

VISIONS OF ARCHITECTURE IN THE CONTEXT OF ENVIRONMENTAL AESTHETICS

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Abstract: Environmental aesthetics is one of the most important areas in the development of modern aesthetics. Today's beliefs about the fragility of nature and the critical consequences of human activity, primarily urbanization and pollution of the environment in which we live, have contributed to the growing awareness of the importance of preserving nature and its resources. Many sciences and disciplines, including architecture, conduct their research in accordance with the principles of sustainable development. Environmental aesthetics is based on the principles of sustainable development, considering all forms of environment: natural, built and social environment. Although the main topic of environmental aesthetics is the natural environment, the research in this paper is primarily focused on architecture as a type of specific environment created by man. The aim of this paper is to consider the visions of architecture through critical examination of architectural theory and practice in the context of environmental aesthetics, examining the relations of sensory experience of architecture, relations of architecture and theory, relations of architecture and other arts, as well as relations of architecture, science and technology. One of the key results of the paper refers to the critical and aesthetic observation of architecture, not from the usual angle of architecture as a visual art, but from the point of view of the architectural and urban environment.

Theoretical consideration of architecture from the standpoint of environmental aesthetics is one of the most important challenges nowadays, precisely because architecture today occupies large areas of our planet given the constant growth of urbanization and urban development whose consequences require architects and experts to provide humane and sustainable solutions which will preserve, protect, improve and maintain all types of environments: natural, urban and social. Environmental aesthetics today is one of the key cultural positions from which society, art, science and technology form a common language for a better and sustainable future.

Keywords: visions of architecture, environmental aesthetics, sustainable development, sustainable technology in architecture

INTRODUCTION

Environmental aesthetics is a young subfield of aesthetics that began to develop in the 1970s in Anglo-American and Western European aesthetics. It arose as a reaction to the great concentration of the analytical tradition of aesthetics on philosophical questions in art, as a result of which environmental aesthetics focused exclusively on the aesthetic appreciation of natural environments. It later expanded its research to all types of environments including: natural and human-influenced (built and social) environment, which includes architecture, urbanism and interior design. The domain of environmental aesthetics research in the twenty-first century is incredibly large and covers almost all aesthetic issues, except art, but even art when considered in relation to the environment.¹

A special feature of environmental aesthetics is its dualistic character, it is both a philosophical (speculative) and empirical (practical) discipline. It is also a cross-disciplinary study that includes research by philosophers, psychologists, sociologists, geographers, meteorologists, architects, urban planners, biologists, ecologists, art historians, conservators, as well as many other experts. Viewed in the broadest sense, environmental aesthetics studies various relationships between people and nature.

Research dealing with environmental aesthetics of architecture is still poor compared to research on the aesthetics of nature. For these reasons, this paper aims to consider general views on the aesthetics of architecture in the context of all types of environments: natural, built and social.

Environmental aesthetics of architecture can best be explained as a bridge between traditionally separate fields of sciences and humanities. Throughout modern history, the development of science has been viewed through the development of technology and the process of industrialization that has determined the development of architecture and design. From the time of William Morris and the Arts and Crafts movement,² the general attitude of theory, aesthetics, philosophy, sociology and other artistic and humanistic segments of architecture and design has been reduced to a sharp and negative attitude towards technology (mechanization, today computerization and artificial intelligence). The rough division into humanities and scientific disciplines could never be fully applied to architecture, since architecture includes both humanistic and scientific-technological issues. Nowadays, numerous interdisciplinary, cross-disciplinary and multidisciplinary research studies are emerging that combine knowledge and methods of humanities and scientific disciplines; and environmental aesthetics of architecture and environmental aesthetics in general are such examples.

We can discuss the modern development of the aesthetics of architecture only if we look holistically at all its achievements. This is especially important for our consideration of the environmental aesthetics of architecture, because it is a matter of

¹ A. Berleant, "Environmental Aesthetics", in: *The Encyclopedia of Aesthetics*, Vol. 1–6, ed. M. Kelly, Oxford, New York, etc. (1998), 2014; A. Carlson, "What is Environmental Aesthetics?", in: *Environmental Aesthetics*, ed. Routledge Encyclopedia of Philosophy, Taylor and Francis, UK, 1998. <https://www.rep.routledge.com/articles/thematic/environmental-aesthetics/v-1/sections/what-is-environmental-aesthetics>; A. Carlson, "Environmental Aesthetics", in: *The Stanford Encyclopedia of Philosophy*, ed. E.N. Zalta, Metaphysics Research Lab, Stanford University, Stanford, CA, USA, 2020. <https://plato.stanford.edu/archives/win2020/entries/environmental-aesthetics/>

² See: W. Morris, *News from Nowhere*, Peterborough, etc., [1890], 2002.

knowledge that is based equally on theory and practice.³ Environmental aesthetics of architecture seeks to include in its knowledge both humanistic thought about architecture (through theory, history, philosophy, sociology and psychology of architecture) and the scientific and technological side of architecture (through construction, innovative approaches to construction, resilient and sustainable design, smart and green building, LEED and BREEAM assessment methods, etc.).⁴ Not only does environmental aesthetics of architecture have a holistic approach to science, technology and humanities, but it connects nature and culture in a new synthesis of knowledge that allows us innovative and productive views on new and old issues of architecture and its aesthetics, theory and practice. Therefore, environmental issues are a synthesis of different cultural knowledge, and one of the most applicable views on general aesthetics today is the cultural principle in which aesthetics is viewed as a critical opinion about art, culture and nature.⁵

ENVIRONMENTAL AESTHETICS AND AESTHETIC EXPERIENCE OF ENVIRONMENT

The general philosophical aesthetics of the twentieth century was exclusively focused on art, while little or almost no attention was paid to the consideration of natural beauty. After the publication of the essay *Contemporary Aesthetics and the Neglect of Natural Beauty* by the British philosopher Ronald Hepburn,⁶ there was a growing interest of philosophers and other researchers in the field, which would be conceived as environmental aesthetics from the 1970s onwards.

