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PUBLIC SPACE HUMANISATION IN THE NIGHT CITY

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ABSTRACT

Humanisation of public spaces is an important part of development strategies for a modern city. Design of a luminous environment plays a significant part in this process. We can see a correlation between the existing examples of human-oriented lighting of spaces and the scientific understanding of humanism. This helps us set a goal of space humanisation, select specific tasks that are solved by humanised public spaces, and define factors influencing humanistic quality of the environment at the phase of lighting design.

Keywords: humanisation, public spaces, city, lighting, human

1. INTRODUCTION

Humanisation of an urban environment as a living space of a human and a society has been an important issue for many decades. It has been drawing attention of architects, designers, as well as of researchers in urban, social, and psychological studies [1–3]. There is no exact definition to humanisation both in theoretical works of the past years and in modern researches that are focused on this issue. This term and its close definitions such as "human scale", "human-oriented approach", and "human centric lighting" are appearing in scientific papers, monographs, and reports focused on environmental design [4–6].

2. HUMAN SCALE OF A CITY

Development of a cityscape has been recently tending to offer more human-oriented public spaces [7, 8]. J. Gehl, with his huge experience, claims that urban design and urban planning should be used to bring a modern cityscape to a human scale, being a universal starting point. He believes that urban design and urban planning should stem from several scale levels: a large scale (multifaceted approach to a city, including quarters, activities, and transportations), a medium scale (quarters de-

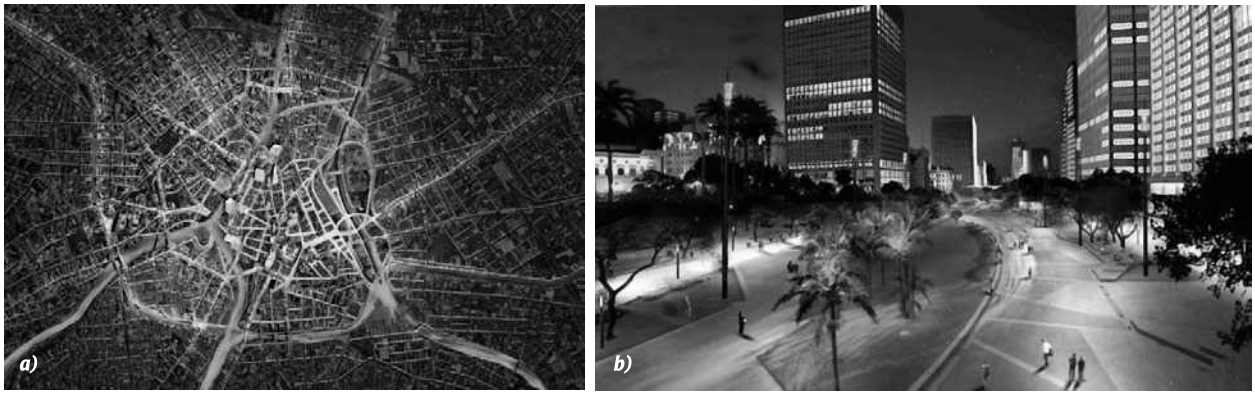

Fig. Narboni, Godoy: a – São Paulo city centre, with illusive rivers; b – Valle de Anhagabau, final visualisation

sign, location of public spaces and buildings), and a small scale (human landscape, i.e. human perception of a city) [8, p. 195]. According to Gehl, a small scale is extremely important, but often neglected both by customers and designers. He suggests that we must consider our five basic senses in relation to a cityscape and we should focus on landscape perception when we walk, not when we use transport.

Humanism of public places is often associated with a positive and interaction-friendly environment [3, 8, 9] that supports social activity and collective experience where citizens are satisfied with the quality of their lives and their environment.

The demand for night-time public places has increased because of changes in the way of life and in the social activity rhythm. Hence creation of a lighting environment that would satisfy demands of modern citizens and enable new activities for social experience is one of the most important tasks in development of a city strategy.

Luminous urbanism is a style of urban design focused on the main modern values: 1) human as a part of a social relationship system; 2) integration and mutual interaction of a human and an environment, natural and artificial.

