

DOI: 10.31866/2410-1915.23.2022.261010

UDC 7.012'06

## HISTORICAL AND CULTURAL ASPECTS IN THE DESIGN OF THE INDUSTRIAL AND POST-INDUSTRIAL ERA

Anastasiia Varyvonchyk<sup>1a</sup>, Ihor Bondar<sup>2a</sup>, Oleksandra Penchuk<sup>3a</sup>

<sup>1</sup>DSc in Art Studies, Associate Professor,  
ORCID: 0000-0002-4455-1109, varivonchik@ukr.net,

<sup>2</sup>Honoured Worker of Culture of Ukraine,  
Associate Professor, Department of Design and Technology,  
ORCID: 0000-0001-8972-0941, ig.savich@ukr.net,

<sup>3</sup>PhD in Technical Sciences, Associate Professor,  
ORCID: 0000-0002-3092-9780, stolorz17@ukr.net,

<sup>a</sup>Kyiv National University of Culture and Arts,  
36, Ye. Konovaletsia St., Kyiv, 01133, Ukraine

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### For citations:

Varyvonchyk, A., Bondar, I., & Penchuk, O. (2022). Historical and Cultural Aspects in the Design of the Industrial and Post-Industrial Era. *Culture and Arts in the Modern World*, 23, 155-163. <https://doi.org/10.31866/2410-1915.23.2022.261010>.

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The purpose of the article is to analyse the historical and cultural aspects of the ideological and conceptual essence of the foundations of the art project design. The research methodology includes a comprehensive approach that combines historical and cultural analysis methods to identify the process of formation of design as a cultural phenomenon. The scientific novelty of the research is determined by the fact that design is considered through cultural and historical issues, and the authors have identified the main features of industrial and post-industrial era design and characterised the designing tools. Conclusions. It is established that arising from the pragmatic needs of the development of the market of mass consumer goods, design becomes a general cultural factor and changes the world of things and the very way of socio-cultural existence of a person. Design is transformed into a phenomenon that combines mass consumption, functional perfection, economic feasibility, convenience, utility, aesthetic expressiveness of things and the human environment. The article analyses what tools and tools are used to create images in designing. The role of design in visual culture is clarified. For a holistic understanding of the design features, the authors have analysed the transformations in the society of the 20<sup>th</sup> and early 21<sup>st</sup> centuries. With the help of design, new values, norms and meanings are formed in the cultural space, issues of individual freedom and individuality are raised, and spatial orientations, actions and forms of existence of each person and society are expanded. The emergence and development of new trends in design, and the high importance of design thinking in modern culture require scientific theoretical understanding, which determines the relevance of research. The authors

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The article was received by the editorial office: 22.01.2022

provide a direction of scientific, educational and cultural vectors of Ukraine to pan-European standards and solutions to problems of improving the quality and safety of goods and the human environment, the implementation of innovative design technology, the preservation of national cultural traditions in the conditions of unification of production, taking into account environmental requirements in the designing of the objects, as the main factors of design development in Ukraine.

*Keywords:* design; industrial era; post-industrial era; design thinking; designing

## Introduction

Currently, global social, humanitarian, political, natural, anthropogenic, and manufactured disasters lead to the need to quickly and effectively create an environment favourable for the life support and life of both individuals, families, and collectives, including in conditions of restrictions, isolation, and confined spaces.

The activity of a contemporary designer is aimed at solving problems of functionality, safety, and aestheticisation of the subject-spatial environment of a person. For practical design work, it is necessary to know the features of the subject-spatial environment, structure, trends in its development and factors affecting it while realising the need to harmonise the individual with the environment and ensure its safety. Thanks to the latest technology and innovations, there are opportunities for contemporary design transformation. Design as an independent design and art culture is carried out by a system of scientific principles and design methods that ensure the entire creative process of design work, from a preliminary representation of the original idea of an individual object to design drawings and existing patterns.

