THEORY OF FORM FORMATION/THEORY OF COMPOSITION: IN SEARCH OF DIFFERENTIA SPECIFICA

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ABSTRACT
A review of the academic literature on industrial (furniture, textile, fashion, etc.) design in Bulgaria, as well as Internet publications on the subject of the theory of form formation and the theory of composition, exposes the paradox that the two disciplines are not differentiated in the process of teaching. No difference is made between the subjects of the two disciplines, nor are there specific categories, concepts, aims or methods for either of them.

Parallels are be drawn with academic disciplines in other fields of knowledge such as linguistics and literature, semiotics, syntax and semantics, to prove the link between the theory of form formation and the theory of composition with other sciences. If the theory of form formation "throws bridges" to the exact sciences, such as maths, geometry, physics, statics, dynamics, kinetics, etc., then the theory of composition is integrated with the humanities, such as psychology, psychology of perception, aesthetics, sociology, stylistics, etc.

The report compares and differentiates the main characteristics of the two sciences, their specific features and interconnections. For example, whereas in form formation the chief category is organization, order, structure, construction and the formation of forms follows the logic of form against gravitation and the conditions of the material physical environment, in composition the chief category is harmony, and the composition of form seeks to produce a certain emotional effect in the person, to satisfy the requirements to form.

The activity of form formation is typical of all engineering disciplines, and composition, of artistic disciplines. If the result of form formation is a logical form, which is beautiful, then the achieved harmony is a consequence rather than an objective. In contrast, the composition of form seeks to achieve an emotionally beautiful form, which sometimes happens even at the expense of constructive logic.

The delineation, systematization and precise definition of the subject, concepts and the aims of the two disciplines will benefit future students in Industrial Design and also in other fields of visual arts and architecture.

Keywords: Theory of form formation; the logic of forms; organization of forms; rational creation of forms; theory of composition; psychology of human perception; artistic creation of forms; subject, basic concepts, laws and means, characteristic to the

two sciences

INTRODUCTION

A review of the academic literature on industrial (furniture, textile, fashion, etc.) design in Bulgaria, as well as Internet publications on the subject of the theory of form formation and the theory of composition, exposes the paradox that the two disciplines are not differentiated in the process of teaching (see the listed references). No difference is made between the subjects of the two disciplines, nor are there specific categories, concepts, aims or methods for either of them.

The aim of this report, which is based on the author's academic and teaching experience[•], is to demonstrate the clear distinction between the two disciplines. Let us first draw a parallel between the subjects of study and the major concepts in the two sciences: the science of the organization of form, which is the theory of form formation, and the science of artistic composition.

DISCUSSION: THEORY OF FORM FORMATION

SUBJECT of the theory of form formation are the processes of self-formation of forms in the physical world, the creation of forms by living organism independently and autonomously from the human existence or the attitude of the human being to the environment. The Theory of Form Formation studies the essence of objective forms and spaces and provides the theoretical foundation and knowledge of the categories of form and space as objective physical phenomena. The science exposes the main operational logic of form formation: systemization, structuring and construction of forms, as well as its chief mechanism, consisting of harnessing of symmetry and rhythm in a single matrix. The theory studies the content of symmetry and rhythm - two basic categories in the world. It also studies the classification of forms and spaces, the principles and methods of their organization and structure related to the horizons of development of the physical and mathematical knowledge of the human being about the surrounding world at the present moment.

In its essence the theory of form formation belongs to the family of natural sciences. It is an interdisciplinary science and throws bridges to most of the exact sciences such as maths, geometry, physics, statics, dynamics, kinetics, etc.

Because form formation is viewed as a process of organization, the basic CONCEPTS of the science of form formation in the world are organization, system, structure and form; and the main CATEGORIES are symmetry and rhythm. Symmetry is used to study the quantization of space, and rhythm, of time.

Symmetry, asymmetry and dissymmetry are directly related to gravitation and the forces of gravity and repulsion in the physical world. Symmetry is considered in all its

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varieties such as: symmetry of finite figures and symmetry of infinity; symmetry in plane; symmetry in space; bilateral symmetry; radial-beam symmetry; curvilinear symmetry; colour symmetry; symmetry of similarity, etc.

Rhythm as a category of form formation has certain parallels with symmetry. The types of rhythm are defined as rhythm of discreteness, rhythm of continuity, regular and irregular rhythm.

Rhythm and symmetry are comparable. The geometric and algebraic description of forms and their modelling is possible thanks to this comparability.

The theory of form formation deals with the classification and systematization of forms and spaces, on the basis of symmetry and rhythm. The focus is on the attempts to create an overall typology of forms and the environments and spaces in the world.

