

Theatrical Lighting and its Role in Achieving Creative Image الإضاءة المسرحية ودورها في تحقيق الصورة الإبداعية

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Abstract :

This research endeavors to delineate the concept of lighting within the domain of theater and elucidate its pivotal role during theatrical performances, given its significance as a fundamental element in spatial manipulation techniques. Lighting, constituting one of the visual systems, plays a multifaceted role, whether by illuminating the stage's contents or attaining a level of aesthetic impact, thus serving as a cornerstone in crafting the visual narrative and bridging it with the director's intended concepts and messages to the audience.

Within this paper, we delve into the profound impact of lighting on realizing the artistic and dramatic essence of the artwork, thereby forging its innovative portrayal. This exploration is conducted through a historical and artistic lens spanning various epochs, while also appraising its contemporary professional and creative state, employing the descriptive analytical method, deemed most suitable for this study's objectives. The findings of the study substantiate the significant contribution of lighting to the creation of an imaginative and compelling narrative.

Keywords: Lighting; Theatrical Lighting; Creativity; Artistic Functions; Visual Image.

ملخص:

يهدف هذا البحث إلى تحديد مفهوم الإضاءة في مجال المسرح، وتبيان دورها أثناء العرض المسرحي، كونها عنصر من عناصر تقنيات تشكيل الفضاء، وهي واحدة من أنظمة العرض التي تكمن في الوحدة الفاعلة بصريا سواء كانت كاشفة لموجودات العرض على الخشبة أو أن تصل إلى مستوى التأثير الجمالي، وإحدى عناصرها الرئيسية في تشكيل الصورة المرئية، باعتبارها حلقة الوصل بينها وبين ما يريد المخرج إيصاله للجمهور من أفكار ورسائل.

ومن خلال ورقتنا البحثية هاته، نحاول التمهيد حول ما مدى تأثير الإضاءة في تحقيق القيم التشكيلية والدرامية للعمل الفني، وتحقيق الصورة الإبداعية له، من خلال تتبع المسار التاريخي والفني للإضاءة عبر الحقب الزمنية المختلفة وما آلت إليه الآن من احترافية وإبداعية، وذلك اعتمادا على المنهج الوصفي التحليلي، لأنه الأنسب لمثل هذا النوع من الدراسة، وخلصت الدراسة إلى أن الإضاءة تساهم في تحقيق الصورة الإبداعية.

كلمات مفتاحية: الإضاءة؛ الإضاءة المسرحية؛ الإبداع؛ الوظائف الفنية؛ الصورة البصرية.

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Introduction :

It is erroneous to view the art of theater solely through a scientific lens and to perceive engagement in it as a continuous pursuit of innovation. In truth, theater encompasses a spectrum of disciplines, embodying a wealth of knowledge and experiences that have evolved over time and flourished in the contemporary era, particularly with the advent of specialized theatrical production.

Specialization in theater emerged as a consequence of technological advancements and scientific breakthroughs, giving rise to the formulation of principles and guidelines for each specialized area within the theatrical arts, propelled by advancements in both science and artistry within this domain. Among these specialized areas lies the art of theatrical lighting.

The art of lighting constitutes an applied art form with roots dating back to ancient times, assuming diverse roles in theatrical presentations. It entails the adept utilization of various lighting instruments, harnessing the qualities of light such as its source, intensity, and direction to augment the caliber and lucidity of the performance.

Tracing the historical evolution of lighting techniques and tools provides insight into the pivotal role of this element in both our daily lives and the realm of theater. Light serves as an integral component of the artistic creation process, acquiring broader and more nuanced attributes throughout the extensive history of art, thereby contributing to the nuanced meanings conveyed by theatrical works.

Both directors and creators leverage lighting to evaluate the efficacy of their creations, striving to achieve desired effects and convey the depths of their emotions to the audience. Thus, the art of lighting is inherently intertwined with theatrical production, assuming a significant role in every stage presentation.