The analysis of recent publications has shown considerable scientific interest in the problems of the formation and development of the national design. Scientists O. Boichuk, V. Svirko, V. Rubtsov, and V. Holoborodko (2014) identified the general components that delay the development of national design – “insufficient development of the infrastructure of the national design system, primarily regional and industry design centres; insufficient efficiency of the design education system; insignificant development of the theory and methodology of Ukrainian design”, etc. (pp. 15–19). The work by I. Hardabkhadze (2019) is dedicated to the role of design in the social adaptation of a person to the conditions of the digital environment. Norman (2002) sees design as the science of innovation (p. 268). Designer N. Oxman (2015) defined the ways of design development. T. Habrel (2018) formulated design requirements considering the requirements of spatial situations and public consciousness. Professional thinking in design activity in the context of computerisation of society and the ratio of personal and standard in the activation of design creativity are determined (pp. 8–15).

The comprehensive nature of the influence of design on the existence of modern society and culture requires setting not only practical but also fundamental questions related to understanding the design of the object environment, the construction of socio-cultural space and clarifying the role of design in modern visual culture.

## **Purpose of the article**

The purpose of the article is to highlight and analyse the historical and cultural aspects of the ideological and conceptual essence of the foundations of art project design and to find out the role of design in modern visual culture.

## **Main research material**

The introduction of information and communication technologies, interactive computer equipment, and innovative materials in various spheres of human life causes transformations associated with the acceleration of the pace of development of the latest technology and the intensive enrichment of culture with new artefacts. Cross-cultural communication allows expanding the understanding of the principles, nature and ways of designing the “environment” in the modern world.

Social and cultural transformations create the need for constant development of current conditions and adaptation. The current state of society, politics, economy, culture and art determine the main directions of development of design practices in the field of design. Features of the functioning of contemporary design emphasise the research interest. Design as a phenomenon representing the specifics of modern visual culture development is a significant element of the new socio-cultural sequence. Therefore, the study of design in current conditions and applied scientific significance in such sciences as design history, design theory, and design aesthetics actualises the consideration of the design phenomenon in a cultural context, which can reveal the essential foundations of design change in modern visual culture.

In the culture of the industrial era, phenomena emerged that clearly expressed the peculiarities of its development. One of these phenomena was design. The age of industrialisation determined the emergence of industrial design as an activity for designing the object world based on a combination of the principles of functional significance, aesthetic value and ergonomics. Objects of industrial design existed exclusively in material form. The experimental work of the VKhUTEMAS and Bauhaus world design schools led to the invention and approval of industrial aesthetics. Trained design artists created “industrial art” for production. The design philosophy of industrial design was the formula: “function-design-form”. Since technology in the twentieth century developed in three phases: from the development of the resource of matter to the development of energy resources (power systems), and then – to information (information systems and networks), the design also developed accordingly. The popularisation of invention dates back to the beginning of the twentieth century. In the technical world, there was a transition from steam energy to liquid hydrocarbons – to the internal combustion engine and diesel engine. Applied electricity and currents of different frequencies are being massively used. New means of communication were available: telegraph, telephone, radio, audio and image recording.

T. Maldonado developed the design theory in 1964. The design was considered a creative activity, which is to determine the formal qualities of objects produced by industry. These qualities of form related to both image and structural and function-

al connections that turn the system into a complete unity from the point of view of both the producer and the consumer. A universal definition of design was presented in 2001 in Seoul, which revealed the goals, objectives and role of design in modern culture and society: “Design is a creative activity, whose aim is to establish the multi-faceted qualities of objects, processes, services and their systems in whole life-cycles. Therefore, design is the central factor of innovative humanisation of technologies and the crucial factor of cultural and economic exchange” (Joor & Brezet, 2015). The conference also identified the main design objectives in global, social, cultural ethics, semiology and aesthetics. The design aims to reveal and evaluate structural, organisational, functional, expressive and economic relationships, to enhance global sustainability and environmental protection, give benefits and freedom to the entire human community, individual and collective, to fulfil final customer, producers and representatives of market relations needs, support cultural diversity, despite the globalisation of the world; provide goods, services and systems with forms that are most expressive and consistent with the degree of their complexity (Joor & Brezet, 2015). The aims mentioned above show design concerning various structural elements of the cultural space, including the cultural space of society, information and sign and intellectual freedom. The multitasking of design and the popularisation of design thinking indicate a growing interest in how designers’ working methods can help solve community and society’s problems. Design thinking is not new, but it has been marked as an exciting paradigm for solving complex issues in recent years. Design thinking is a human-centred approach to problem-solving that mimics the way designers think and work (Hoolohan & Browne, 2020). In addition, it is important to reveal a design as a significant phenomenon of cultural space and show its impact on various elements of contemporary cultural space. The creative and aesthetic nature of design activity as an activity ensures the harmonisation and humanisation of the modern subject world.

