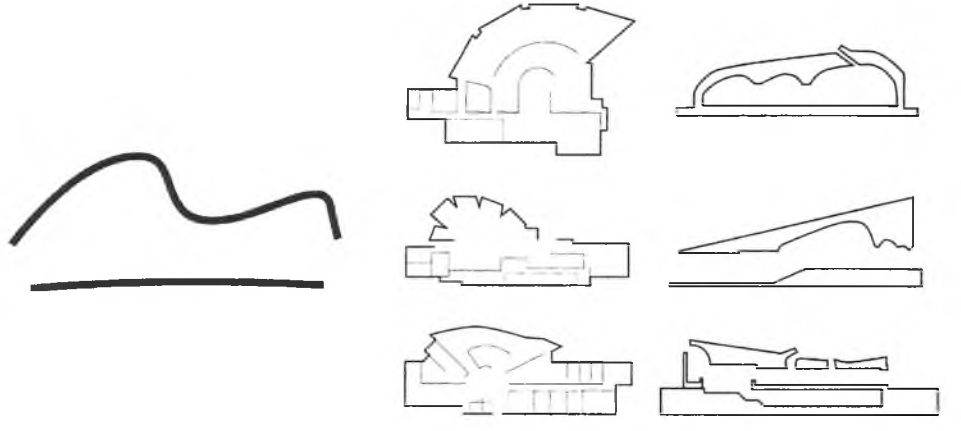
As may be seen, materials were of fundamental significance for Alvar Aalto. He saw them as the essence of architecture – its beginning and its end. He also emphasized their potent influence over the emotions of the public.

14.7
In his work, Alvar Aalto favoured natural materials – wood, copper, stone and brick. He did not, however, exploit their static and aesthetic characteristics following the Finnish tradition, but experimented with textures, light, geometry and colour obtaining surprising results. Photos (left) Painting Box, (middle) Pharma Industry Finland, (right) by Michał Palej.

Nevertheless, Aalto adopted a highly individual approach to materials, just as he did with the types of his buildings. Materials – even the natural ones, which he used with great gusto – acquired a new meaning, so to speak, in his structures. It was so because he did not use their static and aesthetic properties following the Finnish tradition, but experimented with textures, light, geometry and natural colour, achieving the effect of dematerialization, shimmering and deconstruction. Such concepts as line, plane and volume, were often given certain enigmatic ambiguity in his works, and this was accomplished by using screens, layering the surfaces and dynamic light effects. "Light unites with materials" in Aalto's compositions, "in animating site and function."[16]

THE NATURAL ORDER AND THE RATIONAL ORDER

Alvar Aalto grew up among unique nature, surrounded by the love of his parents, ambitiously supporting his passions and talents. Since early childhood he had been encouraged to practise sports and spent long hours with his father fishing in the lakes or hunting in forests and grasslands. His mother, in turn, an art lover, instilled in him an interest for the theatre, painting and sculpture. The nature of his native country, classic humanistic traditions, long discussions on art in his father's studio and contacts with numerous artists all contributed to the development in Aalto of this peculiar sensibility that places architecture between Man and Nature, between the rational and the natural order; and the extremely concise representation of the above is the contrast between the straight line and the wavy line,[17] the horizon and the sky, between what is natural and what is artificial, free and organized, held still and set in motion, the representation discernible in the projections of his designs, in cross-sections and elevation drawings alike.



14.8
In his work, Alvar Aalto exhibited extraordinary sensitivity, which places architecture between Man and Nature, between the rational and the natural order, and the concise representation of the above is the contrast between the straight and the wavy line. Source: *The Idea of Building*.

Alvar Aalto also held an interesting opinion on the process of architectural creation, which he presented in his talk *The Trout and the Mountain Stream*. It is most intriguing and therefore worth recalling here:

> *... architecture and its details are connected in a way with biology. They are perhaps like a large salmon or trout. They are not born mature, they are not even born in the sea or body of water where they will normally live. They are born many hundreds of miles from their proper living environment. Where the rivers are but streams, small shining bodies of water between mountains... as far from their normal environment as man's spiritual life and instincts are from his daily work. And as the fish egg's development to*

a mature organism requires time, so it also requires time for all that develops and crystallizes in our world of thoughts. Architecture needs this time to an even greater degree than any other creative work.[18]

The above opinion, and – undoubtedly – the layout of the traditional Karelian farmhouse, contributed to the concept, often used by Alvar Aalto, of dividing the designed objects into two parts. The basic volume of the building in the shape of letter L or U – symbolizing the mature organism – was set against a smaller independent component – symbolizing the embryo form, the egg. The main part performed representational functions (e.g. the studio in the Mairea house, the council chamber of the town hall in Säynästalo), and the individual part – the functions related to the process of physical regeneration (sauna, swimming pool) or intellectual regeneration (library). The different character of the symbolic content of the structures was additionally emphasized by using different materials and structural solutions, whereas the courtyard, which was the compositional bond of the whole layout, was given the role of a ritual passage between the 'civilized' urbanity, with the geometrized form, on one side of the complex, and the native simplicity, with natural form, on the other.

CREATIVE AND INTELLECTUAL MOBILITY

Maturity and success in architecture may only be achieved by those who are open to new ideas, who have been 'apprenticed to various masters' and have practised their hand in changing styles or fashions. Testing diverse principles one after another is a very good way to improve architectural skills and collect new experiences in order to, when the time is ripe, find one's own way and develop one's own individual style. Creative mobility is the fundamental quality of all great architects, another – no less important – is the high level of education. Great architects did not limit themselves solely to design and construction tasks, they were well read, many of them wrote textbooks, essays and treatises, they were engaged in cultural and educational projects preparing well-informed investors and users for architectural objects, they also exchanged opinions with others at international conferences. Alvar Aalto was precisely such architect.

His education was designed in an excellent way from the very beginning. The decisive factor for his personal development was the stable family, its social and intellectual openness and the natural environment of unique value in which he grew up. As a boy he went to a well-known classical school, which put special emphasis on the study of Latin,[19] thus instilling into the students the sense of affiliation with the classical traditions. They were also encouraged to be interested in the affairs of their home country, which was in a difficult political situation at the time. These circumstances were later to become a magnificent foundation enabling Aalto to participate with great commitment in two stylistic trends characteristic of Scandinavia

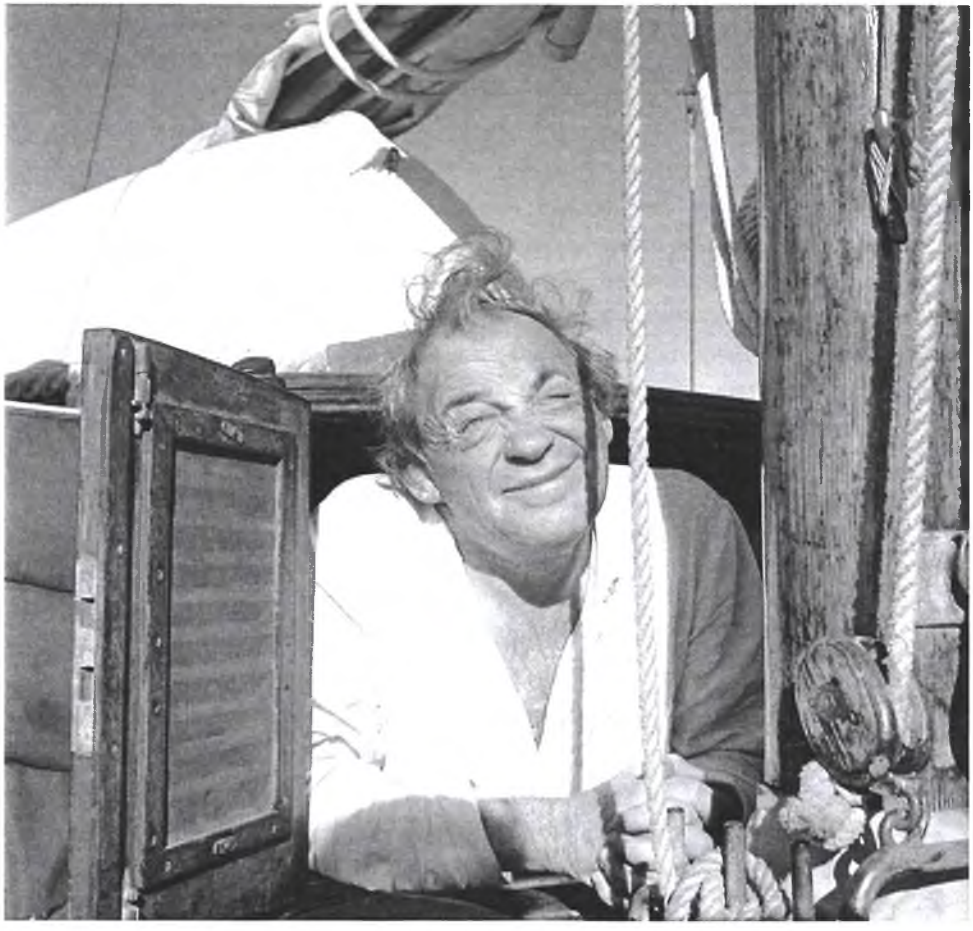
in the early 20th century: the classical – Doric – sensibility and the vernacular Romanticism, which in Finland sprang up from the need to find a different style than the classic Romanticism ruling in Helsinki under the auspices of the imperial Russia. Aalto saw the clear relations between the vernacular and classical trends, which he pointed out to in his essay on the architecture of Karelia.

