

## HISTORICAL BACKGROUND AND STAGES OF THE EVOLUTION OF ART OBJECTS IN THE URBAN ENVIRONMENT

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### ABSTRACT

**Motives:** The integration of art is crucial for adapting the urban environment to globalization and social fragmentation. Artistic objects shape urban identity, improve quality of life, and stimulate creative industries. This study substantiates their role in promoting social interaction and creating sustainable urban ecosystems where technology and culture achieve a harmonious balance.

**Aim:** The research aims to analyze the evolution of art objects in the urban environment, to determine their functions in the context of historical, socio-cultural and technological transformations. The tasks include systematizing the historical background and identifying the stages of evolution of art objects, assessing their impact on the formation of the identity of the urban environment, and identifying modern forms of art objects related to interactivity, digitalization, and participatory nature.

**Results:** Four stages of the evolution of art objects are identified: Emergence – integration of art into the object-spatial environment; Formative – search for a balance between function and aesthetics; Formation – experiments of modernism and postmodernism, open form concept; Development – interactivity, digitalization, Smart City concept. It has been established that contemporary art objects are transforming from static forms into dynamic systems that activate social interaction. The study proves that art integration contributes to the formation of open cultural systems, enhancing urban competitiveness, social cohesion, and sustainability.

**Keywords:** urban environment, artistic image, artistic design, network of art objects, development of art objects

### INTRODUCTION

Faced with the consequences of urbanization, social inequality, and the loss of historical identity, modern cities need innovative approaches to finding ways to improve the environment through urban planning, architecture, and design. Artistic objects integrated into the urban environment are gaining key importance not only as elements of aesthetics, but

also as tools for shaping the artistic image of modern cities, social interaction, cultural identification, and sustainable development (Finkelpearl, 2000; Lynch, 1960). They play the role of a bridge between the past and the present, transforming the urban environment into living hubs of civic activity. However, their potential in the context of groups of art objects that form a synergy with modern urban development remains insufficiently studied, especially regarding

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the creation of urban spaces that are inclusive, safe, and sustainable for all residents (UN-Habitat, 2017).

The object of the study is groups of art objects, in particular, an art object is considered as a public art object (physical, performative, virtual) integrated into urban space for aestheticization, social interaction, or cultural identification (Praslova, 2025a; Zebracki, 2013). A group of art objects is considered as a set of objects united by a common theme, location, or function that interact with each other and the environment. Such groups create nodes of synergy where art becomes a catalyst for social, environmental and economic change.

The purpose of the article is to study the evolution of art objects in urban space – from the historical background in which art objects served as symbols of historical periods to contemporary manifestations that respond to the challenges of urbanization. The examples of international experience reveal how art objects form a new urban reality, where culture can become the basis for an urban environment open to change. The scientific hypothesis of the study is to assume that the transformation of urban space into a human-centered environment can be achieved through the systematic integration of art objects into network structures. Such art interventions, focused on meeting personal socio-cultural needs, can become a catalyst for urban change, where the priority is to harmonize public space with the growing needs of residents. The examples of groups of art objects that meet the following criteria were selected for analysis: implemented projects and concepts; integration with urban development; impact on social interaction and cultural identity of the architectural and urban environment. Sources: doctrinal texts, scholarly articles and books, archival and visual materials devoted to the study of the preconditions and development of art objects in the urban environment. Sources: scientific articles and books devoted to the study of the prerequisites and development of art objects in the urban environment. Limitations: a small number of examples due to narrow criteria, which emphasizes the need for further research. The novelty of the study lies in expanding the scope of the analysis

of the state of research on historical prerequisites and formulating the stages of evolution of art objects in the urban environment.

This work is intended to serve as a basis for further discussions on how to transform art from an episodic phenomenon that has a fragmented nature of integration into the environment of a modern city into a systematic approach to integrating art objects into urban space, where each object is part of a single connected network of art objects capable of transforming the city environment to meet current needs.