In addition to Hepburn, the first steps in the development of environmental aesthetics were taken by Arnold Berleant and Allen Carlson, who have remained leading experts in this field since the 1970s.⁷ After 1990 environmental aesthetics became more and more relevant, Berleant published very significant works,⁸ also cooperated

3 For examples of environmental aesthetics in practice see: M. Nikolić, B. Drobnjak et I. Kuletin Ćulafić, "The Possibilities of Preservation, Regeneration and Presentation of Industrial Heritage: The Case of Old Mint 'A.D.' on Belgrade Riverfront", *Sustainability* 12 (13), 5264 (Basel), 2020. <https://doi.org/10.3390/su12135264>; U. Radosavljević et I. Kuletin Ćulafić, "Use of Cultural Heritage for Place Branding in Educational Projects: The Case of Smederevo and Golubac Fortresses on the Danube", *Sustainability* 11 (19), 5234 (Basel), 2019. <https://doi.org/10.3390/su11195234>

4 LEED (Leadership in Energy and Environmental Design) is the world's green building certification program. BREEAM (Building Research Establishment Environmental Assessment Method) is the world's method of assessing, rating, and certifying the sustainability of buildings.

5 M. Kelly, *Encyclopedia of Aesthetics*, Volume 1, Oxford, New York, 2014, xxi.

6 R.W. Hepburn, "Contemporary Aesthetics and the Neglect of Natural Beauty", in: *British Analytical Philosophy*, eds. B. Williams et al., London, 1966, 285–310.

7 A. Berleant, *The Aesthetic Field: A Phenomenology of Aesthetic Experience*, Springfield, USA, 1970; A. Carlson, "On the possibility of quantifying scenic beauty", *Landscape Planning* 4 (Amsterdam), 1977, 131–172; A. Carlson, "Appreciation and the natural environment", *Journal of Aesthetics and Art Criticism* 37 (Howboken, New Jersey), 1979, 267–276.

8 A. Berleant, *Art and Engagement*, Philadelphia, 1991; A. Berleant, *The Aesthetics of Environment*, Philadelphia, 1992; A. Berleant, *Living in the Landscape: Toward an Aesthetics of Environment*, Lawrence, 1997; A. Berleant, *Aesthetics and Environment: Variations on a Theme*, London and New York, [2005], 2018; A. Berleant, *Sensibility and Sense: The Aesthetic Transformation of the Human World*, Exeter, UK, 2010; A. Berleant, *Aesthetics Beyond The Arts*, Farnham, UK, 2012; A. Berleant. "Some Questions for Ecological Aesthetics", *Environmental Philosophy* 4 (Charlottesville), 2016, 123–135; A. Berleant. "Ideas for an Ecological Aesthetics", in: *Ecological Aesthetics and Ecological Planning*, eds. Xiangzhan Cheng, Arnold Berleant, Paul Gobster, Xinhao Wang, Zhengzhou, 2014, 54–72.

with Carlson,⁹ and especially after 2000, the number of philosophers dealing with this topic has increased, such as: Noël Carroll, Stan Godlovitch, Emily Brady, Yuriko Saito, Cheryl Foster, Ronald Moore, Yrjö Sepänmaa, Malcolm Budd, Thomas Leddy, Cheng Xiangzhan, Thomas Heyd, and others.

Hepburn, Berleant, and Carlson seek to explain the key difference between the aesthetic appreciation of the environment (natural or humanly modified) and the appreciation of the arts and other objects. Hepburn and Carlson will focus primarily on the natural environment, and Berleant will, besides nature, focus his research on the social and human influenced environment, especially on architecture and urbanism.

To this day, the issue of appreciation of natural beauty remains one of the main and most extensive topics of environmental aesthetics. However, the concept of natural beauty is not easy to explain. By nature we mean everything that is unmodified by man. Nature is a place of natural processes (temperature changes, animal migration, water currents, starry sky, etc.) that are directly and indirectly affected by human activity. Nature is everything that surrounds us in a mundane sense and what we can enjoy when it comes to natural beauty. Today, philosophers use the broader term ‘aesthetic qualities’ of things (natural or human created) instead of the terms ‘beauty’ – *kalon* (Greek) and *pulchrum* (Latin) –, which is a narrower term and is usually associated with the harmony, arrangement and proportions of a whole and of its parts.

Nature gives us the resources and goods that man consumes, and in terms of aesthetic experience, nature (especially its landscapes) provides us with complex perceptual enjoyment from visual to engaged (when we consume nature while skiing, hiking or swimming at the beach). Aesthetic qualities of nature are defined and protected by legal acts as “Areas of Outstanding Natural Beauty”, among which many are under the protection of UNESCO as protected natural heritage.¹⁰ On the other hand, in the field of aesthetics, aesthetic quality is considered in relation to two main elements: a ‘sensory element’ (which is related to sensory perception: visual appearance, taste, smell, sound) and an ‘affective element’ (which is related to desires and feelings of satisfaction).¹¹ These two elements together shape the aesthetic qualities of an object, whether it is art object-focused aesthetics or environmental aesthetics.