Considering this, we delve into the research problem by questioning the essence of the topic:

- How significantly does lighting affect the creative image during a theatrical performance?

Hypotheses:

- Lighting aids in achieving the creative image within the theatrical performance.
- The element of lighting is important and prominent, not just for filling space.

Significance of the Study:

This study illuminates the intricacies of the creative process and the requisite conditions for its realization within theatrical performances, with a particular emphasis on the diverse artistic and visual effects essential for captivating presentations, notably theatrical lighting.

Positioned as a pivotal tool for artists, theatrical lighting assumes a paramount role in shaping every aspect of the stage, underscoring its profound significance in the theatrical realm.

Objectives of the Study:

The study aims to pursue the following objectives:

- To trace the path of theatrical lighting through different historical periods, acknowledging its significant role.
- To highlight the artistic and visual value achieved by theatrical lighting.
- To explore how different techniques are used to establish the creative image for the audience within the theatrical space.

1. Concepts and Terminology:**1.1. Concept of Light:**

Light can be defined as "the electromagnetic energy radiated in a range of wavelengths that includes infrared, visible, ultraviolet, and X-rays, traveling in a vacuum at a speed of up to 187,000 miles per second" (Jalal Djamil & Nihad, 2008).

Ibn al-Haytham defines it as "a material thing that reflects off polished bodies" and also as "fiery heat emitted from luminous bodies such as the sun, fire, or glowing objects, and if it shines on a dense body, it heats it" (Hani, 1987).

The Greeks defined it as "everything seen by the eye, the cause of the sense of vision" (Hani, 1987, p. 138), or as Bashlar defined it, "everything that shines is seen" (Bashlar, 1980).

Descartes defined it as "radiant energy evaluated for its ability to stimulate visual senses" or as "something that makes vision possible" (Hani, 1987, p. 144).

Light is produced by something luminous, either natural like the sun, or artificial like gases, oil, or electric lamps (William, 1973).

It is also defined as "the sensation announced by a stimulus in visual passages," meaning "open vision" (Corampton, 1972).

On a secondary level, light is defined as "the capital of a person's knowledge and ideas" (Rudolf, 1969), and Descartes referred to it as "natural

light, a name for the mind" (Lewis, Jenfiyat, and Rudis, 1977), or in spiritual concepts as "spiritual enlightenment attributed to the divine" (Harbet).

Light is that which shines in the darkness and cannot be overcome, giving essence to illumination regardless of its material, creating a luminous brilliance for impact (Jalal Jamil and Nahad, 2008).

In reality, light is energy resulting from electrical force, either natural like the sun or artificial like electric lamp power (Ali, 1975, p. 40).

Therefore, light is electromagnetic waves that fall on objects, distinguishing them, stimulating the sense of sight, and assessing their ability to penetrate objects to express their meanings and reflect their internal content externally, which is vividly evident on the theater stage.

1.2. Concept of Stage Lighting:

The term "lighting" encompasses the art of illuminating the stage through a meticulously designed system and with a specific purpose in mind. However, it's crucial to distinguish between lighting and mere illumination, much like discerning between nature and art.

Illumination pertains to dispelling darkness from a space, whereas lighting involves using specific light to accentuate particular forms, often employing artificial light sources. For instance, sunlight denotes the rays emitted by the sun that facilitate vision, whereas light encompasses the radiance that takes on nuanced hues due to specialized effects, such as those created by theatrical lighting devices (Ali, 1975).

Theatrical lighting, on the stage, is the craft of illuminating the theater space with a precise objective and desired outcome.

1.3. Concept of Theatrical Lighting:

Theatrical lighting, as elucidated by Mohammed Hamed Ali, an Assistant Professor at the Higher Institute of Theatrical Arts - Academy of Arts - Cairo, and appointed for teaching at the Academy of Fine Arts - University of Baghdad, in his book "Theatrical Lighting," commences as the ambient lighting dims before the commencement of the theatrical performance, with light gradually illuminating the stage to accentuate the actors' characters.

