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Examining the Symbolic Meaning of Colors in Ancient Egyptian Painting Art and Their Origin in Environment

Mahda Foroughi*

Shohreh Javadi**

Abstract

Throughout history, human beings have used different ways including arts to express their feelings and thoughts. Painting art has served different purposes. It has been used a medium to portray sacred things or to spend leisure time. Paintings can carry real and symbolic meanings. Sometimes they depict the reality in the environment, and sometimes they present unrealistic events or have a symbolic meaning. Color as the most important elements of the painting used in different ways to present a variety of concepts such as death, immortality. Ancient Egypt is one of the greatest and first civilizations of mankind from which many archaeological works and artworks have remained.

Purpose: Previous research has analyzed the symbolic meaning of colors in the ancient Egyptian paintings based on linguistics. So far no research has analyzed the symbolic meanings of colors and traced its origin in the real environment. This paper is an attempt to analyze symbolic meanings of colors in ancient Egyptian painting works.

• Methodology

Due to the presence of the gods in the ancient Egyptian paintings throughout history, we have analyzed the colors in the image of the gods of ancient Egypt. To this purpose, after selecting the images of the gods, the most important recurring elements (objects) and the main colors in the paintings were examined. The meaning each of colors and their manifestation in the ancient Egyptian environment were analyzed. Finally, to support our analysis, we searched for the evidence to show how concepts are presented in the colors available in the paintings. As the death concept has received much attention from the ancient Egyptian people, the paintings portraying the mummification rituals, mourning and judgment were analyzed.

Keywords

Color, artworks of ancient Egyptians, symbolic paintings.

*. M. A. student in Landscape Architecture, University of Tehran. mahda.foroughi@ut.ac.ir.

** . Tehran University, Nazar research center. javadi1336@gmail.com

Introduction

Ancient Egypt is one of the oldest human civilizations from which artworks and paintings have remained. In ancient Egypt, the color has been an integral part of life and paintings. In ancient Egyptian paintings, the color of everything is a clue and a sign of its true existence. For example, the skin of Ra which is painted in blue represents his cosmic features. The green skin of Osiris shows his power over new life and resurrection (Wilkinson, 2003). Paintings in ancient Egyptian paintings have symbolic meanings. This is much true when holy people and myths are portrayed. These symbolic concepts have originated from the lives of the ancient Egyptian people. In ancient Egypt, natural elements such as the Nile River, the annual flood of the Nile River and alluvial remnants of it on the lands around the Nile River, the fertile lands around the Nile River, the sun, the sky, and plants were important in people's lives. People attributed the myths and gods to them because they were afraid of these elements of nature or they showed respect for them. The color and form of each god are tied up with the natural elements attributed to it and also it is associated with the role that god plays in people's lives. For example, the Nile River was a natural habitat for the Egyptian people. That might explain why they created the god of the annual flood of the Nile River (Hippies) and portrayed him with a blue skin. Egyptian artists use mainly six colors including green, red, yellow, blue, white and black in their artworks (Schenkel, 2007). Colors are often made from mineral compounds, and thus look fresh. There are also four basic colors in ancient Egyptian language, each of has a unique meaning. For example, being green means revitalization. Based on what has been discussed so far, the research questions are as follows:

- What are the symbolic meanings of the colors used in ancient Egyptian paintings?
- How are symbolic meanings of the colors associated with its surrounding nature?

Literature review and theoretical foundation

A careful perusal of literature shows that less has

been documented on the symbolic meanings of colors in ancient Egyptian artworks. Available literature has rarely discussed this issue, or categorized the concepts and supported their findings with evidence. Few studies have examined the concepts of the gods. These studies have attempted to transiently attribute the symbolic concepts to the colors. However, they have barely supported their data with some evidence. One of the most comprehensive references on this area is the book "The Complete God and Goddesses of Ancient Egypt" by Wilkinson (2003) whose ideas have been referred to in the literature pertinent to gods. Some studies have tried to establish links between colors, symbolic concepts and their meanings solely through linguistic discussions. Sapir (1921) introduced a two-way relationship between language and culture. This topic has been developed by many theorists. In 1963, Schenkel stated that the white, black, green and red colors are four symbolic symbols in ancient Egyptian paintings.