## LITERATURE REVIEW

The evolution of art objects in the urban environment dates back to ancient times. In ancient city-states, public spaces were decorated with sculptures and mosaics that served as political manifestos (Tymofiienko, 2000; Vitruvius, 1914/2006). Medieval cathedrals decorated with frescoes transformed urban space into a center of social and religious life (Klymenyuk, 2023). However, the modern understanding of art objects as instruments of social interaction was formed only in the twentieth century, in particular under the influence of Morris's Arts and Crafts movement, which advocated the harmony of functionality and aesthetics (Praslova, 2024a). Hansen's concept of "open form" (Maliszewska, 2017) became a bridge between modernism and contemporary interactive practices, where art is integrated into urban space as a platform for dialogue.

The historical background of the integration of art into the urban context reflects the social, religious and political needs of societies. In ancient Rome, the Colosseum (70–80 AD) served not only as an arena for spectacle but also as a symbol of imperial power, influencing the public consciousness through its scale and functionality (Sybaris Collection, n.d.). In the medieval period, Giotto's frescoes in the Chapel of the Scrovegni (Padua, 14th century) served as a "visual Bible", transforming religious narratives into accessible images for the townspeople (Klymenyuk, 2023). These

examples illustrate how art objects traditionally served as political propaganda and social consolidation.

The Renaissance introduced a humanistic vector of development, thanks to which art was integrated into architectural ensembles through a combination of functionality and aesthetics. City squares were decorated with statues that symbolized secular ideals such as freedom, reason, and beauty. This became the prototype of modern public installations, where art shapes the urban landscape as a space for reflection and dialogue. Examples of art as an instrument of prestige and propaganda of the Italian Renaissance include works of art funded by the Medici family: “Botticelli’s *The Birth of Venus*”, Donatello’s “*David*”, and “*Michelangelo’s Tomb*” of Lorenzo de’ Medici (Sybaris Collection, n.d. ). This is a demonstration of the integration of art objects into urban space to emphasize the status and influence of the ruling families, which later became an integral part of the city’s artistic image (Shkliar, 2020).

The modern understanding of the city as a dynamic system intensified only at the end of the twentieth century (Butsykina, 2025). However, the concept of urban space as an open cultural system, where groups of art objects play a key role, originated in the 1950s in Europe (Praslova, 2025b). In this regard, the process of integrating artistic images into the urban fabric takes on particular significance, allowing traditional cultural codes to be reinterpreted in a contemporary context. Gnatiuk explores the role of symbol and art in shaping space, analyzing the historical evolution of symbolism in architecture and its adaptation in the context of modernism (Gnatiuk, 2020). Mintz explores the history of the formation of street art (Mintz, 2024). Bulakh et al. (2022) study symbolization as the basis for the formation of the artistic image of the city, demonstrating on the example of the city how historical symbols are integrated into modern architecture to create a holistic urban environment that combines the past and the future (Bulakh et al., 2022). Praslova explores the historical background of art objects in the urban environment, focusing on the role of Morris in integrating art, craft, and functionality, and analyzes the influence of Itten’s

work on the formation of artistic design of the urban environment (Praslova, 2024a).

Maliszewska examines the Road monument by Hansen as an example of an open form that illustrates the transformation of historical memory in urban space (Maliszewska, 2017). Riabets and Praslova analyze the role of mobile architecture, demonstrating how temporary structures have become a key tool for adapting the urban environment to emergency conditions, which emphasizes the importance of flexible architectural solutions in modern urban planning (Riabets & Praslova, 2023). Becker analyzes the social structures of art, which improves the understanding of the evolution of artistic practices in the city (Becker, 1982). Young explores the historical roots of graffiti and its transformation into contemporary street art (Young, 2014). Ferrell explores graffiti as a style crime that can relate to the social conditions of the twentieth century (Ferrell, 1996).

Baumgarth and Wieker explore how street art influences consumer perceptions in urban settings (Baumgarth & Wieker, 2020). Liu et al. analyze trends in community garden design through the integration of public participation, cultural and historical context that influences the creation of art objects in the urban environment (Liu et al., 2023). In this context, art objects take on various forms, including art landscapes and artworks made from plants, which combine aesthetic value with resistance to changing environmental conditions (Czerwiński & Pawlak, 2025). Dehove and co-authors explore the role of artistic interventions in urban space (Dehove et al., 2024). Baldini explores the identity, value, and legal dilemmas of street art, which helps to understand how art objects in urban space shape cultural discourse and face social challenges (Baldini, 2022). Kukla analyzes contemporary activism through art (Kukla, 2020).

