

The influence of the organic trend on design and implementation of some glass products by free forming

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Abstract:

Various design trends have emerged, with nature playing the most significant role as a primary source of inspiration for the design process. Natural elements, with their different types, shapes, colors, sizes, growth, adaptation to environmental changes, and interaction with each other and the surrounding environment, are merely a simple example and evidence of the greatness of God's creation. Therefore, it is necessary to contemplate nature and analyze its elements in terms of the parts that make up the element, its appearance, texture, colors, internal structure, behavior, movement system, adaptation, and organic construction systems. This allows the designer to draw ideas from these elements to create new designs or solve existing problems by developing and improving product characteristics, whether the products have an aesthetic or functional nature. There are many techniques used in glass forming, and the free-forming technique is one of the oldest techniques used in forming, which has developed remarkably in recent times. Various methods are used in forming with this technique, relying on forming and producing glass from molten glass using different means and methods, and using different forces such as blowing or compression without using a mold. Some auxiliary tools can be used to help build the shape of the glass product. Free-formed glass products are characterized by smooth surfaces and fluid shapes. Nature plays a vital and influential role in designing glass products using the free-forming technique, whether in designing the shape of the glass product, the appearance of surfaces, colors, or textures. Hence, the research problem arose from the need to conduct an analytical study of some glass products executed by free-forming to confirm their connection to the organic trend, aiming to clarify how to benefit from the organic trend as an approach to designing some glass products using free-forming. The research follows the descriptive-analytical method. The importance of the research lies in the fact that studying the organic trend contributes to building innovative thinking in design for producing glass by free-forming from molten glass. This is based on the hypothesis that studying and analyzing some glass products executed by free-forming in connection with the organic trend leads to achieving various functional (aesthetic, functional) structures in the design of the glass product and developing production by free-forming. This research addresses the study of some basic concepts and terms related to the organic trend, leading to deriving a definition of the organic trend in design, which is "a scientific approach in design that derives its philosophy from nature; it focuses on internal and external construction in designing a product that achieves uniqueness and distinction and is strongly connected to contemporary needs, and studying methods of organic inspiration from nature and their impact on product design." The organic trend includes different methods in product design; each trend represents a philosophical approach that differs from the other in design. The methods of organic inspiration have been classified into: (imitation and simulation method, deduction method, analytical method, abstract method), with an explanation of each method and its application to different design models that follow this method, whether for aesthetically oriented products or functional products. Some glass products executed by the free-forming technique were analyzed in light of their connection to the organic trend and how they were executed. The glass product was analyzed in terms of shape, color, surface appearance, and colors, showing how it is connected to an element of nature through some analytical drawings of the element and the product. The steps of forming and executing the glass product were clarified using some illustrative drawings of the forming steps. The organic trend was studied as an influential approach in designing the shape and appearance of the glass product, reflecting on the different technological aspects of producing glass using the free-forming technique. The research concluded that the analytical study of organic trends demonstrated their impact as inputs in achieving various innovations in the design of glass products and the

development of their production methods using free-forming techniques.

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