This pivotal moment sets the stage for the audience to immerse themselves in the dramatic ambiance. Thus, the lighting designer's task is to craft artistic designs that captivate the audience's attention from the performance's onset until its conclusion, recognizing that theatergoers seek an artistic and dramatic spectacle, not just casual social interactions.

The enchantment of theater must ensnare the audience, ensuring they savor every moment spent within the theatrical realm.

Theatrical lighting serves as one of the technical pillars in executing a theatrical production, alongside auditory effects. Originally conceived for illuminating the stage, its evolution has seen it being harnessed for crafting dramatic and symbolic effects (Ziyad, 1992).

Lighting assumes a critical role, empowering directors to accentuate the aesthetic values inherent in theatrical performances. This is achieved through precise technical control of lighting devices and their myriad elements, including different color temperatures, intensities, dimming effects, and spatial arrangements (general, central, specific), thus engendering a diverse array of visual effects.

Credit is attributed to Swiss director Adolphe Appia² for uncovering the dramatic and aesthetic potential of electrical energy in theatrical settings, a breakthrough that significantly influenced theater towards the end of the 19th century.

Theatrical lighting is deemed "a technical medium that enriches the theatrical tableau" (Ibrahim, 2006). It constitutes a visual artistic language aimed at crafting specific atmospheres wherein actors and spectators coexist, embodying "dramatic and semiotic functions without bounds."

It imbues rhythm into the performance, elucidating arguments and emotions, while synchronizing seamlessly with other scenic elements by reflecting the diverse dramatic situations, thereby forming semiotic cues that audiences interpret, whether by illuminating an event, providing commentary, or isolating an actor or stage element.

The essence of theatrical lighting, in its broader conceptual framework, lies in rendering the theatrical performance palpable to the audience, facilitating their immersion into the theatrical imagery of the dramatic work.

1.4. Lighting:

This term sparked considerable debate among lexicographers before its concept was solidified. Initially, the term (lighting) was prevalent, but it was later supplanted in modern times by the term (illumination) for its enhanced semantic precision. The term not only conveys the act of shedding light on decoration but

² (September 1, 1862 - February 29, 1928), son of co-founder of the Red Cross Louis Appia, was a Swiss architect and theorist of lighting and stage design.

also on creation, sculpture, and creativity through the use of lights (Tajani & Ramadan, p.41).

In the theatrical realm, lighting assumes a paramount role as one of the foundational elements in crafting the overall visual impression of a theatrical performance. It strategically directs light onto the actors as a collective or onto specific elements of the stage decor, props, and furnishings.

Through this process, it captivates the audience's attention, delineating and crystallizing the symbolic essence of the theatrical space. Furthermore, lighting aids in conveying the temporal and spatial attributes and in simulating natural effects such as clouds and the sky (Jalal Djamil & Nihad, 2008).

Lighting serves as an integral component of stage delineation techniques, illuminating elements intended for audience viewing to evoke stimulation and captivate their attention.

2. History of Theatrical Lighting:

2.1. Lighting throughout History:

The history of lighting has traversed significant epochs, evolving in concepts, methodologies, and functionalities. Delving into the historical trajectory of lighting development offers insight into the pivotal role of this element not only in our daily lives but also in the theatrical domain.

In exploring the history of theatrical lighting, we uncover that performances during the Greek and Roman eras unfolded in natural daylight, with torches symbolically employed to denote the passage of time.

From the Elizabethan era through the late 18th century, candles, oil lamps, and torches illuminated the stage until the advent of gas lamps in the early 19th century, circa 1804, on the English stage.

During the late 19th century, gas lamps began to illuminate footlights and side lighting on the theatrical stage. This era witnessed a transition where lighting encompassed both the stage and the auditorium, leading to heightened levels of smoke and temperature within theaters, along with a surge in fire incidents. Subsequently, lighting innovations introduced the limelight in lighting fixtures, albeit at a high cost and necessitating meticulous handling.

