ДИЗАЙН

Gender Settings in City Design

S. M. Mikhailov, A. S. Mikhailova, R. R. Khafizov,
N. M. Nadyrshine, L. I. Nadyrshine

Kazan State University of Architecture and Engineering,
1, ul. Zelenaya, Kazan, 420043, Russian Federation

The article discusses the issue of gender principle in city design, which is presented to designers as the basic approach to the modern design theory. It's manifestation in architecture and design can be considered in various aspects, related to composition in creating the architectural form: shape, color, texture, material. In addition to material components, gender in architecture and design is manifested in a special zoning of space and sound environment. The article also reveals the content of the categories of "feminine" and "masculine" in terms of the construction of gender metaphors: plastic contrasts, semantic contrasts, spheres of association. The issue of conscious consideration of gender factor in the design process raises the problem of understanding the general regularities of its development in the design of the city, the relationship with the socio-cultural processes and historical conditions. The authors consider the manifestation of gender factor at various levels of city design: formation of the image and branding of the city, the urban plan and urban structure, the urban ensemble and the architectural object, the design content of the urban environment, visual communications and dynamic forms. Each of the levels has a certain independence and its own forms of interaction with other types of design and artistic activity. Therefore, the manifestation of "gender" in urban design should be considered at similar hierarchical levels. As the study has shown, in architecture and art there is an increase in the diversity of gender manifestations, expanding the range of gender roles, increasing the contrast between feminine and masculine, gender metaphors act as a form of individualization and enhancement of expressiveness of the image. Metaphorical comprehension of the design situation in terms of feminine and masculine allows to reveal additional contrasts and enhance the expressiveness of the artistic image.

Keywords: gender, gender mainstreaming, gender attitudes, urban design, urban branding, urban ensemble, urban environmental design, artistic expression of objects.

Introduction

At the end of the twentieth century, a new concept was introduced into the scientific circulation — "social gender", which determines the behavior of a person in society, associated with masculinity and femininity. In a broad sense, "gender (social gender) does not necessarily coincide with the biologic al sex of an individual, with his/her parenting, or passport gender". This term is commonly used to identify the socially determined role and sphere of activity of men and women, which depend not on biological differences, but on the social organization of the society. According to interdisciplinary research, the gender aspect (or gender attitudes) is relevant to various areas of architecture and design, manifesting itself in the three-dimensional forms of architectural complexes, decorative plasticity of facades, small architectural forms and graphic design of the spatial environment of the city. A detailed consideration of the topic shows that it is manifested in the interaction of rather opposite aspects: simple minimalistic or more complex decorative solutions, light or dark colors, pragmatic functionality of objects or use of styling techniques, in a masculine expression of rationality or feminine sensuality. The choice of gender installations as an object of research reveals the potential of a new tool of architectural and design design, responding to the needs of modern society, implementation of the idea of personalization, conformity of the surrounding objects and space to the desired emotional and psychological state, as well as socio-cultural issues in society, setting the boundaries of femininity and masculinity, including the phenomenon of feminization, unification and unisex, etc.

The gender aspect is quite complex and multifaceted, and related issues require the involvement of not only specialists — theorists of art, culture, design and architecture, but also related fields. Initially, it was associated with differences in clothing design [1–3], capturing also ethnic characteristics of different countries [4; 5]. A little later, interest in the so-called "female design" began to emerge, presenting women designers as author of projects [6]. And finally, at present, this issue is increasingly being raised in connection with the constant interest in duality in design [7], the influence of gender as a social factor in architectural shaping [8–10], self-determination [11], identity [12], as well as the development of feminism in modern society [13].

In addition, it considers the manifestations of gender in certain types of design activities, for example, graphic design of packaging [14; 15], in advertising and the work of advertising agencies [16–18], in industrial design [19], robotics [20], game design [21; 22], photo design [23], etc.

Research methods

The study was conducted using a set of methods:
— systemic method that allows analyzing design object in conjunction with other objects as an integral part of a single system;
— the historical and genetic method, which made possible tracing the historical aspect of the evolution of the gender factor representation in the design of the urban environment in the 18th–21st centuries;
— method of comparative analysis for differentiation and qualitative assessment of the studied phenomena and their manifestations;

— method of semantic analysis that allows to identify structural links in the studied phenomena and areas of knowledge, as well as for solving problems on the representability of meaning.

Results and Discussion

The concept of "gender factor"

In the broadest sense, the gender factor can be defined as an integration of the system that takes into account the interests of social and gender groups in various spheres of society and of the field of knowledge. Within the framework of the metaphorical concept of gender, it is proposed to define the gender factor in design as the presence of the metaphor of gender in the artistic image of objects of the subject environment [24].

For the consumer today, the question of "which country the product is from" is not as important, as the question "which company produced it". Appeared in a particular country and gained wide popularity in the market, such a company should represent not only its image, but also define a kind of visiting card of the country, becoming a kind of visiting card, and in some cases, national pride. Such companies are Philips in the Netherlands, Sony in Japan, Parker in the United States.

Gender structure

The gender factor includes: the core of gender, the relationship between feminine and masculine (in androgynous metaphors), semantic gradient fields of gender, contexts of manifestation. The core of gender is a stable association to the categories "feminine" and "masculine"; it can be either a separate characteristic or a social role or object-symbol. Gradient fields of gender are a set of characteristics that have direct or indirect associations at the same time with both masculine and feminine. The gender vector is the ratio of the feminine and masculine object in the image. To encode the gender vector, it is proposed to use the names of gender identities: female-feminine, androgynous feminine, androgynous masculine, male-masculine, masculine-feminine, feminine-masculine and unisex. The male-female aspect encodes the core of gender, and the masculine-feminine aspect describes the gradient fields. The androgynous type is a dual-core balanced structure with pronounced feminine and masculine characteristics. Unisex is an undifferentiated system from a gender point of view with weak or not expressed feminine and masculine traits.