Ronald Hepburn’s essay *Contemporary Aesthetics and the Neglect of Natural Beauty* highlighted the significant difference that exists between the aesthetic experience of nature and the aesthetic experience of artworks.¹² First of all, we as aesthetic subjects of perception are more involved in appreciation of nature than of

9 A. Berleant and A. Carlson, (eds.), “Special issue on Environmental Aesthetics”, *The Journal of Aesthetics and Art Criticism* 56/2, (Oxford), 1998; A. Carlson and A. Berleant (eds.), *The Aesthetics of Natural Environments*, Peterborough, 2004; A. Berleant and Carlson, A. (eds.), *The Aesthetics of Human Environments*, Peterborough, 2007.

10 UNESCO, *Convention Concerning the Protection of the World Cultural and Natural Heritage*, Paris, 1972; UNESCO, *Operational Guidelines for the Implementation of the World Heritage Convention*, Paris, 2019, Article 1 and 2, 19–20. The World Heritage List comprises 1121 properties of Outstanding Universal Value. Natural sites represent about 23% of this list, including 39 mixed (both cultural and natural) sites and 213 natural sites. <https://www.iucn.org/theme/world-heritage/natural-sites>

11 G. Parsons, *Aesthetics and Nature*, London, New York, 2008, 18.

12 R.W. Hepburn, “Contemporary Aesthetics and the Neglect of Natural Beauty”, in: *British Analytical Philosophy*, eds. B. Williams et al., London, 1966, 285–310; The same essay with notes given in a clearer and more modern form is available in R.W. Hepburn, “Contemporary Aesthetics and the Neglect of Natural Beauty”, in: *The Aesthetics of Natural Environments*, eds. A. Carson and A. Berleant, Peterborough, 2004, 43–62.



Fig. 1



Fig. 2

art. It is a completely different aesthetic experience that we gain when we observe a painted landscape and when we are in nature surrounded by a landscape. The natural environment requires us to engage different senses, as especially movements that occur in nature (wind blowing, water murmur, birds chirping) have a great impact on our aesthetic experience. The rigid relationship between subject

and object, which is a feature of traditional aesthetics from Kant onwards, is lost in Hepburn's conception of the aesthetics of the natural environment, because the observer (subject) also becomes an actor.¹³

It is important to point out that Hepburn compares the aesthetic experience of nature with the aesthetic experience of architecture, which today increasingly adopts various theories of sensation and emotional engagement to make users more pleased and satisfied, which we will consider later in aesthetic theories advocated by Juhani Uolevi Pallasmaa, Peter Zumthor, Gernot Böhme, Arnold Berleant, and others.

Hepburn focuses primarily on distinguishing traditional painting as a type of framed art and natural objects that are frameless.¹⁴ This lack of frame limits our perceptual abilities, in terms of natural objects we can understand as a kind of defect, because we do not get the completeness and finality of aesthetic experience, and therefore natural objects are more indeterminate and unpredictable. (Figure 1, Figure 2) On the other hand, this disadvantage is an advantage, because it enables greater perceptual engagement, empathy, and the possibility for the appreciator to bring far more of himself into the very aesthetic act of appreciation of the natural and built environment.

THEORETICAL VISIONS OF ENVIRONMENTAL AESTHETICS OF ARCHITECTURE AND URBANISM – TECHNOLOGICAL AND AESTHETIC ENGAGEMENT PERSPECTIVES

In its wide scope, environmental aesthetics is focused on the appreciative engagement of humans who are part of the environment. As Berleant explains, “the experience of the environment as an inclusive perceptual system includes such factors as space, mass, volume, time, movement, color, light, smell, sound, tactility, kinesthesia, pattern, order, and meaning.”¹⁵ Therefore, the environmental aesthetic experience is not only visual, as Hepburn saw it, but also includes the synesthesia of different senses, fully engaging the participant's awareness or ‘aesthetic engagement’.¹⁶

For Berleant, environmental aesthetics is a study of environmental experience that is intrinsic, immediately perceptive, and our only limitation is our senses. Also, different environments can merge into each other, and we have crossings in the city, for example when we move from a quiet residential area with lots of greenery to the city center, which is usually dominated by crowds, noise, large construction and low concentration of green spaces.

Berleant views architecture in the city more as a designed built environment than as an isolated object.¹⁷ He also points out that “the environment is not a foreign place outside us but that it is continuous with our bodies, with ourselves.”¹⁸

We can agree that architecture shapes external and internal spaces, and in doing so, it also shapes our aesthetic experiences. Depending on the purpose, architecture forms different environmental units: residential, business, recreational, commercial,

13 Op. cit., 1966, 289, 290.

14 Op. cit., 1966, 290, 291.

15 A. Berleant, “Environmental Aesthetics”, in: *The Encyclopedia of Aesthetics*, Vol. 1–6, ed. M. Kelly, Oxford, New York, etc. (1998), 2014, 5.

16 See: A. Berleant, *Art and Engagement*, Philadelphia, 1991.

17 Op. cit., 5–6.

18 A. Berleant and A. Carlson, (eds.) *The Aesthetics of Human Environments*, Peterborough, 2007, 84–85.

cultural, industrial, etc. Architecture merges and intertwines with landscape architecture, and with natural environments. Also, the environmental aesthetics of architecture includes urban design aesthetics, which in addition to architectural buildings, to a much greater extent refers to the infrastructure of the city, streets, roads, bridges, stations, urban furniture, pedestrian zones, squares, etc. – everything that makes up an urban landscape created for the needs of people.

The city is a very special environment designed and managed by people. The city is a technological phenomenon – not only made of architecture, but also of people and their social connections. Viewed as an environment, cities mostly depend on the influence of people, because they are the product of human: culture, technology and action. Cities make up the moral environment, but also the physical one (architecture, urbanism), which is in relation to the ethics and social studies, and any consideration of the aesthetic environment includes the ethical and social side of architecture. Regarding that, Berleant pays special attention to the importance of considering social aesthetics, especially in urban areas.¹⁹ In this sense, the city can be considered as a social and aesthetic perceptual driving force that is in a more subtle way visible in relation to the commercial, technological and institutional positions.

