Influence of Early XXth Century Plastic Culture on Russian Design Formation

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Abstract. The paper deals with the analysis of the experimental research conducted by A.M. Rodchenko and Ya.G. Chernikov who became the ancestors of the Soviet design and substantiated the theory of composition, its main terminology as the basis for professional activities of a designer. It is established that a designer working with traditional or post-traditional visual communication relies on the compositional activity which is at the intersection of science and art and therefore has a dual nature. The preference of various compositional techniques and graphic means by the professional community determines the development direction of avant-garde design.

Keywords. Design, art, experimental search, constructivism, abstractionism, compositional activity, graphic means.

1. Introduction
It is impossible to list world geniuses in literature, music and other arts who marked an unprecedented culture, art, as well as scientific, philosophical and social consciousness flourishing in the 19th century - the Golden Age of the mankind. Three revolutions in Russia at the beginning of last century and changes in socio-communal conditions associated with them undermined the aesthetic norms and artistic principles of art developed by the preceding history.

In the plastic culture, which had preserved for centuries the established techniques of composition and traditional styles, the vector of art development got replaced, turning to experiments with artistic means, form and content. In painting, literature, music there was a tendency towards simplification (generalization), to the use of a sign, a symbol (constructivism, abstractionism, etc.). In the following decades the avant-garde movement in art life, which originated in the USSR, grew into experiments of the European and then global scale [1]. The art trends relating to geometric abstractionism or geometric constructivism began to be positioned as a way of expression, as a creative idea. At the same time the meaning of art in the high significance of the pictorial language was not denied, but, on the contrary, implied.

2. Influence of A.M. Rodchenko and Ya.G. Chernikhov's ideas on the Russian school of design formation
In 1922 the Soviet artist A.M. Rodchenko in the book "Experiments for the Future" outlined the idea of "laboratory" transformation of drawings into coded informative objects, which should be perceived as unfolding texts. The ideas of constructivism extended to advertising (posters, signs, packaging, ,
stamps), book editions (covers), plays ("About that", "Bug"). The artist's ability to solve problems related to art (design) made him the ideological forefather of the Soviet design [2].

Ya.G. Chernikhov formed a new school of architectural and artistic formation, different from the academic traditions, which became the recognized property of the world artistic culture. In the works "The design of architectural and machine forms," "Architectural fantasies. 101 compositions" [3,4] he illustrated the main characteristics of architectural and design aesthetics. He substantiated the logical laws of composition, defining the conditions for the beauty of the artistic ensemble, the beauty as harmony in the consistency and proportionality of its parts (elements) as the most important sign of form expressiveness. He formulated the laws of the composition integrity and expressiveness, as well as the rules of form formation: form as a structural and spatial characteristic of the mass and space interaction, which are in certain quantitative and qualitative relations to each other. Adjusted in parts, the harmonious form is an informatively capacious image (designed for visual perception of the iconic sign), capable of carrying out a polyphonic impact on the viewer, simultaneously providing volume of information of varying quality; the information that possesses both external and informative features, which are inseparably linked by logical and emotional characteristics [5-7].

The compositional sharpness, dynamism and geometry of forms, exaggerated constructiveness, adherence to the logic of integrity and composition expressiveness perception is what is recognized by the world design community as the Russian school, picked up by the innovative concepts of the Bauhaus art school. In other words, in the XXI century Russian designers will be recognized by replicating or citing the ideas of A.M. Rodchenko, Ya.G. Chernikhov.

Let's talk about fundamental composition laws in design that have determined the development of the plastic culture to the present day. These concepts are specific, their assimilation is considered by us as a necessary vaccine for a deep insight into the design activity.

There are a lot of design trends, each suggest different knowledge, different skills. For example the tasks of such types of design as motion-, mapping-, web- is to improve the communicative functions of digital products. The searches for a solution to the tasks of designers working with traditional visual communication (the picture plane or volume) and with post-traditional one (virtual space) rely on the compositional activity which is at the intersection of science and art and therefore is having dual nature.

From the scientific point of view the compositional activity belongs to the area of the conscious, rational and meets all the requirements for the theory creation: the existence of an object and the subject of research, system categories and concepts, principles and means. The theory of composition studies the questions of formal and aesthetic organization of a piece of art (the picture plane or the three-dimensional form), reveals the objective laws of its construction, and constitutes the essence of creative activity based solely on knowledge.

The compositional activity in art gravitates toward the unconscious and is based on the emotional-sensory perception of the beautiful. A plastic work can carry information about the world outlook, ideal representations, aesthetic preferences, feelings and moods of the author, his or her figurative thinking and fantasy [8-12].

Let's consider the fundamental laws of composition as a system, as a tool for optimal solutions creative search, and also as a tool for analyzing the structural and artistic qualities of a work, product.