The content of the categories "feminine and masculine"

The following groups of characteristics of feminine and masculine can be distinguished from the point of view of constructing gender metaphors: plasticity contrasts, semantic contrasts and associative perception. Plasticity and semantic contrasts can be represented in the form of gradient scales. Plasticity contrasts are subdivided into basic and ambivalent. These contrasts become basic for gender metaphors' plasticity: round — square, horizontal — vertical, movable — stable, asymmetric — symmetric, curvilinear — regular, flexible — rigid, continuous — discrete, open — closed, picturesque — graphic, soft — hard, light — heavy, chamber — monumental. Characteristics in ambivalent pairs can be interpreted as feminine or masculine, depending on the context and belong to the

gradient fields of gender: dynamic — static, energetic — calm, dark — light. Semantic contrasts are of the most abstract nature and can be used in all kinds of gender metaphors: complex — simple, plural — single, individual — collective, emotional — restrained, approximate — precise, intuitive — rational.

Gender metaphors

Gender metaphor represents the transfer of characteristics inherent in the categories of feminine and masculine to objects that are not related to physiological gender. Types of gender metaphors by content are feminine, masculine, androgynous. Gender metaphors for expressive means are represented as narratives (plastic metaphor and metaphor "object-symbol") and abstracts (psychological and social metaphors) [24]. Subject of gender metaphors are used to denote the gender of elements that have their own visual image. Plasticity metaphors use associations of the feminine and masculine with a certain character of the form. Metaphors for masculine plasticity refer to rigid geometry, vertical, rectangular and triangular shapes, while metaphors for feminine plasticity are represented by curvilinear forms, circles, arcs and polygons. Metaphors for Androgynous plasticity can combine the contrasting plastic characteristics of the masculine and the feminine. Gender object-to-symbol metaphors use associations of individual objects with feminine, masculine, or their relationships. Feminine object-symbol metaphors use images of objects associated with the feminine (flowers, jewelry, birds, fabric, dresses). Masculine object-symbol metaphors use images of objects that are associated with masculine (mechanisms, crystals, engineering structures). Abstract gender metaphors use associations with properties of the feminine and masculine, which have no visual expression. Social gender metaphors describe gender in the context of the social roles realized by women and men, and often have an indication of age, possession of power, the nature of relationships with others, social distance and the emotional coloring of the image used. Androgynous social metaphors (family, interaction, support, love) describe the interaction of the feminine and the masculine. The psychological gender metaphor endows the object with psychological qualities that are perceived as feminine and masculine: caring, emotionality, imperiousness, diplomacy.

Studies show that the gender factor was revealed for more than one century in various areas of design, including in the urban environment — social, political, scientific, technical and cultural changes affecting the daily life of men and women lead to transformation concepts of feminine and masculine, and, as a consequence, a change in the manifestation of gender metaphors in the urban environment. Conscious approach to gender factor in the design process raises the problem of understanding the general patterns of its development in the design of a city, the relationship with socio-cultural processes and historical conditions.

The demonstration of gender in architecture and design

Today, the gender principle is already presented to modern designers as a design basis. It manifests itself in the tools of the designer and, above all, in the familiar elements of abstract-compositional modeling (the shape of the object, the coloristic solution, the material used, as well as texture and texture). In addition, the gender aspect can affect

the intangible components of design, such as functional zoning of space, figurative and semantic (or semantic) solution of the object, the use of elements of multi-sensory design (sound, smell, taste, light, etc.). Back in the 1970s, Christopher Alexander in his book "The Language of Patterns" [25] wrote that urban life is generated by gender. Taking man and woman as one of the patterns, Alexander declared that none of the aspects is exclusively masculine or feminine. Reflecting on the harmony of masculine and feminine principles in architecture and design, he comes to the conclusion that it is necessary to combine masculine and feminine nature in all elements of the environment, every building, area of open space, urban district work collective, the balance of masculine and feminine must be provided in any project of any scale.

Demonstration of gender factor applied to city design in our understanding is seen in a special form of design and in artistic synthesis of architecture, monumental and decorative art, landscape design and, most importantly, urban planning. Today design and artistic synthesis occurs at the following levels of organization of the object-spatial environment of the city [26]:

— urban planning structures' level, master plans and planning schemes: a city or a large urban area;

— urban spaces level: the object-space environment of city streets, squares, pedestrian zones, embankment boulevards and other open spaces of the city, which are compositionally and figuratively stylistically a single ensemble;

— architectural objects' level: architectural facades and separate buildings/objects;

— the level of objects' forms: individual elements and complexes that fill urban spaces, including systems of visual communication and navigation, outdoor furniture and equipment, color-graphic and supergraphic volume-spatial compositions, sculptural forms and other components of urban planning parterre.

The levels under consideration seem quite autonomous because each of them employs specialists of different profiles: urban planners, architects, and designers. However, they overlap, forming a kind of conglomerate and demonstrating the interaction and artistic synthesis of forms [27]. In this regard, it is logical to assume that the use of gender should also be conducted and investigated at different levels of urban design.