Sir Humphry Davy's invention of electric carbon arc lighting in 1808 marked a significant milestone, although its application to stage lighting didn't occur until several decades later. Thomas Edison's invention of the electric bulb in 1897 profoundly influenced the trajectory of theatrical lighting.

The debut of electric lighting in Henrik Ibsen's play "A Doll's House" heralded a new era, with these bulbs finding utility in illuminating opera performances at the Paris Opera House in 1880, subsequently proliferating across stages worldwide. This spurred scientific endeavors to refine designs suitable for both domestic and theatrical settings.

In the late 19th century and early 20th century, engineers embarked on designing reflectors and lenses that complemented these electric bulbs. Noteworthy among these engineers was David Balasko, credited with developing the baby spot fixture featuring a filament lamp, supplanting the previously utilized carbon arc technology.

Balasko aptly articulated, "Lighting assumes a profound role in breathing life into the theatrical narrative on stage, akin to how music animates a song, making it audible and resonant."

From the aforementioned, it is evident that the history of theatrical lighting can be divided into three stages:

First, the Natural Stage:

This began with the Pharaonic theaters where festivals were held in temples in the form of prayers and religious rituals, until these theaters transformed into roofed auditoriums in the mid-16th century. During this stage, lighting relied on natural light utilization, where humans exploited natural light with all available means.

God created the sun as a natural source of light, which, with its sunrise, sends its golden rays through the atmosphere, spreading to cover the sky's face, then reaching the earth to dispel the frightening darkness of the night, turning gloom into a clear day. Thus, the eye perceives the surroundings, objects, and creatures, making visible things clearer.

Humans benefited from this divine gift, and theater people were among those who utilized it. It was found that the theater was one of the facilities that exploited natural light for religious celebrations and theatrical performances. (Abdel Wahab, 2007)

Initially, performances were held in open spaces like public squares, markets, or in ancient Greek and Roman theaters during daylight. At that time, the need for artificial lighting was rare, and torches were used only when necessary. The need for lighting became more pronounced with the change in venue and timing of the performances.

Initially, humans used firelight for their religious rituals, after the sun had been the sole source of theatrical lighting and in religious celebrations. This is supported by Sheloud Cheiny's documentation: "The morning light continues until the theater is immersed in the pleasant freshness and the faint, pale clarity that characterizes the most tender hours of the entire day, except for the moment that is the most spectacular, signaling the start of the performance" (Cheiny, 1998).

Second, the Technical Stage:

Lighting in this stage relied on the use of oil lamps, candles, and lanterns in enclosed theaters, starting from the mid-16th century until the late 17th century. However, lighting was not limited to the stage but was also used in the auditorium.

Third, the Advanced Stage:

This stage saw the use of oil lamps until the advent of gas lighting in 1815. However, both types led to numerous fires and discomfort for the audience due to the smoke emitted. The **first** theater to use gas lighting was the Drury Lane Theatre in England.

3. Lighting Characteristics:

3.1. Quantity:

The quantity of light is controlled by various sizes and dimensions of lighting devices. The amount of light has an impact on the spectator, as excessive light beyond the required level for a scene can fatigue the viewer's senses.

Therefore, the careful selection of lighting intensity creates the appropriate theatrical atmosphere, depending on the experience and good judgment of the lighting designer. In tragic dramas, spectators are accustomed to watching performances under subdued lighting, while lively show performances require a tremendous amount of light and color.

From the perspective of light quantity, spectators prefer comedies in joyful and bright lighting. Thus, the duty of the lighting designer is to select devices and colors that achieve both purposes (Jalal Djamil and Nihad, 2008).

3.2. Color:

Color plays a significant role in shaping the theatrical performance. Warm colors are used for comedies, whereas cool colors are used in tragedies. To this

day, we continue to follow the same approach in coloring our theatrical performances.