Praslova explores how street art shapes civic experience through performative and physical and virtual art objects, which promotes social interaction and the transformation of urban space into an interactive environment (Praslova, 2025a). Vergunova and Blinova analyze the impact of artificial intelligence and immersive design on the

formation of the environment, highlighting key trends such as the integration of AI into design, the combination of virtual technologies with reality (Vergunova & Blinova, 2024). Castro Pena et al. explore the role of artificial intelligence in conceptual design, demonstrating how evolutionary algorithms contribute to the generation of innovative forms, which can be key to creating art objects in urban space through a combination of creativity and technology (Castro Pena et al., 2021).

## MATERIALS AND METHODS

The research aims to analyze the evolution of art objects in the urban environment, focusing on the question: how did the doctrinal texts of international organizations (ICCROM, 2021; ICOMOS, 1964; UNESCO, 2021) and historical practices influence the transformation of art objects from traditional monuments to interactive systems? Four types of data sources are used, namely doctrinal texts that define global standards for urban conservation that influence the integration of art into urban space (Fayez, 2024), such as ICOMOS charters (ICOMOS, 1964), UNESCO documents (World Heritage Convention, 1972), and ICCROM reports (ICCROM, 2021); scientific works that explore the interaction of art with the urban context from the perspective of artistic design of the urban environment; archival materials such as art manifestos, artists' diaries, architectural projects (Butsykina, 2025); visual materials, including sketches, photographs, video archives from the Sybaris Collection portal (Sybaris Collection, n.d.).

Content analysis, case studies, and comparative analysis were used for the analysis. The criteria for including cases were determined based on spatial and temporal parameters and their connection to the research questions. Art objects created in different historical periods corresponding to the stages of evolution were selected for analysis: Emergence (19th century), characterized by the integration of art into the object-spatial environment through a return to manual labor; Formative (1900–1950), marked by the search for a balance between functionality

and aesthetics; Formation (1950–1980), associated with the development of the concept of “open form”; and Development (1980–present), when interactive, ecological, and digital art objects appear. The geographical scope included objects from different regions of the world that demonstrate the influence of doctrinal texts of international organizations such as ICOMOS, UNESCO, and ICCROM (ICCROM, 2021; ICOMOS, 1964; UNESCO, 2021) on their development. The study focused on analyzing how the basic principles laid down in these doctrinal texts influenced the evolution of artistic objects in the urban environment. The selected cases reveal the implementation of key principles such as authenticity, sustainability, inclusiveness, dynamism, and community participation.

The analytical review of doctrinal texts focuses on identifying key principles (e.g., “authenticity,” “sustainability”) and comparing their impact on different stages of the evolution of art objects. The chronological analysis is based on the author's division of the evolution of art objects into four stages: origin (nineteenth century), formation (1900–1950), formation (1950–1980), and development (1980–present). Each period is analyzed through the prism of the socio-cultural context, technological innovations, and changes in the perception of public space. Comparative studies focus on the comparison of art objects from different eras, such as ancient frescoes, Bauhaus installations, and contemporary digital projects. Case studies of key projects: Morris's Red House, Hansen's Road Monument, and installations in Tokyo.

The content analysis consisted of three stages. In the first stage, key concepts such as “public participation” and others mentioned in doctrinal texts were identified and highlighted (Fayez, 2024). The second stage involved systematizing texts and visual materials by coding key elements. The third stage was devoted to interpreting and establishing links between policy (e.g., ICOMOS, 1964) and artistic practices (e.g., the legalization of street art). The choice of research methods is based on contemporary international practices of analyzing the

