

Summary of the research in Arabic:

The art of optical illusion is considered one of the artistic movements that appeared in the late twentieth century, and this movement was of a scientific nature, in addition to being an artistic movement, and this artistic movement depends on the illusion of depth, prominence, movement, oscillation or visual tension through the exploitation of the optical phenomena of the art of optical illusion,

The study considers that poster art can benefit from the philosophy of this artistic direction by employing the theories of visual perception and visual phenomena of optical illusion art, and taking advantage of the digital technology revolution, and techniques in designing a poster directed to the receiving audience, in a way that carries a new style in artistic presentation, and attracts the attention of the recipient , it achieves success in provoking the recipient and motivating him to focus on what he sees in the manner of optical illusion, to understand the content of the poster, and the designer will have to understand the mechanism of using this art to successfully communicate his idea and employ methods of illusion by movement in the design of the poster, where movement is one of the strongest features of visual attraction in poster design.

The importance of the research lies in shedding light on the art of optical illusion (op art) and its history, and its relationship with other visual arts, and the most important pioneers in the world and its kinds, visual values and optical phenomena that are unique to it, and its techniques and methods that influenced and affected the art of the modern poster in which the technological revolution played a major role in its development.

The research deals with the important role played by the art of optical illusion in the development of the modern poster and how to employ its visual and semantic values in its structure, in addition to other visual elements and

vocabulary, especially writing and image, and its implications for its manifold purposes in our contemporary life.

The research aims to study the relationship between the modern poster and the art of optical illusion according to the formal relationships, as Considering that there are a number of commonalities between them, in addition to the common goal of both artists in attracting the eye of the recipient and providing visual information that expresses the content of the poster and convince the recipient of it.

And work on determining the role of the art of optical illusion in the formal and semantic structure of the poster.

The research problem lies in the following question:

- 1- What is the role of the art of optical illusion in the design of the modern poster?
- 2- And to what extent is optical illusion related to the formal and semantic values of the modern poster in the European and American experience?
- 3- What is the possibility of benefiting from this relationship in designing a poster that employs these capabilities to achieve the functional dimension and the visual value of the art of optical illusion?

The research consists of six chapters, the first chapter is entitled (Introduction to the art of optical illusion):

It begins with an introduction that defines the visual arts, which depend in their production on the sense of sight, and how a large proportion of art includes illusions in one way or another, which appeared at the beginning of the Renaissance through painted artworks. Visual illusions were not limited to the visual puzzle in the pictorial work, but appeared Optical illusions that depend on abstract geometric shapes, which were adopted by an art movement at the beginning of the sixties of the late twentieth century specifically concerned with

generating visual deviations, and this artistic movement was of a scientific nature in addition to being artistic, and its artists created distinctive works of art based on optical illusion, The delusion of the recipient of the artwork that there is depth, movement, a third dimension, or prominence. The first chapter includes a definition of the art of optical illusion, its concept and its stages of development, starting with Islamic art, and passing through the artistic movements that affected the development of optical illusion, such as the Russian abstract, futuristic and constructivist movement and the kinetic art that coincided with the emergence of the art of optical illusion.

The first chapter reviews the foundations of building the art of optical illusion, the most important types of optical illusions, and the most important pioneers who had the emergence of artistic trends, including the art of optical illusion, a major role in the influence of many artists of photography and sculpture with the concepts of this direction and this appeared in their figurative and sculptural artworks.

The second chapter was entitled (Modern Poster Art):

Where we talk with an introduction about the association of the advent with the formation of the first graphic signal through the practices of ancient humans in tracing the traces of animals on the clay, and thus the search for the graphic visual relationship. These practices had a major role in the emergence of the art of graphic design associated with the advent. Through it, we define the art of advertising and shed light on the history of the development and emergence of advertising and its use throughout history for commercial purposes, as it began with oral advertising, then moved to written advertising that was associated with the emergence of writing. And the invention of metal letters by Gutenberg, which is a major turning point in printing that contributed to the spread of advertising significantly. The industrial revolution that appeared in Britain and expanded to Europe and the United States increased its spread. All this

development contributed to the invention of modern types of printing and photography machines, which led to increased production and increased demand in advertising design, and design began to take a wide public space.