In Ukraine, the formation of industrial design took place in the south-eastern region, the centre of development of which was Kharkiv, with powerful branches of Western European companies AEG, Helfferich-Sade, metalworking, mining equipment, and locomotive construction enterprises. The creation of industrial forms and the aesthetics of the future subject environment were influenced by H. Narbut, O. Arkhypenko, V. Meller, O. Ekster, B. Kosarev, V. Yermilov, V. Krychevsky. By introducing artistic design methods, the quality of machine-building products and cultural goods improved. There was a “development of industrial design, the flow of images, and not utilitarian technical systems”, the purpose of which was to design figurative systems based on the material of massively replicated technical systems (Svirko et al., 2014, pp. 35–43).

In 1962, the All-Union Research Institute of Technical Aesthetics was established with branches in Kyiv, Kharkiv, Vilnius, Baku, Leningrad and other big cities. A year later, based on the Kharkiv Art Institute, the Kharkiv Art and Industrial Institute was founded and converted to train industrial artists. At all large industrial enterprises, technical aesthetics and artistic design departments began work, whose responsibility was to develop competitive products and household goods for the population and design the industrial environment and social and cultural facilities. Technical Aesthetics magazines and books on the history, methods, and theory of design were published (Svirko et al., 2014, p. 37).

In the 1960s, design focused primarily on mechanical engineering products and, more specifically, on improving their operational qualities, but not aesthetic characteristics. The main thing is not the technical systems themselves but the knowledge intensity of the products produced. Consumer goods were a very distant second. Based on Kremenchuk, Zaporizhzhia, Lviv, Lutsk automobile plants, Kharkiv aircraft and tractor plant, Kyiv Arsenal plant, shipbuilding enterprises of Kherson, Kerch, Mykolaiv, and other enterprises of Ukraine, industry design centres were being established. Designers were given the task of being guided primarily by internal production interests, that is, to strive to unify products and reduce material costs. As a result, the production of template models that differed only in colour occurred. The main difference between Soviet household items and from techniques to furniture was reliability and minimalism, often to the detriment of external attractiveness, which was due to a shortage of raw materials. All products were produced with the expectation that they would serve for more than one decade. Since the mid-1960s, great importance in production activities has been attached to the design of products with high-quality and aesthetic properties (Svirko et al., 2014, p. 38). Industrial design products and packaging embody branded graphic trademarks of factories, enterprises, and institutions, and install visual communication systems. Since 1967, the use of artistic design methods and the quality of manufactured products have been positively influenced by the practice of assigning a “quality mark” to products. Manufacturers who received a positive conclusion from the All-Union Institute of Technical Aesthetics had the right to put on their products an emblem in two areas—consumer and aesthetics — a pentagon with slightly convex sides, associated with the components of quality: reliability, safety, accessibility, innovation, aesthetics and a stylised image of lever scales (upper checkmark) and compasses (lower checkmark), illustrating the thesis “from comparison to conformity” (or in another interpretation — a stylised image of a human consumer). A well-known trademark on the territory of Ukraine was a stylised image of a bird. Ukrhudozhprom Republican Industrial Association of Art Crafts received a certificate for the right of exclusive use of this trademark in 1974 (Varyvonchuk, 2019, p. 358). The need for design focused on the design of visual messages, i.e. graphic design, became relevant.

In the 1970s and 1980s, the designer not only created a project for a new product, but also took an active part in planning the product range. Programming consumer behaviour through branding, image management, and will management through the mythologisation of goods and services exists if the manufacturer of goods or services communicates with the consumer. Communications create the basis of material production. If there is no communication, there is no translation of images and programmes. Thus, industrialisation contributed to the formation and development of industrial design and the emergence of graphic and media design related to visual communications and visual culture. The main factors of industrial design are utility, functional perfection, convenience, economic feasibility, environmental compliance of design products, and beauty as a manifestation of the aesthetic design principle.