The level of urban planning structures

As shown by retrospective studies of the plans of various cities and the dynamics of their historical development, the gender factor in this process reveals itself in different ways. At the level of urban planning structures specialist forms the planning structure of the city, reflecting the main functional purpose, needs and the situation under the influence of various factors (socio-political, socio-economic, socio-cultural). It would be suffice to do the comparison between the free layout of the first ancient Greek cities as the representation of feminine, and regular, rigid military settlements of the ancient Romans (castrum) as a representation of the masculine. In newly built cities, as a rule, "male gender attitudes" prevail — geometry and order, a certain predictability of further development, etc. (for example, regular plans of ideal cities of the Renaissance, draft plans of newly created capital cities of St Petersburg in Russia (Leblon, 1717), Chandigarh in India (Le Corbusier, 1951–1956), Brasilia in Brazil (Lucia Costa, 1956) [28].
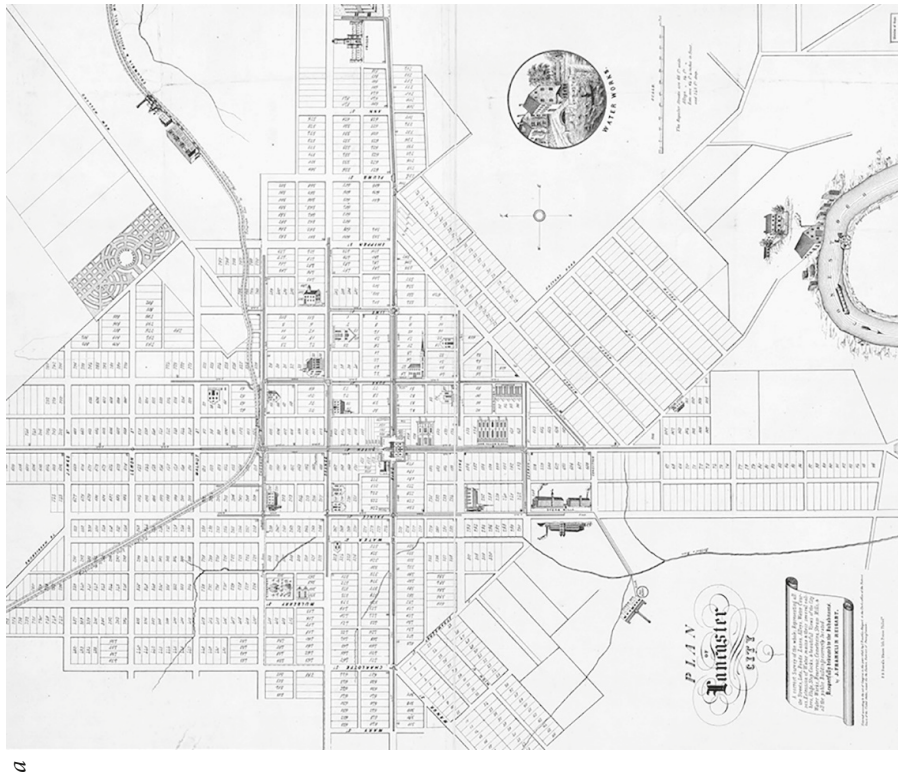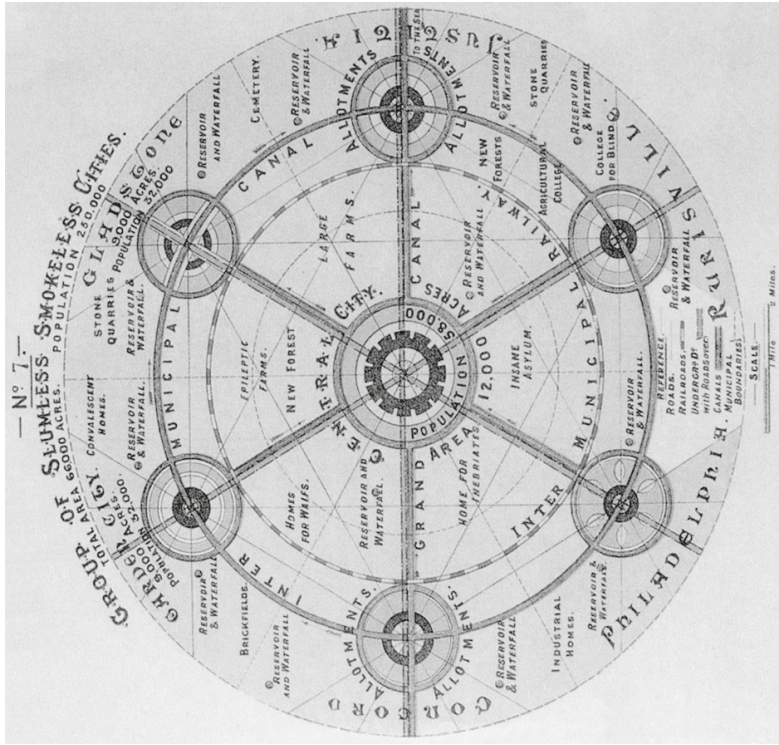
Fig. 1. The level of urban planning structures. masculine on the left (*a*), feminine on the right (*b*):
a — Franklin, John. Masterplan of Lancaster, 1850. Accessed November 04, 2022. http://hdl.loc.gov/loc.gmd/g3824l.ct008318; *b* — Ebenezer, Howard. Garden City Concept, 1902. Accessed November 04, 2022. https://commons.wikimedia.org/wiki/File:Garden_City_Concept_by_Howard.jpg

A new trend at the level of urban planning structures is an equilibrium combination of buildings and natural zones, as a balance of masculine and feminine. In many newly erected areas, the principle of the equivalence of pedestrian and car traffic is taken into account, which leads to the formation of two scales of the urban environment: monumental (masculine) and chamber (feminine). A new version of the plan appears — the main highways are curved, and local streets are regular. The concepts of light and coloristic organization of the city are actively manifested, which not only enhance the artistic imagery of the urban environment, but also determine its change over time (Fig. 1).