The poster is considered one of the most important publications in advertising design, and it is the important scope that is relied upon in this chapter, as it included the definition of poster art and the emergence of the modern poster and the journey of its development as a work of art in the fifteenth century, and the connection of its era to a specific moment in European civilization, which is the moment of transformation in the role of the image. The word, which appeared in the second half of the nineteenth century, shone the star of the modern poster during the era of artists (Jules Cheret and Henri Toulouse-Lautrec), where the image and writing took the full dimensions in the visual composition of the poster in terms of the distribution of color spaces and technical and design diversity.

The poster was influenced by international artistic movements, and it had a major role in the development of the style and technologies of modern poster art in the twentieth century, such as the Art Nouveau school that spread throughout Europe and had a major role in changing the fundamental relationship between word and image, and relied on decorative art and sinuous lines.

The Expressionist movement came in Germany, characterized by symbolism and sentimentality, and these features appeared in poster design during World War I, as wartime posters followed the local style of each of the different countries.

One of the most important schools that had a great influence on modern poster art is the Bauhaus school, which mixed architecture and plastic art in one framework. Abstraction formed the most prominent trends of this school, where this influence appeared in the production of its artists such as the works of Vasarely, Paul Klee and Kandinsky, with two currents in the period between

1914 and 1923 regarding poster production, a current influenced by the new ideas of the Dadaists and the general trend, which was called war posters and commercial posters.

And in the fifties, the modern Swiss school was launched in Switzerland and Germany, where the theory of modernization had a great impact on the direction of artists to study the works of the twenties of the Bauhaus School, in giving the visual value of the white space to the prints the same importance as the printed space and attention to values, the visual rhythms of crafts and the need for innovation, this movement expressed In terms of content as well as the visual value of the poster about the activities and problems of society and the rejection of personal expression of the designer's experience, one of the most prominent pioneers of this movement is the designer Muller Brockmann. At the end of the chapter, it was necessary to shed light on the types of posters from the side, functional and objective, and the most important characteristics in designing a successful poster that combines technical and functional advantage as a means of communication that contributes to the transfer of intellectual and visual information, and the development of artistic taste of the recipient.

Then comes the third chapter of this research, which is entitled (Perception of the Art of Optical Illusion in the Modern Poster).

The chapter emphasizes the issues of perception, where perception is defined and its types, which are divided into sensory perception and visual perception, and in order to reach the mechanism of optical illusion in the design of the poster, it is necessary to emphasize the process of visual perception, where the process of visual perception begins according to the concepts of optical illusion that begin with wholes and turn into particles. Then meditation and analysis, as a prelude to re-transforming to colleges with a perceptual concept, and given the importance of the visual perception process in realizing the optical illusion in the poster, the third chapter sheds light on the physiology of the visual system of the

eye structure as an influential member of the visual experience that leads us to the visual process that causes this illusion. In addition to identifying the factors of association between the physiology of the eye and the art of optical illusion, starting from eye movement to physiological stimuli and perception of depth and distance, and stimuli of the kinetic relationship in the perception of depth and distance associated with the eye to the transient and permanent focus, and the exploitation of optical illusion artists of these factors in the design of the modern poster to give visual impressions Animation.

The third chapter also dealt with the visual perception strategy in the modern poster based on the art of optical illusion. Where the most important hypotheses presented by the Gestaltists were identified, which is the dialectical relationship between the whole and the parts, and the whole contains and is dominated by the visual parts in the poster. These hypotheses were dropped on posters that were designed according to the standards of optical illusion art.

The laws of perceptual regulation of optical illusions are emphasized in the design of the modern poster through a set of principles, namely:

- 1- The law of the shape and the floor in the poster.
- 2- The principle of convergence of the elements of the art of optical illusion in the poster.
- 3- The closing principle of the optical illusion art elements in the poster.
- 4- The principle of continuity for the elements of optical illusion art in the poster.
- 5- The principle of symmetry for the elements of optical illusion art in the poster.