> *A dilapidated Karelian village is somehow similar in appearance to a Greek ruin, where, also, the material's uniformity is a dominant feature, though marble replaces wood...* [20]

Although in his works Aalto remained faithful to the Nordic tradition, which combined folk with classic elements and the romantic sensibility with the normative austerity, he was also looking for other paths, he was fascinated by numerous ideas abounding in the 20th century. And thus, his works exhibit influences of the Dutch constructivism, Soviet agitprop, the principles of 'Existenzminimum,' the school of Bauhaus and the International Style. Yet, regardless of the slogans and manifestos of the trends that inspired him, Aalto always gave his designs a humanistic dimension. He achieved a perfect ambience in his spaces by appropriate filtration of warmth, light and sounds, he experimented with layouts of free plan, focused his whole attention on creating an environment promoting human health, prosperity and satisfaction. "He also managed to bring," according to Göran Schildt,[21] "the deepest conflicts of our age into exemplary harmony."[22]

Aalto was certainly not a one-dimensional artist. Nor was he a lonely artist. He enjoyed great authority in his studio, he was also greatly loved by his assistants. He perfectly knew what to do to make people in his studio approach the common tasks with enthusiasm, treat them as their own tasks and give them their total commitment. He always stressed that each member of the design team contributed equally to the final success, they were like links in a chain – all of them equally important in the whole structure. He compared his team to an orchestra, in which each musician plays their part the best they can.

Well liked as the boss, he also had exceptionally good relations with his clients. He was of the opinion that only an architect who is flexible in their views, ready to listen and willing to engage in negotiations, may – in return – expect cooperation and benevolence from their clients, also in the matters related to pure art. Aalto knew how to engage his clients into the creative process, how to use their suggestions as an inspirational element, an additional stimulus helping him to invent something new, something even better. However, the scope of possible transformations was not unlimited, in his view, and therefore he warned his colleagues against excessive compliance: "You have to know what is A and what is B. In B-matters we can be flexible, A-s are matters of principle."[23]



14.9
In architecture, perfection and splendid results need time before they come, they may be achieved during a long process lasting a lifetime – a creative process paid for with hard work. Alvar Aalto kept repeating, though – I beg you, don't forget to play! Photo by Göran Schildt, Christine and Göran Schildt Foundation.

A lot of people, when describing the character of Alvar Aalto, use the phrase – chameleonic.[24] Constant change in behaviour, the process of diplomatic oscillation within the accepted extremes – it is the way to maintain good relations with people in general, and in the case of an architect – it is the way to win many interesting and profitable commissions. It was very characteristic of Alvar Aalto that, contrary to e.g. Frank Lloyd Wright, he kept designing new objects for the same clients.[25] He also continued to expand the group of his clients, including – among others – great public commissions, which helped him understand many different design parameters and conditions.

He was great at selecting coworkers, he also had an extraordinary gift to engage other architects, artists and intellectuals into his professional efforts. He recognized authority, too. His 'guru' was the Swedish architect Gunnar Asplund, and he frequently visited him in Stockholm asking for advice.

Eager to learn from others, testing various schools and manners and continuously perfecting his skills, Alvar Aalto himself became a model, and his inclusivism is the best gift he could offer the future generations.

It may be puzzling for some readers, why the considerations on architecture and one of its greatest creators have been done without in-depth analyses of his designs and with a negligible – as for 'such topic' – number of illustrations. The reason for such modest form and avoiding using names of buildings and people or dates was that the aim of this talk was only to show the context in which the inclusivist architecture may have developed. This context was, in the case of Alvar Aalto, primarily his wise and warm family home, extensive education, unique habitat, in which he had the good fortune to live, self-discipline, sensitivity, good manners and hard work.

And there is one more thing which may seem surprising:

> *Aalto was never a great student, he was never a prize-winning student, or a good draftsman in the conventional sense of the period... All these are surprises for the student or anyone who may have experienced the prevailing attitude of parents and many teachers that only high marks and overnight achievement of 'excellence' are needed for eventual success in life. On the contrary, these are gained in time, through a life-long process of discipline and creative advancement.*[26]

NOTES

1. The article about Alvar Aalto was published in "Teka Komisji Urbanistyki i Architektury," tom XXXII 2000, Wydawnictwo Oddziału Polskiej Akademii Nauk, Kraków 2001, pp. 89–100.
2. Alvar Aalto, in Anthony C. Antoniades: *Poetics of Architecture*, John Wiley & Sons, Inc., New York 1992, p. 15.
3. Lat. *inclusio* < *inclusus*, p.part of *includere*, to enclose.
4. Based on the memories of Kaarlo Leppänen, an architect working in Aalto's office in 1956–1975, in *The Line. Original Drawings from the Alvar Aalto Archive*, Museum of Finish Architecture, Helsinki 1993, p. 128.
5. Alvar Aalto, *Alvar Aalto: Sketches*, in Iain Fraser, Rod Henmi, *Envisioning Architecture. An Analysis of Drawing*, John Wiley & Sons, New York 1994, p. 172.
6. Anthony C. Antoniades, *Poetics of Architecture*, *op. cit.*, p. 221.
7. Göran Schildt, *The Sculptures of Alvar Aalto*, in Iain Fraser, Rod Henmi, *Envisioning Architecture...*, *op. cit.*, p. 92.
8. Based on the memories of Aalto's wife – Elissa Aalto, in *The Line. Original Drawings...*, *op. cit.*, p. 20.
9. "The Greek architect Demetri Porphyrios has sought to decipher the typological content of Aalto's plans and forms through the use of the concept of *heterotopaeia*, to show that

apparently unrelated elements of the buildings can be understood as fragments of wholes, which themselves are, in turn, in a proper relation to each other," Steven Groak, *The Idea of Building*, E&FN Spon, London–New York 1992, p. 210.

10. Alvar Aalto, in Kenneth Frampton, *Modern Architecture. A Critical History*, New York 1990, p. 197.
11. Sigfried Giedion, *Space, Time and Architecture*, in Richard Weston, *Alvar Aalto*, Phaidon Press, London 2002, p. 6.
12. Gk. *topos*, place, *philos*, friend.
13. Alvar Aalto, *Architecture in Karelia*, in Kenneth Frampton: *Modern Architecture...*, *op. cit.*, p. 192.
14. Göran Schildt, in Anthony C. Antoniades, *Epic Space. Towards the Roots of Western Architecture*, Van Nostrand Reinhold, New York 1992, p. 233.
15. Alvar Aalto, *Art and Technology*, in Anthony C. Antoniades, *Poetics of Architecture*, *op. cit.*, p. 221.
16. Steven Groak, *The Idea of Building*, *op. cit.*, p. 226.
17. The said representation is the ideogram suggested by professor Wilson of Cambridge University, characterizing the place of these two orders in Alvar Aalto's works, discernible in many schematic projections and cross-sections, in Steven Groak, *The Idea of Building*, *op. cit.*, p. 227.
18. Alvar Aalto, *The Trout and the Mountain Stream*, in Kenneth Frampton, *Modern Architecture...*, *op. cit.*, pp. 200–201.
19. Latin often accompanied Alvar Aalto's designs. He gave many of his works titles in this language, thus introducing a solemn tone, justifying the formal restraint, conferring special symbolic meaning on his public objects and spaces, often inspired by the amphitheatre form, turning them into strong landmarks in the scale of the neighbourhood or the city.
20. Alvar Aalto, *Architecture in Karelia*, in Kenneth Frampton: *Modern Architecture...*, *op. cit.*, p. 192.
21. Göran Schildt, a literary critic and a philosopher. The extensive research into Alvar Aalto's life and work, which bore fruit in the form of the 3-volume biography, made Schildt one of the most distinguished contemporary critics of architecture.
22. Göran Schildt, in Anthony C. Antoniades, *Poetics of Architecture*, *op. cit.*, p. 284.
23. Based on the memories of Aalto's wife – Elissa Aalto, in *The Line. Original Drawings...*, *op. cit.*, p. 20.
24. The opinions of Göran Schildt – the author of Alvar Aalto's biography, and Lisbeth Sach – one of his coworkers.
25. The best example of this may be the relations between Alvar Aalto and the wood, cellulose and paper industry, which started in the early 30s of the 20th century from the meeting with Harry and Maire Gullichsen, heirs of the Ahlström corporation, which corporation was a patron of Aalto's works until the end of his life.
26. According to Göran Schildt, in Anthony C. Antoniades, *Poetics of Architecture*, *op. cit.*, p. 283.

