Environmental identity: "space" vs "place"

Elena Lekus[*]

ITMO University, The Higher School of Lighting Design 190000 Grivtsova, 14, Saint Petersburg, Russia

Abstract. The article considers the problem of environmental identity, which is one of the most important criteria for the quality of the city's light environment. It is argued that a city's sustainable development means creating conditions for the process of identifying its inhabitants, transforming the concept of the city as a "space" into the concept of the city as a "place". There are a number of important socio-cultural trends that form the lighting culture of the modern city.

1 Luminous image

Since 90 percent of general information is communicated through sight, most information about an environment that a person receives is through light. Correspondingly, the entire world of objects and its sign-shaped system are an inexhaustible, though not the only, source of the human perception of reality. Lighting design's main function then becomes the illumination of the environment, which is responsible for the way that people see the world, its shapes, signs, symbols and meaning, in contrast to darkness.

"In service to the customer, lighting creates physical images and generates interpretations of lighting solutions. Lighting provides a clear spatial and social city life at night, identifying urban objects, their values, layouts, features and functions. It defines movement, specific points, options of stops and motion, orientation, static observation or dynamic play with visual perception [...]" [1].

Created by a specialist, the luminous image of this world may be similar to that which would be seen in natural daylight or have seemingly endless differences. In all cases, everything a person sees in an artificially lit space is the result of forming and producing light.

As Lynch noted, "the setting offers separation and dependency. As an observer, possessing a high degree of adaptability and on the basis of one's own needs, selects, organizes and gives value to what he sees" [2]. In this case, the perception of the urban environment in natural daylight is the topic of discussion. What changes to people's perceptions are caused by artificial light?

The luminous image is a "set of elements" of an original "day" object image or its constructing. In other words, the work to create a night-time image implies a selection or

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[*] lekus_elena@mail.ru

analysis of a number of items visible in natural daylight, and their subsequent constructing or synthesis, using artificial light.

As a result, the "new", i.e. lighted object acquires a certain meaning and becomes a sign in accordance with the tasks established by a designer.

A viewer sees only the result of this work, thereby receiving an objective reality "filtered" by means of lighting. This means that artificial lighting forms an environment different from the daily one created by the city's sign-imaging system, as well as a different ontology and different identity. In fact, the lighting environment itself already exists as a new sign-imaging system, another objective reality, which, willingly or not, every citizen experiences after twilight.

How can one turn this environment into a harmonious "model" that has an identity with a close relationship to the modern person?

It seems that the answer to this question lies in the very nature of light and its ability to identify, illuminate and recognize specific forms of the surrounding reality, and create its new forms, images and meanings, as "light to a greater extent expresses ethical order [more] than words" [3].

2 Place Identity and Lighting Design

In the process of the multiculturalization of modern society, great importance is placed on preservation of national identity, as well as personal and collective identity. Light, which is responsible for the morphology of the city at night, allows one to select a dominant culture, to create direct links and put a symbolic emphasis on universal values. This feature is directly related to the creation of conditions for the formation of identity at different levels, such as national cultural identity, community identity, subcultural identity, and self-identity.

The modern world is experiencing many complex processes and issues: information overload, globalization and multiculturalism, clashes of ethnic and religious nature, social disintegration, the disintegration of former ideologies and worldviews, and the replacement of social roles. In such conditions, identification with anything becomes unstable or extremely short-lived.

"Environmental Identity" is one of the defining criteria when considering the quality of urban environmental design projects. This includes the city's lighting environment.

What is "environmental identity", which is sometimes called "place identity "and "place attachment"? What are the conditions, principles, and ways of transforming a "space" into a "place"? And what is the nature of the relationship between a person and an environment in this identification process? In the case of "environmental identity", we are dealing immediately with two aspects of identification: the identity of a person and the identity of the place.

The concept "identity" and "identification" was borrowed by psychology project practitioners. In particular, E. Erikson considered identity in the context of psychosocial development and its different stages. Erickson defines ego-identity and group identity. Ego-identity is the deep internal structure of a person, which is responsible for the formation of a person's integrity and continuity in their personality throughout their life. This category remains a constant, as it does not depend on the changes that occur within the person. Group identity is a feeling of inner unity with a social group, its ideals, values and ethical norms [4].

