

Technical Schools Associated with The Design of Modern Interior Lighting Units

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Introduction:

Sculpture provides innovative aesthetic models for three-dimensional models that are used in the areas of industrial production such as the production of lighting units. Since the first impression of the consumer is affected by the aesthetic appearance of the product, the need for the aesthetic touch that the sculptor adds to the body of the lighting units has appeared; this aesthetic touch helps to complete its functional performance. The designer is able to do this by looking at the different artistic schools to expand his/her perceptions and the circle of his artistic culture. This is a design pattern that many artists follow; this is not considered an imitation or theft, but rather an intellectual development or confirmation of specific values and characteristics such as originality and heritage through direct revival, it is an explicit design transfer, but the difference is in the style of design or implementation. The artist may take an idea from artistic patterns and develop it in his own style. The purpose of reviewing technical schools may also be to spread the design assets of some distinctive works and their aesthetic and legal values.

Research problem:

When developing interior lighting units, the sculptor designer may suffer from stages of intellectual stability due to following a specific design approach. Therefore, the problem of the research lies in the answer to the question:

How can schools and modern artistic trends be used in developing indoor lighting units?

The importance of the search paper:

- 1- Emphasizing the importance of reviewing the different styles of interior lighting units in modern schools to enrich the imagination of the sculptor designer.
- 2- Activating the role of the sculptor designer in achieving the aesthetic and functional value of the interior lighting units.

Search goal:

The research aims to develop the thinking of the sculptor designer when designing lighting units by examining the different plastic patterns of interior lighting units in modern schools.

Search limits:

Studying some schools and modern artistic trends affecting the design of indoor lighting units.

Research hypotheses:

- 1- The possibility of reaching new innovative styles for indoor lighting units by informing the sculptor designer about schools and modern artistic trends.
- 2- Schools and artistic trends have an effective role and significant impact on the development of indoor lighting units.

Research methodology:

Descriptive analytical method.

There have been many schools and artistic trends in the twentieth century; each school has its own artists, creators and style. However, we cannot say that one of the schools is better or more capable of expression than another school because good work always has its value in the era to which it belongs. The following is an analytical study of some technical schools associated with the design of interior lighting units:

Arts and Crafts movement (1875-1915):

It is the first modern artistic movement, an international movement that flourished in Britain, Europe and America from 1880 until World War I, and in Japan from 1920 until World War II. The aim of the movement was to revive the ideals of handicrafts, highlight its virtues, denounce the aesthetic and social effects of the industrial revolution and confront mechanized production. Arts and crafts began as a movement of the English decorative arts based on simple shapes, sensual joy in materials, and the use of nature as a source of inspiration. It also relied on botanical motifs in its decoration in a manner similar to Islamic art, as the natural patterns of plants and flowers reflected the purity and clarity of the approach followed for the movement. The movement also followed the eclecticism style in art, which is evident through their study of historical patterns, their absorption and use in the production of new designs, and rejected the aesthetic movement's admiration for Japanese art and the European, Indian, and Middle Eastern renaissance. The Arts and Crafts movement greatly influenced the design movements that afflicted it, and its influence has extended from Art Nouveau through to the Bauhaus, the modern movement and the practice of contemporary crafts.

The Art Nouveau (1880-1910) movement:

The Art Nouveau direction relied on linking the aesthetic aspect of the form with the functional aspect, so the works of its artists must have the aesthetic character that provides a function. This movement arose in order to harmonize art and industry to produce an environmental art that

combines originality and contemporaneity. Its artists opposed the absence of the style of the era and the control of the machine over the industry and what it caused of the deficiency in the relationship between the aesthetic and functional aspects in most areas of production. Therefore, the movement sought to lay the foundations for the evaluation of the handicraft and to preserve its aesthetic qualities appropriate for the moody life of European society despite its manufacture with modern machinery. The movement was looking for a modern national style of its own, so it drew inspiration of its own style from the Gothic, Medieval, Renaissance, Baroque and Rococo periods, as well as Japanese art with its decorative items, as the Japanese designer's familiarity with nature impressed the Art Nouveau pioneers; they tried to extract artistic values from these arts and rely on them to find a style that distinguishes them.