The level of urban spaces (architectural ensemble)

Gender attitudes at the level of an architectural ensemble, as a rule, are laid already at the earliest stages of work on the project, during the initial choice of the nature of the general composition and artistic style, the subsequent solution of nodes and details. At the same time, a number of factors influence the appeal to certain gender attitudes These are currently relevant social values, aesthetic preferences, current fashion trends, as well as local or ethnic component, which reflects the characteristics of the projected area and traditions. Important factors are also the personality of the customer and his world view, the author's style and overall artistic concept. It should be noted that the designed architectural ensemble under the influence of these factors really becomes a reflection of the ideas of its time, the state of socio-economic, cultural and political development of society [29]. So, the era of absolutism in a centralized monarchy led to the emergence of huge urban and palace ensembles executed in accordance with a single plan. A worthy illustration of this trend is the artistic style of classicism. Popular at the time were strict proportional forms, pragmatic and functional solutions, a harmonious balance of elements and general rationality broadcast clarity, order and grandeur. The works of the era of absolutism were called upon not only to embody the idea of the power of an all-powerful autocrat, but also the power of the human mind, transforming the power of creative will. In the 18th century, the "masculine" character of ensembles of classicism in the architecture of European countries began to give way to more "feminine" forms, refined with an abundance of decor, executed with a "picturesque taste" of the Rococo style. In contrast to the constantly evolving and time-changing organism — the city, the architectural ensemble up to the present time was more stable and was not designed, as a rule, for any serious changes. Therefore, the initially laid down gender attitudes in the architectural ensemble remain constant throughout the entire (or significant) period of its existence.

Architectural ensembles, similar in their functional purpose, in the city can get completely different gender incarnations For example, in the post-war cities of Western Europe, projects most often used "female gender", reflected in the implementation of object forms of human scale, cozily shaped and decorated chamber spaces, complementing the best traditions of urban culture, whose roots go back to the medieval period. The narrow streets of historic centers, lined with curvilinear trajectories, are also referred by researchers to the manifestation of female gender. In the USSR, on the contrary, signs of male gender dominated with the realization of the memorial function, presentable large-scale and monumental forms, orderliness and majesty [30]. The democratic atmosphere of such streets was conducive to communication and pastime. The democratic atmosphere of European streets was conducive to socializing and spending time. The primary task for

cities in postwar Germany was to rebuild destroyed buildings, including historic centers. According to the construction program, 500 pedestrian streets were designed and realized, taking into account the new requirements for comfort and functionality — it is absolutely logical that these elaborated pedestrian spaces became an attribute of a comfortable urban center of a modern city. Pedestrian streets in the Soviet Union were considered primarily as a special object of the city's prestige, creating a kind of its visiting card. Not many cities in the USSR could afford such a "luxury" as a pedestrian street. The pedestrian streets conveyed respectability through the brand stores and boutiques with imposing interiors designed in keeping with current fashion trends and presentable finishes.

We see a similarly ambiguous approach in the organization of ensembles of urban memorial parks. In architectural and design practice, there is a peculiar cliché of designing memorial parks. Most often they are designed as isolated objects in the urban space with a clear function of memorialization and the idea of creating a specific mood of the visitors of the complex: to remember and honor the memory of the historical event or an outstanding person, to perpetuate the memory of them. Often the entire large-scale memorial park is devoted to this specific function, less often the memorial areas in parks and squares, when they are already integrated into the urban space and it is an accentuated location of the memorial object. Our country has even developed its own typology of such memorial objects from complex multi-aspect structures (mausoleum, pantheon, etc.) to local objects (sculpture groups and individual sculptures, obelisks, eternal flame, plaques, etc.) The monumental static symmetrical composition, the regular nature of the memorial complex — all this can also be attributed to the masculine gender character.

An example of a slightly different approach is the memorial complex built in honor of Princess Diana in London. It was built between 2000 and 2004 and included a seven-kilometer hiking trail through four of London's most famous parks (St. James, Green Park, Hyde Park and Kensington Gardens), a 50 × 80 m water device (Diana's interactive memorial fountain) and a children's play area with a large wooden pirate ship [30; 31]. There are no majestic steles and grandiose monuments traditional for memorials. The memorial was realized mainly by means of modern landscape design. The "utilitarianism" of the very approach to the organization of the memorial complex has become a novelty in the creation of such objects. The memorial is presented not so much by a solemn place for laying flowers and wreaths several times a year, as by its daily use by the visitor, whether it be a children's playground, a landscape complex with a fountain or a walking route. The contact between the visitor and the memorial objects here is interactive and presupposes the active involvement of the viewer in this process both at the tactile level, as well as on the intellectual and psycho-emotional level. It is appropriate to speak about "female gender content" here not only because the memorial is dedicated to a bright representative of the beautiful half of humanity, but also because of the specific toolkit that was chosen by the designer for organizing his idea, and the artistic idea itself as well.

One of the modern trends in the manifestation of the gender factor at the level of urban space is the interaction of gender metaphors from different time eras — the images of the feminine and masculine, created by the classical and modernist cultures, that intersect with the images of the postmodern era. A new concept of "design space" appears. Its hallmarks are multifunctionality; high level of mobility and variability; compactness and proportionality to a person; a high level of comfort (physiological, emotional, psychological

and aesthetic) and technical equipment, interactivity and intelligence of the design space, capable of responding to various types of consumers and adapting to changing situations [32]. This determines the tendency of modern urban spaces to be androgynous — a combination of feminine and masculine characteristics. The modern color and light environment, built on the basis of new technologies, allows you to change these characteristics of urban space environment in accordance with a specific scenario or interactively, including changing the gender image of the environment, which may differ in the daytime and in the evening. Thus, gender metaphors that appear in the urban space acquire a performative character (Fig. 2).