Although devices and capabilities have changed, colored light can be obtained using color filters, whether they are made of glass, transparent plastic, or gelatin. With the use of dimmers, it is possible to decrease or increase the color intensity to give lighting the dimensionality in three-dimensional shapes.

3.3. Distribution:

It refers to the way lighting is distributed over acting areas, sceneries, accessories, and panoramas in a proper and homogeneous manner. Successful distribution of theatrical lighting on the stage fully depends on the length of the luminous radiation of the spotlights, the angles of light and shadows produced, without exaggerating the light intensity at acting locations.

Generally, distribution is divided into two parts: one called general lighting for acting areas, and the other called special lighting, which is often used to highlight an actor in a particular dramatic moment (Otnuse, 1960, p. 5).

4. Functions of Theatrical Lighting:

Theatrical lighting fulfills a set of important functions: (Abdel Mu'ata, 1996)

4.1.Vision:

Undoubtedly, the function of lighting is to provide the spectator with a clear view to observe the expressions and movements of the actors. The spatial vision of the form or presentation requires a well-calculated amount of light obtained from spotlights.

The light radiation focused on the actors clarifies their features and defines their dimensions. Their costumes absorb part of this light, and the remaining part reflects in parallel radiations to the retina, enabling the vision of forms through this light.

4.2.Emphasizing Form:

Using general lighting to illuminate acting locations, we find that furniture pieces and actors appear under the light without clear features. Therefore, there should be special lighting on furniture pieces and actors in certain situations and scenes to emphasize their dimensions and outline their features on the stage. Using special lighting can achieve a balance between light and shadow on these forms.

Adolphe Appia mentioned, "The degree of light equals the degree of shadow in lighting theatrical characters," and when emphasizing the form with light, the distance between the actor and the background must be considered.

4.3. Illusion of Nature:

Using colored light, the characteristics of time and place in the theatrical presentation can be emphasized, achieved by creating effects of sunlight or moonlight. The nature of illusion or effect varies with the type of play, whether it is comedic, tragic, or melodramatic.

4.4. Composition:

Composition relies on the proper use of colored light falling on moving shapes on the stage, achieved by an even and contrasting distribution of light and color so that the forms appear as a complete composition.

A successful composition is the result of colored light falling on a shape in space, creating an effect between warm and cool colors, which is suitable for creating a three-dimensional composition in theater. Colored light can also be used to create color compositions on the backdrop, serving as a suitable background for creating the appropriate atmosphere for the theatrical show and supporting the actor's movement on stage.

This serves as an alternative to painting colored scenes in the background during the performance.

4.5. Atmosphere:

The role of theatrical lighting is also to create the appropriate atmosphere for the theatrical performance, emphasizing the emotional and psychological aspects related to the theatrical script. If the play is tragic, the colored light in this case emphasizes the tragic atmosphere using a mixture of green and blue colors.

Conversely, if the play is comedic, the colored light here would be warm, like pink, to reflect merriment on the theatrical stage. From the aforementioned, it is succinctly clear that light colors serve comedic plays, while dim lights with moist colors serve tragic plays. Striking lights with dark shadows serve the atmosphere of satirical plays or melodramas. (Otnuse, 1960)

5. Types of Theatrical Lighting:

Theatrical lighting is divided into four types, aiming primarily to name and distinguish each type from the other:

5.1. Special Lighting:

This type of lighting encompasses all its characteristic features. Generally, this term refers to the light and shadow contrasts that are intensely focused on the actor's face, emphasizing features and creating dramatic values.

In this case, the light beam is focused to become a very small, sharply defined circle, corresponding to the importance of the area and the presence of the actor within it. Special lighting varies from different directions, allowing the actor to move across the acting area within a concentrated pool of light. But what are the tools aiding in creating special lighting?

They are the spotlights with flat convex lenses because they help create the required sharp focus, unlike the Fresnel lens, making them the primary means for creating these light concentrations. (Abdel Wahab, 1995)

5.2. General Lighting:

The eye sees all objects in a similar light frame, and this type of lighting complements and follows special lighting. Its main function is to soften the harsh shadows created by special lighting and to add more smoothness to its texture by reducing the contrasts of shadow and light.