The aesthetic experience of the urban environment engages different senses, but also includes very important dimensions of the city such as cultural, social and historical. With this in mind, Berleant notes that “Aesthetic value, ... is more than a matter of urban beauty; it encompasses the perceptual experience of meanings, traditions, familiarity and contrast, as well.”²⁰ Berleant’s greatest contribution to environmental aesthetics is his theory of aesthetics of engagement, which is initially based on the legendary research of John Dewey, who believes that the human organism is embedded in the world.²¹ Berleant points out that the aesthetics of the environment grows out of the mutual relationship between people and places, and the perceptual engagement between them.²²

What is especially characteristic of urban aesthetics is that it also considers negative aesthetic values that cause the obstruction of perceptual experiences due to noise, traffic and pedestrian traffic, air pollution, boring and ugly buildings and neighborhoods, disruption of historical and cultural identity of certain parts of the city, and the like.²³ Therefore, it is very important that in every city there is an aesthetic and ethical commission that manages the development of the city, in order to achieve common cultural, civilizational and sustainable goals that are not subordinated only to profit and politics.

In terms of urban aesthetics, urban environments often cause oppressive perceptual effects in us, but there are also those urban environments that we can call harmonious; they are mostly small cities that have undergone changes in the industrial age and have preserved their genuine and authentic character. Examples of such harmonious urban environments are the historical cores of large cities, but also small cities as a whole, such as Urbino, Siena, San Gimignano, and Venice.

19 See: A. Berleant, *Sensibility and Sense: The Aesthetic Transformation of the Human World*, Exeter, UK, 2010.

20 A. Berleant, *Art and Engagement*, Philadelphia, 1991, 6.

21 J. Dewey, *Art as Experience*, New York, 1934, 43–44.

22 A. Berleant, “Cultivating an Urban Aesthetic”, in *The Aesthetics of Human Environments*, eds. A. Berleant and A. Carlson, A., Peterborough, 2007, 91.

23 A. Berleant and A. Carlson, (eds.) *The Aesthetics of Human Environments*, Peterborough, 2007, 83–84.

Cities as a kind of humane environments require time for development, for growing out of local needs, conditions and traditions. In the past, cities developed and changed spontaneously and slowly, while today the course of life and change is very fast.

The entire development of urban thought from Baroque urbanism, the first industrial cities (when there was an increasingly acute need for planned urbanism), the idea of Garden cities by Ebenezer Howard, artistic urban ideas of Camillo Sitte, Le Corbusier's ideas and modernism, critique of modernism and the postmodernist views of Kevin Lynch, Aldo Rossi, Jane Jacobs, Patrick Geddes, Françoise Choay, Lewis Mumford, Nan Ellin, Marc Augé, etc.,²⁴ continued with the complex and contradictory ideas of Rem Koolhaas, Peter Eisenman, Frank Gehry, Zaha Hadid, Daniel Libeskind, and Bernard Tschumi, which, according to most theorists of architecture, are characterized as deconstructivist.²⁵ Today, the architectural and urban environment can only be considered in the context of very complex, contradictory and pluralistic movements of modern architecture. This new paradigm in architecture is realized according to Charles Jenks in the form of a theory of complexity that combines different interests of architects inspired primarily by digital technology and new possibilities of generic architecture.²⁶

A typical example of theoretical views that observe the complex cooperation of technological and cultural development of contemporary architecture can be recognized in the work of Rem Koolhaas. Koolhaas's understanding of the urban environment can best be viewed through his eccentric publications and books in the form of manifestos and comics with elements of film montage that have pushed the boundaries of architectural perception.²⁷ Koolhaas's early works (like *Exodus*, 1972) fueled by structuralist and poststructuralist views are based on identical urban matrices, like Manhattan, where the environment is subject to individual egoism and where science, art, poetry, and various forms of madness compete in inventing, destroying and restoring the realities of the world. Koolhaas's essay *The Generic City* points to our perception of the urban environment of modern cities as a reversed movie devoid of original coherence. Such a filmic and performative urban

24 E. Howard, *Tomorrow: A Peaceful Path to Real Reform*, London, 1898; E. Howard, *Garden Cities of Tomorrow*, London, 1902; K. Zite, *Umetničko oblikovanje gradova*, Beograd, [1909], 2004; Le Korbizije, *Atinska povelja (La Charte D'Athènes)*, Beograd, [1943], 1965; Le Korbizije, *Ka pravoj arhitekturi*, Građevinska knjiga, Beograd, [1923], 1999; K. Linč, *Slika jednog grada*, Beograd, [1960], 1974; A. Rosi, *Arhitektura grada*, Beograd, [1966], 2008; J. Jacobs, *The Death and Life of Great American Cities*, New York, 1961; F. Soe, *Urbanizam, utopija i stvarnost*, Beograd, [1965], 1978; L. Mamford, *Grad u istoriji*, Beograd, [1961], 2006; M. Ože, *Ne-mesta: uvod u antropologiju nadmodernosti*, Beograd, [1992], 2005; N. Elin, *Postmoderni urbanizam*, Beograd, [1996], 2002; N. Ellin, *Integral Urbanism*, New York, London, 2006; N. Ellin, *Good Urbanism: Six Steps to Creating Prosperous Places*, Washington, D.C., 2012.