Professional improvement of masters of Ukrainian industrial art took place thanks to the creation of the Union of Designers in November 1987. The design activity of subsequent years is characterised by independence, the absence of ideological clichés and the dictates of a planned economy. Next, the Cabinet of Ministers of Ukraine adopted Resolution No. 37 as of January 20, 1997 “On Priority Measures for the Development of

the National System of Design and Ergonomics and Implementation of their Achievements in the Industrial Complex, Residential, Industrial and Socio-cultural Sectors”, where it was proposed to “develop measures for the development of design and ergonomics as components of the scientific and technical policy of industries in order to increase production efficiency, improve consumer properties of industrial products, improve conditions and improve labour safety, implement design-ergonomic developments to ensure the design and creation of industrial products that have national economic significance and are exported” (Cabinet of Ministers of Ukraine, 1997). It was determined to reform the design education system and create a “technical committee for standardisation in the design and ergonomics and the computer design and ergonomic network of Ukraine with its subsequent integration into the international community of internet networks”. The information sector of Economics began to develop at the fastest pace. Computer and telecommunications technologies that appeared in the second half of the twentieth century can be designated as a sign of the formation of information or post-industrial society. Telecommunications, computerisation, and the spread of the Internet stimulated the emergence of media design aimed at working with virtual space and activated the development of the graphic design to work with information and build visual messages using verbal and nonverbal speech systems.

New directions of project creativity in design are associated with virtual, multimedia and immersive space. The main reason for the functioning of design in these areas is explained by the ability of the individual and society to perceive information visually, audibly, tactilely, kinesthetically, and so on. The contemporary design works with details of different orders, affecting people. In the virtual information field, audiovisual information transmission channels are mainly updated. In the immersive space, it is possible to enhance audiovisual channels with special effects and include additional influence media, such as augmented reality. Designers who master virtual space have experimented with different means of expression, with other techniques and technology. A special place is occupied by issues of safety and environmental friendliness in implementing the tasks of contemporary designing.

With the development of technology, culture changes, so design as part of the culture in a changing environment reveals new directions of evolution. In the post-industrial society, the applied role of fundamental scientific research has increased, and resource-saving, knowledge-intensive and information technologies have gained the greatest development. These are, in particular, software, microelectronics, telecommunications, robotics, biotechnology, production of materials with predefined properties, etc. The issue of aesthetics is shifting towards the effectiveness of the tasks solved with their help. Each designer uses a unique set of tools, technology and methods, their own creative style and manner, which is reflected in the work results. Design is part of a whole common communication space — a cultural space that focuses on cutting-edge technological achievements and the most progressive phenomena. A virtual environment is implemented in interactive projects that assume that the user, turning from a passive recipient to an active creator, gets access to co-creation.

At the end of the twentieth century, “from the field of designing objects for various purposes, the design grew into a more general category, a new type of culture and a special type of broad problem creative thinking — “Third Culture”, “Project Culture”, after scientific and technical (science) and humanitarian (art)” (Archer, 1979).



English theorists B. Archer and A. Cross thoroughly proved the fact of the birth of “Project Culture”, defining it as “the combined experience of material culture and an array of knowledge, skills and values embodied in the art of planning, invention, shaping and execution” (Boichuk, 2013, pp. 45–48). Project culture is the most important of the values of the human community, which is implemented in people’s activities as a special type of thinking and practical work on the formation of the environment and life processes. Project culture combines design methodology and experience, project approaches, value orientations, ethical norms and creative concepts of professionals. It is distinguished by its innovation and ability to practically solve problems that have no analogues.