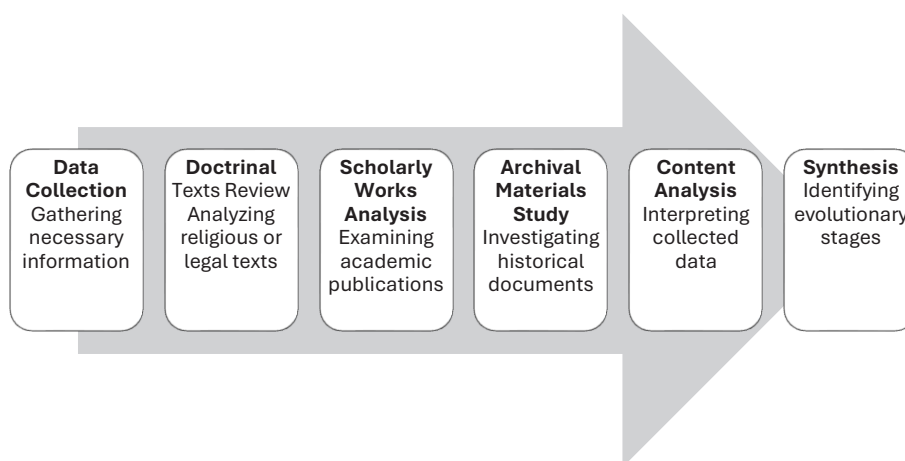
interaction between art and the urban environment. In particular, the social impact of art objects, which is a key aspect of the study, was analyzed through the prism of Miles' theory (Miles, 1997), which proves that art in public space shapes not only aesthetic, but also political and social dialogue. To analyze site-specific approaches that involve the integration of art into a specific context, we use Kwon's (Kwon, 2002) concept of "art of place", which emphasizes the role of location in creating the meaning of an art object. The methodology is also in line with the study by Li et al. (2024), where a chronological analysis of the cultural landscape is combined with comparative case studies to identify evolutionary trends. Similar to this approach, our study systematizes the stages of evolution of art objects based on the synthesis of historical data (archival materials, manifestos) and modern technological innovations, which allows us to trace the transformation from traditional to digital art forms. A graphical representation of the methodology is shown in Fig. 1.

A number of key visual materials were used for the qualitative analysis of historical and contemporary art objects. Among them are medieval frescoes by Giotto from the Sybaris Collection (Sybaris Collection, n.d.), and digital reproductions of frescoes from the Scrovegni Chapel (Padua, 14th century). These materials allowed us to analyze how religious symbolism was integrated into urban space through

art, acting as a "visual sermon" for the townspeople. Contemporary interactive installations are visualized on the example of works by teamLab (Dehove et al., 2024), such as Universe of Water Particles, which greatly simplified the visualization of the study of the transformation of art objects in the digital age. These projects illustrate how technologies such as IoT and projection mapping are transforming urban space into an interactive environment. Additionally, to visualize the evolution of art objects, the Appendix contains photographs of Morris's Red House (1860), which demonstrate the synthesis of crafts and architecture, as well as sketches of Hansen's Road Monument (1958), which reflect the concept of "open form".

## RESULTS

The results of the study demonstrate the influence of historical practices and doctrinal texts of international organizations such as ICOMOS, UNESCO, and ICCROM (ICCROM, 2021; ICOMOS, 1964; UNESCO, 2021) on the evolution of art objects in the urban environment. These documents have played an important role in shaping art objects in the urban environment, as well as in defining the principles that have influenced the various stages of development of art objects. This section presents an analysis of the influence of doctrinal texts and describes the stages of evolution of art objects.



**Fig. 1.** Flowchart of the methodological approach  
*Source:* own elaboration.

## The influence of doctrinal texts on the evolution of artistic objects

An analysis of the doctrinal texts of international organizations such as ICOMOS, UNESCO, and ICCROM (ICCROM, 2021; ICOMOS, 1964; UNESCO, 2021) has revealed their influence on the evolution of art objects in the urban environment. These documents establish principles that have influenced the evolution of art objects at various historical stages. Table 1 summarizes the key principles, sources, historical periods, and their influence on the evolution of art objects.

As shown in Table 1, the doctrinal texts of international organizations have influenced the development of art objects in the urban environment. In particular, the Venice Charter (ICOMOS, 1964) contributed to the preservation of existing historical objects and the minimization of interference in the structure of the urban environment within the framework of the integration of art objects. At the same time, new art objects at this stage play the role of artistic revitalization of the urban environment. The World Heritage Convention (World Heritage Convention, 1972) laid the foundations for the implementation of sustainable development principles in the creation of art objects that meet modern requirements for inclusiveness and accessibility. ICCROM's (ICCROM, 2021) recommendations have contributed to the introduction of modern technologies in art objects, allowing traditional methods to be combined with innovative approaches

within the framework of artistic revitalization of the urban environment.