3. LUMINOUS URBANISM

Luminous urbanism appeared in the 1980s in France. Now it is used in many cities around the world (in Europe, the USA, Russia, Africa, the Far East, and the Middle East) and is considered to be one of the most effective approaches to public lighting. It appeared after the role of lighting in a night city was reconsidered. Shifting from strictly practical and architectural lighting to design of a luminous environment in public spaces was the first step in development of luminous urbanism.

This brand-new strategy was first used when general lighting layouts were made for the French cities of Montpellier (1988), Lyon (1989), and Nantes, for the French communes of Évry and Brides-les-Bains, for the French town of Béziers (1992), as well as for the Scottish city of Edinburgh (1989)[1].

Urbanism as a whole and luminous urbanism in particular are notable for their inter-disciplinary concept and their multifaceted approach concerning manifold problems of a modern city and its citizens.

The concept of this direction in lighting design unites several methods which include: sociological, phenomenological, cultural, historiographical, and functional research methods, as well as psychological, physiological, and environmental research methods.

The multifaceted approach used in luminous urbanism includes huge studies at different urban environment levels: spatial, social, cultural, economic, technological, and environmental.

The inter-disciplinary nature and the multifaceted approach of luminous urbanism allow balancing between:

– Urban and natural landscape;
– Human and a city;
– Lighting solutions for various facilities of a night landscape;
– Local lighting of a facility (or a group of facilities) and a city;
– Lighting aesthetics and utility tasks;
– Individual and social properties;
– Conservative values and the future;
– Interests of authorities, citizens, and designers.

A bright example of luminous urbanism can be the 2011–2012 General Lighting Layout of São Paulo. The main task was to create a night landscape that would represent a unique Brazilian metropolis, the most populated city in the Southern Hemisphere. The combination of different architectural periods and various styles, different ethnic communities, growing districts, plenty of viaducts, tunnels, crossovers, which seem not to decrease traffic intensity and create a complex visual space layout in the Old City, composes an image of this industrial giant. Despite this, São Paulo shows high social activity at night.

The studies of the lighting environment showed: the current lighting does not meet the requirements of the city and its citizens; the general plan focused on practical lighting does not solve major problems of São Paulo [12]. Another approach was needed to unite all bright parts of the urban picture and to show a huge power of the night landscape.

The history of the city pushed the idea for the general lighting layout. There were rivers flowing through the historical centre of São Paulo many years ago. Their memories served as a lighting image to reproduce the majestic landscape with rising

[1] See [10, 11] devoted to the history, development, and future of luminous urbanism.

skyscrapers [12]. The story is connected with today (Fig.).

The illumination of various public spaces crowded by citizens and tourists complemented this poetic theme. The general lighting layout allowed to reduce energy consumption and at the same time to increase individual morphology of the city at the evenings and night hours [12].

Luminous urbanism is a strategic approach to lighting design based on the Human–Light–City system. Due to interrelations of all 3 components, we work on several directions. Each of these directions includes studies of public spaces, a luminous environment, and social problems. The main research levels are:

– Detail review of public spaces by day and at night considering their functions in urban development and their future changes;

– Highlighting buildings and structures that shape the night city considering their perception at close, medium, and far distance;

– Highlighting significant facilities in the city;

– Correlation of lighting options with geographical, natural, climatic, topographic, historical, cultural, and morphological features of the city [10, 11, 13];

– Revision of current lighting installations, measuring lighting properties, and their revision as per the existing rules of lighting [14];

– Revision of light pollution levels;

– Energy saving analysis;

– Revision and analysis of display lighting.

We create a set of tools and analytical recommendations based on this research: a united general layout of the urban lighting that is a kind of a map for the lighting strategy [10, 11].

The general lighting layout unites the diverse aspects of the lighting environment in a city: functional, architectural, and artistic lighting, lighting of public spaces, including municipal parks, gardens, squares, as well as festive lighting and display lighting. The layout includes future possible changes of the city on the one hand. These changes and appearance of new requirements, people's demands, new functions, and technologies on the other hand suggest regular reconsideration of the general layout.

Researchers and specialists in lighting design mark that participation of citizens is significantly important to create a general lighting layout plan [10, 11, 15].

4. HUMAN POTENTIAL

The attraction method for local community at different levels of lighting design is an effective tool for luminous urbanism (with studies of location problems and lighting development, as well as with test runs in urban environments). Participation of citizens in creation of a lighting environment is considered as a part of humanisation of public spaces at night.