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

14.1 Sketch by Alvar Aalto, in Celine Thibault, *Studio: Exploration through Medium*, Austin Center for Design, September 2015, https://www.ac4d.com/2015/09/studio-exploration-through-medium/ (retrieved by 3.12.2019).

14.2 *Aliza de Valadollid by Alvar Aalto*, in José Laborda Yneva, *La España de Alvar Aalto*, https://www.coam.org/media/Default%20Files/fundacion/biblioteca/revista-arquitectura-100/1993-2000/docs/revista-articulos/revista-arquitectura-1998-n315-pag30-33.pdf (retrieved on 26.07.2019).

14.3 Photo by Michał Palej, plan in Pia Tervoja, *Säynätsalo Town Hall bears the mark of the master*, Human Technology, JYVÄSKYLÄ, Finland, http://www3.jkl.fi/tiedotus/human_tech_city/index.php/2004-01/11 (retrieved on 26.07.2019).

14.4 Left: photo by Michał Palej.
Middle: in Mirva Sjoroos, *A for Alvar Aalto, Helsinki Design Week*, https://www.helsinkidesignweek.com/series/a-for-alvar-aalto/ (retrieved on 4.12.2019).
Right: photo by Michał Palej.

14.5 In Andrew Stone, *Finland travel guide*, The Telegraph, https://www.telegraph.co.uk/travel/destinations/europe/finland/articles/finland-travel-guide (retrieved on 26.07.2019).

14.6 *Winter in Finland*, fanpop, Finland Club, http://www.fanpop.com/clubs/finland/images/40249194/title/winter-finland-talvi-suomessa-wallpaper (retrieved on 26.07.2019).

14.7 Left: Muuratsalo, Alvar Aalto's experimental house, in Laura Clayton Baker, *The surprising poetry of brick*, January 2019, http://www.painting-box.com/2019/01/the-surprising-poetry-of-brick_13.html (retrieved on 4.12.2019).
Middle: Helsinki, Alvar Aalto's Finlandia Hall, in: *Finish EU presidency is an opportunity*, June 2019, Pharma Industry Finland, https://www.pif.fi/newsroom/news/finnish-eu-presidency-is-an-opportunity.html (retrieved on 4.12.2019).
Right: Alvar Aalto's Villa Mairea, photo by Michał Palej.

14.8 In Stephen Groak, *The Idea of Building*, *op. cit.*, p. 227.

14.9 *Alvar Aalto peering through a window aboard the sailing yacht Daphne in early January 1955.* Photo Göran Schildt, Christine and Göran Schildt Foundation, http://www.villaschildt.fi/en/alvar-aalto (retrieved on 26.07.2019).

15

Children and Their Place in the Contemporary City[1]

Children and their place in the contemporary city – the title may suggest that this text contains a few simple guidelines on the desired relations between children and the urban environment they happen to grow and gain life experience in. However, giving simple recipes would be very hard in this case because, *inter alia*, terms like 'child,' 'place' or 'city' are ambiguous and very general.

THE CHILD

In the beginning, it may be worthwhile quoting the words of the anthropologist of culture – Margaret Mead, who said that we may think or talk about 'the child,' using the singular number, only if we remember "... that the child doesn't exist. Only children exist. Every time we lump them together we lose something."[2] The reason for that is the existence of enormous differences between individuals. There is no 'average child.' Each child has their own unique personality, was born with a predisposition towards a certain type of temperament, the rate of physical growth and psychological maturing, which influences their psychomotor and emotional activity and their social behaviour. Development of each child is a creative and dynamic process. It is going on incessantly since the day the child is born, but the process is not one-directional or uniform. Periods of intensive development, called development leaps, are intertwined with periods when apparently nothing is happening. They are all immensely important, however, because there is a very strong interrelation between them. Each development stage is possible only when all the necessary preparations are complete, and these take place at the previous stage.[3] The clinical psychologist Marta Bogdanowicz, an excellent expert on child development,

has described children in a very sagacious and accurate way: "a child is a creator... their whole development is a continuous creative effort... There is no present child, the child is always suspended between the past and the future."[4]

No generalizations referring to children ever prove true not only because the development progress is highly individualized. Polish legal regulations (similarly to other countries) "do not contain one universal definition of a child." There are several such definitions in the Polish law. "They are related primarily to this aspect which is currently needed for the correct interpretation and construction of the issue in question."[5] The legal definition of a child is then based on various legal regulations of the international, regional and national character, the most fundamental of which are: the Convention on the Rights of the Child, adopted by the UN General Assembly on the 20th November 1989; the Directives of the Council of Europe no. 94/33/EC and no. 77/486/EEC, the Polish Family and Guardianship Code and the Ombudsman for Children Act.

Children's rights, their needs and issues related to their development have attracted some attention only relatively recently. Frank Musgrove, in his book *Youth and the Social Order* states jokingly that the child "...was invented at the same time as the steam engine"[6] quoting year 1763, in which James Watt perfected his machine thus enabling mass production, and year 1762, which was the year of publication of Jean-Jacques Rousseau's pedagogical treatise – *Emile, or Treatise on Education* – describing the methods of raising children which were, according to the author, one of the most effective tools for changing the society and the situation of children for the better. The truth was that in most cases the fate of children, who for whole centuries had been 'the property' of the family, was in great majority tragic. The dark side of childhood, relatively well documented in literature, was rather reluctantly studied by historians. The first comprehensive work on the subject was apparently *The Evolution of Childhood* by Lloyd DeMause, who famously wrote in the introduction to the book that "*the history of childhood* is a nightmare from which we have only recently begun to awaken."[7]

The reluctance to undertake research into the reality of childhood in the past centuries did not deter 19th century scholars – mostly philosophers – from creating new concepts related to the field of pedagogy and education. These were called for by new attitudes and aspirations of the society at the age of bourgeois revolutions. However, discussions on child's autonomy and factors determining their physical and psychological development had begun earlier. One of the first people to point to the environment and its influence on the development of a child was John Locke, considered one of the boldest thinkers in Europe during the Enlightenment. Locke was the proponent of genetic empiricism, which argued that a child's mind has no inherent characteristics – it is like a clean slate written upon gradually as the senses

15.1
The fate of children had been tragic for centuries, which is best illustrated by the phrase that... the history of childhood is a nightmare from which we have only recently begun to awaken. Photo by Jacob A. Riis. Source: oscarenfotos.

and the mind acquire new experiences dependent on the amount and quality of the stimuli provided by the environment. A slightly different opinion than the one formulated by Locke, who viewed children as relatively passive creatures, was proposed by Jean-Jacques Rousseau and developed by modern thinkers continuing his concepts – here the child is seen as an active individual, seeking information and experiences, cooperating with their surroundings not as a passive recipient of their caregiver's orders, but as an explorer and discoverer, whose interest is sparked by nearly everything and who adjusts their abilities to the world in play and in problem solving but also adjusts the world to their needs. Both these lines of thinking are just two trends of one theory, called the environmental theory of development. In this theory, the influence of the environment in which the child lives and grows on the development of their personality is considered evident regardless of whether the child is perceived as a passive or an active individual.

The view opposing the genetic empiricism, which provided the foundation for the above-mentioned environmental theory of development, is genetic rationalism – a theory not without its followers until the present times. They assumed "that there exist inherent characteristics of a human mind and personality, in their essence independent from external conditions or from experience."[8] They believed that the

15.2
The influence of the broadly understood surroundings on the correct development of the child and the character of the experiences they acquire, which will to a great degree affect their whole adult life, has been proven beyond doubt by scientific research. Photo by the author.

genetic composition is the only factor that determines human development, and external factors may only accelerate or slow it down. However, contemporary science proves that the opposition – either the genetics or the environment – is false and we must recognize that both these factors affect the comprehensive and correct development of an individual. We should also set apart the organized process of upbringing as an independent part of the globally understood environment, which consists in "systematic process of setting tasks to a child that help develop the mind and skills, broaden the horizons of the visible and understood world, ... shape the individual set of values determining the birth of personality."[9] The above list of factors must be complemented with yet another – no less important – the individual aspirations of a person, who – through conscious actions – perfects their features of character and broadens their knowledge and culture.