It took advantage of these principles adopted by Gestalt scholars in the art of optical illusion, which this chapter noted by dropping these principles with an analytical study of some of the posters on which these concepts were applied.

The fourth chapter, which deals with the title of (reading the modern poster according to the multiple visual foundations of the art of optical illusion)

The chapter dealt with the optical phenomena of the vocabulary of optical illusions, and projecting them with a visual reading on posters designed according to the standards of optical illusion art. These phenomena are represented in the wavy visual models that have several forms such as wavy lines and creating three-dimensional visual impressions, and the displacement of wavy lines in the centers

radioactive. As for optical aberrations, it is another phenomenon that generates a kinetic impression resulting from disturbances in the formation of the visual image, which occur as a result of small and transient changes in the lens of the eye, as these aberrations appear bright and vibrant in the designs of unified circuits and radiant curved lines, and these phenomena have been exploited in many modern poster designs. It was adopted by designers as a design strategy in showing the optical illusion in the composition of the poster.

Among the phenomena that played a major role in the manifestation of an optical chromatic illusion, is the phenomenon of simultaneous contrast, which gives a vibratory kinetic effect and visual aberration, in addition to the phenomenon of subsequent images that appear after excitation comes from a bright light source and is automated by the process of fixing the eye on the center of the figure for thirty seconds. Then look at an adjacent white space, to see the subsequent images on the white paper, in contrast to the contrast in the image. As for the shining lines, they are one of the optical phenomena known as the surrounding optical lines. These lines were used in the design of the poster.

It was a phenomenon that has plastic solutions to many visual artists. We have presented a visual reading of some of their posters in this chapter.

The chapter also presented the role of the visual vocabulary of the art of optical illusion in the design of the modern poster, such as the point as a visual vocabulary of optical illusion, which gives a deceptive effect to the eye through its formation with visual relationships within the composition of the poster, the line and its illusion of movement in the poster, and the role of shape in creating optical illusion where Geometric shapes are the largest in the designs of posters built according to the applications of the art of optical illusion through mathematically calculated repetition and paving, which in turn give a kinetic character.

From the visual vocabulary with dynamic effects in the composition of the poster, comes the color that acquires its visual values through its relationship with neighboring colors, and its ability to suggest depth through the color perspective, which constitutes an optical illusion based on the spatial dimension, and we do not overlook the location of the image in the composition of the poster based on illusion. The visual, which had the least important aspect in the visual space, the designers relied on creating optical illusions of color, shape, and line, and the image came as a functional and aesthetic complement in the poster.

Writing constitutes the direct discourse with the recipient in terms of expressing the content and content of the poster, and with the emergence of the art of optical illusion and the kinetic concept that he added to the artwork, the typographical letter entered as a strong partner in showing kinetics in the design process, and this vocabulary was displayed through a visual reading of some of the works of the artists The modern poster, and determining the kinetic role of each one separately.

These vocabularies are organized within relationships and foundations that connect them, such as unity, balance, rhythm, and sovereignty in the design of the modern poster.

Then the expressive and functional connotations of the art of optical illusion were discussed in the poster, where the connotation represents the systemic relationships of the elements according to visual laws that depend on the systems and foundations of design through which the design work is subject to a process of decoding and installation in order to be re-analyzed by the recipient, and re-installed to reach a reading New elements and their connotations, and here comes the definition of the concept of the signifier, the signifier and the symbol that has been highlighted, and the visual reading of these terms in modern posters, and at the end of the chapter, the research touched on the role of technology in the art of optical illusion and its use in the development of the modern poster.

Chapter Five, in which a number of posters for some of the works of optical illusion artists in Europe and America were analyzed according to the following controls:

- 1- Graphic analysis: includes the design structure of the poster (composition, shape, dynamic line, writing, background)
- 2- Eye movement and awareness of movement centers in the poster.
- 3- The optical phenomena of optical illusion in the poster.
- 4- The functional dimension of the optical illusion in the poster.
- 5- The semantic dimension of the visual illusion vocabulary in the poster.

Chapter Six: it includes the researcher's practical experience according to the results he reached.