First of all, communication with citizens allows you to understand current local problems and to examine these problems from the point of view of local people. Even a highest-level designer would make a subjective (but professional) assessment to a specific case that would not represent a broad picture of people's demands without any interaction with citizens.

Then local citizens represent a specific cultural community: as a country, a region, a city, and a social group (subculture). It means there is a developed set of values, traditions, customs, social norms, and rules existing in this community. It is a system that defines the way of life, behaviours, social relations, and processes. To create a lighting environment that is appropriate for these cultural and social conditions, you need to understand the specific nature of this culture.

After that, you need to get feedback from citizens, i.e. their reaction to the quality of a lighting solution, which is one of the main parts in lighting design. If urban lighting is something more than just a list of requirements for safety and efficiency, we must focus on understanding social influence of lighting and citizens' acceptance of public spaces and transform this to lighting design [16].

This article suggests that not only considering various aspects of night city life (or reaching reasonable compromise) is possible due to direct or indirect dialogue between researchers, designers, and citizens. The more important thing is that all citizens can actively participate in development of a night landscape in their city. Usual citizens become designers who transform the environment for themselves and other people. Such a participation in urban transformations makes them feel their significance and responsibility, grasp their feelings of a united community where the voice of everyone is important. This shows a level of humanistic community development as humanism is focused on positive changes in a human and in the

world around [17]. We can see that development of modern cities depends on a level of humanism in a community.

Designers interact with citizens in different ways: meetings, city walks, workshops, interviews, surveys, seminars, etc. Each approach is efficient in problem solving in their specific ways. The increasing participation of a community in urban planning and the technology development suggests new research methods of emotional, psychological, and physiological reactions of people living in the environment.

For instance, eye tracking that has been used in interaction analysis for a long time shows its efficiency in research of significance for urban lighting. We conducted a research with eye tracking in the project "Model Development of the Lighting of Saint Petersburg". We studied significance of a lighting environment in streets, cross-walks, main buildings, and landscapes[2] [2]. The advantages of this technology are that it allows to correctly measure and to analyse a human gaze direction (of a driver or a walker) and to highlight problem areas of night city lighting. However, eye tracking does not displace other research methods because the received data does not allow you to explain why some human first stares at something. This research method is efficient if combined with other studies.

Many other methods, approaches, and models allow analysing emotional reactions, perception aspects, and social interacting experience in public places by day and at night: environmental psychology, mind mapping[3], empiric studies, etc. Despite their differences, they are all focused on reduction of psychological, emotional, and mental distances between a human and a public space, as well as on development of good conditions for human interaction, i.e. increasing humanistic quality of an environment.

5. HUMANISTIC QUALITY OF PUBLIC SPACES

The level of environmental humanism is a quality indicator that can be hardly evaluated as quantity. How can we evaluate the quality of humanism in this case? How can we define the level of humanism? Are such aspects as safety, comfort, ecology, and efficiency enough? What is the reason for environmental humanisation and what is the influence on life quality?

According to E. Fromm, let us repeat that humanism is an action oriented to a human and environmental transformation [17]. We conclude that humanisation of public places continues after design. An active phase of humanisation starts when people begin to use spaces.

One of the founders of humanism in design, V. Papanek, in his book *Design for the Real World*, suggested that the main task of design is to change the human environment and the things used by a human, as well as to indirectly change people themselves [18, p. 31]. The main function and the main goal of a humanistic public space are to increase the humanistic level in society. So, the level or degree of humanism can be defined by social experience of human relations to each other, their city, the nature, etc. [19].

A lot of examples can show the influence of public spaces lighting on the level of humanistic quality of life. To clear up the exact process of influence, the author analysed some of the examples concerning social tasks fulfilled by public spaces. According to that analysis, he selected a list of task solutions focused on increase in the humanism level. You can see the description below.

5.1. Value Reconsideration

Lighting does not only change the image of the city; it influences on human outlook and values [20, 21]. It encourages people to take care of the nature, their city, and the environment. This tendency now is one of the most important in luminous urbanism. It is also presented in specific parts of lighting design. Here are some examples for influence of lighting design on value reconsideration of a city and its citizens.