Fig. 2. The level of urban spaces and architectural ensemble: masculine (*a*),
feminine (*b*):

a — Thomas Taylor Hammond. The Building of the Lomonosov Moscow State University, 1953. Accessed November 04, 2022. https://upload.wikimedia.org/wikipedia/commons/thumb/2/2f/Hammond_Slides_Moscow_186._View_south-west_from_the_University.jpg; *b* — Lidov, Sergei. Frunze. Central Department Store "Aychurek". Recreation area, 1982. Accessed November 04, 2022. https://foto.kg/galereya/2120-frunze-vid-na-cum-aychurek.html

The level of architectural objects

We find gender signs even in the architectural objects of antiquity, and, in particular, the Hellenic culture of Ancient Greece, or rather the differentiation of architectural objects by gender. Two poles — "free citizen — man" and "enslaved — woman" are reflected in the order system: Vitruvius compared the Doric order with a powerful male figure, then the Ionic, in his opinion, had signs of a feminine principle due to decorativeness and elegance [33].

The division of space into male and female parts is also characteristic of Muslim culture. As early as in the Ottoman Empire one can find an example of division of a sultan's palace into male half (*selamik*) and female half (*harenlik*). The male part of the palace had a representative function: state affairs were carried out here. The harenlik was a special part of the palace, where a Muslim woman spent her time, from sleeping and meeting with friends to doing small handicrafts and worshipping the Muslim religion.

The Tatar and Bashkir also have the female half of the house (*kara ei,* black house), where cooking and women's handicrafts take place, and the male half (*ak ei,* white house) is intended for men and is also a place for meeting guests (*kunak ei,* house for guests) [34; 35]. The right side of the Kyrgyz yurt with household utensils belongs to women and the left side with hunting tools belongs to a man. Similarly, in the Russian traditional culture there was a certain differentiation of space for men and women within the house. A woman's *kut* (or woman's corner), separated from the general part of the house by a curtain or a wooden partition and also included a stove and household utensils (millstones, dishes, etc.) which was located near or behind the stove where all kinds of household utensils stood. And it was separated from the rest of the house either by a curtain or a fence. The man's space was much less defined by some definite boundaries. The man owned a wide bench in the house, where he did small repairs and handicrafts [36].

At the level of an individual architectural object, as well as in the case of an architectural ensemble, gender reference points are formed already at the very initial design stages of work on the object and remain practically unchanged throughout its operation. Their formation is largely influenced by the social order, the aesthetic preferences prevailing in society, which find their expression in the architectural and artistic style.

At the level of architectural objects, the following trends in the formation of gender features can be distinguished: the deliberate use of gender metaphors to enhance the expressiveness of an architectural work, the predominance of gender metaphors of "objects-symbols", the use of anthropomorphic images in architecture, the possibility of changing gender landmarks by means of supergraphics and video mapping, and the performative nature of gender metaphors. In the context of a supergraphic approach using the latest technologies that create dynamic and continuously changing images in time, it becomes appropriate to talk about a completely new gender principle, in which gender characteristics can continuously change, preventing us from attributing such an object to a specific gender — gender metaphors, when gender metaphors take on a performative character. By means of supergraphics, it is possible to change the gender vector, introducing a new drawing that is fundamentally different from the previous one into the overall composition of the architectural facade, into its detailing, and create a certain plot of a strictly specified gender orientation [37]. Taking into account the relative fragility of supergraphics, this color-graphic composition can be periodically changed, updating the

a   *b*

Fig. 3. The level of architectural objects: masculine on the left (*a*), feminine on the right (*b*):
a — Gottscho-Schleisner, Inc. 425 Park Ave. From northwest II, 1957. Accessed November 04, 2022 https://www.loc.gov/pictures/resource/gsc.5a24902/; *b* — Butterfield, Chalmers. London, Piccadilly Circus looking up Shaftsbury Ave, 1949. Accessed November 04, 2022. https://commons.wikimedia.org/wiki/File:London_,_Piccadilly_Circus_looking_up_Shaftsbury_Ave_,_circa_1949_,Kodachrome_by_Chalmers_Butterfield.jpg

urban environment, developing, enhancing, or, on the contrary, changing its gender content. Here it becomes appropriate to talk about "gender unisex" in city design. It should be noted that this phenomenon is in many respects consonant with the changes taking place in our postindustrial society and gender trends associated with global feminization, equality and erasure of the boundaries of the sexes (unisex), the emergence of the "third sex", bipolarity, in which "everyone is equal" [30].

Recently, parametric modeling of surfaces and volumes has also become more widespread. In the clear mathematical approach on which parametrism is based, there is clearly a masculine gender basis. Its particular feature is the parametric ornament on the surfaces (including the facades of buildings) that form urban spaces. This phenomenon seems to be an interesting synthesis of the gender plan, since the ornamental structure certainly acts as a softening element of the feminine nature (Fig. 3).