The broadly understood environment greatly influences the correct development of children on the one hand and the character of the experiences they acquire on the other, which has been confirmed by a large body of scientific research. The experiences shape the outfit of equipment that to a great extent determines their whole adult life, and that means that architects and decision makers carry a great burden of responsibility for the young generation as they are the ones who decide on the quality of the space that surrounds us. It is not enough to show extra care when designing places directly associated with children, such as the house, playground or places of institutionalized day-care or education. Although children enjoy now, quite

rightly, a certain distinct status in the society, they do not form separate groups occupying isolated enclaves in the city that are reserved only for them. Children are present everywhere – at home, in the staircase and outside the house, at school, in the park, on the bus and in the street. Hence, architects must bear children in mind all the time, designing almost everything, and try to do their best with the greatest commitment possible as there are not many people that would speak up for children, and they themselves have no possibility to stand up for their rights.

CHILDREN IN THE CITY

It would seem that the influence of the physical and social surroundings on the young generation, documented since 'the times of the steam engine,' will bear fruit and we will have by now a multitude of research and design projects aimed to enhance children's wellbeing and multi-sided development in a friendly and stimulating environment – mostly in a spatially and socially complex urban environment. Meanwhile, studies and publications on the subject started to appear only in the second half of the 20th century – at the time when the great urban renovation projects, the modernist ideology and the phenomenon of urban sprawl were all contested. The first two concepts were criticized for tearing apart social and spatial entities that had been growing as a unity for ages and for the fact that function zoning and realizing building projects in stages resulted in removing all components promoting socializing from cities. Urban sprawl was in turn held responsible for dragging people away from their civic duties, which in the past always came together with being a part of coherent local communities. Lewis Mumford jokingly referred to this phenomenon in his fundamental work *The City in History* as "... a collective effort to live *a private* life"[10] or – in a more sinister way – as a concept leading to "total human annihilation."[11]

One of the most important publications illustrating the fate of children in cities is undoubtedly the book by Colin Ward *The Child in the City*, which has not lost any of its value in spite of the fact that a really long time has passed since it was first released. It attempts to test any possible way of making the city more accessible because, as he writes, "The city has failed its children. It fails to awaken their loyalty and pride."[12] He believes that – in order to become a responsible adult – a child must have a chance to learn about the city, use the city, control it and change it. Yet, not everybody can do that – "... some children develop the habit of exploiting everything their environment can provide. They unfold as individuals through creatively manipulating their surroundings. But there are many others who never get a foot on that ladder, who are isolated and alienated from their city. Often they take revenge on it."[13] Following John Holt, Colin Ward emphasizes two other important issues in his book – identification and permission. "There is surely a big difference between how it feels to explore

a city... as forbidden territory and how it feels to explore it as a larger neighborhood in which you are welcome, your city, your country, your world."[14]

The book *The Child in the City* by Colin Ward is often compared with another one – *Childhood's Domain* by Robin C. Moore. They definitely share one feature, which is the approach to the task. Neither of them is a result of a series of interviews and in-depth studies done, as the author highlights, in a thousand cities among a thousand children. They are based mostly on empathy and understanding observation of what children do in the city. They also give voice to the children themselves, who talk about their relation to their city using drawings, maps they have made themselves and through eagerly posing for photos. Hence, they are first-hand reports.

Similarly to the publications discussed above, the now considered classic work by Jane Jacobs *Death and Life of Great American Cities*[15] is based on common sense and direct observation of urban daily life, in which children should be granted the place they deserve. The author, which may seem surprising these days, is rather distrustful when it comes to spaces that are specially set apart in the city, such as parks, inner courtyards or enclosed playgrounds. She is a great fan of pavements along lively urban streets as places that are safe and exceptionally stimulating for development. The truth is that it is not the spaces themselves or even the best possible equipment but people who bring up children and train them to living in a civilized society. In support of her belief that enclosed spaces do not improve safety or conditions for development, Jane Jacobs quotes what New Yorkers, brought up in Brooklyn, told her: "When we wanted to do something we weren't allowed to, we always went to Lindy park, because no adult would see us there. Normally, we played in the streets, where we couldn't step out of line too much."[16]

Lively streets, mixed functions, services on the ground floor, people in the windows on higher floors, places along the streets which are liked, often visited and remembered – these are the characteristics that support clarity of cities and their ability to generate images, which, as Kevin Lynch argues in his book *The Image of the City*, should be considered one of the most important aspects of urban planning, as it brings tangible benefits to the residents. It facilitates finding one's whereabouts and fast transit, offers a wide range of reference points, helps organize actions, facilitates communication between people and prevents feeling lost also in the emotional sense. And although we may live our daily lives equally effectively in visual chaos of contemporary cities, the same routine actions and banal – it would seem – occurrences may acquire a new dimension for us if they take place in clearly defined and varied surroundings.

Being perfectly aware of how important are simplified memory images of each part of the city as well as the information on its relations with other parts and the city as a whole for developing the young generation's self-confidence and sense of

security, Kevin Lynch got involved in an extensive research project examining the ways children living in various cities and various city districts in Australia, Argentina, Poland and Mexico perceive their surroundings. The results of the research, presented in the book *Growing up in Cities* published in 1977, seem to highlight once again the fact that city centres, particularly the historic ones, full of people and various stimuli and activities are the most inspirational for child's development. In contrast, spaces offered by prefabricated housing estates are places where bored children are met with emptiness, apparent order and silence.

15.3
In urban spaces, particularly in those of historic cities, there is always something interesting going on, they are full of interesting objects to play with. Nonetheless, children always remain under the more or less discreet supervision of their parents. Photo by the author.

15.4
Large prefabricated housing estates have never enjoyed a good reputation as places encouraging physical or social development of children. Rehabilitation of structures from the 60s in Singapore has brought positive results in this respect. Source: Public Service Division, Singapore.

The awareness that large housing estates, a type of residential development dominating the cityscapes of numerous Polish cities, had many failings as the environment effecting enormous influence on children living in them inspired the author of this text to undertake research aimed to diagnose the relevant phenomena and attempt to develop remedial strategies. The project was crowned with the publication – in 1991 – of the monograph *Kształtowanie przestrzeni dla dzieci w miejskim środowisku mieszkaniowym (Shaping spaces for children in the urban housing environment)*. Although the study was carried out as part of certain government programmes,[17] the outcomes had no impact whatsoever on decision-making processes or design actions, and its only lasting result was construction (by residents who did it as voluntary work) of wooden wigwams on the Widok housing estate in Krakow and the author being pigeonholed as 'an expert on playgrounds,' the latter of which was quite amusing given the scope of research in question.

It seems that interdisciplinary discussions related to improving the quality of life in urban environments going on internationally may evoke a much stronger resonance and thus translate into more tangible legislation decisions. Their leading motive has become searching for 'human cities,' and this message acquires a new sense in the situation we are faced with nowadays when the civilizational transformations impose a virtual space upon the hitherto real places, which takes over a lot of functions and social roles that had been previously culturally anchored in the physical world. It both offers new possibilities and poses a multitude of not quite yet appreciated dangers. An exceptionally important forum for exchanging opinions on the possible actions to make living in cities better, more comfortable and safer are the international conferences "Making Cities Liveable"[18] organized uninterruptedly since 1985. Enormous commitment of the organizers, Susan Crowhurst Lennard[19] first of all, mobilizes all participants to see more broadly, to transgress the borderlines marked out by their professions, cooperate with representatives of other professions, and – most importantly – predict how the decisions they make influence the daily lives of city dwellers.[20]

Suzan Crowhurst Lennard – the driving force behind the "Making Cities Liveable" conference, is known in the forum of these conferences for her conviction that the most important responsibility is to make cities child-friendly, and once this objective has been achieved, they will be friendly to everybody. The thesis has become a leading motive of her numerous publications, the most serious of which is *The Forgotten Child: Cities for the Well-Being of Children*. Together with Henry Lennard, she focuses in it primarily on these components of urban environment that adversely affect children's lives. She believes that once we have realized the dangers, it will be easier for us to eliminate the long-term effects of their operation.

> *Responsive and supportive environments promote social and emotional development and lead to responsible behavior. Unresponsive and inhospitable environments, however, generate low morale and low self-esteem, a sense of the world as not trustworthy, and contribute to dysfunctional behavior including violence.*[21]

Among the factors negatively influencing children, the book *The Forgotten Child* lists the excessive fascination with the virtual world, the symbol of which may be seen in the incessantly repeated catchphrase 'computer at school for every child,' which is somewhat routinely always implemented to the detriment of music and art lessons or sports. However, the intent of the authors of the book in question is not to question the good sides of information technology, but to formulate a warning that putting too much trust in it may turn our attention away from the complex character of the 'telecommunication and the city' relation and liberate architects from responsibility for the physical environment suggesting that its quality must be submitted to the dictates of technology, market or global economy. They support the validity of their concerns with the words of Neil Postman, who – in his book *Technopoly* – writes the following:

> *... the computer and its associated technologies are awesome additions to a culture... but like all important technologies of the past, they are Faustian bargains, giving and taking away, sometimes in equal measures, sometimes more in one way than the other. It is strange – indeed shocking – that... we can still talk of new technologies as if they were unmixed blessings – gifts, as if it were from the gods. Don't we all know what the combustion engine has done for us and against us? What television is doing for us and against us? At the very least, what we need to discuss... is what children will lose... if they enter a world in which computer technology is their chief source of motivation, authority, and apparently, psychological sustenance.*[22]

CHILDREN – IN THE STREET OR ON THE WEB

For whole centuries the street was children's favourite playground – a place where people used to stop to talk with their neighbours, where children could play home or shop together, hide under stairs and listen to fascinating conversations of adults, use the relatively smooth surface to play ball with other children, ride the skates attached to shoes in the winter and a scooter or bike in the summer.