[2] The study was completed as part of the project "Model Development of the Lighting of Saint Petersburg within the period 2018–2030" in frame of "Combined Program of Development of Saint Petersburg as a Centre of Lighting Culture with an Outlook until 2050".

[3] Mind map is a smart instrument, a technology allowing to visualize the analysis of associative and logic connections as a diagram. There are different types of mind mapping: cognitive, associative, conception. See: Martin, B., Hanington, B. Universal Methods of Design: 100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions. Beverly: Rockport Publishers, 2012, 208 p.

The first sensor technology was used in reference to street lights in 2009 in Toulouse (France). This allowed lamps to detect warmth of a human body. The street lamps shone 2 times brighter sensing a coming pedestrian, and they returned to their previous state after 10 seconds [22]. This technology saves nearly 50 % of electrical power. It also struggles with luminous pollution. A usual pedestrian becomes a campaigner of natural beauty and ecology in a night landscape. The experience of Toulouse was supported in many other cities of the globe.

One more example of positive influence of illumination on ecology was shown in the German municipality of Dörentrup. Its citizens could control lighting in one of the streets a few years ago. Typing a specific code on a mobile device, a pedestrian could turn on lights for 15 minutes. The street was dark from 11 p.m. A local public utility estimated that it reduced carbon emissions by 12 tonnes per year [22].

5.2. Culturally Educational Aspects

Lighting can play a progressive part in public spaces in terms of culture and education. There are many examples of subtle and interactive influence of lighting on citizens that improved their inner worlds.

For instance, there was a project in Lyon (France) that united illumination, vegetation, and art photography (by Yann Arthus-Bertrand). Due to interaction of three components, such as light, art, and nature, a comfortable environment was created on the street l'Annonciade. The environment encouraged every citizen to feel as a desired guest in the "living room" of the city and to enjoy the modern pieces of art[4].

A unique cycle/pedestrian lane was developed in the province of North-Brabant (Netherlands). This lane was a modern representation of the Vincent van Gogh's works, an artist who lived there in the 1880s. The design of the cycle lane includes a lot of mosaic stones that absorb solar power by day and beam at night. They form a colourful lighting pattern that reminds of the Vincent van Gogh's picturesque manner. This project represents a unique public space where cultural experience of modern art and innovative solutions unite people and make an artistic image of a night landscape.

5.3. Attraction of Attention to Culture, History, Social Places, and Events as a Condition for Identity

The issue to save national, personal, and collective identities [23–25] plays a significant role in multicultural conditions of a modern society [26]. Lighting responsible for morphology of a night city allows highlighting main buildings, to make direct allusions, and to symbolically demonstrate common values. This factor directly depends on conditions for identity at different levels: national and cultural identities, cultural community, self – identity.

The wide range of lighting solutions that fulfil this function and other functions suggests both temporary lighting and long-term lighting. For instance, the project in Ghent (Belgium) for a medieval harbour shows a historical courage, builds a poetic environment, and makes this place a merry and beloved cultural area.

Lighting is treated as a powerful tool to highlight the historical and cultural area of the Old City within the 2013 General Layout, to save and develop the legacy of Toronto (Canada). The rest of the environment is less illuminated and fulfils a function of a background.

In 2012, at one of main Moscow (Russia) highways the New Arbat, a project presenting lighting capabilities of bright mosaic panorama of the night city was realized. The modest colourful lighting frame located on high-rise buildings highlighted the identity in the contextually complex urban environment and made a unique space that united different historical periods.

5.4. Correlation with Dynamic, Location, and Nature of Social Processes

Lighting can be an efficient method to solve problems that are connected to changes in a daily activity schedule and functions of public spaces. Well-illuminated public spaces are overcrowded at night. Poorly-illuminated or non-illuminated spaces that could also become public centres are almost empty, which can deprive citizens of social interaction and spare time activities after dark. Besides, one space can play different roles by day and at night.

[4] The project was submitted for the 10th Anniversary edition, city.people.light award 2003–2012.

Lighting and smart technologies allow us to adjust urban areas to changing life conditions and demands of modern society. They transform functional and aesthetic criteria of public spaces [27, 28] to save their attractive image for people.