We emphasize that the laws of plastic composition are logically interrelated and complement each other, reflect the compositional hierarchy: the main thing, and the secondary and related concept of subordination. The means of composition include the following series:

- Dominant isolation and development (figure-background).
- Contrasts and nuances designation in meaning, in form, in color.
- Picture plane organization in a dynamic or static, closed or open form.
- Meter, rhythm identification.
- Graphical relations.
- Emotional resonance, etc.
The designer’s project activity is still connected with the ideas of constructivism by the influence of the Soviet plastic culture, which determined among other things the artistic means for composing to which Ya.G. Chernikhov assigned graphic and plastic forms.

The graphic means include: a point, a line, a spot, a color; the plastic ones - linear-planar and volume forms.

Let’s describe compositional characteristics of the graphic means.

The point considered as a graphical tool focuses viewer’s attention on itself. It is used as a graphic accent on the plane. Despite its relatively small size, it has wide possibilities in constructing the composition. The point often determines the center of the composite structure. The properties of a point in the organization of the picture plane depend on: the location on the plane, the size, the silhouette, the density, the brightness. When a point is sharply different in properties from other graphics, it dominates the composition. If it is close to them, its dominant value decreases, then it is included in a number of other means, constituting an equivalent part of the overall composite construction. Thus, the properties of the point in the harmonization of the composition are directly related to the properties of the line, spot and color [7-9].

The line is characterized by the length of the shape or development on the plane in length. The nature of the linear-graphic shape is determined by the material and technique of execution. A brush, a pencil, a pen, and a sauce give lines of various shapes. For example, a pen gives a live line with pressure, and a sauce - a velvet one. In a linear-graphic composition it is important to identify as clearly as possible the specific properties of lines using different materials.

The spot, unlike the point and line, fills most of the picture plane. Usage of spot extends the range of the graphic composition palette. Numerous graphic textures and structures are added into the palette, they are obtained by using the same numerous and diverse methods of execution. Each new form of the spot has specific composition and artistic properties. Pouring, washing, shading, palette knitting, etc. are characterized by different textures, structures and transitions from light tone to dark.

The original composition problem solution requires the use of mixed graphics techniques. The expressive combination of complex in nature forms is achieved, for example, by using collages. In a collage it is fine to use a conditional text and an image, linked only by a combination of graphic textures. The composite collage distracts the artist from specific graphic forms detailing, focusing his or her attention on the formal part of the composition.

To preserve the integrity of the entire graphic composition when comparing the described above tonal and linear forms it is important that there is a harmonious connection between them.

The variety of linear-plastic form types predetermines its widest use in plastic compositions.

The planar shape. This type of plastic form is characterized by simultaneous development in horizontal and vertical direction with a slight development in depth. The plane as a kind of plastic form has an extremely wide range of states, ranging from a smooth surface to a very rough one. That's why it should be considered not as a flat, but as a planar form, which manifests these properties in three main types - texture, handle and surface relief.

It should be noted that color is of great importance in revealing the planar shape character, due to which it is easy to strengthen the emphasis on the main elements of the composition. Color emphasizes the character and enriches the composition, visually supporting the set plastic system.

New trends in design development are determined by the professionals’ preference in choice of compositional features, characteristics and properties, graphics tools and also by the scale of their usage.

The principle of stylization indicates that the process as a procedure of artistic and compositional generalization and figurative expressiveness is based on a thorough analysis and the analysis of the subject content of a particular topic [7].

The targeted change of the existing style helps to abstract from the stereotyped perception of the object (information), to reinterpret its essence in a new way. A sign solution of the projected form, a clear and plain pictorial language will add recognition and character to the object. Diverse graphical
situations modeling that have aesthetic and emotional impact on the user will open new expressive properties, form new directions of design.

Thus, the design perceived the novelty of the artistic language, its graphic means, the avant-garde position towards the culture of the past from the experimental searches in plastic arts. In other words, the designer came out of artistic transformative activity synthesizing the Russian plastic art. If the function of art is satisfaction of human's spiritual needs, then the design tasks got shifted to meet his or her utilitarian needs. The design is the solution of such problems.

3. Conclusion
The formation of a fundamentally different plastic culture began with the experiments of artists. Designers are not artists, but the way a designer is looking at the world determines his or her style of work. Operating the logical laws of the composition is the basis of professional activity; it helps to stimulate the active creative (emotional-sensory and mental) process.

The development of design is impossible without drawing attention to the expressive possibilities of contemporary art, on the one hand, and the increased demand for creative activity, the ability for productive experimental thinking, on the other. Therefore, the professional competence of the designer reflects the accumulated knowledge of the logical laws of composition (design solfeggio). The focus of the avant-garde design is determined by the preference by the professional community of certain methods of solving compositional problems, selective use of plastic arts means.

In comparison with the European school the Russian school of design is still young - the navigation design or sign systems design did not get developed. However the interest to it in the world is only strengthening. The Russian design is entering the world market, acquiring a distinctive identity, relying on the system of compositional laws formulated 100 years ago and defining the formal values of design culture in books, street decorating art, theater, digital arts, etc. now and in the future.

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