Besides the interesting play paraphernalia, streets also used to have an incredibly strong uniting factor – they promoted creation of play communities[23] sharing a clear and distinct sense of separateness from the groups in 'the other street.' However, children were happy to make social visits in the neighbouring streets when mum, called to the window from below, allowed, broadening in this way the radius of the explored area and satisfying the need of autonomy and mobility. Feeling confident

among other children and under discreet supervision of more or less befriended adults, they were able to face the unfamiliar – places, people and events. Venturing further and further away from home, children turned out to be real masters in finding these features of the environment that allowed them to undertake challenges and test their intellectual and motor skills. Hence, they could change each, even perfectly ordinary, walk into a beautiful gymnastic dance combining the child's needs and personality with the possibilities offered by the surroundings.

15.5
For whole centuries, the street was city children's favourite playground – a place where they could play shop or home with other children, enjoy a game of hopscotch, listen to the conversations of adults, watch a piano being unloaded, play ball, skate, ride a scooter or bike. Source: Newcastle Chronicle Archives.

15.6
The street, so good for learning social skills, where still in the 60s of the 20th century children played cricket and formed play groups, is now completely empty, and its main users are rubbish bins. Whatever happened to children? Source: Newcastle Chronicle Archives.

Today, children are less and less visible in the streets, the sound of their laughter or talk is rarely heard. Why is it so? One of the more important reasons for this state of things are changes in the character of the majority of contemporary public spaces. Roads, and also often pavements, have been appropriated by cars. Buildings lining the streets and squares have moved inside most of the functions activating social life. All the things and events stimulating a child's imagination, presenting them with challenges, encouraging observation, thinking, cooperating and learning from good examples or one's own mistakes have disappeared, too, maybe with the exception of strict city centres.

15.7
One of the reasons why children are absent from streets is that their parents view them as dangerous places. They prefer their children to spend time in the cyberspace, considered safe, rather than enjoy, together with other children, the rich and varied city life. Source: Detective Store.

Another reason why children are absent from streets is related to various types of dangers. One of the most frequently feared dangers lurking for children in the street is the vehicle traffic. The parents' fear of their children getting hurt by strangers seems to be equally strong. The anxiety appears to be exaggerated and additionally fuelled by the way the media portrait our reality. The press and television very often give a lot of publicity to isolated cases of cruelty children suffered at the hands of strangers, which automatically ingrains in the society the belief that all 'strangers' are potentially dangerous and aggressive individuals, driven only by self-interest. Such perception of strangers brings about reactions destabilizing social life – people tend to lock up in their homes more and more, they isolate themselves from each other, know nothing about each other and, in consequence, become totally alienated from each other. Universal distrust and fears are transmitted to children in good faith, but the outcome is that

instead of enjoying the rich and varied city life together with other children, they spend more and more time in the cyberspace, because it is considered safe. And the truth is that it is only apparently safe, since the entertainment options most often selected by children are full of violence and destruction, i.e. precisely the things parents want to protect them from.[24] Kids from the iGeneration, i.e. the first generation that does not know the world without iPhones, iPods or iPads, are also particularly vulnerable to developing addiction to the Web. Most of them have to 'be on' incessantly, which over time makes them retreat into their shells, isolate themselves, lose interest in life, give up any plans, ambitions, motivations or life energy.[25]

We cannot, however, condemn technology unreflectively. Modern media undoubtedly introduce a new quality into the educational process. Scientific research indicates that pupils and students familiar with computer programmes find it easier to take decisions, are faster at solving very difficult problems and they approach them in an unconventional way. Computer games, mostly role-playing and strategy games, if enjoyed in moderation, have positive influence on children and young people – they develop imagination and curiosity, broaden the horizons and teach various types of strategies. The positive role of games also manifests itself in encouraging the spirit of competitiveness in children. Long training sessions and the struggle to overcome one's limitations, although happening in the virtual world, teach perseverance in pursuing a goal as they open the way to a success that is possible even in the global scale.[26]

However, even the best computer or television games and programmes are unable to prepare children for living in the society, worse still – they make it more difficult for the young generation to formulate life guiding principles and test them in real conditions. Instead of gradually learning from their own mistakes, children choose one of the pre-programmed options from the menu and, thanks to the effective system of awards and penalties, they quickly find out how – making the minimum number of errors – to find 'the correct answer' and adopt 'the correct approach.' Such mechanical upbringing does not work in real life, it restricts the child's cognitive processes and psychological and social development by cutting them off from a whole array of stimuli and experiences. In contrast to contacts on the Web, 'face to face' contacts are very rich. Talking to people directly, we see the expression on their faces, body movements, countenance and posture, we hear their voices – the volume, modulation, pitch and tone. Interlocutors watch each other, which helps them to understand the intent of the words that have been said, adjust in real time what they are saying to the direct response they get. It allows introduction of humour, sarcasm or irony into the conversation. Adult people, relying on many years of authentic physical relations with family members, friends or colleagues, conjure up their presence even when they make contact with them via electronic means,

thus conferring on the conversation, though limited by the instrument, more subtle forms. Children, who have no reliable experiences in this respect, do not possess such skills. The virtual world as the environment to grow up in is far from perfect for other reasons too. The monitor will not convey the approval a child should get from their significant adults, will not show love or respect (necessary for developing positive forms of behaviour, which are the foundation of social life). What is indispensable here are a smile, a hug, a nice tone of voice and words spoken gently.

15.8
The importance of unstructured outdoor play is well known. Numerous cities, e.g. the city of Nottingham in England, are developing projects of 'giving the children their street back' for playing tag, a game of street hockey or hopscotch on the sidewalk. Source: Playing Out.

Safe urban spaces, alongside the stable family environment, are in a way being rediscovered now as a place where children should be trained for living in the society. Carefully arranged streets and squares offer the best surroundings in which children learn the skill of coexistence, talking to various people, helping others. Hence, shaping cities and defining future goals, we must aim to create the best conditions for children to learn new experiences, make discoveries, build systems of values based on their own observations and actions. We must help them to become part of the society, present their talents, win respect and approval from their loved ones and from strangers, which are so needed for correct development. We must also teach them how to care for their environment and how to fight for their rights, including the right to a good living standard in their cities.

NOTES

1. This text was first published in *Architektoniczne dialogi*, [ed.] Katarzyna Banasik-Petri, "Państwo i Społeczeństwo," Oficyna Wydawnicza AFM, Kraków 2018, pp. 7–22.
2. Margaret Mead, remarks at the symposium on "Children, Nature and the Urban Environment," Washington 1975, in Colin Ward, *The Child in the City*, Pantheon Books, New York 1978, p. vi.
3. For more on children's needs (including needs related to the shape of their spatial environment) at different stages of: physical and motor development, emotional and social contact development as well as intellectual and cognitive processes development, see Anna Palej, *Kształtowanie przestrzeni dla dzieci w miejskim środowisku mieszkaniowym*, Monografia 109, Wydawnictwo Politechniki Krakowskiej, Kraków 1991.
4. *Małe dziecko – rozwój, pielęgnowanie, wychowanie, żywienie*. Collective work. Państwowy Zakład Wydawnictw Lekarskich, 1980, p. 15.
5. Bartosz Olszewski, *Uniwersalna definicja dziecka?*, Acta Universitatis Wratislaviensis no. 3322, Przegląd Prawa i Administracji LXXXV, Wrocław 2011, p. 205.
6. Frank Musgrove, *Youth and the Social Order*, in Colin Ward, *The Child in the City*, *op. cit.*, p. vi.
7. Lloyd DeMause, *The History of Childhood*, Psychohistory Press, 1974.
8. *Słownik psychologiczny*, [ed.] Włodzimierz Szewczuk, Wiedza Powszechna, Warszawa 1979, p. 158.
9. Tadeusz Nowacki, *Zarys psychologii*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1977, pp. 206–2012. The author presents the so-called four-factor theory of psychological development, which encompass the hereditary outfit, the influence of the environment, upbringing and one's own aspirations.
10. Lewis Mumford, *The Culture of Cities*, in *Cities in Our Future*, [ed.] Robert Geddes, Island Press, Washington 1997, p. 71.
11. Lewis Mumford, *The City In History*, www.theguardian.com/cities/2017/apr/19/where-world-most-sprawling-city-los-angeles (retrieved on 27.08.2018).
12. Colin Ward, *The Child in the City*, in Henry Lennard, Susanne H. Crowhurst Lennard, *Forgotten Child. Cities for the Well-being of Children*, A Gondolier Press Book, International Making Cities Livable Council, Carmel, California 2000, p. 148.
13. Colin Ward, *The Child in the City*, *op. cit.*, p. 210.
14. John Holt, *Escape from Childhood*, in: Colin Ward, *The Child in the City*, *op. cit.*, p. 210.
15. The book *Death and Life of Great American Cities*, which was first published in 1961, was written by a journalist, not an urban designer or architect. In spite of this, it is considered the most important text on the mechanisms that make cities work or fail, an inspiration for many generations of urban designers in Europe and America that has contributed to the emergence of urban activism. The first Polish edition: Jane Jacobs, *Śmierć i życie wielkich miast Ameryki* was not published until 2014!