The function of single parts of lighting corresponds to changing conditions of urban areas and depends on time and area as for the General Lighting Layout of Xian (China). In addition to this method of lighting management: duration, sunlight intensity, purposes of outdoor spaces are also considered [29, p. 40].

5.5. Positive Influence on Psychological and Emotional State

The influence of lighting on psychological and emotional state and human behaviour has been recently studied by lighting design specialists. This influence is significant to ecology and human physical health, as well as to spiritual and moral health of a human and a society. Lighting in this case plays a significant role in humanisation of public spaces, cities, and their citizens.

The study of lighting influence on people is conducted in research institutes of different countries. For instance, the Eindhoven University of Technology (Netherlands) studies the possible usage of dynamic lighting and landscape design in winddown of antisocial behaviour (decrease of excitation level, mood improvement, shift and growth of attention, social behaviour relief, self-consciousness and self-control increase) [30]. The project is planned in one of the entertaining districts of Eindhoven (Netherlands).

The study of art therapy of lighting in urban environment is conducted at the ITMO University (Russia). A combination of light, colour, and sound for audio-visual relaxation enables to differently use lighting and to improve the life quality in a modern city [31, 32].

The project implemented in the Netherlands is one of the examples for practical use of lighting. R. Teunissen created a social lighting sculpture (*Broken Light*) for Rotterdam. The sculpture dramatically changed the environment and the attitude of citizens to one of the streets that used to be known as a dangerous and criminal place. However, street Atjehstraat is now a social and cultural public space[5].

5.6. New Communicative Culture and Intercultural Communication

Urban lighting has a great potential that forms a basis of a new communicative culture based on overcoming social disintegration and alienation, on finding general concepts, values, ideas for representatives of different cultures and subculture communities, saving their identity [33–35].

The dynamic and interactive capabilities of lighting design play a significant role in public spaces that are used, as a rule, for temporary projects. There are diverse examples of such interactive lighting events in the world practice. You can see some of them below.

The famous *Marling* project (by U. Haque) was implemented in Eindhoven (Netherlands) in 2012. This performance reproduced live voices of citizens and made visual images of urban collaboration displaying diverse options of such interactions. The show was fascinating, but the main purpose of the project was new ways of communication and participation of people in changing their environment.

The *Treasure Hill* art installation was created in Taipei (Taiwan, China) in 2015 by I-Ju Pan. The installation suggested an active interaction: citizens are participants, authors, and spectators of a unique illuminated show; they manage colour and speed of light streams with special software.

5.7. Intuitive Navigation

We live in a heterogeneous and constantly changing world which includes a lot of connections and interdependences that go through endless information flows and processes of different nature. In this case, different ways of flexible structuring in any environment (social, media, urban, informational, etc.) are especially important. V. Papanek, a designer and a humanist, once said: "Design is a cognitive and intuitive effort to make a significant order" [18, p. 4]. Lighting design from this point of view should encourage humans to feel their moral certainty (arrangement) despite of the heterogeneous environment. This task suggests both physical space orientation and creating a specific psychological situation where humans realize their leadership (which is one of humanism conditions).

[5] The project was submitted for the 10th Anniversary edition, city.people.light award 2003–2012.

Cities Alive: Rethinking the Shades of Night describes the lighting layout of the London Olympic Park (UK). The plan affirms the efficiency of the intuitive navigation method. The lighting plan of the Olympic Park is based on nodes and highlighted destinations combined with lighting pedestrian lanes. The reaction of people to illuminated and non-illuminated parts allowed programming of the Park public space that could naturally manage people's streams. One of the purposes of the authors was to create an intuitive navigation environment [29, p. 31].

6. CONCLUSION

Humanisation of public spaces is a main part of development in modern cities. Environmental development and lighting design now play a significant role. The level of humanism in a public space is a quality indicator. That is why one of the main tasks of modern design is to find and to arrange quantitative approaches that could form this quality together. These quantitative approaches should consider the following factors:

– Correlation of lighting to specifications of social processes and human behaviour;

– Different user groups and their problems (demands, requirements, expectations);

– Need to decrease conflicts and antisocial activities;

– Environmental changes, natural and urban, in short and long terms;

– Cultural and educational function of lighting;

– More popular social demand for new communicative culture as a way to overcome social disintegration and alienation;

– Social request for human interaction and urban environment.