A separate subject within the theory of form formation is devoted to the study of the origin of the creation of forms by animals and humans, which started with the recognition of the instincts for building and construction, and of the logic and mechanisms for the generation of forms, the logic and techniques for the construction of forms under the influence of basic form-formation factors. The science studies the synergetic types of structures with their most common examples: centric, spiral, and skeletal. Particular attention is paid to the study of the types of constructions: skeletal, monolithic, shell, pneumatic, tent-like, arch, cellular, curved, etc. The subject pays special attention to the form-formation factors: functional, structural, technological, social, natural, etc. The specific characteristics of form formation from the point of view of industrial design and combinatorics are eventually studied. A review is made of the methods of rational creation of forms, taking into account the combined influence of forces, and light is shed on concepts such as permutations, combinations, re-combinations, transformations, etc.

To put it short, the theory of form formation seeks to ascertain the logic of the form in the objective world, taking into account the forces and conditions of the material physical environment but ignoring the human emotion and perception.

THEORY OF COMPOSITION

The theory of composition is an exceptionally important but at the same time largely neglected subject in the establishments of art education and relevant disciplines, such as design. The discipline is not even included in certain curricula. The subject of composition is replaced by or confused with other disciplines such as Introduction to Designing (as is the case with architects), Modelling, or Form Formation, (as is the case with certain design subjects), during which students are asked to draw sketches or to do other specific exercises. There is no doubt this is necessary too but the theory of composition, which took ages to shape from the human experience and practice, and the accumulated knowledge about composition - an activity that is common to all artistic activities and at the same time specific to each art, the knowledge about the logic, principles, techniques, rules, and styles of composition, are unfortunately seldom taught or taught rather haphazardly and scarcely.

SUBJECT of the theory of composition is the study of the general inherent logic of the structure of the form in art and design, as well as the concrete means to achieve unity and agreement of the content of the article from the point of view of its use and perception by the human being, and taking into account the human psychophysiology.

The aim of composition in design is to achieve a utilitarian justified form of the article, possessing functional, structural and aesthetic value and one that takes into account the psychophysiological requirements of the human being: user and recipient. The article, formed following the laws of composition, acquires such functional, structural and expressive features, which best correspond to its intended purpose and satisfy accordingly human perception in all its aspects.

In artistic design, the search for composition is aimed at assigning such qualities to the form so as to be able to ensure the that it brings useful effects to the user and satisfies him/her psychologically.

The theory of composition evolved in time in parallel with the development of cognitive sciences, and, more precisely, the science of the psychology of perception, whose results it uses actively.

Composition is an instrument to attain, through art and design, psychological and emotional adaptation of the human being to the world, in the name of his/her homeostasis.

BASIC CONCEPTS in composition are: harmony, expressing the relation of unity on the basis of correspondence, and hierarchy, the relation of organization by priority.

Artistic composition transforms the design into a language, a means of communication. Artistic composition is essentially migration of structures, perceptive models (gestalts, pattern images, frame images). This means that artistic composition can be viewed in a semiotic aspect, as a sign system, and to be included in the modern methodology and tools of semiotics.

The laws of composition are similar to the laws of perception of space and time by the human mind. The laws of composition totally match the laws of human perception and are totally subordinate to them. The most important include: the law of unity – the work of art should be organized in such a way so as to be a unified organic system; the law of typization, i.e. the selection of the basic elements; the law of combination and comparability whereby typical or characteristic elements must not contradict one another and destroy the grasp of the semantic meaning and the meaning of the images; the law of contrast, i.e. the unity and struggle of opposites; the law of subordinating all logical principles and means to the conceptual theme, etc. In addition to the laws there exist a number of specific rules and principles of composition, such as: the rule of the thematic and compositional centre; the rule of thirds; the rule of the odd number of elements; the Golden Section, etc.

The MEANS OF EXPRESSION OF COMPOSITION such as line, figure, form, space; value, colour, the relationships of balance and proportion, scale, contrast, compositional centre, context; the techniques and way of execution of the work of art chosen the artist,

its style, etc., are specific and again correspond to the logic of the psychophysiology of human perception; these compositional elements are used based on the effects that are sought after.

In short, the theory of composition traces how the impact of the image is achieved, of form and space in design, on human perception. Here form formation is seen through the prism of the human requirements, and can take place in violation of the constructive, functional, etc. logic, against the criteria for evaluation of the effective and logical physical form.

In its essence, the theory of composition belongs to the family of the humanities. Its is an interdisciplinary science and throws bridges to other sciences such as psychology, ergonomics, semiotics, semantics, pragmatics, art criticism, aesthetics, sociology, stylistics, etc.

CONCLUSION

Even just the parallels identified here with regard to the subject, basic concepts, laws and means characteristic to the two sciences, are enough to establish the big difference between the two disciplines and the deep specific features that set them apart (see the illustrations).

In conclusion, we would like to note that putting the two disciplines in certain frameworks, the systematization and specification of their subject, concepts and aims will prove beneficial to the training of future professionals not only in the area of industrial design but also in other fields of the visual arts and architecture.

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Figure 1 and 2. Form-formation

Figure 3. Form-creation

Figure 4. Form-composition

The illustrations are from Cappadocia, Turkey.

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