16. Jane Jacobs, *Śmierć i życie wielkich miast Ameryki*, Fundamenty Centrum Architektury, Warszawa 2014, p. 94.
17. I mean here the design activities and research programmes carried out under the supervision of prof. Witold Cęckiewicz at the Institute of Urban Design and Spatial Planning (a part of which was the research done by the author of this publication on the situation of children in the housing environment), and the most important of them included: – a study on creation of development units based on experimental programmes (1973); – an analysis of the usefulness of foreign experiences in the domestic conditions (1974); – conceptual studies and works on the technical and economic guidelines (TEG) for the Chełmoński Model Unit (1980); – issues related to modernization of post-war housing complexes in Poland (1980 and 1981); – architectural and urban design problems of housing complexes in historic city centres; – problems related to protection of cultural environment of Krakow's inner-city areas in the face of new investment and capital possibilities (1977).
18. The 55th edition of the "Making Cities Livable" conference was held in May 2018 in Ottawa, Canada.
19. Dr arch. Susan Crowhurst Lennard works for the following universities: University of California, Brookes University Oxford and Harvard University, as well as universities in Germany and Italy.
20. For more on this, see Henry L. Lennard, *Principles for the Livable City*, in *Making Cities Livable*, [eds.] Susanne H. Crowhurst Lennard, Jürgen von Ungern-Sternberg, Henry Lennard, IMCL 1997, pp. 15–17.
21. Henry L. Lennard, Suzanne H. Crowhurst Lennard, *The Forgotten Child...*, *op. cit.*, p. 18.
22. Neil Postman, *Technopoly*, in Henry L. Lennard, Suzanne H. Crowhurst Lennard, *The Forgotten Child...*, pp. 147, 148.
23. The presence of conditions for spontaneous socialization affects a person's life in later years. Children who grow up in large play groups are emotionally prepared for cordial contacts with people when they are adult, and those who did play with other children most often become reserved individualists.
24. Although there are no unambiguous research results explaining the relations between aggression on the screen and in daily life (scientists are creating mutually exclusive theories), experiments carried out at the Chair of Psychology of the University of Bialystok indicate that contact with aggression in the media leads to escalation of aggressive behaviour, in Edwin Bendyk, *Gra w dwa światy*, "Polityka" no. 49, 7th December 2002.
25. For more on young Poles growing up with a smartphone in their hand and their problems with studying, sleep and establishing relationships with other people, see Małgorzata Święchowicz, *iPokolenie*, "Newsweek" 6/2018, pp. 18–22.
26. Imagine Cup is the world's largest technological competition related to software. Its last fourteen editions featured close to 2 million students representing more than 190

countries. Polish students have been taking part in Imagine Cup since 2004 and until now they have climbed the podium 26 times – they have won 7 first prizes, 9 second and 10 third prizes. See Business Insider Polska, https://businessinsider.com.pl/wiadomosci/imagine-cup-2017-zwyciezcy/mcjg8x6 (retrieved on 28.08.2018).

SOURCES OF ILLUSTRATIONS / CITATION OF IMAGES

15.1 *1895 Street children huddle over a grate for warmth on Mulberry Street*, image by Jacob A. Riis, Oscar en Fotoshttps://oscarenfotos.com/2014/03/22/galeria-100-fotos-indispensables/jacob_riis-2 (retrieved on 15.07.2019).

15.2 Photo by the author.

15.3 Photo by the author.

15.4 *Housing a Nation, Building a City*, April 2015, Singapore, Public Service Division, https://www.psd.gov.sg/heartofpublicservice/our-institutions/housing-a-nation-buiiding-a-city (retrieved on 15.07.2019).

15.5 *Children including Arthur Tiffin, batting, playing cricket in the back lane between Helen Street and Joan Street, Benwell, around 1962*, image: Newcastle Chronicle, in David Morton, *A classic Chronicle Tyneside photo from 55 years ago – where is it and how does it look today?*, August 2017, Chronicle Life, https://www.chroniclelive.co.uk/news/history/classic-chronicle-tyneside-photo-55-13542739 (retrieved on 15.07.2019).

15.6 *The back lane behind Joan Street in Benwell, 2017*, image: Newcastle Chronicle, in David Morton, *A classic Chronicle Tyneside*.

15.7 In Carolina Stankiewicz, *Child Safe on the Internet*, July 2015, Detective Store, https://www.detective-store.com/blog_en/child-safe-on-the-internet (retrieved on 15.07.2019).

15.8 Photo by Playing Out, in Adrian Voce, *'Playing Out' resolution tops 500 streets*, June 2017, https://www.childinthecity.org/2017/06/29/nottingham-joins-the-playing-out-revolution/?gdpr=accept (retrieved on 3.12.2019).

16

Architecture *by, for & with* Children[1] – a Way to Teach Liveable City

Most of us invariably associate ***teaching*** with the school environment, with traditional methods of conveying knowledge based on the *teacher speaks – student listens* model, as well as the governmentally approved and stable curriculums, created for individual subjects such as mathematics, history, geography, art etc.

The term ***Liveable City*** doesn't evoke such unambiguous associations. There are those who will accept cities which provide only the simplest shelter, access to clean water and basic health care. Others, defining the concept of urban comforts, will think of carefully guarded liveable fortresses, from which it is possible to comfortably move, in air-conditioned limousines, to equally carefully guarded workplaces. Between the two extremes – the socially degraded groups on the one hand and the most opulent communities on the other (as in the apocalyptic vision of the dual city by Manuel Castells) – there are numerous social groups for whom a liveable city is one which preserves or recreates the urban components that have always been an integral part of people-friendly places – streets, buildings, trees, events and other people.[2]

City dwellers often do not fully realize what their cities should be like, what is good or bad about them, what to demand, what to oppose and which matters to take into their own hands. The reason for this state of affairs is a phenomenon observed in many countries – that of a complete lack of interest of ordinary citizens in their closest surroundings. ***Architecture*** is taken by them to be an esoteric discipline, understood only by those in the know, so they believe that the matters of space in which they live should be taken care of by 'someone else.' Architects themselves additionally reinforce such beliefs in communities. Most of them, when

considering creative matters, too often concentrate on promoting the artist's talent and individuality while ignoring the dialogue on togetherness and cooperation for the good of the community.

Architecture + Children – this marriage, in the understanding of the general public, does not warrant any special meaning. ***Children's Architecture***, or structures erected by children, are usually taken solely as elements of play, and play is still considered a waste of time, not something which brings any greater benefit. ***Architecture for Children***, or design with the younger generations in mind, has not been given a proper place in university education nor in investment policy-making, nor even in professional circles connected with urban planning, architecture or the building industry. It is only associated with kids' playgrounds, most often built without any understanding of childhood dreams or children's movements, or perception abilities, or their needs for contact with other people – children or adults. The last part of the title of this text – ***Architecture*** *(together)* ***with Children***, has not yet permanently entered the repertoire of challenges which stand before our profession, although its significance has already been recognized.

Below, you will find some observations concerning various relationships between Architecture, Architects and Children. Some of them are already familiar – those most obvious will be limited to a short reminder pointing out to the great contribution of Architecture to the process of development and education of children. This text will focus more on Environmental Education or, in other words, new forms of teaching based, among others, on the author's own experiences related to Children's Architecture Workshops in Poland (Krakow), Finland (Vaasa) and the United States (Knoxville).

