

Technology and materials and their impact on the Relief sculpture in the open-air museum display

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Research Summary

The last century witnessed successive artistic revolutions in the plastic arts - especially the art of sculpture - starting from the methods of performance, artistic content and raw materials used in formation through the great progress in the field of technology, so they were linked together to serve technology, and the harmony of art and science in the modern era had results, the most important of which were changes in artistic concepts that affected the art of relief sculpture clearly through the development in the form and expressive content of the sculptural work and the materials used in the implementation.

The sculptors took advantage of this modern industrial technology to make metals and industrial plastics in the outdoor relief sculpture to create huge sculptural volumes while saving the mass of the material used and replacing the solid mass with space, especially in the free-standing outdoor sculpture work.

Then the research deals with the relationship among the form , material of the work and the place of presentation, where the artist must reconcile among the place, the design and the material, for each material has its natural, formal and technical properties that must be respected when implementing the work, what can be successfully implemented from one material cannot be implemented from another material - and if possible each has an impact on the final form of the work - intermediate materials have the task of helping to complete the design, and hard, long-lasting materials, which are the basis for the continue of sculpture throughout history.

The art in the modern era tends to address purely plastic values, and the sculptor seeks to highlight the qualities of the material only, as the goal of art is not to conquer the material until it simulates some subjects, but rather to search for the form that is achieved in that material according to its own preparations and the place of presentation, and the task of the sculptor is to watch the arrangement of the material in order to transform that raw material into an aesthetic material that he/she adapts and reveals its truth and sensory richness.

Research Problem:

Did the new materials and technology contribute to the development of the relief sculpture form in the museum and outdoor display?

Research hypotheses

The Researcher hypothesizes that:

The development of technical methods according to the developments of the time and modern technology.

The emergence of new technology and raw materials contributed to the emergence of breakthroughs in the artistic arena.

The new technology and raw materials helped the sculptor to keep pace with the development inside the museum galleries and in the open air.

Research aims

Studying the impact of technology and materials on the development of relief sculpture works in museum exhibitions and in the open air.

Research importance

A presentation of technological development and the development of materials, while studying their impact on the form of museum and free-standing outdoor sculpture.

Research Methodology

Descriptive and Analytical

Research limits:

First: Time limits: the end of the twentieth century and the beginning of the twenty-first century.

Second: Spatial boundaries: models, for example, but not limited to Europe and some countries.

Key words

(Relief sculpture - formation materials - technology - museum display - outdoor sculpture)

Research contents

During the twentieth century, we witnessed artistic transformations and revolutions and endless successive attempts on all plastic arts, especially sculpture, which included performance methods, artistic content and materials used in formation.

We also witnessed tremendous progress in the field of technology, both of which were linked together to serve technology and reveal all that is new from the new materials that are the product of other basic materials, and the harmony of art and science in the modern era had results, the most important of which were changes in artistic concepts that clearly affected the art of relief sculpture through the development in the form and expressive content of the sculptural work and the materials used in implementation.

The twentieth century also witnessed the emergence of many modern techniques that the artist resorted to treat all the different materials that had recently entered the field of sculpture, and the sculptor had to appreciate the importance of choosing the appropriate technique for each material in order to highlight its expressive value and commensurate with its mechanical strength and nature, so the techniques used in the art of sculpture varied, depending on the variety of materials with which the technical work is executed, the materials are divided into two main parts, which have to determine the technique used in the implementation, namely:

Intermediate raw materials: They are materials that have the task of assisting in the completion of the basic design or model, such as (mud - clay - gypsum - wax - chemically manufactured pastes).

Hard materials: they are long-lasting materials, and they are the basis for the continuation of sculptural work throughout history, such as (natural stone - natural marble - metals - wood - artificial stone - artificial marble - innovative chemical plastics).

And we see that most of art types in the modern era tends to address purely plastic values, and the sculptor in it seeks to highlight the qualities of the material only, as the goal of art is not to conquer the material until it simulates some topics, but is to search for the form that is achieved in that material according to its own preparations and the place of presentation and the sculptor's task is to ensure the arrangement of the material and transfer it from its arbitrary existence to an organized mental existence, meaning that the artist intervenes to transform that raw material into an aesthetic material that he adapts and reveals its truth and sensory richness.

Technology has also helped the contemporary artist and given him the opportunity to freely experiment with media and equipment and increase his plastic abilities in processing, developing and synthesizing materials with each other with the least possible effort through the use of advanced equipment. The creative artist is the one who continues through experimentation beyond the inherited traditions, and inventing his new creative formulations, which is embodied in his artworks so that these new formulations conform to the demands of society and then his new artistic style appears. Imagination is never satisfied by the permanent dependence on traditional methods of formation, as it always re-explores materials to find and use new methods and forms that may be different within it.

Conclusion

Based on the foregoing, we can realize the role of the material in the formation of relief sculptural works, the importance of technology, some new machines and techniques, and modern and innovative technological materials in the formation of relief sculpture, which vary in their characteristics and plastic capabilities, as these materials and technology facilitated the many difficulties that sculptor was exposed to during the formation process, as it also saved time, effort and cost sometimes, in addition to offering a degree of freedom that helps the contemporary sculptor to be freed from some plastic restrictions imposed by some deaf materials, and the sculptor was able through these materials to represent twists and movements that were not available before, in addition to being able to put details, thus achieving a remarkable richness of aesthetic and plastic values that added a lot to the relief contemporary sculptural works.

And since the material in the art of sculpture represents the factor that occupies the third place in determining the form in the relief sculptural works after the environmental impact and the intellectual impact responsible for determining the subject and content and the previous ones, the material that the sculptor uses in the formation comes to impose its conditions and sets limits for artistic aesthetics and directs the artist towards places of beauty which he shows in his outstanding sculptures and which tempts him to immerse himself in the beauty of superficial values.

Then the new technology and raw materials come to produce for the sculptor the freedom of thought through the plastic subjects and raw materials used and gave him multiple choices in the methods of formation and the techniques used, although the share of the relief sculptural works of the museum is the largest share of this freedom, but the sculptor succeeded in employing these materials and technology also in the open air.

Findings

Addressing the impact of technological progress on the form of relief sculpture in the modern era, the new materials and the ability to form and formulate them artistically.

The relationship between the art of relief sculpture and technology is reciprocal and positive.

The development of materials gave freedom to the contemporary artist in innovation and experimentation.

The evolution of the form and nature of contemporary relief sculpture inside galleries and museums and in the open air, according to the development of raw materials and tools and techniques provided by technology.

Recommendation

Studying the technological factors that affected the form of contemporary relief sculpture, taking advantage of their positives and avoiding their negatives.

Benefiting from modern technology for the manufacture of metals and industrial plastics, taking into account the artist in shaping these raw materials for artistic heritage and originality, in addition to benefiting from science, art and technology.

Benefiting from the role of technology with scientific and technological progress in the field of raw materials production in the production of outstanding sculptural works that stand alone in the open air.

Taking into account the bases for choosing the raw material of relief and free-standing sculpture work in the open air, in a way that suits the place of display of each of them.

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