5.3. Highlight Lighting:

This type of complementary lighting helps to enhance the final image of the lighting plan, adding a poetic touch to the overall composition. Generally, this type of lighting is more evident in film or television works.

It is advisable to perform highlight lighting from side spotlights at the wings of the stage, creating high-value dramatic effects and adding diversity to the light and shadow pattern.

5.4. Shadow Filling Lighting:

This lighting technique helps to lessen the contrast between shadow and light areas, softening them, especially since the lighting of the acting area includes not only white light spotlights but also a dialogue between white and colored light. (Al-Youssef, 1994)

5.5. Backdrop Lighting:

Theatrical performances require focusing the light on the actors only so that the background remains in complete shadow. However, if the performance requires general lighting as in comedic plays, the amount of light cast on the backdrop should be less bright to ensure the actors are visible.

5.6. Aperture Lighting:

Undoubtedly, the theatrical set contains apertures, each serving a specific function in the theatrical performance. These apertures require special devices and equipment for lighting that aligns with the nature of the visible scene at that time.

It is necessary to ensure that the used light matches the location of the aperture; if it is outdoors, the lighting should appear natural, whereas if it is indoors, it is essential to give the impression of artificial lighting emanating from an artificial light source, and floodlights are most suitable for this type of lighting.

6. Tasks of Theatrical Lighting Designer:

The lighting designer has tasks to accomplish when designing lighting for any dramatic or theatrical performance:

- First, read the theatrical text and then communicate with the director, producer, and set and costume designers. Through these meetings, the type and style of the play are determined, and the general idea of the required lighting, including devices and colors, is defined.
- The lighting engineer must visit the theater or venue where the performance will take place to understand its dimensions.
- Based on the first and second steps, the lighting designer prepares a list of necessary devices and colors for the performance.
- The lighting designer collaborates with the electrical engineer to prepare devices, dimmers, and gel colors for each device.
- It's essential for the lighting designer to install devices correctly, conduct electrical tests to ensure their safety and proper functioning during the performance, adjust lighting for actor movement on stage, and ensure a comprehensive display in terms of shape, movement, color, and light.

From this presentation of the foundations, functions of lighting, and tasks of the theatrical lighting designer, it becomes clear that colored light plays a significant role in creating the theatrical performance on stage. This is attributed to the creative ability of the designer in dealing with these various devices in terms of degree and performance.

7. The Impact of Modern Technologies on Theatrical Lighting:

The modern theater has experienced a profound transformation thanks to advancements in lighting technology. Techniques like laser beams and large lamps (Hologram) have introduced a new dimension to lighting design, allowing the creation of spectral light characters such as ghosts and specters (Ragheb, 1996, p.205).

These technologies have turned the theatrical stage into a realm of enchantment, imagination, and marvel. Lighting can now pinpoint crucial aspects of the theatrical performance, be it from a technical or artistic standpoint. For instance, when a director illuminates a character, it isolates them from the surrounding space on stage, accentuating their significance and positioning with clarity.

Through its diverse palette of colors, varying intensities, and subtle gradations, lighting can effectively convey character moods and psychological states, striving to depict the multiplicity or unity of spaces within the theatrical setting. Lighting has garnered both artistic and technical acclaim, bearing symbols that enable directors to bypass verbal cues (Raghib, 1996, p.203).

A scene bathed in dim, ambiguous lighting can transform moving characters into ghostly apparitions, eliciting feelings of fear, suspense, and unease. Conversely, a brightly illuminated scene adorned with vibrant colors can render characters vividly and dynamically, fostering a sense of optimism and delight in the audience.

One of the most groundbreaking developments in lighting technology is virtual reality, emerging as a novel form of mass communication stemming from the convergence of multimedia technologies and virtual reality techniques.