ARCHITECTURE FOR CHILDREN

ARCHITECTS' RESPONSIBILITY FOR THE DEVELOPMENT AND EDUCATION OF CHILDREN AND YOUTH[3]

Designing with children in mind is, contrary to popular belief, not child's play at all. As it turns out, it is not enough to concentrate solely on children's physical abilities and needs. A child must be understood, its dreams taken into account. We must also remember that it sees, thinks and reacts in a way often different from what adults expect. This is particularly evident in the different perception of the world of play. In children's opinion, the idea has little to do with sterile, unchanging playgrounds, made from repetitious, coloured plastic elements, still too often found in many contemporary realizations. Places much more suited to play are described by children themselves as "places which are formless, bushy, noisy, crowded and full of junk, where they can dream and do things which are forbidden elsewhere... build houses,

caves, tents and camps... build fires, cook in the open air, dig holes, garden, or simply play with dirt, sand and water in a relaxed atmosphere free from orders and bans..."[4]

It seems important to emphasize at this point that play takes a particular place in a child's life. Already in the Renaissance, the writer, philosopher and humanist, Michael de Montaigne wrote that "Children at play are not playing around; their games should be seen as their most serious-minded activity."[5] It is worth remembering the above observation, as until now the adult understanding of the term *play* has often been related to carefree entertainment after hard work, but in relation to children it has been seen as idleness and time-killing. However, the terms *play*, *learn* and *work* are, for a child, closely related, as they form an integrated and continuous process of gaining life experience during which a child experiments, analyses itself, its surroundings and other people. The need to play is a basic need in the childhood years and thus, each newly born being possesses the instinct to play. Young animals of all kinds take part in actions much like play (consisting of running, jumping, falling over, rolling) mimicking their mothers' movements and behaviour. Thanks to this, they learn appropriate reactions and techniques, invaluable for defence and survival, while herd animals learn organizational rules and get trained in living in a group. Play is therefore Nature's way of ensuring the required development of an individual and equipping that individual with all experience necessary for an independent life.

ARCHITECTURE BY CHILDREN

CHILDREN BUILDING AS A LESSON IN ENVIRONMENTAL COMPETENCE

The participation of the public in shaping cities, in making decisions and taking care of the surrounding environment can only be achieved through practice and involvement. "Democratic responsibility," as Roger A. Hart writes, "does not arise suddenly in adulthood through simple maturation but it must be fostered directly from an early age."[6] The starting point for the preparation of children for social participation is inevitably the creation of good conditions for spontaneous building. Children do not need not be pushed into this kind of activity. They willingly engage, from earliest years, in creating safe spaces indoors, under chairs, tables or blankets, and in constructing similar spaces outdoors – out of sticks, leaves and other apparently waste materials. These structures, chaotic at first, with time grow more complicated. Gradually, they also begin to reflect children's growing awareness of physical processes and spatial relationships. By deciding, negotiating, answering questions such as: – which way will the road go? – how do we use the public space? – how do we ensure privacy? – children can learn adult roles; they arrange the world around them and lay down the rules on which to share it with others. The most important benefit children draw from building is the awareness of their environmental competence, which will allow them to participate more readily in creating a shared future as adults.

16.1
Democratic responsibility does not arise suddenly in adulthood through simple maturation but it must be fostered directly from an early age. Photo by Stanisław Deńko.

ARCHITECTURE WITH CHILDREN

ENVIRONMENTAL EDUCATION AS A NEW EDUCATIONAL MODEL

Instilling the sense of competence and responsibility for the shape of the environment into the younger generation is also the primary objective of Environmental Education. It allows children to design, build, learn and play together with architects, architecture students and teachers of various specializations. It is assumed that Environmental Education (initiated by the "Architects-In-Schools" movement) was started in Great Britain in 1984 with the introduction of a comprehensive project of architects' cooperation with teachers and children into the programme of events scheduled to celebrate the 150th anniversary of the founding of the Royal Institute of British Architects – RIBA. A separate body was created within the Institute at that time – the RIBA Environmental Education Committee, headed by the London architect Jake Brown.

Environmental Education is now a dynamically developing educational initiative, supported by such distinguished institutions as UNESCO, the International Union of Architects, the European Council or the Building Experiences Trust. Its ideas are implemented in many countries through various types of projects,[7] programmes,[8] educational objectives formulation and by introducing textbooks for teachers and children.[9] Specialized units are also being established to provide consulting and

information as well as to monitor the architectural teaching of the public, such as: the RIBA Environmental Education Committee; CABE – the British Commission for Architecture and Built Environment; PLAYCE – the International Association of Architecture Education; ARKKI – the Finish School of Architecture for Children and Youth, or the Polish organizations – Kultura Miejska, Akademia Łucznica, Wędrowni Architekci – to name just a few.

Activities in the field of Environmental Education of children and youth in Poland were initiated by the author of this text already in the 1980s (at the inspiration of the RIBA representatives – Jake Brown and Nigel Frost). They were implemented in many different forms – mainly as Children's Architectural Workshops, accompanying significant cultural events like the subsequent editions of the Cracow Biennale of Architecture, the CSCE Symposium on the Cultural Heritage, Bauakademie of Northern Europe congresses or, more recently, Science and Artistic Events for older school children organized by the Faculty of Architecture and the Fine Arts of Andrzej Frycz Modrzewski Krakow University.[10]

In order to illustrate the focus of Environmental Education and how the term *environment* applies here, we can use the example of the Russian folk doll Babushka, first introduced by London architect Jake Brown, one of the initiators of the British 'Architects-In-Schools' movement. This doll, he stresses, is much more than simply a folk art tradition, for it stands to be read as a symbolic message related to the ordering of the surrounding world – from things unimaginably small, dealt with by molecular physics, to the equally unimaginable, due to its size, cosmos or expanding universe. Environmental Education concentrates mainly on that scale of the Babushka

16.2
The Russian folk doll Babushka may be viewed as a symbol of the environment surrounding man – from the nearest surroundings: the home, the neighbourhood, school, street, city, through the whole country all the way to the planet Earth. Source: Go And Play.

doll which relates to man's nearest surroundings and their everyday existence, thus with Babushka – the person, Babushka – the family, with its spatial equivalent of the family home, Babushka – the neighbourhood, school, street, city. In contemporary education it is impossible to escape Babushka – the nation, with its rich and individual cultural heritage, or Babushka representing planet Earth.[11]

Where has the idea of Environmental Education emerged from, an idea which has in the last decade forged a brilliant world career and intends to interest the largest possible numbers of people in social problems linked to architecture, planning and housekeeping for the good of the Earth? Without doubt, it began as an after-effect of several international reports and conferences, the conclusions of which, nearly apocalyptic, revealed that humanity is taking part in something not unlike a monstrous, spreading, and no longer controlled experiment with consequences comparable only to a nuclear catastrophe. Hence, the necessity of introducing the subject of Babushka – the Earth into schools and awakening children to our shared responsibility for the shape of the environment on the world scale.

Regarding this responsibility, a publication appeared in the United States in the late 80's called *50 Simple Things You Can Do to Save the Earth*.[12] It soon turned out that this tiny book, which became a number one bestseller, appealed mostly to the younger generation. They took it to their hearts so much that an alarm was raised in the press a short time after the book was first released by parents whose children, extraordinarily scrupulous in saving the Earth and eradicating the family's old habits, made their lives a nightmare. To this day, it is the children who monitor parents to ensure they turn off the tap while brushing their teeth, it is the children who sort packaging for recycling, children plant at least one tree a year, children investigate the purchase of every light bulb in the household to see if it was really necessary, children protest against party balloons and refuse to throw out a single can because they know how much oil it can save etc. – all this is excellent proof of their great power and of the fact that we should put our future in their hands.

"Children are the Future. We are (in the main) the Present and the Past..."[13]

Let us now move away from the global perspective and turn to problems on a local scale. As has been mentioned before, a phenomenon has been observed in many countries of a complete lack of interest of the public in the matters related to their close surroundings – the space and the architecture they live in. Yet, it is architecture – houses, cities and metropolises – which is becoming, as a result of rapidly advancing civilization processes, the living environment for most people. We live, work and play surrounded by architecture. It should, therefore, be a natural impulse of everybody to get involved in the matters of architecture. It should not be treated as a secret science but simply as events and objects surrounding us. Children should be taught as early

16.3
Children's engagement in Environmental Education referring to all scales is an excellent proof of their great strength and of the fact that we should put our future in their hands. Photo by Stanisław Deńko.

as possible to observe their surroundings and understand how their environment is constructed, from which materials it has been built and why it has taken these, rather than other, forms, colours and textures, who decides on the matters of space, who sets the standards, can they be challenged and, finally, who needs to ask questions and where the answers necessary to plan a course of action can be found.

Making the young generations sensitive to issues of space is a kind of education which is of particular significance in the case of the old Eastern Bloc countries. As a result of new policies introduced in these countries, the societies and their self-governing bodies are being bestowed with new decision-making roles, yet, in many cases, they lack the knowledge on how to use the newly acquired power.

