Research Proposition for Aesthetic and Functional Harmonization of the Material Environment

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Abstract
The main goal of an article is to reveal problem based on practical applications to integrate the variety of concepts for developing urban structures on the macro level, and also, creating a material environment design on the local level. To achieve environmental sustainability it is important to explore the interaction between integrated management of urban architecture policy issues and development of the material environment design. Coexistence and harmony, and innovative research methods become important factors. Phenomenologic philosophy methods can be an effective and meaningful tool analyzing issues of coexistence and harmony within society, culture, city spatial structure and material environment design.

Key words: urban space, harmony of the material environment and design, quality of city life.

Anotacija
Pagrindinis straipsnio tikslas yra atskleisti įvairių idėjų probleminio praktinio taikymo galimybes kuriant miesto struktūras makrolyginiu, taip pat kuriant daiktinę aplinkos dizainą vietiniu lygmeniu. Norint pasiekti aplinkos tvarumą, yra svarbu ištirti sąveiką tarp miestų architektūros integravimo valdymo politikos klausimų ir daiktinės aplinkos dizaino vystymo. Sambūvis, harmonija ir novatoriškų mokslinių tyrimų metodai tampia svarbus veiksnius. Analizuojant sambūvio ir harmonijos visuomenėje, kultūros, miesto erdvinės struktūros ir daiktinės aplinkos dizaino problemas, fenomenologinė filosofijos metodai gali būti veiksmingas ir reikšmingas įrankis.

Reikšmingiai žodžiai: miesto erdvė, daiktinės aplinkos ir dizaino harmonija, miesto gyvenimo kokybė.

Introduction
In a democratic and open society, material environment coexistence makes strong influence by playing consolidating role among various urban communities. The article is a proposal for a further research to determine optimal methods for a harmonization of the urban material environment coexistence. This study provides with insights to possible tools by exploring various ideas for functional, cultural and social enhancement of the communication. The importance of this study is revealed throughout the need to measure the quality of the material environment while forming integrated urban environment management policies.

Research into coexistence of urban spaces material environment in aesthetic quality definitions is essential to form human and material environment coherence. Throughout the complex creative process of an architect, designer, engineer, and society, compatibility of every coexisting material in urban space is enhanced by emanating cultural items and returning embodied materials back to the environment.

This creative work has to be properly organized to develop functional relationships, appropriate forms of aesthetic objects and create a cohesive coexistence between them in urban spaces, between the outer and inner walls of houses and landscape elements. Dictionary of International Words (Dictionary of International Words, 1985) defines aesthetics [gr. aesthetikos] as the science of the senses, exploring the beauty and art as fiction, forming a methodological basis for art, as well as influencing applied spheres of research and traditions. So, the aesthetics are inherent in the process of artistic creation and the emotional feeling, although contemporary art can afford not to seek the achievement of beauty criteria. However, in accordance with the provision of art "measurement" opportunity set by aesthetic, functional, environmental coherence and other criteria
of material environmental design, it defines the aesthetic term as corresponding to the requirements of aesthetic, beauty and functional integrity criteria (Dictionary of International Words, 2014).

Cognitive doctrine is determined by the phenomenological statement about the world's spatial perception (Heidegger, 1953; Husserl, 1973) which is based on the interpretation how the field of human perception is spatially oriented – all items are organized according to the principle of depth. If depth is perceived as the "environment" (condition) of an object, it is easy to understand that the world is apparently constructed by means of proximity and remoteness or systematic criteria. In this context, spatial (location) understanding of the need for human psychological comfort is usually determined by the causality of material environment interactions.

The cultural artifact in itself covers space, time, form, culture, personal experience, etc. All these factors can be dealt with separately, but they reflect aesthetic characteristics of the object as a whole. Aesthetics combines a number of systemic values: beauty, pleasure, cultural/social values, history, communication, i.e. all valuable expressions. In phenomenology term 'value' is understood as innate, it is the criterion of thinking and the cause of experience. Specific verbalized/reflected values occur later, but they are all oriented towards the core value of an idea or disposition. Versatile perception of these elements manifests through generalities such as a physical and mental constitution of people, and also acquired education, experience and cultural-historical similarities. It is human space, which is not objectively immutable, but more or less the same for all the people and mankind at the same time (Heidegger, 1953).

**Methods**

The article analyzes the problems of material environment coexistence and its philosophical, theoretical and practical manifestations in the formation of interactions in an urban environment. Main concepts are identified by exploring a historical context of material environment formation. Opportunities for material environment improvement in residential areas are investigated based on methods of comparative analysis and literature review, techniques of rational and irrational urban spaces formation, and analyzing specific examples of good design practice. The **object** of this article is the relation between the environment and society, which defines the standards of life quality, feelings and cultural identity.