The level of subject forms

At the level of subject forms, there is a tendency for the prevalence of gender's plasticity metaphors. Moreover, they often refer to anthropomorphic plastic gender metaphors. Also, at this level, we observe "gender synthesis", the interaction of masculine and feminine as a kind of means of increasing the expressiveness of object forms, which manifests itself primarily in complex structures — city pavilions and playgrounds. In a modern urban environment, the dualism of the same types of objects is often encountered (traditional house numbers and their decorative solutions, standardized sewer manholes and manholes that are the bearer of the city's brand). One of the modern tendencies is the possibility of transforming the gender image of the subject environment by means of "bombing", sticker bombing, knitted bombing, and supergraphics [37]. The knitted bombing feminizes the urban environment, adding to it the charm of knitted handicrafts,
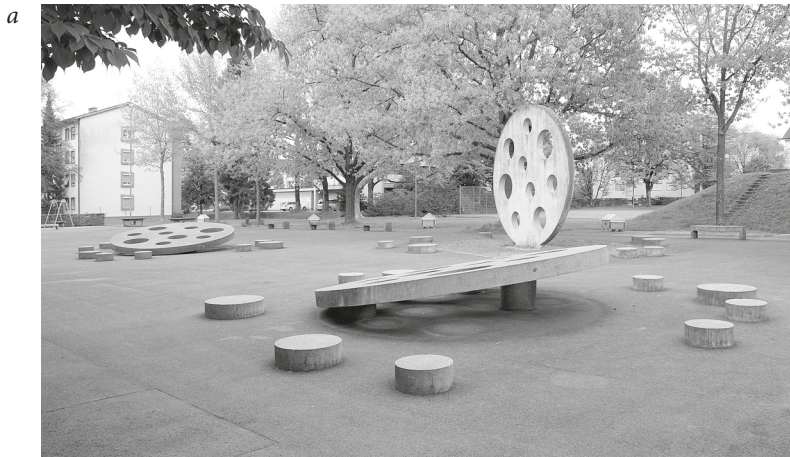
a

b

Fig. 4. The level of subject forms: masculine (*a*), feminine (*b*):

a — Spalinger, Nika. Betonplastiken-Ensemble_Lochscheiben, 1998. Accessed November 04, 2022; https://commons.wikimedia.org/wiki/File:Betonplastiken-Ensemble_Lochscheiben_(Nika_Spalinger_1998)_01.jpg; *b* — Toshiko Horiuchi-MacAdam. Forest of colored cobwebs, 2000. Accessed November 04, 2022. https://upload.wikimedia.org/wikipedia/commons/c/c5/Playground_at_Fuji-Hakone-Izu_National_Park.jp

coziness and characteristically homey feeling. Supergraphics can carry both masculine and feminine gender images, thereby contributing to the formation of the human scale of the urban environment. Festive illumination and art objects, vertical landscaping, playgrounds and comfortable recreational areas are all pleasant manifestations of the female gender, and sports simulators, newspaper stands, and slot machines are male. The saturation of the modern city with interactive objects also embodies the tendency for the gender image to change over time revealing its performative nature (Fig. 4).

The level of the generalized image and brand of the city

As practice shows, the gender factor actively manifests itself at the level of purposeful formation of an attractive image of the city, becoming a powerful means of its branding, the formation of individual features: a vivid and memorable image. One of the main tasks of city branding is to show the most active side of its development and the direction of its energy concentration. In this regard, the graphic images of city brands are selectively laconic, entertaining and witty, and therefore easily perceived and well-remembered. Most often, these are font compositions made in a fairly bright color scheme presenting the name of the city in one form or another. In this purpo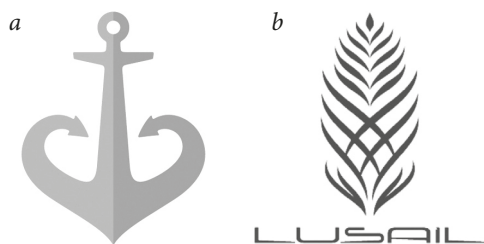sefully created appeal, there is a line of feminine gender metaphors manifestation, the predominance of which is a modern trend in their representation on the city brand level. Another modern trend is the emergence of gender-neutral brands (Copenhagen with openness as its key image). The tendencies for the manifestation of androgynous gender metaphors in the brand of cities are interesting, some of them combine feminine and masculine features in one object (the Odessa logo uses images of the heart and the sea), others create a multi-component brand (e. g.: Porto's logo is made in the form of a strict font composition associated with a masculine gender, which are complemented by graphic elements and patterns associated with the feminine) (Fig. 5).

Fig. 5. The level of the generalized image and brand of the city: masculine on the left (*a*), feminine on the right (*b*):

a — Artemiy Lebedev Studio. City brand of Odessa, 2012. Accessed November 04, 2022. https://commons.wikimedia.org/wiki/File:Odessa-logo.gif; *b* — Middle East Engineering & Corrosion Control W.L.L. Lusail City Logo, 2022. Accessed November 04, 2022. https://commons.wikimedia.org/wiki/File:Lusail-city-logo.pn

Conclusion

The gender factor in city design is a manifestation of gender metaphors (masculine and feminine) in the functional and compositional organization of architectural and design objects, their appearance and generalized artistic image. The structure of the gender factor includes the "core" of gender, semantic gradient fields (field of direct associations, field of indirect associations, field of contrasting associations) and contexts of manifestation. As the research has shown, today in architecture and art there is an increase in the diversity of genders' manifestations, an expansion of the spectrum of gender roles, an increase in the contrast between feminine and masculine, gender metaphors act as one of the forms of individualization and enhancement of expressiveness. The feminine-masculine contrasts are global contrasts: each of them has associative links with a large number of characteristics. Metaphorical understanding of the project situation in terms of the feminine and masculine allows us to identify additional contrasts and enhance the expressiveness of the artistic projected object. This makes gender metaphors an effective means of enhancing expressiveness and emotional impact in architecture and design, which manifests itself through a number of aspects: color, shape, texture, rhythm, semantics.