These innovations aim to immerse viewers in a heightened sense of reality and engagement, blurring the lines between the viewer and the event portrayed. Advanced lighting technologies play a pivotal role in captivating audiences, drawing them into the mesmerizing world of the performance (Desouki, 2005).

Conclusion:

Through our comprehensive exploration of theatrical lighting, its intrinsic qualities, and artistic components, we have arrived at the following conclusions:

- Lighting assumes a pivotal role in shaping visual artworks, contributing to aesthetic values and bolstering the creative process within the artistic framework.

- It elucidates numerous dramatic nuances embedded in artworks and enriches the artistic essence of the visual composition.
- The theatrical artist harnesses lighting to evoke desired effects and communicate their artistic vision to the audience, fostering a seamless harmony that viewers experience intuitively.
- Theatrical lighting serves as a linchpin in coordinating the various elements of the theatrical performance and aligning them with surrounding elements such as colors, forms, set designs, costumes, and makeup, imbuing them with meaningful illumination.
- Lighting the theatrical scene is akin to conveying light through the spoken word from the actor to the audience; it relies on the visual tableau as a language of expression.
- Theatrical lighting transcends mere visual enhancement; it stands as an integral facet of the artistic and creative components that constitute a performance's essence.

References:

1. Abdel Mu'ata, O. (1996). *Vision Elements in Theatrical Directing*. Egyptian General Authority for Books.
2. Abdel Wahab, C. (1995). *Theatrical Lighting*. General Authority for Books.
3. Abdel Wahab, C. (2007). *Theoretical and Practical Foundations for Studying Lighting Design*. Horus International Foundation.
4. Ali, M. H. (1975). *Theatrical Lighting*. Al-Shaab Printing House.
5. Al-Youssef, A. (1994). *Theatrical Space*. Dar Damascus.
6. Appia, A. (n.d.). In C. S. La Rue (Ed.), *International Dictionary of Opera*. Retrieved from https://en.wikipedia.org/wiki/Adolphe_Appia
7. Bashlar, G. (1980). *Aesthetics of Place* (G. Helsa, Trans.). Dar Al-Jahiz Publishing.
8. Cheiny, S. (1998). *History of Theater in Three Thousand Years*. Ministry of Culture.
9. Corampton, E. (1972). *A Handbook of the Theatre* (2nd ed.). Gage Educational.
10. Desouki, A. (2005). *Modern Media in Theatrical Scenography*. Dar Al-Hurriyah.
11. Djamil, M. J., & Nihad, S. (2008). *The Concept of Light and Darkness in Theatrical Presentation*. Egyptian General Authority for Books.
12. Gennaviat, L., & Rhodes, L. (1977). *Descartes and Rationalism* (2nd ed.). Awaidat Publications.
13. Hani, O. (1987). *Artificial Lighting Systems*. Jordanian Engineers Syndicate.
14. Harbet, R. (n.d.). *The Philosophy of Modern Art*.
15. Ibrahim, A. (2006). *Drama and Theatrical Entertainment* (1st ed.). Dar Al-Wafa for Printing and Publishing.

16. Otnuse, J. N. (1960). *Catalogue Century Lighting -- Complete*. Art, USA.
17. Pavis, P. (n.d.). *Towards a Theory of Theatrical Practice*. Retrieved from <https://books.openedition.org/septentrion/13751>
18. Ragheb, N. (1996). *The Art of Theatrical Presentation*. Lebanese Publishers - Egyptian International Publishing Company.
19. Rudolf, A. (1969). *Visual Thinking*. University of California.
20. Tijani, A. S., & Al-Auri, R. (n.d.). *Glossary of Theatrical Language*. King Abdullah International Center for Arabic Language Service.
21. William, M. (1973). *Selected Writings and Designs*. Edited by Asa Briggs.
22. Ziyad, J. (1992). *Introduction to Semiotics in Theater*. Hashemite Kingdom of Jordan.