**Context of Methodological Conception**

In the second half of the XIX century, modernity permeated the entire cultural spheres, aspects of rationality, efficiency, versatility, secular humanism became inevitably clear. What is sensual and real has become "measurable". In this context, when arts split into fine and applied (in literature often defined as mechanical or technical arts (Gaižutis, 2004)), became differently understood in today's urban space and material environment interaction due to the complexity and multi-functionality. Creativity in various sources is defined in different ways: from the simple creativity as the ability to create new things (Vaicekauskienė, 2009) prior the last decade UK agreement, that creativity is "an imagination-based activity, which aim is to create original and valuable results" or Scandinavian heuristic approach (Amabile, 1996) that explains creativity as an appropriate human ability to cope with the ever-changing challenges of life. However, creativity in this article treated as it defined by formalized EU and Lithuanian legal environment. Creativity as artistic and utilitarian (technical) activity still remained the unifying feature and a key to the complex personality traits, allowing to achieve original, socially relevant, new high-quality performance results, i.e. mental and social process involving new ideas and concepts or new communication and interaction between well-known ideas and concepts (Resolution No 163, 2006).
Material environment in this article is perceived as a result of anthropogenic activities, for example, architecture as an object of the material environment (Minkevičius, 1988), human household items, architectural landscape elements, etc. and other features of aesthetic, economic, or social coexistence. Concepts of urban space and environment are recently often used in various contexts of social life, as well as between planners, architects, designers, engineers or culture figures. Current Lithuanian Language Dictionary defines environment as physical, social and domestic conditions as a whole (Current Lithuanian Language Dictionary, 2000) to create secure, cozy, attractive and dissuasive spaces (areas). Therefore, when describing the concept of environment, in contrast to space or location, an own specific set of conditions has to be evaluated. Environment – as natural and social conditions of the whole household, urban space – as a material environment and human physical location.

So, the problem of harmonic coexistence between environmental conditions and the factors shaping it in the particular urban spaces emerges. Often this coexistence is understood by architects and creators as the city's image or townscape or cityscape (in this article the concept of townscape or cityscape has been associated not only with the city's image, silhouette, scene, panorama sense but also with the layout of items in city spaces, their coexistence with urban space on local level and this concept is used in numerous international and Lithuanian researchers work (Šešelgis, 1975; Gehl, 1987; Tung, 2001). The latter does not create an automatically harmonious environment within the material environment because the material environment and the creation of a harmonious townscape are affected by many other factors that are shaping the environment and which are not legally regulated but include informal and subjective factors (Jakaitis, 2013). Typically, their qualitative understanding is off the state-level policy coverage and perception of urban areas, in the context of shaping, is defined by specific criteria: a distinctive silhouette of the city, scenic panoramas, the individuality of internal spaces or harmonic anthropogenic coexistence within the natural environment. However, a material coexistence of urban space can be perceived in another context - feeling the change of the city's trends, political, social, and economic conditions. Therefore, it does not mean that urban space can be just an aesthetic site of action and spectacle (Samalavičius, 2013).

City or region is seen as a complex, evolving spatial unit, with local tensions, operating and exploration opportunities. Individual manages the structural evolution of a collective system by managing his own individual skills and solutions. People are not only changing what they do but also gaining knowledge of what they can or want to do (Ramsden, 2008). In formation of urban sustainability strategies, important is to point out interrelated system ecology, where the annulment of one element makes the whole system vulnerable, as a result, the connection between social groups and the material environment is lost and thus does not ensure harmonious coexistence. Urban planning, design, and art create dynamic systems that question and complement each other. Modern aesthetic requirements of public spaces acquire additional directions: emphasis on a concept of "City without Borders", social healing and values of liberation and integration, social education function – city as a way of life.

A function of structural elements and urban areas are intertwined with many public interests. Without considering these interests the life in the city is altogether not possible (Jacobs, 1961). So society has to speak on the basis of generally accepted life and beauty quality criteria, understand the existence of the architectural objects, urban spaces and urban space as a whole.

These circumstances prompted the Government of the Republic of Lithuania back in 2005 to adopt the document (Resolution No 657, 2006) which highlighted the architecture as a power and cultural progress of material environment and stressed its importance and special significance as a unique art. Unfortunately, the role of professionals working in urban areas with material quality of the environment is not clearly defined. Lithuania has not yet formed "substantiation" culture of architectural and material environment qualitative coexistence neither has formalized nor
modernized urban spatial evolution or architectural change quality monitoring system. A quality of the material environment is assessed through subjective expert appraisals.