## Stages of evolution of art objects in the urban environment

The evolution of art objects in the urban environment encompasses four main stages, each with its own distinctive features. During the emergence stage in the 19th century, art was integrated into the physical environment through a return to manual labor. During the formative period, which lasted from 1900 to 1950, art objects balanced functionality and aesthetics, actively developing their emotional component. The formation stage, covering 1950–1980, was marked by the introduction of the concept of “open form” art objects, experimentation with modernism and postmodernism, and the development of artistic design of the urban environment. Finally, the contemporary stage of development, which has lasted from 1980 to the present day, is characterized by the emergence of media art, conceptual and alternative art, which expands the possibilities for interaction in urban space and integrates digital technologies into artistic practice. Table 2 summarizes the main stages, chronological periods, and key characteristics of the evolution of art objects in the urban environment.

As shown in Table 2, this classification allows us to distinguish between chronological periods and key characteristics of the evolution of art objects, enabling us to trace their transformation in the context of sociocultural and technological changes.

**Table 1.** The influence of doctrinal texts on the evolution of art objects

Principle	Source	Period / Stage	Impact on art objects
Authenticity, preservation of historical context	ICOMOS (1964)	20th century / Stage III	Minimization of interventions in the historical environment
Outstanding Universal Value (OUV), sustainable development	World Heritage Convention (1972); UNESCO (2021) sustainable development policies	20th century / Stage III, 20th–21st centuries / Stage IV	Creating art objects that harmonize with the environment, are environmentally friendly, inclusive, and accessible to the community
Scientific approach, integration of innovations	ICCROM (2021)	20th–21st centuries / Stage IV	Using AR/VR, lighting design, and interactive technologies to revitalize spaces without physically damaging monuments

Source: own elaboration.

**Table 2.** Classification of stages in the evolution of art objects in the urban environment

Stage No.	Stage name	Chronological period	Key features
I	Emergence	19th century Arts and crafts	Integrating art into the physical environment by returning to manual labor
II	Formative	1900–1950 Bauhaus / Itten	Balance between functionality and aesthetics, emphasis on the emotional component of art objects
III	Formation	1950–1980 “Open Form” / Modernism – Postmodernism	The concept of “open form” art objects, artistic design of the urban environment
IV	Development	1980–present Interactivity / Digitalization	Media art, conceptual and alternative art

Source: own elaboration.

### Stage I. Emergence (19th century) – Arts and crafts

The industrial revolution of the nineteenth century, with its unification and assembly-line production, depersonalized art objects, depriving them of their uniqueness. An analysis of design practices of the late nineteenth century confirmed that the creation of isolated objects separated from the architectural and urban context became a dominant trend. In response, the “Arts and Crafts” movement, led by Morris, emerged, advocating a return to craft techniques and a holistic vision of space.

A key example of this approach was the Red House (1860), designed by Morris with Webb. Every element of the interior – from the “Geometric Lattice” patterns

to the fabrics with floral motifs – was created by hand by the craftsmen of “Morris, Marshall, Faulkner and Company” (Fig. 2). This not only emphasized the unity of form and content, but also became a protest against “industrial kitsch”, where aesthetics was inferior to technical efficiency. An analysis of illustrative materials from the interior design project “Red House” showed that most of them combined natural symbolism with functionality, which differed from mass production approaches. Visual content analysis was used for the assessment, followed by comparison with typical examples of industrial design (Kapralova, 2019; Morris, 1994). This confirms that the art objects of the nascent stage served not only as aesthetic elements but also as tools for shaping cultural identity. Morris also used The Studio magazine to



**Fig. 2.** Red House home of William Morris, Philip Webb, Bexleyheath, London  
Source: Hisgett (2010).

popularize the ideas of accessible design, which led to the revival of crafts as art and the formation of the Art Nouveau style.

His practical solutions – from interior design to the organization of urban space – demonstrated that art objects can be catalysts for social change, transforming the environment into a place where an emotional connection with space becomes the basis of quality of life (Praslova, 2024a). Thus, the nascent stage marked the transition from a fragmentary to a systematic approach, where art objects were integrated into the urban space as part of a single artistic idea, laying the foundation for further evolution.