## Conclusions

Design is a social and cultural phenomenon with a certain system of values, norms and principles of design, professional activity and a component of the production process with results-artefacts in the form of design objects that harmonise the relationship between a person and the subject-spatial environment. It has passed the stage of self-development, socio-cultural deepening and has become a cultural phenomenon that can solve current and global problems. As a way of communicating and expressing one’s attitude to reality, design is a link between spiritual and material culture, aesthetic and technical, artistic and utilitarian, innovative and traditional. In the society of the post-industrial era, there was a reassessment of values, and social and humanitarian problems are becoming significant, in the centre of which there is a person. Design activities are involved in solving environmental and social issues. Design and ergonomic developments are carried out to ensure the design and creation of industrial products. The main difference between the functioning of post-industrial design and the design of the industrial era is that the objects of contemporary design exist in material and digital form while filling the socio-cultural space. Design is a phenomenon of project culture, a synthetic, integrative and systemic phenomenon. In contemporary culture, design takes special attention; it is allocated the role of the primary means of designing objects of material culture and creating new cultural prototypes.

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## ІСТОРИЧНІ ТА КУЛЬТУРОЛОГІЧНІ АСПЕКТИ В ДИЗАЙНІ ІНДУСТРІАЛЬНОЇ ТА ПОСТІНДУСТРІАЛЬНОЇ ЕРИ

Варивончик Анастасія Віталіївна<sup>1а</sup>, Бондар Ігор Савич<sup>2а</sup>,  
Пенчук Олександра Петрівна<sup>3а</sup>

<sup>1</sup>Доктор мистецтвознавства, доцент,  
ORCID: 0000-0002-4455-1109, [varivonchik@ukr.net](mailto:varivonchik@ukr.net),

<sup>2</sup>Заслужений працівник культури України,  
доцент кафедри дизайну і технологій,  
ORCID: 0000-0001-8972-0941, [ig.savich@ukr.net](mailto:ig.savich@ukr.net),

<sup>3</sup>Кандидат технічних наук, доцент, доцент,  
ORCID: 0000-0002-3092-9780, [stolorz17@ukr.net](mailto:stolorz17@ukr.net),

<sup>а</sup>Київський національний університет культури і мистецтв,  
Київ, Україна

Мета статті — проаналізувати історичні та культурологічні аспекти ідеологічної й концептуальної сутності засад художньо-проектної діяльності дизайну. Методологія дослідження передбачає використання комплексного підходу, що поєднує методи історичного та культурологічного аналізу для виявлення процесу становлення дизайну



як феномену культури. Наукова новизна дослідження визначається тим, що дизайн розглядається у колі культурологічних та історичних проблем; визначено головні ознаки дизайну індустріальної та постіндустріальної ери та характеризувано інструментарій дизайн-проектування. Висновки. Встановлено, що, виникнувши з прагматичних потреб розвитку ринку товарів масового споживання, дизайн стає загальнокультурним фактором і змінює не тільки світ речей, а й сам спосіб соціокультурного існування людини. Дизайн трансформується в феномен, що поєднує масове споживання, функціональну досконалість, економічну доцільність, зручність, корисність, естетичну виразність речі та довкілля людини. У статті аналізуються засоби та інструменти, за допомогою яких створюються образи під час дизайн-проектування. З'ясовано роль дизайну у візуальній культурі. Для цілісного розуміння особливостей дизайну проаналізовано трансформації, які відбувалися у суспільстві XX – поч. XXI ст. За допомогою дизайну в культурному просторі формуються нові цінності, норми та значення, порушуються питання свободи особистості та індивідуальності, розширюються просторові орієнтації, дії та форми існування кожної людини та суспільства загалом. Поява та розвиток нових напрямів в дизайні, висока значущість дизайн-мислення в сучасній культурі потребують наукового теоретичного осмислення, що визначає актуальність дослідження. Визначено спрямування науково-освітнянського та культурного векторів України на загальноєвропейські стандарти та розв'язання проблем підвищення якості та безпечності товарів і середовища життєдіяльності людини, втілення інноваційних технологій проектування, збереження національних культурних традицій в умовах уніфікації виробництва з урахуванням екологічних вимог при проектуванні об'єктів дизайнерської діяльності як головних чинників розвитку дизайну в Україні.

*Ключові слова:* дизайн; індустріальна ера; постіндустріальна ера; дизайн-мислення; дизайн-проектування