Urban spaces as a network of urban structures, surrounded by streets and paths and other anthropogenic components (including undeveloped urban spaces and natural barriers) have to be evaluated in terms of consistency, continuity in time and space (Buivydas, 2011). The "lifespan" of the latter is sometimes significantly longer than their surrounding material environment (Frick, 2007). So they can be attributed to the city's most important structural elements that support the applied creativity (According to survey data (Jakaitis et al., 2012) from 1940 to 1990 Žirmūnų district in Vilnius was formed and assigned to free planning type. The building density of its northern part is 60%, building intensity is 1.2, according to survey of the respondents (n = 375) – 40.8% are partly satisfied, 18.3% unsatisfied, and only 39.4% built-up areas were rated positively).

In a context of these criteria, quality of the surrounding material environment (conditions) is an essential factor which forms quality of co-existence within a material environment, pointing to the aspirational and positive psychophysiological conditions. The material environment is often understood as identity expression, therefore man is sensitive in terms of urban area (size, shape, color, function) and the sum of the objects as a whole.

**Historical context of material environment coexistence in urban space**

Renaissance was known as an epoch that represents the beginning of mass production of applied arts and objects of material environment. When Renaissance artistic activity "broke away" from trade and industry, the latter became eligible arts (Gaizutis, 2004). Without diminishing the craft and especially the inventions, liberal arts and intellectual human ideals have risen in changed circumstances. The importance of practical activity and empirical knowledge was highly valued (Rossi, 1978). At that time many philosophers and thinkers thought about the interaction between science and technology, art and crafts. Representatives of technical arts realized that crafts are the origin and reason for the prosperity of arts. For example, the architecture has derived from the construction and craft. So this conception was promoted by Renaissance artists – masters of versatility. They were engineers, designers, artists and theorists. But gradually these activities differentiated and in the fifteenth century sufficiently independent artistic profession formed (it is known that only in the nineteenth century during the era of Industrial Revolution art has become independent). This had impacted the gradual filling of works of art in urban spaces, utilitarian and design objects. Architectural objects formed artifacts in a material environment as fundamental elements of the time culture and harmonious coexistence. Renaissance was known as epoch that represents the start of mass production. When Renaissance artistic activity "broke away" from trade and industry, the latter became eligible arts (Gaizutis, 2004). Liberal art and intellectual human ideals have risen in changed circumstances without diminishing the craft and especially the inventions.

The Enlightenment era (XVII–XVIII century) raised moral problematic as of special importance. The artists had to influence public morally (at that time the concept of the public has been perceived as a "black-backed" crowd) since human behavior and morals were ruled by the sense of duty.

Rationalism shaped the development of production, science was flourishing in culture and art works. A dispute with the opposite opinion containing humanists (Gaizutis, 2004) is based on the notion that beauty is only what is right, and right – what is natural and consistent with the nature of mind. In this context, the work of art received special attention, exploring its unity of form and harmony with nature. However, rationalism at that time essentially raised two types of knowledge: true (objective) – based on logic and obscure (subjective), based on feeling and imagination (Jakaitis, 2013).
A discourse of Romanticism characterized applied arts by the complexity of industrial production and elevation. Aesthetic forms and contents of material environment, which had to represent citizens expectations, were surged after various utopias in urban spaces emerged. Ideas of utopians T. Campanella, R. Owen, N. Fourier penetrated into various social activities, in search of more aesthetic, more harmonious quality of life within the natural environment. Urban spaces and functional harmony were sought by supporting the development of small cities as optimized solutions for urban forms. US economist H. George defined negative traits of such city development, based on the grounds that urban population has lost its permanent contact with nature and will eventually suffer permanent physical, moral, mental and psychological downfall. E. Howard in 1898 (Jakaitis, 2013) promoted the idea of community life in a city – garden. This idea laid the foundations for the modern city cultural development in Lithuania. For instance, in 1911 in Vilnius suburban wasteland was formed Montvilos Quarter, which resembled Brussels architectural environment more than Vilnius suburban urbanization trends.