These approaches allow managing the process of public space humanisation and to make this process more stable.

E. Garin, an outstanding researcher of philosophy and culture of Renaissance, highlights that the basic principle of humanistic world view is the principle of balanced combination of personal matters and social matters that is established at the rise of high self-identity [36]. Considering this principle in reference to lighting design, we conclude that humanisation of public spaces is not just yet another approach to design, a working method, or a fashion. It is not just about improving and creating a comfortable, secure, and green environment (these factors are absolutely important, and they have to be considered by default). Humanisation suggests creating such a physical and psychological environment and such conditions that would encourage people to get social experience and interact with each other, the world, nature, and themselves. This social experience is based on people understanding themselves as personalities that possess a unique set of qualities and take a positive, pragmatic, and responsible stand to themselves, their society, the world, and nature [19]. In other words, the level of humanism is indicated by mentality, the way of life, and the manner of people that live in this environment. Humanisation of public spaces means both the return of the city to its people [7, p. 13] and the return of people to themselves.

The care of ecology, psychological comfort, and health, the interaction with other people and the city should be presented through conditions that motivate people to develop their humanistic qualities and offer a space to show these qualities. Lighting design and environmental development improve the quality of life and indirectly improve the human nature.

REFERENCES

1. Papanek, V. Design for the Real World: Human Ecology and Social Change. Chicago: Academy Chicago Publishers, 1984, 394 p.

2. Fuller, R.B. Grunch of Giants. New York: St. Martin's Press, 1983, 98 p.

3. Gehl, J. Life Between Buildings: Using Public Space / tr. J Koch. New York: Van Nostrand Reinhold, 1987, 202 p.

4. Lekus E. Yu. Prostranstvo i vremya svetovogo dizayna. Itogi Mezhdunarodnoy nauchno-prakticheskoy konferentsii "Svetovoy dizayn – 2016" // Svetotekhnika, 2017, No. 4, pp. 60–64.

5. Lekus, E.Y. Space and Time of Lighting Design: The Results of the International Research-to-Practice Conference "Lighting Design – 2016" // Light & Engineering, 2018, Vol. 26, No. 1, pp. 135–140.

6. Ovcharov, A. T., Nazarov Yu. V., Kovtorova, A., Kovshova, A., Khadzhin, A. G., Bystryantseva, N. V., Novakovskiy, L.G. Diskussiya po probleme svetovogo dizayna // Svetotekhnika, 2018, No. 4, pp. 80–93.

6. Ovcharov, A. T., Nazarov Yu. V., Kovtorova, A., Kovshova, A., Khadzhin, A. G., Bystryantseva, N. V.,

Novakovskiy, L.G. Discussing the Issue of Lighting Design // Svetotekhnika, 2018, No. 4, pp. 80–93.

7. Risom, J., Gehl, J., Swarre, B., Ahuactzin, V. Social Life and Public Spaces // Territory of Culture. Quarters of the Volokhonka / Olshanskaya, E. V., Tsareva, T. V. (eds). Moscow: Project White City, 2014, pp. 12–20.

8. Gehl, J. Cities for People. Washington: Covelo, London: Island Press, 2010, 288 p.

9. Lynch, K. The Image of the City (Harvard-MIT Joint Center for Urban Studies Series). Cambridge: The MIT Press, 1960, 194 p.

10. Narboni, R. Ot svetovogo urbanizma k nochnomu urbanizmu // Svetotekhnika, 2016, No. 6, pp. 30–33.

11. Narboni, R. From Light Urbanism to Nocturnal Urbanism // Light & Engineering, 2016, Vol. 24, No. 4, pp. 19–24.

12. Narboni, R. Les éclairages des villes. Vers un urbanisme nocturne. Gollion: Infolio editions, 2012, 221 p.

13. Brandi, U., Geissmar-Brandi, C. Light for Cities: Lighting Design for Urban Spaces. A handbook. Basel, Boston, Berlin: Birkhäuser, 2007, 167 p.

14. Schulte-Römer, N. Digitalizing Urban Lighting. Technological Change Raises Political Issues by Transforming City Spaces // WZB Reports, 2012–2013, No. 1, pp. 28–30.