The De Stijl Movement (1917-1928):

It is an artistic and design movement that arose in the Netherlands in 1917; among its most important pioneers: Theo Van Doesburg (1883-1931), and Piet Mondrian (1872-1944).

The **De Stijl** movement derived its first ideas from Wassily Kandinsky, the pioneer of abstract expressionism, who was distinguished by spontaneity, automatic, and structural rigor in his work. He tried to express what he called the principle of "Internal Necessity" by investigating color and form, relying on the abstract forms in which he found a suggestive power expressing the essence that the phenomena concealed. Mondrian took a path parallel to the Kandinsky method, through which he could reach what he called "Pure Formation", which is the most logical degree of abstraction. Kandinsky and Mondrian derived their theories from the ideas of a Theosophist philosopher named Dr. Matthew Schoenmaekers, Dr. Matthew, who shed light on the emergence of a symbolic engineering art of the new rational world, and his book "Principles of Plastic Mathematics", (*Beginselen der Beeldende Wiskunde*) is one of his most important works that influenced the concepts of the De Stijl community.

Bauhaus School (1919-1933):

One of the international design movements in addition to being an academy and school of applied arts, it was founded by the architect Walter Gropius (1883 - 1969) who designed the Academy's building in Weimar in 1919, through which architecture, interior design, sculpture, photography, theater design, ballet, motion pictures, ceramics, metalworking, stage design, textile printing were taught. The Bauhaus influenced the intellectual level of modern design in the field of architecture and industrial design by advocating the idea of functional simplicity. The Bauhaus rebelled against the contemporary and earlier artistic and design traditions, and believes that the essence of the artistic work is not affected by changing its outward form. It emphasized the importance of finding a harmony among: art and tools of life - art and industry - art and daily life, and it achieved this by making architecture a mediating factor among all these relationships. Hence the choice of the name of the school, Bau Haus, came; it is a German word which literal translation means "house of architecture". The goal of artistic work was not to create shape for the sake of form, but to develop it to fit the purpose and function. Due to the deteriorating political, economic and social conditions, Bauhaus designers took a different approach to design work, including avoiding scarce traditional materials and turning to low-cost manufactured materials such as metal pipes, and combining art with technical skills.

Art Deco (1920-1930):

Art Deco was a popular design wave, and the movement represented the principles of modernity and used expensive materials such as rare woods and snake skins. Modern materials such as ivory, plastic, bronze and crystal were also used in configurations that highlighted the aesthetic and functional values of the design. Art Deco was based on the idea of linking the aesthetic side with the functional side to make fun of the material and adapt it to its needs while preserving the aesthetic values. "The style took its name from the title of a book on the Century Exhibition held in Paris in 1925, which it attributed to the International Des Arts Décore atifes et industriele modernes L'experition". The movement's designers derived new formative concepts through many contemporary artistic trends (it derived from Cubism what it added from the visions of shattering, abstraction and superposition; it derived from Futurism modern man's preoccupation with movement and force; it derived from De Stijle and Russian construction the elements of line, color and composition, high purity, abstraction, brutality, supermatism and perfectionism). Its works were characterized by simplicity, clarity of shape, graceful lines, and uncomplicated geometric designs. Its lines are wrapped like a vortex. If they bend, this will be gradually over a simple curve. If it is upright, it will be like a ruler. Its works were distinguished by boldness and ingenuity. It took examples of the best classical art forms in the two centuries (18-19) to purify art from the horrific increases and excesses of Arnovo. Although Art Deco is more modern than Arnovo, it is an extension of it, especially in its richness with excessive decoration, fine materials and excellent workmanship. It used the machine's design elements as a source of inspiration such as airplane wings, sewing wheel pins, and a motorcycle motor.