Since the scientific, technical and applied art synthesis and their harmonious coexistence is a guarantee of a good material environment and quality of life, modern urban architecture and the spaces assigned to the material environment are attributed to science and art at the same time. Therefore, in the development of urban spatial structure and material environment must be involved not only an architect but also an engineer, a doctor, a psychologist, an economist, a philosopher and an artist (Doxiadis, 1974). It should be acknowledged that the environmental formants in architectural spaces (internal or external) can’t avoid their utilitarian purpose. For example, in the first half of the twentieth century, modern art and applied industrial aesthetics gave rise to various methods of material environment forming. Industrial aesthetics transfused in arts and crafts, intervened in architecture, reflected in the design of material environment objects, giving freedom to create without following the past canons.

Logical thinking, industrial production, the entrenchment of standards became the basis for engineering design, and daily tool for the architects, production engineers and artists. Because the form of items has clear physical parameters, color, volume and so on, the aspiration to describe beauty mathematically has risen. A new creation is often intuitively readable by the principle of comparison with physical/bodily, mathematical and cultural experiences (Encyclopedia of Phenomenology, 1997), by emphasizing such assessment, factors as psychology, personal and cultural identity are understood as corporeality. One can quite objectively assess the content of the work by summarizing spatial expression, interpersonal motives, and experiences (Merleau-Ponty, 1945). Back to the idea that material environment and artists must serve human happiness and form a living environment of comfort and beauty, utopian Mr. Ruskin believes that the quality and market control is necessary for artistic workshops to produce original, publicly important products (Ruskin, 1989). Ch. W. Morris who further developed J. Ruskin ideas formulated the concept of integrated artistic creative fun. In this sense Ch. W. Morris created the concept of modern material environment design and coexistence measures integrated to architecture, interior design, furniture and other craftworks.

Bauhaus school architects and designers P. Behrens, W. Gropius, H. Dreyfuss were the first who theoretically examined and practically developed principles of industrial design aesthetics.

According to Bauhaus model (which is widely accepted in today’s design practice), it is important to implement the collective consciousness idea formed through the centuries and polished by the ethnocultural environment. Therefore Besemer and Treffinger (1981) proposed that the evaluation indicators, with the last two indicators suggested by authors, are worthy of greater attention and deeper analysis:

- **Novelty** – how new is a product according to its concept and its performance in terms of technology and processes; how much it can inspire the emergence of other products; how it can change attitudes and practices?
- **Synthesis** – how coherently the product relates to the different elements of a whole,
whether it is a complex, expressive or artistic piece?

- Eligibility (functionality-sustainability) – how the product meets the needs or helps to solve the problems in context of nature?
- Cost-effectiveness (actualized rate of the last decade).

Practical application of the design principles at that time was based on a contrast of space and volume, harmony of forms and conception of the whole – Gestalt psychology theory (GPT). Christian von Ehrenfels (Ehrenfels, 1937), one of the GPT followers – the theory, according to which, there is a need to understand the human ability to form material environment by aggregating objects into certain forms as the perceived image is not identical to the sum of elements. It has to be understood that a person psychologically perceives the environment as all things unconsciously merging in some unity of the missing details – we visually and psychologically attempt to create harmony or structure from seemingly disconnected pieces of information. This fundamental discovery of GPT has formed today's special tool for urban material environment harmonization and the management of which needs to (be) trained.

**Discussion of the results**

In the process of creating material environment of coexistence it is important to analyze not only the impact of shapes to each other, understand the operation patterns of each material structure but to bring the world of harmony embodied and emanating out from the human things, by returning to the same man as the material environment and human aspects of coexistence.

It is necessary to develop human ability to aggregate certain forms into the complex objects. Urban space material environment of coexistence has to be formed seeing a solid understanding of this principle. In this way, the quality of urban space encompassing the entity of things gives harmony and completeness. The latter depends on the co-existence of usage of artistic ideas, the artist's moral and ideological ability to convey a thought. Such decisions in society generally do not pose a psychological discomfort or social tension or confrontation.

Objects of urban space and the material environment become consolidating factor in society, often the cause of pride in its own environment. On the contrary, acting in spite of Gestalt psychology patterns, excluding phenomenological claims, a perception of the world's spatial integrity and character of urban space objects as a whole (the content, form and even function), may play a destructive role in society, promoting asocial behavior or even aggression.

The crisis refers to a situation when radical changes pose a threat to an existing system. An important ingredient of the system is the microdiversity that stimulates its evolution. Individuals and organizations, influenced by the microdiversity and micro contexts, evolve transforming their attitudes. Finally, our approach to change, as to constant crisis, becomes a habit, and we see it not as a historical process, but as a principle of mechanical stability of the system. This systemic evolution does not happen by chance, successful change is ensured only by the presence of positive feedback and synergy, thus creating new, solid structures with inner signs of temporary stability (Ramsden, 2008).