With the passage of time, there has been a significant transformation in the ideas surrounding a person's underlying identity. If previously it had been viewed from the standpoint of different types of social identity (gender, age, nationality), today it acquires spatial and temporal characteristics. In other words, categories such as "atmosphere", "situation", "place spirit", and "temporality" begin to play an increasingly important role in the formation of the urban environment. It is a kind of new turn in the development of the phenomenological approach to creating a space for human life.

Thus, the lighting design solves not only the traditional tasks (e.g. a sense of security and comfort, or energy saving), but also solves the problem of forming a place's identity. This means that the light environment creates such external conditions that allow a person to feel themselves a full "participant" of a particular environmental situation.

People need to be aware of themselves not only as a physical unit of a particular space, but also to feel mental, psychological and sensual-emotional involvement in a specific place, so that they consider themselves a "participant". This involvement is the result of the formation of a surrounding reality's holistic image.

In order to become such a "participant", a person needs to be aware of themselves not only as a physical unit of a particular space, but also to feel mental, psychological and sensual-emotional ownership of a specific place, which is created by forming an integral picture of the person's surrounding reality.

The formation of such a holistic image includes:

- Visual images that a person sees before themselves (the morphology of the city during day and night);

- Cultural symbols to which a person relates; and

- the psycho-emotional state of a person, which is born during the stay in the environment, i.e. the feeling of "involvement" in the environment and the processes occurring in it (interaction with the city and other people, self-determination, goal-setting, assimilation of ethical norms, traditions, way of life, etc).

Light cultures plays an important role in the formation of urban identity and the identity of the place, since light is an effective and "fast" tool for transforming and adapting the urban environment to the needs of the population, including the need for identification.

Light designers use different techniques to form an identity of the place. These include:

- Changing the spatial and temporal organization through lighting;

- The features of natural and climatic conditions, reflected in the design decision;

- The method of retrospection, and "awakening" the history of the place;

- The appeal to cultural traditions, customs, and social rituals;

- Analysis of social behaviours, the lifestyles, and social processes associated with the city or its fragment; and

- The involvement of the local population in the process of identifying the originality of the projected environment.

The range of lighting solutions to create the identity of a place is very large. These projects are both temporary and long-term. A good example is the project and reconstruction of the medieval harbor in Gent, Belgium. Thanks to the lighting design, the harbour has found a poetic and picturesque atmosphere, which is associated with the paintings of 19th century Dutch artists. The manifestation of the historical spirit (Latin, *genius loci*) transformed the deserted harbour into a vibrant cultural space, for people of all generations.

Another example is a specific illumination of the Old Town in Toronto, Canada. In accordance with the master development plan for the preservation and development of the city's historical heritage, the lighting project (2013) emphasizes the historical and cultural layers of space. The rest of the environment is a less illuminated background. As in the previous example, the emphasis in the coverage of the Old Town is on identifying the historical context as the basis for forming this place's identity [5].

A fundamentally different solution can be seen in the lighting of the Jacques Cartier Bridge in Montreal. This massive bridge with a simultaneously slender monumental structure starts to live a special life at night. Thanks to an innovative intelligent technological program, the light scenario of this bridge is associated with a large system of data (weather, traffic, social networks) and responds to changes in the data. Thus, the conceptual lighting project unites the bridge, the city and the townspeople and is an interactive identifier of city life.

São Paulo's lighting project, (2011-2012) conducted by Roger Narboni and Plinio Godoy, is an excellent example of the formation of place identity. The main goal of this project was the creation of a night landscape that expressed the historical and cultural identity of the Brazilian metropolis.

This industrial giant was the result of an amazing combination of architectural epochs, styles, and international cultural characteristics. It has numerous viaducts, tunnels and transitions that cannot cope with traffic congestion and which give a complex visual structure to the historical centre. At the same time the city's social life is most active at night.

The analysis of the urban situation showed that the existing coverage cannot meet the numerous needs of the city and its inhabitants [6]. The project was to unite all the historical and cultural diversity of the city and simultaneously show the monumentality of the night scenery.