Summing up, it should be noted that the article reveals the content of the concept of "gender factor in city design" as a manifestation of gender metaphors (masculine and feminine) in the functional and compositional organization of architectural and design objects, their appearance and artistic image. The structure of the gender factor in the post-industrial period has been clarified; it consists of the core of gender, gradient fields, and the context of manifestation.

Revealed modern trends in the manifestation of gender attitudes at various hierarchical levels of city design are:

— urban planning level: no priority of the picturesque or regular nature of the planning; parallel existence of monumental and chamber scales in the urban space;

— urban ensemble level: the predominance of plastic gender metaphors; in androgynous images of large urban ensembles, contrasting features of feminine and masculine are attributed to different structural elements; interaction of gender metaphors from different time periods;

— the level of an architectural object: the predominance of metaphors «object-symbol»; the emergence of anthropomorphic gender metaphors;

— the level of subject forms: the predominance of gender plasticity metaphors; a large proportion of gender-neutral and androgynous images; dualism of gender images in objects with the same function; the dynamic nature of gender metaphors;

— city brand level: dominance of feminine and androgynous metaphors; the existence of basic and extended brand variants, one of which is masculine (or neutral), and the second is feminine.

All identified trends clearly illustrate challenges that city design is facing in the context of a modern post-industrial society and an emerging egalitarian culture: ensuring equal access for both women and men to use the functions of urban space, taking into account social roles of their genders and associated lifestyle features, ensuring the balance feminine and masculine aesthetics in the urban space.

References

1. Bernstein, Susan David. "Designs after Nature: Evolutionary Fashions Animals and Gender". In *Victorian Animal Dreams: Representations of Animals in Victorian Lterature and Culture*. Eds M. A. Danahay, D. D. Morse. London: Routledge, 2017. https://doi.org/10.4324/9781315235073-5
2. Clark, Hazel. "Slow + Fashion — Women's Wisdom". *Fashion Practice*, no. 11/3 (2019): 309–27. https://doi.org/10.1080/17569370.2019.1659538
3. Lau, Charlene K. "Taste and Transgression: Gender and Sexuality in the Contemporary Avant–Garde Fashion of Bernhard Willhelm, Fashion Theory". *Journal of Dress Body and Culture*, no. 24/1 (2020): 5–31. https://doi.org/10.1080/1362704X. 2018.1466956
4. Hilborn, Emma. "The Elegant Cyclist: Cycling, Fashion and Femininity in Swedish and Danish Women's Magazines at the Turn of the 20th Century". *Historisk Tidskrift*, no. 138/1 (2018): 3–22.
5. Nurse-Gupta, Jodey. "A Fair-Ribbon Quilt: Crafting Identity and Creating Memory". *Agricultural History*, no. 92/2 (2018): 227–43. https://doi.org/10.3098/ah.2018.092.2.227
6. Buckley, Cheryl. "The Decorated Object: Gender, Modernism and the Design of Industrial Ceramics in Britain in the 1930s: the Gender of Ornament". In *Women artists and the decorative arts 1880–1935*, ed. by Bridget Elliott and Janice Helland, 53–72. London: Routledge, 2017. https://doi.org/10.4324/9781315194486-4
7. Canli, Ece. "Binary by Design: Unfolding Corporeal Segregation at the Intersection of Gender, Identity and Materiality". *Design Journal*, no. 21/5 (2018): 651–69. https://doi.org/10.1080/14606925.2018.1491716

8. Meth, Paula. "Informal Housing, Gender, Crime and Violence: the Role of Design in Urban South Africa". *The British Journal of Criminology*, no. 57/2 (2017): 402–21. https://doi.org/10.1093/bjc/azv125

9. García-Sánchez, Rafael, Sergio Cerezuela Bastida, and Francisco Joaquín Jiménez González. "The Female Formal Basis in the Funeral Archaic and Ancient Architecture". *Cuadernos De Musica, Artes Visuales y Artes Escenicas*, no. 13/1 (2017): 135–48. https://doi.org/10.11144/javeriana.mavae13-1.pffa

10. Moeini, Seyed Hossein Iradj. "Salvation by Design? An Iranian Experiment with the Pedagogy of Feminism-Informed Architecture". *The International Journal of Design Education*, no. 14/1 (2019): 43–53. https://doi.org/10.18848/2325-128X/CGP/v14i01/43-53

11. Stevens, Katharina. "The Roles We Make Others Take: Thoughts on the Ethics of Arguing". *Topoi* 38, no. 4 (2019): 693–709. https://doi.org/10.1007/s11245-019-09659-0

12. Ploehn, Cathryn, Molly Steenson, and Daragh Byrne. "Tsuga Convictio: Visualizing for the Ecological, Feminine, and Embodied". *VIS Arts Program* (2020): 9–18. https://doi.org/10.1109/VISAP51628.2020.00008

13. Sharov, Konstantin K. "Visual Semiotics of Feminine Fashion: a Concise Analysis". *Praxema Journal of Visual Semiotics*, no. 1 (2019): 173–95. https://doi.org/10.23951/2312-7899-2019-1-173-195

14. McIntyre Petersson, Magdalena. "Gender by Design: Performativity and Consumer Packaging". *Design and Culture*, no. 10/3 (2018): 337–58. https://doi.org/10.1080/17547075.2018.1516437

15. Venkatesan, Tara, Qian Janice Wang, and Charles Spence. "Does the Typeface on Album Cover Influence Expectations and Perception of Music?" *Psychology of Aesthetics, Creativity, and the Arts*, no. 16/3 (2020), 487–503. https://doi.org/10.1037/aca0000330

16. Reimer, Suzanne. "It's Just a Very Male Industry: Gender and Work in UK Design Agencies". *Gender Place and Culture. A Journal of feminist geography*, no. 23/7 (2016): 1033–46. https://doi.org/10.1080/0966369X.2015.1073704

