

Employing the Light Emitted by the Diode to Show the Aesthetics of Transparent Sculptures

Prof. Hanna habib ramla

Professor of Design and former Dean of the Faculty of Art Education, Minia University

hannaramla@yahoo.com

Assist. Prof. Dr. Mohamed kamel El Hadidi

**Assistant Professor of Sculpture and Head of the Stereoscopic Expression Department,
Faculty of Art Education, Minia University**

dr_mk_hadidy@yahoo.com

Assist. Lect. Mostafa Mohamed El saeed El shahat Boghdadi

**Assistant Lecturer, Department of Stereoscopic Expression, Faculty of Art Education,
Minia University**

Abstract:

Technological development, the modern scientific revolution in electrons, and optical devices that depend in their use on the idea of wave transmission, this idea was employed in the field of plastic art, and it developed at a tremendous speed in Europe and America due to the uses of technological applications of this science. The various light technologies have supported the concepts, language and methods of many artists, and have become means for creating works of light art, by linking the characteristics and techniques of light and defining what is the aesthetic perception of light. Forming material at work, technology has become an important component of the creative process And the relationship between it and art is as old as man on the surface of the earth, where art is the product of interaction between man and society, and technology affects the artist's thought and philosophy, as the experimental aspect developed in his works, which led to a great development in the arts of drawing, sculpture and photography, or in other words in the arts in general to the emergence of New materials for construction and manufactured alternatives to media, whether they are two-dimensional or three-dimensional. A lot of scientific and technical development has been achieved during the nineteenth and twentieth centuries from scientific and psychological inventions technologies, affected the sculptural creative thought,. Light has shaped since antiquity the way man thinks about various life, and the most influential was the one that was associated with faith, so the light transformed from a mere basic component of nature to a source that suggests the ideological idea of man.

Key words:

Light - Diode - Transparent Sculptures

Introduction :

Light is a cosmic phenomenon that derives its characteristics from a complete system of interaction of matter with its main energy component, and through this interaction it is created for us as an visible radiation that we can perceive visually, and it turns into what is called a flash or what we call light. The sun as a star is nothing but an intense interaction between

materials in its gaseous form, and as a result of this interaction, light energy is generated from which we derive our thermal energy on Earth. So the light has become no longer a mystery to the natural scientists. Their research has been and still is in the light, its properties under discussion, and its debates to reveal much of this element in which the research was similar to the intellectual axioms that many believe are not the subject of research.

Since ancient times, light has shaped the human way of thinking in various aspects of life, and it was the most effective one that was associated with belief, so the light transformed from a mere basic component of nature into a source that suggests the ideological idea of man, where the ancient Egyptians cared about light in form and subject matter. The buildings and sculptures that were created based on the astronomical light angles, and the proportions that deal with the angles of the light falling and its refraction on those surfaces in a way that helps highlight the elements that the designer wants to highlight or hide what he wants. (1 - p. 4) There is no evidence for that from the design of the temples, the Temple of Abu Simbel in Aswan, so that the light falls in the Holy of Holies - to this day - twice a year, the first on the day of the birth of the Pharaoh and the second, on the day of his ascension to the throne, which represents the miracle of humanity - by all measures - In understanding the nature of light, visitors come from far and wide to witness this tremendous human achievement from up close. (2-pp. 7, 8)

Later, there were many theories about the nature of light. Both Euclid (330-275 BC), and Plato (347-427 BC).)□ That the rays come out of the eye to fall on the visible body and achieve visual vision. (2- Pg. 7, 8)

We find a great interest in light in Coptic art, where icons, religious drawings and gold were used in attempts to express the sacred light, as the Coptic artist finds it as an example of light from its etymological sources in the Bible, which sees gold as a strong light source. (3- p. 3)

Islamic philosophy teaches us applied results to realize the relationship of light with the components of the architectural civilization, so that the solutions from which the muqarnas, puppets, and dome shapes were formulated are what the attempt is to find a plastic solution for the calculations of light in the negative point in the building, which is the point that separates the line of space that represents the sky, and the mass Which is the representative of the body of the building, which makes the light a means of merging the form, (mass and emptiness) as it was for the innovation of the mashrabiya and stucco curtains its effects in defining the form of the relationship that the designer wants between the light penetrating in straight lines and the place that is to be lit (4, p. 5). Represented in the stained glass and openings in the walls, which are in the form of a specific design, where these reflected lights give a sense of awe and reverence. (3- p. 4)

Then the artist's attempts to express the light continued, and it was the attempts of the Renaissance era in the Dutch school in the art of photography. (3- p. 4) Then, after that, interest in light in plastic art ceased to be a pure concern except with the emergence of the group of influencers, despite the fact that there were previous attempts in plastic art.

Research problem :

The problem can be formulated in the following question:

Can the light emitted from the LED diode be employed to show the aesthetics of the transparent sculptures?

Force search:

- The researcher assumes that it is possible to employ the study of the light emitted from the LED diode to show the aesthetics of the transparent sculptures.

research aims :

- Studying the value of light as one of the most important elements influencing contemporary artworks.
- Benefiting from contemporary techniques of optical technology in the production of sculptures from transparent materials.

research importance :

- Studying the importance of light in the field of art education faculties in sculptural works. Demonstrating the creative ability to employ light in sculptural works.

Research Methodology :

The research follows the descriptive approach in the theoretical framework through the study of the light-emitting diode (LED) and an analytical study of some artworks executed with different and transparent materials.

Findings and Recommendations:

- Demonstrating the aesthetics of sculptural performance among art education students. Studying the use of light in contemporary artworks.
- Studying the importance of light in the field of art education faculties in sculptural works. Demonstrating the creative ability to employ light in sculptural works.

References:

1. Ben Vicholson, the meaning go his art,1957,p5.
2. <https://www.iasj.net/iasj?func=article&aId=127940>
3. <https://mimirbook.com/ar/٤٧ed^bb٧fa٦>
4. Gregory Hallock Smith (2006). [Camera lenses: from box camera to digital](#). SPIE Press.p.4.
5. Narinder Kumar (2008). [Comprehensive Physics XII](#). Laxmi Publications, P.1416.
6. McDonald, Roderick (1997), Colour Physics for Industry , Second Edition), Society of Dyers and Colourists,P.99.
7. <https://van.physics.illinois.edu/qa/listing.php?id=1926>