### Stage II. Formative (1900–1950) – Bauhaus / Itten

An analysis of the Bauhaus materials revealed that Itten’s propedeutic course (1919–1922) was a key factor in the transformation of art objects into instruments of emotional impact. A study of the works of students in Itten’s preparatory course showed that most of them integrated Itten’s experimental methods (Itten, 2022). For the analysis, student works were selected and evaluated according to the criteria of using Itten’s contrasts, as well as the presence of experimental methods in the composition (Praslova, 2024a). This

contributed to the formation of a personal creative identity where technical skills were combined with intuition. The key result was Itten’s development of the color wheel and the theory of contrasts, which turned into tools for creating an atmosphere in the urban environment (Fig. 3). For example, analysis of architectural projects from this period showed that Itten’s color contrasts were actively used to activate an emotional connection with the viewer (Itten, 2022). This confirms that art objects have moved from a utilitarian function to the role of carriers of symbolic meaning.



Fig. 3. Farbkreis Itten, 1961  
Source: Mnmazur (2013).



Fig. 4. Visualization of the “Open Form” theory and the Linear Continuous System by Hansen and Hansen  
Source: Borawski (2019).

Itten's method, based on a synthesis of subjective (emotional) and objective (scientific) approaches, laid the foundations for human-centered design. In particular, his principle of polyphony, found in most of the works studied, proved that the combination of different elements (color, shape, texture) effectively transforms public space into a platform for social interaction. Thus, the formation stage marked a transition from technical skill to deep emotional impact, where art objects became tools for shaping human experience in the urban environment.

### Stage III. Formation (1950–1980) – “Open Form” / Modernism – Postmodernism

The formation stage was marked by experiments of modernism and postmodernism, which included installations, kinetic art, and other innovative approaches to art objects in urban space. This environment acquired dynamic features and the ability to develop autonomously over time thanks to the concept of “open form” first formulated by Hansen, a Polish architect, theorist, and educator whose combat experience in the Home Army guerrilla movement influenced his understanding of space as a place of memory and dialogue (Fig. 4).

An analysis of the projects of Hansen and his followers showed that most of them implemented three key principles of “open form”: polysemanticity, dynamism, and citizen participation (Wieder & Zeyfang, 2015). The analysis included projects that demonstrated the integration of these principles in their compositional scheme (Muzeum Sztuki Nowoczesnej w Warszawie, 2017). For example, the art monument “Road” in Auschwitz-Birkenau (1958) used an asphalt line instead of traditional sculpture, allowing nature and time to “revive” the story. Analysis of visitor feedback showed that this approach fostered a deeper emotional connection to the site compared to traditional monuments (Maliszewska, 2017). In the 1960s, Hansen developed a utopian concept of linear cities (e.g., Osiedle Słowackiego), where the division into center and periphery was abolished. Sociological analysis showed that in such areas the

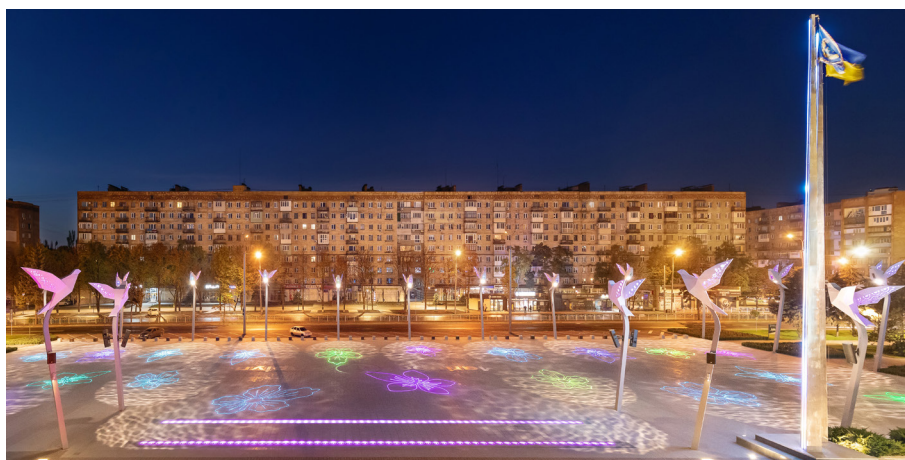
level of satisfaction of residents increased significantly due to the integration of housing with the natural landscape.

