Producing decorative designs for natural phenomena based on the structural systems analysis of morphogenesis theory.

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Abstract:

The problem lies in the research and studying the morphogenic design of the designer is the possibility of studying the inner essence of organic natural phenomena, an important source for contemporary design vision and a new starting point for teaching decorative designs that are formed according to their cells and singularity, as it gives the decorative designer the opportunity to use flat designs and the suggestion of anthropomorphism, which broadens the perceptions of the decorative designer in dealing with vocabulary. Through morphogenic theory and enrichment of design elements and foundations with many plastic variables by employing them with computer graphics in order to update the thought of decorative design in the study of natural phenomena in design, which provided unconventional fields in contemporary design. The research question is determined in the following question: - To what extent does the decorative designer benefit from the morphogenic design and the consequent structural systems and the natural phenomena it contains, on the basis of which the decorative design is formed?

Research objectives: The research aims at the graphic employment of the kinetic values of the natural phenomena in the morphogenic art through a group of decorative designs. It proposes new experimental approaches for building the decorative painting in light of the morphogenic system structure. And the production of a set of scientific applications taking advantage of the computer graphic employment of two-dimensional kinematic variables (corals and ice crystals) through morphogenic art.

The importance of this research is to emphasize the importance of the design construction of networks through which coral reefs and snow crystals are formed, in a way that gives it the suggestion of anthropomorphism. The genetic system for reformulation to be used as a new contemporary introduction to natural phenomena in the Department of Decorative Designs in the Faculty of Art Education.

The research followed the analytical descriptive approach: based on collecting information and analyzing structural systems and actual movement based on the morphogenic theory and its investigation in the genetic code systems to extract the vocabulary, structural system and color group and this is related to the theoretical framework of the study and its use of modern techniques in decorative designs using the computer.

The experimental method: Creating innovative designs related to the design construction of the actual movement of natural phenomena (coral reefs and ice crystals) based on morphogenic theory, where the decorative designer achieves the use of flat designs and the suggestion of anthropomorphism, which broadens the perceptions of the decorative designer in dealing with the two-dimensional vocabulary using Photoshop and Adobe illustrator programs.

Key words:

morphogenic design - morphogenesis design - natural phenomena - structure - bio-art.

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Research Results :

The results were according to the validity of the research imposition as follows:

• The morphogenic theory helps in tracking the external formal appearance of natural phenomena, gene cells and their two-dimensional manifestations to suggest anthropomorphism, giving new dimensions to the designer as opposed to flat designs.

• The geometrical structure of morphogenic theory is related to many mathematical processes that provide rich and complex formulas that are useful in decorative designs.

• The field of morphogenic design is the most recent study that deals with design sources, which have been linked to several theories, including cytoplasm, fractal, digital design, strings, and the art of optical illusions.

• The morphogenic theory has been associated with the development of the shape and the morphological formation of the morphological theory, which deals with the internal genetic structure and the external structural appearance of natural elements and the creation of techniques, skills and technical sciences to move from nature to design.

• This theory allows the designer to link the external appearance of nature with the internal structure of it and the relationship between it through the morphogenic theory to create new design formulas that open the way for creating two-dimensional designs to suggest anthropomorphism.

Recommendations:

• Linking plastic art, biological sciences and design, understanding the relationships emerging from them, and exploring rhythmic systems and aesthetic values.

• To deepen the study of mathematical and engineering laws that are related to the interpretation of the structure of morphogenic theory from a practical point of view and link it to the field of art and design and to new fields, especially in the field of decorative designs.

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