In their language, there were only four colors terms. In his view, all the colors fit into one of these four categories, for example

The blue color is the same as green color. In 1969, Berlin and Kay introduced the theory of base color terms¹. According to this theory, the recognition of colors is not a cultural but rather a morphological and universal issue. In their view, the numbers of colors known in ancient societies are limited and there are fixed rules for recognizing colors in the world. Some linguistic scholars such as Hermann (1969) and Brunner-Traut (1977) argue that there are no symbolic meanings for colors in ancient Egyptian paintings. They reject the theories of the four main colors proposed by Schenkel and the base color terms of Berlin and Kay. The most recent research on this area is conducted by Schenkel (2007), who developed its earlier theory on the recognition of only four colors in ancient Egypt. He argues that although in ancient Egyptian language there are only four colors terms, yellow and blue are also recognized in paintings. In supporting his argument, Schenkel says that Azure and Gold not only have their own meanings,

also are used to describe blue and yellow colors respectively. In the ancient Egyptian language, for explaining blue color, the sentences such as “Lapis lazuli-like” is used. Schenkel also highlights that examining the concepts of symbolic colors using the linguistic approach has made this issue inconclusive. In other words, from his point of view having access to the comprehensive references plays a key role in promoting the linguistics approach. However, due to the absence of people with a great command of ancient Egyptian language, the researchers have barely reached the consensus on the concepts of symbolic colors.

The colors and icons of the gods in the ancient Egypt The ancient Egyptian tended to objectify all the phenomena, especially those regular natural forces which were influential in their lives. It is because the reason explaining the order of nature and its forces were mysterious to the people. Moreover, the people’s lives were tied up with these forces, and they had no control over them. To make the world more understandable to them, they interpreted the natural forces as the gods of the world around them. For example, the annual floods were thought to be as the God of heaven who pours water into the Nile with a jug from above (Durant, 1370: 166). By worshipping the gods and holding rituals for them, they by some means communicated with these forces and felt more secure. In Egyptian paintings, the gods are the most symbolic beings. Ancient Egyptian painters portrayed gods through the symbolic icons and colors. In fact, each image has a lot of symbolic interpretations. Due to large numbers of Egyptian gods, we limited our research to gods who were important to people and were believed to have a key role in the people’s lives. We selected six important gods of ancient Egypt who have a different role in the lives of the people and then we analyzed them in terms of meanings, icons, and colors.

Ra

The word Ra means the sun in the ancient Egyptian language (Wilkinson, 2003). He is the creator of

the world and other gods from his generation. The most common image of him is a man with a falcon head who has a red disc (as a symbol of the sun) on his head (Assmann, 2001; Hornung, 1982). In most pictures, a cobra is wrapped around the disc. Wilson (1946) and Wilkinson (2003) refer to the disc as a symbol of power.

The skin usually has one of the following colors:

- Red: The sign of sun and symbol of strength and victory
 - Blue color: The sign of the sky and the place of Ra, and symbol of divinity and supernaturalism
- The ancient Egyptians believed that Ra lives in the sky and travels around the sky during his day (Wilkinson, 2003).

Anubis

In the third millennium BC, Anubis was the most important god of the dead who was worshiped as a god of mummies and the priests working as embalmers (Assmann, 2001; Holland, 2009). He is responsible for judging the dead and maintaining the integrity of the dead in the transition to the other world. In most paintings, Anubis has a human body and his head is a combination of a dog and a jackal and his skin is black such a selection reflects the ancient Egyptian painters’ belief in the relationship between the soul and the body of beings (Redford, 2002); (Holland, 2009).

Sekhmet

In the ancient Egyptian language, the word Sekhmet means the most powerful one (Holland, 2009). He is the god of war and violence who blows fire from her mouth while fighting against her enemies. The ancient Egyptians believed that hot and dry winds of a desert are her breathing (Wilkinson, 2003). In the ancient Egyptians paintings, she is depicted as a lion- headed human in a red dress with a red disc on her head. The most striking features of her are power and violence. The use of the head of a lion, the most powerful animal of the forest, can back up our claim.

Osiris

Osiris is the - lord of the underground world and the god of death and eternity of the Egyptians (Assmann, 2001). Anything which is related to the underground including land fertilization is at the disposal of the Osiris (Redford, 2002; Holland, 2009). The amount and the quality of land cultivation depend on his benevolence and desire (Redford, 2002 Holland, 2009) He is depicted as a human figure in a white shroud and his skin is painted in three following colors:

White: The color of shrouds which is the dress of people in Osiris's land

Black: The symbol of after death life which means his ruling on underground world

Green: The color of trees and agricultural crops and it is a symbol of his power on fertilizing lands the fruitfulness of agriculture. This color signifies revitalization

He almost had a crooked cane (the symbol of sovereignty) and a thresher (the symbol of agriculture) (Wilkinson, 2003) in his hands. These symbols also highlight the role of Osiris in ruling the world of the afterlife and fertilizing lands.