His pavilion in Sao Paulo (1959) became a prototype of modern interactive installations: visitors noted that they felt part of the artistic process. This confirms that the art objects of the formation stage turned the city into a platform for collective creativity. Thus, Hansen's experiments based on the “open form” laid the foundation for artworks that not only develop dynamically, but also activate social participation, rethinking the relationship between the past, present and future.

### STAGE IV. Development (1980–present) – Interactivity / Digitalization

The current stage of art object development is characterized by a radical transition from static forms to dynamic hybrid systems, where technology acts as a mediator in social interaction. An analysis of interactive art objects created by the Expolight team showed that they contribute to the formation of a sense of co-creation among participants (Expolight, n.d.). Research on interaction with installations confirmed the power of immersive practices in creating an engaging cultural experience (Dehove et al., 2024). The transformation from Moholy-Nagy's experiments with light and motion illusions to the radicalization of art by the Fluxus movement in the 1960s turned the viewer into a participant in a “live experience” (Praslova, 2024b). Hansen's “open form” theory, where architecture is interpreted as a “framework” for spontaneous social scenarios (Maliszewska, 2017), has found new life in digital reality.

A striking example of this paradigm is the Freedom Square project in Mariupol (Expolight, 2020). This first public space in Ukraine with a dual (physical and virtual) existence reinterprets urban symbolism through the synthesis of technologies. Laser shows, adaptive lighting, and LED matrices transform surfaces and elements (stands, trees) into dynamic canvases controlled via a mobile app with GPS integration. Decorative supports in the form



**Fig. 5.** Freedom Square as an example of an art object by Expolight (Mariupol)  
*Source:* Belikov (2020).

of birds, symbolizing the unity of Ukraine’s regions, turn every interaction with them into an artistic gesture of solidarity. The combination of light, sound, and geolocation data creates a collective performance where users act as “conductors” of compositions – similar to the social role of NFT art in post-conflict regions (Shov & Potter, 2023) (Fig. 5).

The current stage of development of art objects demonstrates how the integration of technologies such as the Internet of Things, augmented reality, and artificial intelligence has become a determining factor in the evolution of art objects. These technologies do not exist in isolation, but change the form, functions, and social roles of contemporary art objects, developing their interactivity, adaptability, and participativeness (Rushmore, 2014). Concepts such as the “smart city” and sustainable development are being implemented by transforming art objects into platforms for collective creativity, urban revitalization, and social interaction. For example, teamLab’s generative installations foster a sense of collaborative creativity among participants and illustrate the potential of digital art in public spaces (Dehove et al., 2024). NFT art and virtual reality environments are pushing the boundaries of artistic interaction, allowing users to become co-creators of digital universes (Ball, 2022; Hurst et al., 2023; MacDowall, 2022; Paul, 2023). Modular structures such as Fujimoto’s “Landmark of the New City Center” and the

“Ship” installation demonstrate how contemporary art objects can embody transience and social engineering in response to the changing needs of urban populations (Praslova, 2024a). This evolution reflects a transition from the rigid constraints of the modernist grid toward more fluid and permeable spatial configurations (Proto, 2020). Thus, contemporary art objects function as open systems, whose essence is determined by interactions, contexts, and collective experience, reflecting the constant adaptation of art to new realities (Praslova, 2024b; Vergunova & Blinova, 2024).

Contemporary art objects function as open systems, where essence is determined not by form, but by interactions, contexts, and collective experience. They have become social catalysts, technological laboratories, and philosophical manifestos offering alternative scenarios for the future. The adaptive DNA of contemporary art objects illustrates a key principle: the essence of art objects lies not in fixed forms, but in their ability to transform in response to sociocultural challenges. Art is no longer a passive object of observation – it requires participation, reflection, and change. Technology here is not a tool, but a language that awakens the desire to create in people.

Thus, art objects in the urban environment demonstrate a dynamic evolution – from sacred and representative forms to interactive and socially oriented manifestations, which, by integrating with

technology, become an integral part of the urban structure and respond to the changing needs of the urban population.