An efficiency of communication can be optimized by using behavioral patterns, suggestive interactions or by the mechanical dissemination of environment organization principles. The versatility of perception of these elements achieved through such generalities as human physical and mental constitution (Encyclopedia of Phenomenology, 1997).

**Conclusions**

With the emerging changes in demographics, communication, work principles, and technology, traditional/indigenous communities are affected by factors such as global integration. An important aspect is creative possibilities because they depend on the openness of the society
towards knowledge, technical and financial opportunities as well as social priorities. The future well-being of society and the quality of the material environment largely depends on how mankind will learn to use economic, human resources, knowledge and creativity to encourage innovation. Based on rich and different cultures, one can find new ways to not only add value but also to live together, to share resources and enjoy the diversity of high-quality urban space material environment. Urban areas, especially public areas, have no other purpose besides that which is intended to meet human communication, social, cultural or economic needs or functions. It is important to ensure the training (learning) of aesthetic aspect of value recognition in the material environment which would provide more harmonious human co-existence in urban areas.

An efficiency of material environment design and environmental coexistence in urban spaces depends directly on the state ability to determine quality of spatial changes in the environment and policy for the management of urban spatial evolution, social benefits may be foreseen throughout artistic excellence, rational design, innovative manufacturing technology, cost and energy efficiency and ergonomic comfort.

In the process of creating material environment of coexistence, it is important not only to analyze the impact of forms towards each other, understand each of the operation patterns, but also to bring global harmony emanating from the human culture and using the principles of material environment organization and human coexistence, to embody these artifacts into new forms.

By indicating a diversity of ethnic culture, it is possible to find new means to share cultural resources and enjoy the diversity of high-quality urban space material environment. The cultural and creative sectors have the capacity and are considered to be areas of growth and can contribute to achieve important EU initiatives (Agenda on new skills and jobs acquisition, industrial policy for the globalization era and etc. Green Paper of Commission consultation (COM (2010) 183 final) “On unlocking the potential of cultural and creative industries” and the Commission Staff Working Document “Challenges for EU support to innovation services – Fostering new market trades jobs through innovation” (SEC (2009) 1195 final) the cultural and creative sectors are considered to be future growth sectors).

References

Daiktinės aplinkos estetinio ir funkcinio harmonizavimo tyrimų galimybės

(Gauta 2017 m. sausio mėn.; atiduota spaudai 2017 m. balandžio mėn.; prieiga internete nuo 2017 m. gegužės 8 d.)

Santrauka

Dėl globalizuotame pasaulyje menko daiktų įvairovės ir jų kokybinio sambūvio ištirimo, yra svarbus integruotas daiktinės aplinkos dizaino, kaip estetinės ir funkcinės dermės miesto erdvėse, tyrimas. Esminis erdvinio formavimo aspektas ir pagrindinis straipsnio tikslas yra vartotojo gebėjimų ugdyma suprasti daiktinės aplinkos funkcinę ir estetinę dermę. Straipsnyje yra analizuojama daiktinės aplinkos sambūvio problematika, filosofinės, praktinės ir teorinės jos aprašos formuojant miesto aplinkos sąveiką. Remiantis lyginamosios analizės ir literatūros šaltinių metodus, lyginami racionalūs ir iracionalūs miesto erdvų formavimo būdai, analizuojami konkretūs praktinės veiklos pavyzdžiai, tiriami būdai gyvenamųjų teritorijų daiktinei aplinkai pagerinti. Šio straipsnio objektas yra ryšiai taip tarp aplinkos ir visuomenės, kurie kuria gyvenimo kokybės standartus, jausmus ir kultūrinį identitę.

Šaršiai tarp integruoto architektūros politikos valdymo ir daiktinės aplinkos vystymo yra labai svarbūs faktoriai kuriant tvarią ekonominę ir socialinę aplinką. Daiktinės aplinkos sambūvio harmonija taip pat gali būti panaudojama integravus probleminiai mokymo metodikas. Remiantis mokslo tyrimais, norint reprezentuoti gyventojų interesus vystant miesto aplinką, yra labai svarbus dinaminiai, neformalūs ryšiai, tarp piliečių dalyvaujančių visuomenės, emotinė ir funkcinės formos.

Harmonijos reiškiniai meninėje kūryboje, socialiniame gyvenime, namų aplinkos estetikoje, daiktinės aplinkos tvarumui yra svarbūs. Estetiniai ir kūrybiniai kriterijai yra svarbūs norint sutvarkyti miesto vizualinę, emotinę ir funkcinę sąveiką.

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