Propaedeutics - design solfeggio

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Abstract. The paper studies the phenomenon of propaedeutics as a basis of professional excellence, as the grammar and syntax of the artistic language, as design solfeggio, as well as the contribution of propaedeutics as a discipline into the technology of developing the designer’s visual perception and spatial thinking. It is determined that the propaedeutical stage in the educational process is the basis of the workshops, and in the professional activity - an important link of the artistic form composition and pre-project training. It considers the essence of the formal composition, its basic laws and defines structural, substantive composition components, methods and basic means of its formation. It is confirmed that the combinatorics of the basic compositional means, the originality of their use in the newly offered conditions is a way of forming a new style in design.

1. Introduction
In the culture of the 21st century, design is a phenomenon that combines the irrational and the rational, the market and culture, the mass consumption sphere and the aesthetic human environment. Design increasingly acquires elements of the future new universal model, the symbol and structural center of which is the synthesis of science, culture and art [1].

The designer's preference of certain compositional techniques and design tools determines the direction of development of a new style or trend in graphic, industrial, and any other design. The process of creating the form of modern products, corporate styles of various industries, environmental and communicative design is not only closely linked with the real sector of the economy, the production of goods and services, but also with the improvement of the methods of the domestic art and industrial education. Therefore, in the system of the latter, it is important to lean on the study of the propaedeutical laws of composition, which were first formulated by A. Rodchenko and Ya. Chernykhov, in training the designer in the transformational activities. Propaedeutics born in the USSR made a significant contribution to the formal and aesthetic searches of the modern design school. Its categories, means of compositional activity, form of visualization and variability of design solutions made it possible to introduce innovative technologies into the field of design form making [2-4]. Many innovative ideas and techniques developed in the 1930s in the classrooms of Moscow and St. Petersburg have been tested for many years in the teaching profession, and their timeless relevance is confirmed by the graduates of these schools in practice.

2. Propaedeutics as a basis for professional excellence
Propaedeutics is grammar and syntax of the artistic language of design and architecture [5]. As a basic discipline, it is aimed at preparing a modern designer for the transformational activities and
represents a set of structural, substantive components that ensure studying of concepts and categories of the formal composition (Figure 1).

In the formal composition, the form is interconnected with the content, but it is possible to separate it from the content by replacing realistic objects with formal objects, i.e., abstract ones, but so that the formal composition expressed the idea and artistic design through the characteristics and properties of the elements of the composition, through their structural organization [6].

![Figure 1. Set of structural, substantive components that ensure studying of concepts and categories of the formal composition.](image)

The laws of composition include: integrity, balance, subordination.

The main features of the law of integrity include the indivisibility of the composition, when the constructive idea connects all the elements together. When the composition is in equilibrium, all the elements are balanced among themselves. Static and dynamic equilibrium are identified.

The static state of the composition gives the impression of its immobility. The dynamic state is such a state of the composition, in which the balanced elements give the impression of its movement and internal dynamics.

Subordination is the allocation of the compositional dominant by subordinating all the other elements to it. The composition center depends on its size relative to the remaining elements, on the position on the plane, on the shape and texture, etc.

Mastering the logical laws of composition is an obligatory aspect of designer training. The fundamental importance at this stage is given to the development of spatial and abstract thinking capable of evoking images in the mind, manipulating them and capturing the meanings hidden in them. Throughout the gradual acquisition, application, transformation and preservation of knowledge, this problem is solved “by itself”, since propaedeutics is not a field of abstract knowledge, but primarily a field of practical creativity. In this field, one cannot “know” without knowing how. Skill does not mean the assimilation of impersonal techniques, but the ability to solve a specific composition problem. The task of propaedeutics is to study the means of plastic arts (color, shape and composition), to study the laws, to which they are subordinated, to understand the role of the composition of activities in the development of the designer.

Manipulation of categories and means of propaedeutics is reflected in the development of:
- spatial thinking capable of evoking images in the mind and manipulating them, leading to the understanding of the special plastic language of design (function + aesthetics);
- ability of mental manipulation of categories and means of the formal composition;
- criticality, flexibility, originality, systemic thinking, intuition, imagination;
- ability of creative project activities and independent decision-making.

The ability to spatial thinking, skills of manipulating categories and means of the formal composition, mastering a wide range of techniques, abstract work with the shape, variational layout are what determines the designer’s potential to the search creative work [5-6].
Mental modeling using shapes and volumes in the system of input constraints helps to create new styles in design, because new ideas and numerous variants of their plastic solutions are born in the process of such modeling. In other words, this is an approbated approach to creating a new style in design (Figure 2).

![Diagram](image)

**Figure 2.** Influence of propaedeutics on the practice and development of a new style in design.

The content and methodology of the project activities with a rapid introduction of scientific achievements and the expansion of design tools are constantly updated. Combinatorics of the basic compositional means, originality of their use in the newly offered conditions is the way of forming a new style in design. One of the promising directions in the search for new complex design forms is modeling in bionics [7-8]. An essential place in the design form making is occupied by the methods of working with associations, agglomerations and stylizations of the organic shape.

The scientific component that reflects the rational component of the project activities is traditionally strong, but is always inferior to the artist's intuition based on his/her larger contemplation of the visual material and its perception. The visual component (contemplation) is one of the priority components of perceiving design products and works for the designer's image. The perception of design products, whether printing products, environmental or industrial objects, is an elective process in terms of focusing attention on what attracts attention, but also in terms of the way the object is viewed and treated. It is due to the fact that the person receives over 80% of all the information (data, knowledge) in the process of his/her life activity thanks to the visual analyzer (eyes in conjunction with the corresponding sections of the brain) [9-12].

Therefore, mastering the composition is considered by us as a competence to implement the design tasks using the logical laws that enhance the expressiveness of the content. These include the following rows:

- highlighting and developing the dominant (figure-background);
- designation of cognitive and emotional contrasts and nuances in meaning, shape, color;
- identification of the rhythm from chaos, number, module.
- organization of the image plane and space in a dynamic or static form, in a symmetrical and asymmetric form [13-14].

3. Conclusion

Thus, propaedeutic skills give an impetus to the designer's searching activities for creating a new artistic form, style. A professional designer needs to know the compositional laws, be able to apply them in project activities and have the competence of transformative activities in practice.
The task of the higher school of art and industrial education is to teach the future designer to see and apply the objective logical laws of composition in practice, to develop his/her free mastering of color, shape and composition, to develop his/her spatial and visual thinking and creative activities.

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