The concept of a lighting masterplan was born from the history of the city. Previously, the historic centre of São Paulo crossed the river. This historical fact became the starting point for the creative intent of designers. "Invisible" rivers became the basis of the city's night image, which recreated the majestic natural landscape (Fig. 1,2).

Fig.1. Narboni Roger & Plinio Godoy. São Paulo LMP. River nightscape map.

Fig. 2. Narboni Roger & Plinio Godoy. São Paulo. Praza da Se computer rendering.

Another project that which is a good example of the creation of place identity is the upgrade of the Novosmolenskaya embankment in Saint-Petersburg, Russia. The project "Development of a model of the lighting environment for St. Petersburg" was implemented by St. Petersburg State Unitary Enterprise "Lensvet" and The Higher School of Lighting Design ITMO University within the framework of the "integrated programme for the development of St. Petersburg as a centre of light culture for the period 2018-2030 and up to 2050".

The architectural ensemble of the Novmoslenskaya embankment was created relatively recently in 1970-1980. In the original project, the embankment was projected from the shore of the Gulf of Finland. The grandiose ensemble was conceived as a glorification of the idea

of the Great October Revolution. In 1976, the city government planned the erection of a majestic monument dedicated to this significant event of Soviet history. The monument was to be located on a specially created island at the mouth of the Smolenka River, which subsequently gave the name of the embankment. However, this plan was not implemented. The turn of history was accomplished, the grandiose plan remained in the past and the ensemble has not been completed.

St. Petersburg is one of the few cities in the world that was created not spontaneously, but was instead consciously planned. The principle of the ensemble was originally the essence and the basis of this city.

In the case of the Novosmolenskaya embankment, the ensemble had to play an aesthetic role and an ideological role. However, the architectural environment of the Novosmolenskaya embankment had already been created, and the ideology has changed. For almost forty years this part of the city remained stagnant, giving birth to a feeling of incompleteness and unrealized potential of the place. Therefore, light designers face a complex task. The light solution should substantially change the morphology of the embankment at night and create its holistic individual image.

Within six months, the team of the lighting designers analysed the behavioural scenario, the nature of the interaction of residents with the space, and their relationship to the environment (Fig. 3).

Fig. 3. The Higher School of Lighting Design ITMO University & St. Petersburg State Unitary Enterprise "Lensvet". Lighting support the Novosmolenskaya embankment.

An integrated approach was used in the project of embankment lighting: it combined the aesthetic and functional aspects. The lighting solution emphasized the architectural ensemble of the Novosmolenskaya embankment. It was created as a line that connects the city with the water space of the Gulf of Finland. Lighting designers focused on a unique architectural environment of the Novosmolenskaya embankment and needs of citizens at night time. Experts proposed several solutions, and the people and the city administration chose the best of them. The result of this multi-faceted project included the interests of the city as a cultural and historic centre, oriented towards the future and needs of the residents.

Lighting emphasizes different levels of territory and creates the effect of a "deep" and multifunctional space. Less intense light is designed for the lower (promenade) zone for a comfortable rest on the river bank. The upper zone gets more intensive light, because the greatest activity of the inhabitants is in this part of the embankment.

The light plan includes two modes of everyday and festive lighting. Everyday lighting creates a characteristic atmosphere for St. Petersburg, which aids walks, socializing, and rest. O significant dates, light acquires a thematic character and enhances the festive event's spirit (Fig. 4, 5).

Fig. 4. The Higher School of Lighting Design ITMO University & St. Petersburg State Unitary Enterprise "Lensvet". Bridge Shipbuilders on the Novosmolenskaya embankment.

Fig. 5. The Higher School of Lighting Design ITMO University & St. Petersburg State Unitary Enterprise "Lensvet". Making the Novosmolenskaya embankment in the New Year.

This lighting project solves the complex problem of integrating the space of the Novosmolenskaya embankment into the historically developed space of the city. At the same time, lighting creates a "spirit of a place" and fills this space with the vital energy of people at night time.

In conclusion, we can say that identity in a changing world is one of the most important problems of modern society. Place identity and the identification of a person within a place are some of the most serious and important tasks to consider in light design. The criterion of identity is an indicator of a modern city's high level of light culture and is simultaneously an integral part to a sustainable city.

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