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The Morphological Analysis as Approach to Ceramic Design Process

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Abstract:

Despite the tremendous technological development and the digital revolution that began at the beginning of the twentieth century, nature remains the mother source and the first teacher for man, as it is the basis of all applied sciences. God Almighty has granted His creatures a superior ability to evolve and adapt to the environmental conditions of their life, and He has given them characteristics that set them apart from others, and these characteristics have been developed according to their morphological forms. The primary purpose of the designer's learning of the logic of form and the principles of composition in natural building systems is to develop creative thought, the sense of construction, and the tendency towards understanding the design principles inherent in those systems, whose form is achieved based on the nature of the forces and stresses that affect them, which in turn is reflected in the way in which Its structural elements grow or are formed One of the important characteristics that is most closely related to the field of ceramic design is the structural characteristics, which is concerned with the general composition of the design, and its basic structural unit, leading to the completion of the connection between all parts until the design reaches its final shape and appearance. Objects differ in their appearance and construction in proportion to the functional tasks they perform. The difference in structural and formal construction is a source of inspiration in all fields related to design. This inspiration may be formal, or analytical or anatomical inspiration. Or, or has a functional dimension. Therefore, the designer must have a good understanding of the concept of morphological analysis, which means (analyzing the compositional structure). This analytical approach aims to place the shape in the appropriate classification for it and its relationship to the environment in which it lives, as well as the extent to which it is affected by it. This method has resulted in the construction of a method for observation. And interpreting formal phenomena in nature, drawing conclusions and comparing them to each other to form a scientific vision that explains the relationship between form and function for God Almighty's creatures, and its reflection on creating the design idea and its morphological construction, this analytical approach is linked to design sciences. as it has become an intellectual source In inspiring functional and formal solutions, and creating the idea. The research aims to link the morphological analysis of some living organisms or natural elements with the development of computer software and its reflection on thought and production to find a methodology for design (conceptual models and frameworks for work) and to find variables that affect the results due to the difference in logic and intuitive interaction that differs from one person to another during its application. For the methodology, and applications of the proposed methodology in ceramic design.

Keywords:

morph analysis- Biomimicry- Voronoi Diagram- growth- form finding.

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