Hapy

He is the god of the annual flood of the Nile. The ancient Egyptian associated flooding with the arrival of Hapy. He is depicted as a man with a large stomach and or with woman's breasts. Such features are symbols of fertility and the power of nutrition. In those pictures, he is often watering plants or holding trays filled with expensive food the symbols signify the importance of its role in controlling the Nile and inundation. His skin is often blue and in some of the paintings, it has lines in the form of water waves (Wilkins, 2003).

Based on what has been discussed so far about the gods of ancient Egyptians, it is clear that the ancient Egyptians embodied their gods based on the inspiration provoked by the nature surrounding them, and the colors attributed to them were derived from the nature or from the nature- associated concepts

which were manifested in the form of the gods. The information presented above is summarized in the following table (Table 1).

Method

The research design of this study is qualitative. This research mainly focuses on the image of the gods in ancient Egypt. The reason is that theme of gods has been present in ancient Egyptian paintings throughout history. Each color represents a specific meaning. We analyzed the symbolic meanings of colors in ancient Egyptian painting works. Based on the existing literature, six main colors were identified in ancient Egyptian paintings were identified. To this purpose, after selecting the images of the gods, the most important recurring elements and the main colors in the paintings were examined. The meaning each of colors and their manifestations in the ancient Egyptian environment were analyzed. Finally, to support our analysis, we searched for the evidence to show how concepts are presented in the colors available in the paintings. As the death concept has received much attention from the ancient Egyptian people, the paintings portraying the mummification rituals, mourning and judgment after death were analyzed.

Findings

Based on the data presented in the previous section and the lexical meanings of colors, we first analyzed the most important recurring elements in the available paintings of ancient Egyptian and examined their main colors. Then we searched for the important elements of nature in the life of the ancient Egyptian people. In so doing, we analyzed the symbolic meaning of colors and showed their manifestations in nature.

Colors and their symbolic meanings in the ancient Egyptian painting art

In ancient Egyptian paintings, the color of everything is a clue and a sign of its true existence. Except for some practical uses, colors in the art of ancient Egyptian painting have symbolic connotations. According to Schenkel (2007) and Baines (1985),

there are six colors green, red, yellow, blue, white and black in the paintings of Egyptian artists. Except for blue and yellow colors, there are words for the rest of the colors in the Ancient Egyptian language. The symbolic meaning of each color in ancient Egyptian art and its origin are presented in the following paragraphs and analyzed.

Green (Wadj)

In the folk ancient Egyptian language, doing green work means to prosper and to be fresh. Schenkel, (2007). The ancient Egyptians had many gods for the abundance of agricultural products. The most important of them are Tenten and Sobek which both have green skins symbolizing the prosperity in agriculture and its products. In some of the paintings, Osiris and Anubis are also depicted with a green skin symbolizing their role in the fertility of the earth and resurrection. In the most paintings, in addition to gods with green skins, plants and crops are displayed in green. The primary sources of income for the ancient Egyptians were agriculture and livestock. Such sources were tied up with plants and land fertility. The elements of nature were the source of the life for the ancient Egyptian people and the natural green

elements had a great influence on the people's lives. The prosperity in agriculture and the growth of trees present the concept of revitalization, success, and fruitfulness. Therefore, the symbolic meaning of green is a rebirth and success.

Red (desher)

In the folk ancient Egyptian language doing red work means being angry and victorious. (Schenkel, 2007). As mentioned in the previous section, among the most important gods of ancient Egypt, Sekhmet is depicted in red. The concepts of victory, war, and violence are attributed to him. Also, the discs on the heads of Sekhmet and Ra are depicted in red. In the paintings, the eye of the god of the sun is shown in red and generally, this color shows the god's anger and brilliance (Schenkel, 2007). The ancient Egyptians believed that the eye was made of a red opal stone. During the celebrations, the ancient Egyptians also covered their bodies in red. Therefore, the red color has been a symbol of violence, power, and victory. In ancient Egyptian texts, deserts and gold symbolize red. In these texts, many sentences, such as red like gold (desert)" can be frequently observed (Schenkel,2007). Generally, among the natural

Table 1. A summary of important gods, their gods, their roles, colors and the concepts symbolizing them. Source: authors.