Environmental Education or Architectural Education of communities, and primarily children, is compliant with the new 21st-century educational model, radically different from traditional methods characterized by William Wharton in one of his books: "Unfortunately, the schools of today teach to do only what they say, no questions asked. In schools children learn that answers are more important than questions. They are taught to remember so many things others thought were important that they lose the confidence to question. They are forced into seeing all life challenges as work, not play and yet playing is the best way of thinking, cultivating imagination, tolerance and fantasy."[14]

Environmental Education offers a different educational model – the knowledge it conveys is not one to be learnt by heart without questions. Environmental Education at school is an interdisciplinary, integrated model of teaching which encourages a child to think and apply wider knowledge from various fields, such as maths, physics, history, social sciences or the arts. During design sessions, children are asked to solve various, at first seemingly complicated, problems together in a creative and fun atmosphere. It allows everyone to learn and have fun – teachers, architects and children alike. They learn many various useful skills: defining problems, forming hypotheses, collecting data, analysing and synthesizing information, creating alternative solutions and using the visual language, which seems especially important in the age of information technology. A frequently applied method is the 'science' of evaluating solutions by way of discussion or negotiation: *who will buy and why*; at this stage participants use various functional and aesthetic arguments.

16.4
An important job to accomplish by Environmental Education, which allows children to learn and play together with architects and teachers and students of architecture, is to encourage children to pay more attention to their surroundings, to teach them about structures, materials and basic construction principles as well as to promote respect for their cultural heritage. Photo by the author.

Children love architecture sessions because they are professional, yet comprehensible, but – above all – because they totally break with the school routine – they respect the children, their way of thinking, their knowledge, intuition and imagination.
Teachers report, with great satisfaction, that children grow more interested in subjects that 'might come in handy for design,' which until then had not been favourites.
Architects and their professional bodies (RIBA, AIA, Association of Polish Architects, Association of Danish Architects) consider working with children a most exciting project, the best investment our profession can make for the sake of young

generations and architecture, an investment much needed because, as Jake Brown put it: "The future of architecture remains tightly woven with the society of the future."[15]

I DID SOME COLLEGE WORK AND I HAD A BUNCH OF FUN!

Undoubtedly, architects find an interesting and valuable partnership, useful in school education programmes, with architecture students. The first time I invited them to work together was during my time at University of Tennessee in Knoxville (1991–1994). Having already gained some experience both in matters of designing for children (monograph: *Shaping spaces for children in an urban living environment*) and in designing with children (organization, in cooperation with RIBA, of Children's Architecture Workshops, accompanying major international cultural events in Krakow), I suggested to the UT College of Architecture and Planning that they could introduce an optional subject *Architecture in Education*. The learning objectives of this subject, apart from introducing architecture students to the concepts behind Environmental Education, were to draw them to working for the community, a necessary component of their professional portfolio. Preparing lectures, tutorials, teaching aids and flexible timetables for children of different age groups was intended to be a new kind of training for young architects, an exercise in clarity, simplicity and efficiency in communication getting them ready for their role as aesthetic educators of the public.

16.5
Children's favourite 'architectural' task is to design a small residential complex. With great enthusiasm they try to do everything properly – to provide adequate solar exposure, ventilation, vehicular and pedestrian access, parking places, recreational areas – no matter if they are from Krakow, Vaasa or Knoxville. Photo by the author.

The project carried out in Knoxville schools, representing diverse social backgrounds, covered three different age groups: kindergarten children, 4th and 5th graders and high school students from an advanced maths programme. The topics of individual workshops were mainly focused on the idea of *a house* and *a settlement* but the range of the problems and their complexity depended on the level of children's

knowledge and perception, as well as on the characteristics of the given age group. Other considerations were the session length, the size of children's groups, and the number of architecture students participating in the project.

The *Architecture in Education* project, started in Knoxville and later continued in Krakow and Vaasa, turned out to be very successful. All participating schools expressed willingness to continue our cooperation. A great number of other schools, not involved in the project, invited us to introduce architecture to their pupils.

16.6
The architectural challenges during the Festival of Science at the Main Market Square in Krakow gave a lot of joy both to the children and the students of the Faculty of Architecture and Fine Arts, Andrzej Frycz Modrzewski Krakow University. Photo by Patryk Czornij.

Some selected comments from teachers, architecture students and children[16] on the subject of the cooperation and its results displayed below seem to be the best recommendation for the new subject.

Teachers:

When Anna Palej contacted me this past August to see if I would like to have my class participate in a workshop called 'Architecture in Education,' I was a little hesitant. She assured me that the architecture students from the University of Tennessee would have lessons developed for all levels of learning abilities found in my class. This was a great experience for my pupils. (Connie Noland)

Anna Palej and her students gave a lesson in life: They showed what people of all ages can accomplish when everyone works together in harmony. (Mary Rhoades)

Architecture students:

A little girl said to me one day, 'My older sister says I'm too young to be learning about architecture,' and it was then I knew it was my responsibility to educate both kids and adults to view the built world around them in a new way. (Colleen Coleman)

On our last visit to the school, which was an unscheduled meeting, strictly to photograph the models, Mimi and I entered the 3rd grade classroom and immediately the question rang out 'Are we going to do architecture today?' It was then I knew we had done our job successfully. (Scott Osborn)

Did anyone bring the aspirin? (Eyjo Simonarson)

Children:

At the beginning I thought that this is not going to be fun. But I was wrong. I had a magnificent time. (Billy)

Now I can tell everyone I have done some college work. (Iven)

Thank you for letting us come to your school. While I was there I started to think about what I wanted to become and I have decided to become an architect. (Shelly)

I love doing architecture. It was a little hard but fun. (Wesley J.)

Thanks a billion... I really miss you... I wish you could come back some time. (Deanna)

* * *

The last statement I'd like to present here comes from a letter by a fourth grader Lonie Britton sent to us at the University of Tennessee – "I learned a lot about how people built cities and why people built them that way..." The above comment gives us all hope that one day, as a result of our current efforts, Lonie, Billy, Iven, Shelly and Deanna will turn our troubled cities into blooming and happy metropolises, a solid basis for active and unified societies.

NOTES

1. This article was published in *The Role of the International Student Workshops in the Process of the Education of Architects*, Anna Franta [ed.], Wydawnictwo Politechniki Krakowskiej, Kraków 2016, pp. 95–107.
2. Maintaining delicate relationships between individual city components was the fundamental principle of urban design in the past. Currently, the recognized historical models are gaining a new dimension – they are considered an important reference point in the contemporary design practice and educational activities.
3. For more on this, see Anna Palej, *Kształtowanie przestrzeni dla dzieci w miejskim środowisku mieszkaniowym*, Monograph 109, Wydawnictwo Politechniki Krakowskiej, Kraków 1991.
4. *Natural Playgrounds*, The Physical Education Branch, Carlton 3053, Australia, p. 3.
5. Quotation from: http://mathpickle.com/quote-c (retrieved on 17.11.2018).
6. Roger A. Hart, *Children's Experience of Place: A Developmental Study*, John Wiley & Sons Inc., 1979.
7. e.g. Transnational EU Project R.A.V.E. Space – "Raising Awareness of Values of Space through the Process of Education" (Greece, Italy, Montenegro, Poland, Slovenia) started in 2007; or the American project "Walk around the Block."
8. e.g. the UIA Architecture and Children Work Programme or Educational Programme of IARP (the Polish Chamber of Architects) based on "Shaping Space" – a programme developed by the Royal Institute of the Architects of Ireland.
9. e.g. the International Union of Architects (UIA) Guidelines for Built Environment Education, RIAI, Ireland; Raising Awareness of Values of Space Tool Kit, R.A.V.E Space Project.
10. The author's long-standing work with children and youth has been presented in two publications: *Architecture in Schools. The Report of Children's Design Workshops prepared by architecture students in 1992–93*, Anna Palej [ed.], College of Education, the University of Tennessee, Knoxville, 1994; and Anna Palej, Grażyna Schneider-Skalska, *Architektura od a,b,c... czyli o tym jak rozumieć i jak budować świat, który nas otacza*, "Nauka dla wszystkich" no. 499, Polish Academy of Sciences, Kraków Branch, Kraków 2008.
11. Based on the presentation delivered by Jake Brown at the 4th International Conference EUROSAG – Szczecin/Tuczno1988.
12. *50 simple things you can do to save the Earth*, The Earth Works Group, Earthworks Press, Berkeley, CA, 1989.
13. Jake Brown – from the presentation at the 4th International Conference EUROSAG – Szczecin/Tuczno1988.
14. William Wharton, *Franky Furbo*, Henry Holt; 1st edition,1989.
15. Jake Brown – from the presentation at the 4th International Conference EUROSAG.
16. All comments are from the publication *Architecture in Schools. The Report of Children's Design Workshops...*, *op. cit.*

SOURCES OF ILLUSTRATIONS CITATION OF IMAGES

16.1 Photo by Stanisław Deńko.

16.2 *Babushka Doll's Kirov Traditional* Set of 7, Go And Play... , goandplay.com.au (retrieved on 17.11.2018).

16.3 Photo by Stanisław Deńko.

16.4 Photo by the author.

16.5 Photo by the author.

16.6 Photo by Patryk Czornij.