High Tech trend:

This style got its name from the book that defined its features and bears the same name written by designers Joan Kron and Susan Slesin and was first published in 1978. The book explained the new style of interior design, which was aimed at creating elegant and surprising interior designs from ambiguous sources. For example, instead of using a crystal chandelier in its lighting units, covered lamps painted with white enamel became attached to dining tables. The concept of high technology originated in the sixties of the twentieth century depending on the items of the aesthetics of the machine, as it was considered that the internal configurations of the machines from pipes and wires as decorative elements that can be used in the internal and external architecture with the aim of enabling people to read the building and learn about the method of its installation and parts of its construction. Among the most important pioneers of this trend are Ron Arad (1951 -) and Philippe Starck (1949-). They were inspired by the items of the trend from the foundations of Italian radical design, American pop art, and from the geometric plasticity that characterizes the trend of classical modernism in architecture. High-tech is one of the intellectual trends of the postmodern period based on the combination of technology and multiple media and uses raw materials for optimal use, as well as on benefiting from scientific progress in the field of optical radiation (lasers), which the designer considered raw material and technique at the same time, and was able to harness them to make techniques and effects Photometric on surfaces. In this trend, materials such as rubber and synthetic fibers (plastics, thermal fibers), metals (pipes, chemically treated steel, aluminum foil, steel tubes, stainless steel), mirrors and photovoltaic panels are used in this trend. As for the design

techniques for this trend, the most famous of them are the laser engraving technology, and the polishing technique to increase the glossiness of the surfaces so that a design is created on the surface as a result of the reflected lights and shadows.

Memphis Group:

It is an Italian design and architecture group that was established in Milan in 1981 AD by Ettore Sottsass (1917-2007) as an extension of the work of Studio Alchimia movement. It achieved commercial success and widespread worldwide, which made it a tremendous influence in most of the design movements that followed it. It led the so-called "New Design." Among its most important pioneers and contributors: Andrea Branzi, Aldo Cibic, Michael Graves, Hans Halloein, Shiro Kurumata, Javier Mariscal, George Sowden, Matteo Thun and Daniel Weil. It is said that the name Memphis dates back to a famous song at that time, it was called "Memphis Blues" by the famous singer Bob Dylan.

The Memphis style is characterized by a mixture of Hollywood flair and 1950s style such as Pop Art. Comparing its style with Alchimia, the Memphis group is smoother and less disturbing. The distinction and creativity of the Memphis Group is evident in the interior design as well as the design of products such as (lighting units, electric irons, coffee machines, toasters) that can only be applied by using basic colors, basic geometric shapes, construction and techniques that seem visually naive, which added importance to their approach, as its use in the design of commercial products meets the need of many consumers. Memphis designs mostly resemble animals, anthropomorphic characters, and "robots", and the three classic elements of design (form, function, and materials) became independent in the Memphis group.

Memphis relied in its sources on symbols of ancient civilizations, popular cultures, bright colors, and a tendency to ridicule and criticize. They used raw materials such as wood, metals, and fabrics, as well as using materials derived from sources naturally associated with mundane daily life, such as printed plastic products and movies.

Research results:

We conclude from the study that:

- The possibility to access new styles of indoor lighting units inspired by modern technical schools.
- Emphasizing the importance of research and perusal of the different artistic styles of interior lighting units to enrich the designer's imagination.
- The designer-sculptor has an active role in developing products in general and lighting units in particular.

Recommendations:

The research recommends:

- Emphasizing the importance of conscious viewing of the different artistic styles to raise the visual awareness of the sculptor designer and enable him/her to produce new ideas and designs.
- Activating the role of the sculptor designer in designing and developing products, specifically the interior lighting units.
- Supporting studies and research on linking the aesthetic aspect of sculptures with the functional aspect of products.

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