17. Shaouf, Abubaker, Kevin Lu, and Xiaoying Li. "The Effect of Web Advertising Visual Design on Online Purchase Intention: an Examination Across Gender". *Computers in Human Behavior*, no. 60 (2016): 622–34. https://doi.org/10.1016/j.chb.2016.02.090

18. Reina, Marta Isabella. "The Formation of Gender-Sensitive Designers: Introducing Critical Practices to Challenge Gender Normativity in Visual Communication". *International Journal of Designed Objects*, no. 13/1–2 (2019): 1–18. https://doi.org/10.18848/2325-1379/CGP/v13i01/1-18

19. Rodriguez, Sofía Alejandra Luna. "Design and Gender: The Influence of Gender in the Formation of Industrial Designers". *Kepes*, no. 16/20 (2019): 609–38.

20. Shaw-Garlock, Glenda. "Gendered by Design: Gender Codes in Social Robotics". *Social robots: Boundaries, potential, challenges*, 199–218. London, 2017. https://doi.org/10.4324/9781315563084

21. Jankowski, Filip. "The Presence of Female Designers in French Video Game Industry, 1985–1993". *Games and Culture*, no. 15/6 (2020): 670–84. https://doi.org/10.1177/1555412019841954

22. Kaye, Linda K., Charlotte R. Pennington, and Joseph J. McCann. "Do Casual Gaming Environments Evoke Stereotype Threat? Examining the Effects of Explicit Priming and Avatar Gender". *Computers in Human Behavior*, no. 78 (2018): 142–50. https://doi.org/10.31234/osf.io/uq5ty

23. Muñoz-Muñoz, Ana-M., and Maria Barbano González-Moreno. "Women Photographers in Europe: a Fresh, Feminine Approach". *Collection and Curation*, no. 37/4 (2018): 141–5. https://doi.org/10.1108/CC-03-2018-0007

24. Grashin, Alexander, and Olga Haliullina. *Design Technologies of Modern Design, Taking Into Account the Gender Factor.* Orenburg: Orenburgskii gosudarstvennyi universitet Publ., 2015. (In Russian)

25. Alexander, Christopher, Sara Isikava, and Murray Silverstajn. *A Pattern Language: Towns, Buildings, Construction.* Moscow: Izdatel'stvo Studii Artemiya Lebedeva Publ., 2014. (In Russian)

26. Mikhailov, Sergei. "Design of the Modern City: the Complex Organization of the Object-Spatial Environment: a Theoretical and Methodological Concept". DA diss. Vserossiiskii nauchno-issledovatel'skii institut tekhnicheskoi estetiki (VNIITE) Publ., 2011. (In Russian)

27. Glazychev, Vyacheslav. *Urbanism.* Moscow: Evropa Publ., 2008. (In Russian)

28. Mikhailov, Sergei, and Aleksandrina Mikhailova. "Design of the City from a Historical Perspective". *Vestnik Orenburgskogo gosudarstvennogo universiteta*, no. 9/128 (2011): 4–8. (In Russian)

29. Mikhailov, Sergei, and Yulia Filimonova. "Gender Metaphors in the Architecture of the Modern City". *News KSUAE* 2, no. 40 (2017): 86–94. (In Russian)

30. Mikhailov, Sergei, and Aleksandrina Mikhailova. "A Gender Approach in Architecture and Design". *Zhilishchnoe stroitel'stvo*, no. 4–5 (2020): 26–32. (In Russian)

31. Dembich, Natalia, and Sergei Mikhailov. "Design as a Means of Creating a Historical Marker in the Urban Environment (Using the Example of the Princess Diana Memorial Route in London)". *Mir nauki, kultury, obrazovania* no. 5/36 (2012): 219–21. (In Russian)

32. Belov, Maksim, Sergei Mikhailov, and Aleksandrina Mikhailova. *Pedestrian Street Design*. Kazan': Dizain-kvartal Publ., 2015. (In Russian)

33. Lebedeva, Galina. "Architectural Theory of Vitruvius". *Iskusstvoznanie*, no. 3–4 (2009): 5–34. (In Russian)

34. Sulejmanova, Dilyara. *Interior of a Tatar Home: Origins and Development*. Kazan': Tatarskoe Knizhnoe Izdatel'stvo Publ., 2010. (In Russian)

35. Nikishenkov, Alexey. *Traditional Etiquette of the Peoples of Russia in the 19th — early 20th Centuries*. Moscow: Staryi sad Publ., 1999. (In Russian)

36. Mahlina, Svetlana. "Interior of Russian Hut". *Voprosy kul'turologii*, no. 12 (2012): 71–5. (In Russian)

37. Mikhailov, Sergei, Aleksandrina Mikhailova, Rafik Khafizov, Neil Nadyrshine, and Lilia Nadyrshine. "Supergraphics as a Project and Artistic Method in Design of a Modern City". *IOP Conference Series: Materials Science and Engineering*, no. 890 (2020): 012003. https://doi.org/10.1088/1757-899X/890/1/012003 (In Russian)

Authors' information:

Sergey M. Mikhailov— Dr. Habil., Professor; souzd@mail.ru
Aleksandrina S. Mikhailova — Dr. Habil., Associate Professor; misuoka@gmail.com
Rafik R. Khafizov — Senior Lecturer; r_af@bk.ru
Nail M. Nadyrshine — PhD in Architecture, Associate Professor; neil.nadyrshine@yandex.ru
Liliya I. Nadyrshine — PhD in Architecture; lilia.nadyrshine@bigpond.com