

## **Influence of Digital Technology on Theater Scene Design**

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### **Abstract**

#### **Research problem:**

Despite the tremendous development in the field of digital technology for the design of theatrical scenery, there is still a scarcity of use with the use of traditional methods in the design and implementation of the theater scene.

#### **Research Objective:**

To shed light on the impact of modern digital technology on theatrical work through the presentation of some hardware and software digital technology used in the design and implementation of the theater scene in Egypt.

#### **Research importance:**

The development of digital technology, both in the field of modern technological programs for the design of the theater scene or in the field of modern technological devices for implementation has a major role in the development of the implementation of the theater scene, which serves the idea of theatrical work, and helps creativity.

#### **Research hypotheses:**

- 1- The use of digital technology in the design of theatrical scenery helps creativity in the artwork.
- 2 - the application of modern means in the design and implementation of theatrical work to achieve the cognitive theory of the viewer.

#### **Search limits:**

Time boundaries: the beginning of the 21st century.

Objective Limits: Analysis of a global theatrical work.

#### **Research Methodology:**

Inductive method: through theoretical research through books, theses, previous studies and scientific references.

Descriptive and analytical approach: Includes the description and analysis of a world stage show.

**Research Themes:**

- Technological Techniques in Theater Design.
- Digital technology and its tools (Optical projection – Computer Scenery Design).

**Define Search Terms:****Theater:**

A word derived from the Greek word Theatron, meaning "place of view". (Abdul Wahab, 2007, p. 19)

**Theater Scene:**

The first thing that the viewer sees when lifting the curtain, the scene is the introduction of the play to the viewer. This is because the design of the scene is essential to the success of the theatrical performance, where it works to determine the place and time and facilitate the dramatic event of the show. (Abdul Muhaimin, 2003, p. 169)

**Types of theatrical scenes: (Malika, 1966, p. 99)****1- Simple View:**

The scene represents only a frame or a curtain drawn at the front of the theater. It is usually used to film a scene at the end of a theater or in a fantasy atmosphere, and is used in small theaters.

**2 - scenes Backstage :**

It is divided into two types, one simple and consists of side wings with a variety of graphics and allow the passage of actors from them to be placed at the end of the theater a large curtain or a large complementary to the decor of the scene. The second consists of wings moving by hinges to form different surfaces on the stage of representation.

**3- Closed view:**

It is often inside a room. Chassis acts as walls and freezers representing the ceiling.

**4- Semi-closed view:**

(It represents an open space and consists of the chassis decorated with the left openings required for the movement of representatives). (Malika, 1966, p. 100)

**5- A natural theater scene:**

It represents gardens or the entrance of a house filled with trees and grass.

**6- Perspective:**

And follow the rules of the scene.

**7- Built view:**

It is constructed elements or architectural landscape.

**Functions of theatrical scenes: (Abdul Muhaimen, 2003, p. 192)**

- 1- Background to theatrical work.
2. Add aesthetic values to the offer.
- 3 - a carrier of information of time and place and the nature of the characters of theatrical work.

## **Technological Techniques for Theater Design:**

### **Revolution Digital:**

The use of that prominent term "digital revolution" was the result of the impact of digital technology on modern contemporary culture. (Pizzo, 2007, p. 9)

### **Digital Technology Tools:**

#### **1- Optical projection:**

The projection of the projection in the theater is aimed at producing a tight image. (Desouki, 2005, p. 54)

Projection is carried out in several ways

- 1- Special effects devices and visual tricks.
- 2 - The projector of the film "with animated image".
- 3- Laser, and Holography.

### **Programs used in the design of the scenography:**

#### **1- CAD Software "Computer Aided Design":**

It is a general term for a group of programs that perform different results, some do two-dimensional graphics and others design three-dimensional and mobile, such as programs Auto CAD 2D, 3D, CAD stage, 3D Max, Maya, Catia, ...

#### **2- CAM "Computer Aided Manufacturing" Programs:**

It is software that helps computer-aided manufacturing, such as CNC "Computer Numerical Control" which is digital control technology, and RP "Rapid Prototyping" technology.

#### **3- WYSIWYG Program:**

It is a program dedicated to the stage of the preparation of theatrical design scenography, and is used to demonstrate the possibilities of digital lighting design as it contains more than 20,000 lighting. The program was used in the annual Swedish Song Contest, where lighting designer Fredrik Jönsson in Stockholm used wysiwyg to illuminate 32 songs. (Badawi, 2012, p. 71)

#### **Realizzer 3D 2018:**

This program allows the creation of realistic designs, with the possibility of viewing and display lighting used in the design and simulation of high-quality lasers, and we can also make videos. It also has a comprehensive library of many 3D models. (<https://www.cracks4win.com/realizzer-3d>)

### **Results:**

- Dramatic designer can use the software programs such as Auto CAD 2D, 3D, CAD stage, 3D Max, Maya, Catia to design the scenery, which allows the designer to change, modify, delete and add to any element of the design, and thus illustrate the visual vision Complete in front of the exit before practical implementation.
- Optical projection, including devices such as special effects devices, and visual tricks, shaping and Hologram Holography are considered one of the most important tools of digital technology, which helps to the effectiveness and success of the theater.
- The use of special effects devices and visual tricks such as smoke generating devices help to support the theatrical scene with natural effects necessary for the work of art such as the work

of smoke or fog, while Gobos devices help to obtain multiple landscapes such as the moon, clouds, stars, and leaves.

- Laser is used in opera performances, theatrical performances, light shows, dances, concerts and sound and light performances because of its enormous potential in making visual effects and producing infinite forms that confirm the idea of theatrical work.
- From the above it is clear that the use of digital technology helps to develop the design and implementation of the theater scene.

### **Recommendations:**

- Interior design specialists must pay attention to the study of modern digital technology, especially those related to the design of theatrical decoration because it has become a fertile field globally for the use of new technological methods.
- The need to quickly switch to the use of modern digital technologies with constant follow-up because every day there is a new development in the field of digital devices for the work of visual effects of the theater scene.
- The need for the attention of the competent bodies of theaters to equip the theater with the latest digital technologies of devices and programs to direct the theater work in a sophisticated and interesting and creative.

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