25 In 1988, at the MOMA Museum in New York, Philip Johnson and Mark Wigley organized the Deconstructivist Architecture exhibition. As the curators of the exhibition, Johnson and Wigley linked the works of Frank Gehry, Zaha Hadid, Daniel Libeskind, Bernard Tschumi, Rem Koolhaas, Peter Eisenman and Coop Himmelbl(l)au with Jacques Derrida's philosophical theory of deconstructivism as well as with avant-garde works from Russian constructivism from the 1920s. The notion of deconstructivist architecture will remain tied to the names of these architects although their later works especially go beyond the scope of classification under any kind of generalized terminology.

26 See: Čarls Dženks, *Nova paradigma u arhitekturi*, Beograd, [2002], 2007, 207–264.

27 R. Koolhaas, *Delirious New York: A Retroactive Manifesto for Manhattan*, Oxford, 1978; R. Koolhaas, et al., *S, M, L, XL*, New York, 1995; R. Koolhaas, et al., *Project on the City I: Great Leap Forward*, Cologne, 2001; R. Koolhaas, et al., *Mutations*, New York, 2001; R. Koolhaas, et al., *Content*, Cologne, 2004; *Volume Magazine*, from 2005 edited by M. Wigley, R. Koolhaas and O. Bouman; R. Koolhaas and Hal Foster, *Junkspace with Running Room*, London, 2013.

environment is an empty meaning without an aura of sense in which the remains of historical fragments of past times sometimes appear.²⁸ The aesthetics of the technological generic city is “free style”; it is reduced to roads, buildings and nature. Koolhaas sees the architectural and urban environment as a film reality in which different technological and cultural narratives take place.

Opposite to Koolhaas’s technological city, Finnish environmentalist Yrjö Sepänmaa considers the urban environment of the city from the point of view of multi-sensory experience.²⁹ Sepänmaa sees the multi-sensory experience of the city as immediate experiences that do not rely only on the sense of sight and on the meditative and intellectual experiences of the urban environment, but on the plurality of senses. In addition to sight, which represents the strongest sense for the aesthetic experience of architecture, the perceptual experience of urban space includes the senses of: hearing, smell, touch or even the sense of taste. It is impossible to imagine a building or a city in which the visual experience is not important. The architecture and urban space of the city are composed of the relationship between the masses, filled and empty spaces, colors and textures. As Sepänmaa argues, we must keep in mind that “our senses do not all perform equal stress at all times and in all situations. Perceptions can be both desirable over undesirable, ...”³⁰ In different parts of the city, some senses are more dominant, while others are weaker, and the overall sensory experience of the city defines the identity of that environment. For example, Venice is a city on water, and that specific atmosphere of the city marked by water as the dominant part of the environment can be seen, heard, touched, smelled, and even tasted. Sepänmaa speaks not only of the visual environment, but the environment of sound –the soundscape, so the sound of water in Venice creates a specific soundscape.

PRACTICES OF ENVIRONMENTAL AESTHETICS OF ARCHITECTURE AND SUSTAINABLE TECHNOLOGY

Sepänmaa’s theory of environmentalism is followed by the Finnish architect, esthetician and theorist Juhani Uolevi Pallasmaa, who considers architecture through seven senses: sight, hearing, taste, smell, touch, intuition and balance.³¹ Pallasmaa pays special attention to the tactile sense, believing that all other senses, even vision, are an extension of the sense of touch because the skin is the most sensitive organ of our body. Therefore, the visual perception of the environment is integrated and defined by our body, since we gain knowledge of who we are and where we are in the world around us through the body. That is why for Pallasmaa the body is important for the aesthetic experience of architecture, because it is the place of reference, imagination and integration. We gain perception of ourselves when we perceive the architectural environment. Our body is in constant interaction with the environment through the multi-sensory experience of separate buildings (especially the interior) or the city. Exploring Pallasmaa’s projects and theoretical texts, we can conclude

28 R. Koolhaas, et al., *S, M, L, XL*, New York, 1995, 1248–1264.

29 Yrjö Sepänmaa, “Multi-sensoriness and the City”, in: *The Aesthetics of Human Environments*, eds. A. Berleant and A. Carlson, A., Peterborough, 2007, 92–99.

30 Op.cit., 92.

31 See: J. Pallasmaa, “An Architecture of the Seven Senses”, in *a+u Architecture and Urbanism – Special Issue Questions of Perception* (Tokyo), eds. Steven Höll, Juhani Pallasmaa and Alberto Pérez-Gómez, 1994, 40–49; J. Pallasmaa, *The Eyes of the Skin: Architecture and the Senses*, Chichester, UK, [1996], 2005.



Fig. 3

that the essence of his environmentalist view of architecture includes fully modern technological constructions that must always follow humane principles and goals.

In a pleasant environment, we feel pleased and satisfied mentally, spiritually and physically. In the experience of architecture, we are fully integrated into the material, shapes and surfaces, which requires our physical and mental engagement. These theoretical thoughts are best seen on Pallasmaa's designs for Viikki pedestrian bridge (2002) and Kamppi Center (2006) in Helsinki.