15. Deleuil, J.M. Eclairer la ville autrement, innovation et expérimentations en éclairage public. Lausanne: Presses polytechniques et universitaires romandes, 2009, 295 p.

16. Casciani, D., Rosso, M. Experience of Lighting Sustainability in the Environment. In: Cumulus Helsinki Conference, Finland, May 2012. Helsinki. URL: https://www.researchgate.net/publication/308948048_ELSE_Experience_of_Lighting_Sustainability_in_the_Environment (accessed on 17 August 2017).

17. Fromm, E. To Have or to Be? New York: Harper & Row, 1976, 215 p.

18. Papanek, V. Design for the Real World: Human Ecology and Social Change (2nd Revised ed. edition). Chicago: Chicago Review Press, 2005, 416 p.

19. Peccei, A., Ikeda, D., Gage, R.L. Before It Is Too Late. Tokyo: Kodansha Int.; New York: Harper & Row, 1984, 312 p.

20. Bystryantseva, N. V., Lekus, E. I., Matveev, N.V. Shkola otechestvennogo svetodizayna: strategii i taktiki // Svetotekhnika, 2015, No. 4, pp. 65–66.

21. Bystryantseva, N., Lekus, E., Matveev, N. The Domestic School of Light Design: Strategy and Tactics // Light & Engineering, 2016, Vol. 24, No. 1, pp. 21–23.

22. Burke, J. Lights Down as Heat Sensitive Lampposts Come to the Streets of Toulouse // The Guardian. 2009, 26 October. URL: www.theguardian.com/world/2009/oct/26/toulouse-heat-sensitive-lampposts (accessed on 15 July 2017).

23. Bauman, Z. Globalization: The Human Consequences. New York: Columbia, University Press, 1998, 136 p.

24. Sassen, S. The Global City: New York, London, Tokyo. Princeton: Princeton University Press, 1991, 412 p.

25. Kaldor, M. Nationalism and Globalisation // Nations and Nationalism. 2004, Vol. 10, No. 1/2, pp. 161–177.

26. Brewer, M. B., Gardner, W. Who Is This "We"? Levels of Collective Identity and Self Representations // Journal of Personality and Social Psychology. 1996, Vol. 71, No. 1, pp. 83–93.

27. Bystryantseva, N.V. Kriterii kompleksnoy otsenki kachestva iskusstvennoy svetovoy sredy goroda // Svetotekhnika, 2015, No. 2, pp. 26–29.

28. Bystryantseva, N. Criteria for Comprehensive Evaluation of the Quality of a City's Artificial Light Medium // Light & Engineering, 2015, Vol. 23, No. 2, pp. 34–38.

29. Cities Alive: Rethinking the Shades of Night. Arup, 2015. URL: https://www.arup.com/perspectives/publications/research/section/cities-alive-rethinking-the-shades-of-night (accessed on 24 October 2018).

30. De Kort, Y. Spotlight on Aggression // ILI Magazine. 2014, Ed. 1, pp. 10–11. https://www.win.tue.nl/~tozceleb/ILI%20magazine.pdf (accessed on 24 October 2018).

31. Matveev, N. V., Prokopenko, V. T., Sapunova, N. P., Fridman, D.A. Issledovaniye vliyaniya svetomuzykalnykh spektakley na psikhofiziologicheskoye sostoyaniye cheloveka // Svetotekhnika, 2016, No. 1, pp. 5–7.

32. Matveev, N. V., Prokopenko, V. T., Sapunova, N. P., Fridman, D.A. Research into the Influence of Light-Music Performances on Psychophysiological States // Light & Engineering, 2016, Vol. 24, No. 2, pp. 22–24.

33. Martin, J. N., Nakayama, T.K. Intercultural Communication in Contexts. London: McGraw-Hill, 2005, 500 p.

34. Howarth, C. Representations, Identity and Resistance in Communication // The Social Psychology of Communication / Hook, Derek, Franks, Bradley and Bauer, W. Martin (eds). London: Palgrave Macmillan, 2011, pp. 153–168.

35. Lekus, E. Environmental Identity: “Space” vs “Place” // SHS Web of Conferences 2017 (LD-2017). 2018, Vol. 43. URL: https://doi.org/10.1051/shsconf/20184301005 (accessed on 30 August 2018).