## DISCUSSION

The results of the study demonstrate a significant connection between the evolution of art objects and contemporary concepts of public art. In particular, the idea of collective audience participation, which is key to interactive installations (e.g., teamLab), is consistent with the theory of “participatory art” (Bishop, 2012), where art transforms the viewer into an active participant. This is confirmed by data on the stage of development (1980–present), where art objects become platforms for social interaction, as in the case of Freedom Square by Expolight in Ukraine (Expolight, 2020), which serve as tools for social reflection.

The proposed classification of evolutionary stages expands on the approaches described in the study by Mikhailov et al. (2020). While Mikhailov focuses on the technological evolution of urban design, our work integrates the sociocultural aspect, demonstrating how art objects are transformed under the influence of changes in public consciousness. For example, Hansen’s concept of “open form” (Maliszewska, 2017), developed in response to the needs of a post-traumatic society, has found new life in contemporary interactive practices. Deutsche’s (1996) analysis of the political dimension of public space helps us understand why art objects often become instruments of social protest. This is further supported by research into the “politics of criminality” and street art as a form of social resistance (Ferrell, 1996). As Deutsche notes, public space is a battleground for power, which is confirmed by our data: the integration of art in cities today not only shapes aesthetics but also reflects social conflicts, such as the memorialization of war events in Ukraine. The results also agree with Lynch’s (1960) theory about the formation of the “image of the city” through visual dominants. However, unlike Hansen’s classical approach, contemporary art objects integrate digital technologies (e.g., IoT, augmented

reality), transforming themselves into instruments of social engineering (Manovich, 2001). This opens up new opportunities for the implementation of the Sustainable Development Goals (SDG11), in particular through the creation of “artistic networks” that combine physical and virtual spaces (Bishop et al., 2016).

However, the study has limitations, in particular its focus on the European context. Future work could focus on analyzing local cases, such as the reconstruction of Ukrainian cities (e.g., Mariupol, Kharkiv), where art objects can become tools for restoring identity. In this way, art objects cease to be merely aesthetic elements—they are transformed into platforms for dialogue, where technology, ecology, and culture shape a new urban reality.

## CONCLUSIONS

This study expands the theory of artistic design of the urban environment, where groups of art objects act as objects of transformation of public space. The proposed classification of stages of evolution (emergence, establishment, formation, development) complements Hansen’s concept of “open form” by integrating digital technologies as a new dimension of interaction. Unlike classical approaches that emphasize the physical form of objects, our model emphasizes the dynamic nature of groups of art objects capable of adapting to the social, environmental, and technological challenges of today. This work also offers practical tools for urbanists and artists working to create people-oriented urban environments. For example, the integration of an art network, within which groups of art objects interact as parts of a single whole with equal elements, can be key to shaping an urban environment that is inclusive, accessible, and open to citizen participation. Specific measures include the creation of art routes, the preservation of historical context with the artistic revitalization of space using modern technologies, etc. This increases the involvement of different social groups, stimulates creative industries, and provides barrier-free access to art.

The evolution of art object groups in the urban environment reflects the deep connection between art, technology, and social change: emergence (19th century): art object groups became a reaction to industrial standardization, emphasizing cultural identity through the Arts and Crafts movement; establishment (1900–1950): Itten’s propaedeutic course at the Bauhaus transformed art objects into instruments of emotional influence, laying the foundations for human-centered design; Formation (1950–1980): Hansen’s concept of “open form” reinterpreted groups of art objects as dynamic systems, activating social dialogue. Development (1980–present): the synthesis of art and digital technologies (generative installations by teamLab, NFT art) transformed cities into “living systems” where groups of art objects became catalysts for global dialogue.

Thus, from craft workshops to digital laboratories, groups of art objects have gone from being aesthetic elements to tools of social engineering. Their integration into urban space has evolved from creating harmony to activating civic participation, strengthening the connection between the past, present, and future through artistic code. Contemporary trends such as digital installations and NFT art open up new opportunities for cities to adapt to the challenges of urbanization. This work contributes to international research by integrating historical analysis (Morris, Hansen) with contemporary technological innovations, offering a framework for further research in the field of sustainable urban development.

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