The Viikki pedestrian bridge (also known as *The Niittysilta bridge*) represents an authentic example of sustainable environmental architecture. (Figure 3) Originally designed with a larch tree, the bridge was conceived as a temporary construction with a short lifespan, and therefore it was completely recyclable. After 14 years the larch began to decay and, in order to preserve this masterful idea of the great Finnish architect, the bridge was rebuilt from Accoya modified wood. Accoya wood is a sustainable product obtained in the raw timber acetylation process from fast-growing pine tree (*Pinus radiata*) grown in managed forests. Accoya wood is highly durable and stable, as it withstands the test of any climate and it is 100% recyclable. With global environmental accreditations: BREEAM, Cradle to Cradle Gold Certified, U.S. Green Building Council LEED Gold, and FSC CO12330 certification, it is the only construction material in the world to achieve C2C Platinum certification™ for Material Health.³²

32 For more details about Accoya technology see: <https://www.accoya.com>

Eco-School de Verwondering in Almere Nobelhorst in Netherlands designed by ORGA Architect (2021) is another project built from Accoya wood. This highly sustainable project connects the theoretical and practical goals of environmental aesthetics of architecture. In this entirely ecological school, the ideas of environmental aesthetics are applied in the school's architecture and interior design, where students can perceive sustainable environment and learn from it directly. (Figure 4a, 4b)

Environmental design in practice allows people to interact with nature, while maintaining a modern way of life which does not neglect technological achievements, but emphasizes connection with nature. In the Verwondering school, environmental aesthetic design offers multi-sensory experience through natural and sustainable materials, naturally inspired shapes and forms of exterior, interior and furniture design.

Throughout history, from ancient Greece to the present day, the aesthetics of architecture has focused exclusively on the sense of vision, but this conventional way of aesthetic consideration of architecture has changed with environmental aesthetics of architecture. Even the eye unconsciously touches the environment in order to experience it, and vision reveals what the touch already knows. Take for example Frank Lloyd Wright's Fallingwater House whose aesthetic experience is a true multi-sensory experience – here we perceive flowing water, the forest in which the house is located, the volumes, surfaces, textures and colors of the house, the smells of the natural environment in which the house is situated. Architecture that evokes a multitude of sensory experiences can be found in the works of architects such as Alvar Aalto, Louis Kahn, Tadao Ando, Peter Zumthor, and many others. These architects explored various sensitive ways to unify the perception and practical purpose of architecture through the harmony of location, environment, structure, materials, and space. Aalto also dealt with furniture design, paying great attention to the interior and the intimate experience of the interior space of the architecture, which was supposed to provide comfort, safety, satisfaction and beauty to the user. Aalto has carefully studied the needs of the body and soul of the user in order to create an environmental whole of the inner and outer experience of architecture and the environment in which it is located.

Environmental aesthetics in practice is realized in a subtle and philosophically profound way in the designs of a Swiss architect and theoretician Peter Zumthor. Zumthor points out the great importance of the multisensory perception of the space in which he creates architecture, always starting from the associations that are related to his memories and experience. This principle of environmental aesthetic design is particularly recognized in Zumthor's design of Thermal Bath Vals located in the Swiss Alps (1996), where he managed to create a multisensory experience using natural and indigenous materials. (Figure 5) In this project, Zumthor translated nature into architecture, using as building materials elements of nature: mountain, stone and water. Zumthor intertwined architecture and natural environment, creating continuous geometrical structures reminiscent of a cave, using locally quarried quartzite ashlar. The baths are partially buried into the hillside and this tactile aesthetic relation between massive ground and stone architecture resembles the foundations of an archaeological site that indicates environmental and mystical meanings of architecture. A special environmental experience was achieved through the naked body contact with hot and cold water, hot and cold stone, diffused light, darkness, silence and sound of water, reflection of light upon the water and the smell of steam and essential oils. Through all his projects, Zumthor studies the



Fig. 4a



Fig. 4b



Fig. 5

sensory influences left on us by materials, textures, shadows, light, sounds, smells, and above all the tactile properties of materials.

Through the given examples, we have seen that it is highly important that environmental aesthetics relies on environmental ethics. Having that in mind, we need to build with modern construction techniques and technological achievements in order to preserve nature and to create aesthetically balanced architectural environment. However, economic demands for profit often tend to jeopardize the harmony of environmental experience of architecture.

In 2015, Thermal Bath Vals were renamed in *7132 Thermal Baths* and the new investor decided to raise the business to an extremely luxurious level. He expanded the complex with new facilities designed by world-famous architects including Tadao Ando, Kengo Kuma, Thom Mayne of Morphosis, and Peter Zumthor.

Zumthor led an active campaign against this project, believing that it would disrupt the harmonious relationship between the existing architecture and pristine-natural environment. He especially opposed the construction of a 385 meters tall hotel tower (the competition won by Morphoses), which did not fit into the poetic surroundings of the Swiss Alps.³³ The power of money and modern technological requests outweighed all ethical and aesthetic goals, so this project was planned to be realized by 2019, and even Zumthor eventually gave his contribution by designing some of the rooms in the House of Architects resort.

House of Architects hotel rooms have reconciled the investors' goals for tourist exclusivity and prestigious architecture. Guided by the principles of harmonious en-

³³ See: <https://www.dezeen.com/2017/05/11/peter-zumthor-vals-therme-spa-switzerland-destroyed-news/>



Fig. 6



Fig. 7

environmental aesthetics, extraordinary architecture was achieved with Tadao Ando's wood room inspired by the Japanese subtle aesthetics, Kengo Kuma's cocoon-like timber room, Thom Mayne's and Morphosis rooms in two ambient versions in wood and stone, and Zumthor's luxurious room in stucco inspired by Italian Renaissance. (Figure 6, Figure 7, Figure 8)

The peaceful and sublime environment of Swiss Alps hosted architecture that managed to agree with previously set goals of Zumthor's environmental architecture and his aesthetic thoughts according to which the ultimate point of architecture is to embody a special atmosphere that will evoke pleasure in passers-by and users and remain instilled in their memory.³⁴

When we consider theory and practice of environmental aesthetics of architecture, it is significant to mention Gernot Böhme, a prominent aesthetician of en-

³⁴ See: Peter Zumthor, *Thinking architecture*, Basel, Boston, Berlin, [1999], 2006, 9–11.