36. Garin, E. Italian Humanism. Philosophy and Civic Life in the Renaissance / tr. P. Munz. Oxford: Blackwell, 1965, 225 p.

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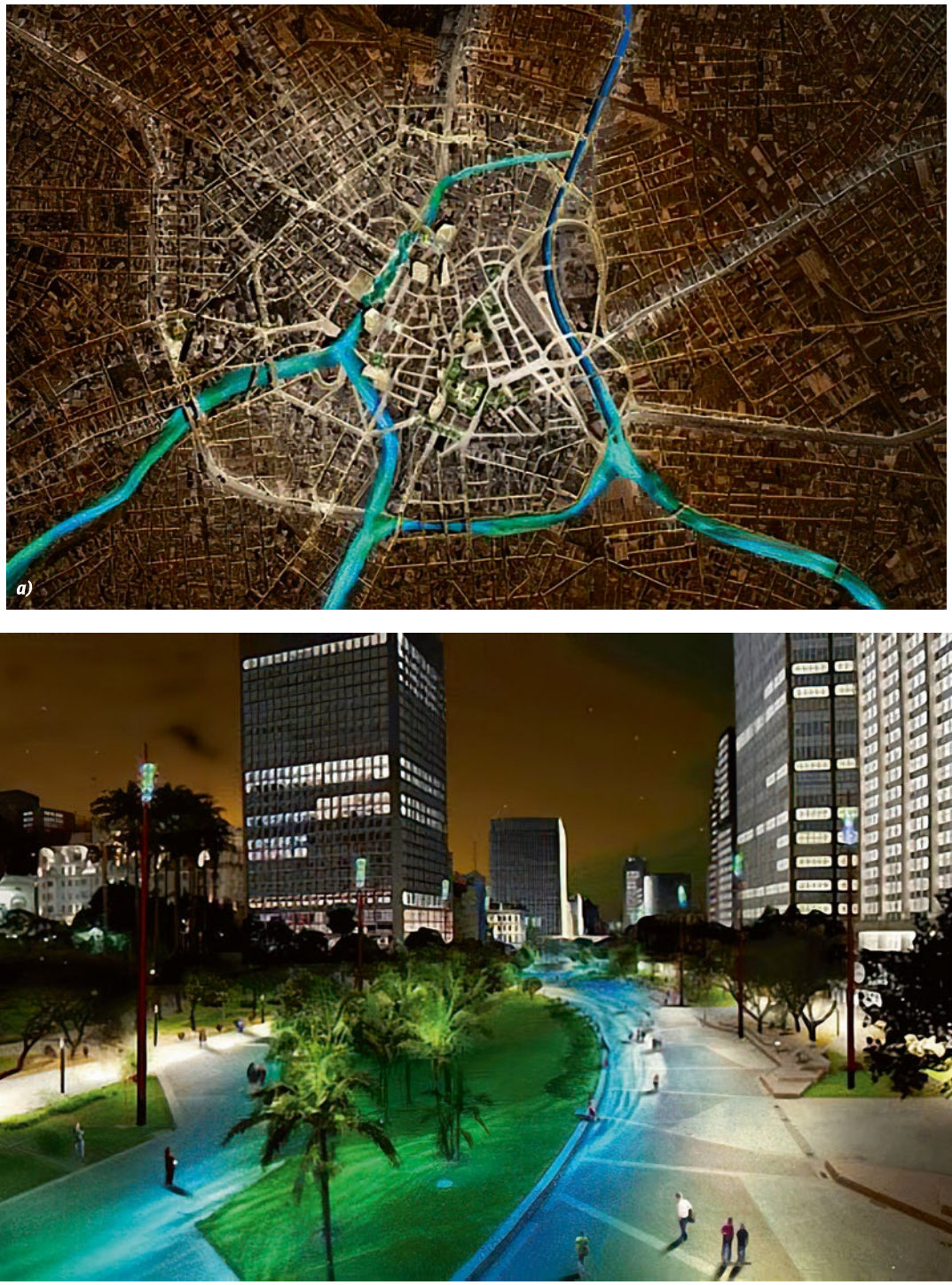

Fig. Narboni, Godoy: a – São Paulo city centre, with illusive rivers; b – Valle de Anhagabau, final visualisation