Fig. 8

vironmentalism, and his ‘aesthetics of atmospheres’.³⁵ Böhme builds his environmental theory on Baumgarten’s aesthetics of sensory experience and examines the feelings and emotions that arise in the perceptual cooperation of subject and object.³⁶ Practical results of Böhme’s environmental theory were implemented in two case studies of Smederevo and Golubac fortresses dedicated to inclusive use of cultural heritage for place branding and urban development strategies.³⁷ In these case studies conducted by Belgrade University research team, the environmental aesthetic approach was chosen as the basic support for inclusive tourism development. These highly valuable research studies implemented principles of environmental aesthetics in practice by exploring sustainable aesthetic positions that acclaim technological development that does not disturb the natural, sociological, and economic system. One of the foremost environmental objectives in the cases of Smederevo and Golubac fortresses was to maintain tangible and intangible cultural heritage that forms a foundation for authentic spirit of the place and autonomous atmosphere provided by sustainable architectural and urban design.

A similar example of environmental aesthetic practices was explored in another case study, also realized in Serbia by professors and faculty members of the University of Belgrade – Faculty of Architecture.³⁸ The focal point of this study was

35 G. Böhme, *Atmospheric Architectures: The Aesthetics of Felt Spaces*, London etc., 2017; G. Böhme, *The Aesthetics of Atmospheres*, Abingdon etc., 2018.

36 Concerning *aesthetics of atmospheres* see: I. Kuletin Čulafić, “Svakodnevna estetika u arhitekturi i primenjenim umetnostima/ Everyday Aesthetics in Architecture and Applied Arts”, in: *Zbornik radova: Prva međunarodna konferencija SMARTART – Umetnost i nauka u primeni. Od inspracije do interakcije/ Proceedings: First International Conference SmartArt – Art and Science Applied. From Inspiration to Interaction*, ed. Milan Prosen, Belgrade, 2020, 100–101.

37 U. Radosavljević et I. Kuletin Čulafić, “Use of Cultural Heritage for Place Branding in Educational Projects: The Case of Smederevo and Golubac Fortresses on the Danube”, *Sustainability* 11 (19), 5234 (Basel), 2019. <https://doi.org/10.3390/su11195234>

38 M. Nikolić, B. Drobnjak et I. Kuletin Čulafić, “The Possibilities of Preservation, Regeneration and Presentation of Industrial Heritage: The Case of Old Mint ‘A.D.’ on Belgrade Riverfront”, *Sustainability* 12 (13), 5264 (Basel), 2020. <https://doi.org/10.3390/su12135264>

industrial heritage located at Belgrade riverfront. The exceptional position of this heritage and its architectural, historical, cultural, tourist and environmental values encourage critical approaches based on environmental and sustainable aspects of adaptive reuse and preservation of architectural industrial heritage.

Environmental aesthetics and ethics have offered possibilities to comprehend the multiple problems of the city's industrial heritage protection. Above all, environmental approach was implemented considering authenticity, identity and integrity of the built historical and natural environment.

CONCLUSION

In this paper, we have explored the theoretical and philosophical development of environmental aesthetics with a focus on environmental aesthetics of architecture. Critically observing architecture as a discipline that emerges in theory and practice, we have stepped out from the usual angle of exploring architecture as a visual art, and focused the attention on considering as the surrounding environment that affects all our senses.

As we have previously seen, architecture is a hybrid art where aesthetics and technological practices collide in a complex juxtaposition. In the aesthetic sense, architecture cannot be viewed in general only as an art object, but as an art of building and constructing a human environment that includes practical considerations.

Architecture requires human engagement and it is always expressed in practice (except in digital and 'paper architecture'). We also realized that architectural aesthetic is not just visual, but that the perception of architecture implies a multi-sensory experience that is related to the cultural, intellectual, social and acquired interests of the object-subject relationship.

The user of architecture and the resident of the city is not only a spectator, he is a participant because he has not only a visual approach to the environment, but he experiences each environment with his body and different senses that respond to dynamic stimulus environments. The architecture is multi-sensory experience and it engages almost all our senses and requires a constant process of action and response. People are actively engaged in facing the goals and tasks of life that they perform in different ways depending on the environment in which they find themselves. What distinguishes architecture from other arts and disciplines is its environmental character, which requires from us an aesthetic engagement with which we must have an ethical engagement that will regulate in a practical sense our polyvalent built environment of tomorrow.

Investigating in practice the examples presented in this paper, we can conclude that the environmental paradigm is particularly important when architecture comes to construction and the use of modern technologies, because today an architect needs to build taking into account compound requests, but above all he needs to create a sustainable, ethical and responsible design.

Environmental aesthetics has succeeded in merging the traditional philosophical discourse of aesthetics with the domain of practice and practical life, where an important role belongs to architecture and design. For the ancient Greeks, nature was an immutable whole governed by a category of necessity, given neither by God nor by men. Ancient aesthetics considered the laws of nature unchangeable, being well-aware that man can never dominate nature, because he is only a small fragment in the whole of cosmic universe. Lamenting over the fate of our planet in the 1990s,

in the famous book *The End of Nature* Bill McKibben pointed out the key sentence of the course of our civilization “We have produced the carbon dioxide – we have ended nature”.³⁹ Although I am not in favor of a negative attitude towards the development of technology that has disturbed and is daily disturbing nature, I agree with the Italian philosopher Umberto Galimberti that ethics is silent, because it does not look for instruments that would protect nature in harmony with the environment created by humans.⁴⁰ The main goal of environmental aesthetics, whether it is a natural, social or built environment, is to combine aesthetic endeavors with ethical endeavors. Thus, with environmental aesthetics, we return to the ancient concept of the unity of beautiful, good and true. Especially in terms of modern architecture and urbanism, without the cooperation of ethics and aesthetics we cannot create good urban environments, nor can we protect the natural environment from further devastation and decay.

Environments have different meanings for us: ‘we live from them’ – they are the means to our existence (as natural resources); ‘we live in them’ – they are our homes and familiar places in which everyday life takes place and draws its meaning, and in which personal and social histories are embodied; ‘we live with them’ – our lives take place in the background of the natural world that existed before us and that will probably exist after us.⁴¹ Environments matter to us for existential, social, economic, aesthetic and cultural reasons. Disturbance of forests, rivers, lakes, various landscapes, but also historical parts of the city has ethical, aesthetic and cultural consequences. First of all, one environment has a whole set of values for an individual or community, such as aesthetic, ethical, ecological, historical, cultural, economic, social, political, etc. The environment in which we live (narrower or wider) is of utmost importance for us, because only in the context of the environment do we create our identity, either as an individual or as a community. Accordingly, environmental aesthetic perspectives in architecture are of great benefit because they form a bridge between technology, ethics and aesthetics in order to create better, sustainable and healthier future environments in which we live.

ILLUSTRATIONS

1. Aesthetic experience of framed art – Irena Kuletin Čulafić, *View of the Grand Canal in Venice*, 2006, oil on wood, 35 × 79 cm, Private Collection, (photo: Irena Kuletin Čulafić).
2. Aesthetic experience of architectural environment in Venice, 2004, (photo: Irena Kuletin Čulafić).
3. The Viikki pedestrian bridge (*The Niittysilta bridge*), Helsinki, 2002/2016. The original project of Juhani Pallasmaa rebuilt in sustainable technology of Accoya wood (<https://www.accoya.com/project/niittysilta-bridge-in-finland/#>).
- 4a, 4b. Eco-School de Verwondering in Almere Nobelhorst in Netherlands designed by ORGA Architect, 2021 (<https://www.orga-architect.nl/projecten/biophilic-school-de-verwondering/>).
5. Peter Zumthor, Thermal Bath Vals, Vals, Switzerland, 1996 (<https://www.globalinspirationsdesign.com/hotel-spa-design-suisse/>).
6. Kengo Kuma, Room in The House of Architects, Vals, Switzerland, 2017 (<https://architizer.com/blog/inspiration/industry/house-of-architects/>).
7. Thom Mayne and Morphosis, “Stone Room” in The House of Architects, Vals, Switzerland, 2017 (<https://architizer.com/blog/inspiration/industry/house-of-architects/>).
8. Thom Mayne and Morphosis, “Wood Room” in The House of Architects, Vals, Switzerland, 2017 (<https://architizer.com/blog/inspiration/industry/house-of-architects/>).

39 B. McKibben, *The End of Nature*, London, [1989], 2003, 48.

40 U. Galimberti, *Psiche e techne. L'uomo nell'età della tecnica*, Milano, 1999, 39.

41 J. O'Neill, A. Holland, A. Light, *Environmental values*, London, New York, 2008, 1.

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ВИЗИЈЕ АРХИТЕКТУРЕ У КОНТЕКСТУ ЕСТЕТИКЕ ЖИВОТНЕ СРЕДИНЕ

Естетика животне средине представља једну од најзначајних области развоја савремене естетике. Данашња уверења о фрагилности природе и о критичним последицама људске активности, пре свега урбанизације и загађења средине у којој живимо, допринела су све већем порасту свести о важности очувања природе и њених ресурса. Многе науке и дисциплине, међу којима је и архитектура, развијају своја истраживања у складу са принципима одрживог развоја. Естетика животне средине базира се на принципима одрживог развоја, уважавајући све облике окупљања: природно, изграђено и социјално.

Иако главну тему естетике животне средине представља природно окружење, истраживања у овом раду су превасходно посвећена архитектури као врсти специфичног окружења које ствара човек. За данашњу савремену архитектуру и њену технолошку праксу веома је важно естетско и етичко испитивање односа између природног, изграђеног и социјалног окружења, кроз настојање за формирањем баланса, експлоатације ресурса и технолошког развоја који не нарушава природни, социјални и економски систем.

Циљ овог рада је разматрање визија архитектуре кроз критичко разматрање архитектонске теорије и праксе у контексту естетике животне средине, испитујући односе чулног искуства архитектуре, односе архитектуре и теорије, односе архитектуре и осталих уметности, као и односе архитектуре, науке и технологије.

Један од кључних резултата рада односи се на критичко и естетичко посматрање архитектуре, не из уобичајеног угла архитектуре као визуелне уметности, већ са становишта архитектонског и урбаног окружења. Истраживања којима се бави естетика архитектонског окружења и даље су малобројна у односу на истраживања која заузима естетика природног окружења. Из тих разлога овај рад има за циљ да размотри општа гледишта естетике архитектуре у контексту свих врста окружења: природног, изграђеног и социјалног.

Теоријско разматрање архитектуре са позиције естетике животне средине представља један од најважнијих изазова данашњег доба, управо из разлога што архитектура данас заузима велике просторе наше планете имајући у виду стални пораст урбанизације и развоја градова чије последице захтевају од архитеката и стручњака да пруже хумана и одржива решења која ће очувати, заштитити, побољшати и одржати све врсте окружења: природно, урбано и социјално. Естетика животне средине данас чини једну од кључних културолошких позиција са које друштво, уметност, наука и технологија образују заједнички језик у циљу боље и одрживе будућности.

Кључне речи: визије архитектуре, естетика животне средине, одрживи развој, одржива технологија у архитектури