Feature	Concepts symbolizing god	color	linguistics meaning	the god's role in nature	god
A sun disc on her head	the god of other deities: power	red		the sun	Ra
A head of a hawk	living in the sky: supernaturalism	blue			
A head of a jackal	the god of mummies and the embalmers	black		death	Anubis
	responsible for peoples' resurrection	green			
A sun disk on the head, a head of a lion	The wild god of war and violence	red	the powerful one	war	Sekhmet
A Crooked cane	The king of the afterlife	red		death	Osiris
white dress	the god of the dead in white	white			
thrasher	Responsible for land's fertility and peoples' resurrection	green			
A big belly and woman's breasts	Responsible for the annual flooding of the Nile	blue		The annual flood of the Nile	Hapy

elements that affect the lives of Egyptians, the sun, the desert, and gold are perceived as red.

All three elements are eternal and superior, and the heat of the sun and desert dryness evoke a feeling of violence.

White (hedj)

In the ancient Egyptian language, doing white work means To shine and to become bright (Schenkel, 2007). Osiris is the god of the afterlife was often depicted in this color. Other symbolic manifestation of this color which frequently recurs in the ancient Egyptian paintings include:

- White sandals in the sacred ceremony
 - White colored elements and ritual objects such as ceremonial bowls and even dining tables in Memphis
- The shroud of mummies and the dresses of the dead
The color of “Nefer”, the crown of Upper Egypt, is white, although it is probably made of green straw.

In this way, white is used for the concepts of rebirth afterlife and sacredness. The most important element of white color is the ancient Egyptians day and its brightness. The ancient Egyptians believed that Ra sails across the heavens every day in his ship and he dies at night and goes to the underground world to be reborn next day. Thus, the day signifies the concept of revitalization.

Black (kem)

In the ancient Egyptian language, doing black means revitalization (Schenkel, 2007). Among the gods, Osiris, the king of the afterlife, is called “black”. Queen Ahmose-Nefertari, who supported the cemetery, was also usually depicted with black skin. Anubis, the mummy god was depicted black jackal or dog-headed even though jackals and dogs are usually brown. In ancient Egypt, the concepts of death and revitalization are not separate, and these two concepts are juxtaposed, and black is used for both concepts. From the viewpoint of the ancient Egyptian people, the most striking natural black element are the night, and the annual the alluviums of the annual flood of Nile. As it mentioned before, the night for them

reflected the death concept for his resurrection next day. In the ancient Egypt, alluvial remnants from the annual floods re-fertilized the land and brought about the prosperity in agriculture. That’s why it signifies the concept of revitalization.

Yellow

As previously described, there is a lot of doubt if the Egyptian people could have distinguished the yellow color from red because there are no words for these colors. Moreover, they perceived the desert, the gold, and the sun as red. However, with reference to the research carried out by Schenkel, (2007) and Baines (1985), we examined this color separately. The ancient Egyptians believed that the skin and bones of the gods were made of gold. Therefore, the statues of gods and masks of mummies were often made of gold or gold plated. The most prominent elements in the ancient Egyptian paintings were yellow, for instance, the bones of the gods of mummies. Also, the background of many paintings, especially those related to the afterlife, is depicted in this color. This color signifies the immortality of the afterlife because the ancient Egyptian people view the world after death eternal and superior to this world. Among the elements of nature, the sun and gold, both are yellow and signify the immortality and eternity of the other world.

Blue

There is a lot of doubt if the Egyptian people could have distinguished the yellow color from with reference to the recurring elements or objects in this color in the ancient Egyptian paintings and explanations provided by Schenkel(2007) and Baines (1985), we analyzed this color. Among the most important gods in ancient Egypt, Hapy , the god of annual flood, is depicted in blue. In some of these paintings, lines in the form of water waves are also visible on his skin. His falcon head and his blue hair symbolize his heavenly and supernatural role in the creation of the universe. The ancient Egyptians believed that the hair of the gods was made of an azure stone, a blue stone. The

blue color has the concepts of the Nile River and the supernaturalism. The most effective natural elements on the lives of ancient Egyptians, the sky, and the Nile, are blue. The sky is a supernatural and terrestrial space. The Nile River has been the source of life for the ancient Egyptian people and has been the factor for their agricultural prosperity. Therefore, the blue color indicates the Nile inundation and its supernaturalism.

Discussion

The paintings of the ancient Egyptians' can fall into two categories.

1. The pictures—depicting a routine daily life of people, livestock, agriculture, and harvesting.
2. The pictures depicting gods and their legends.

The first group of ancient Egyptian paintings contains real elements. Usually no symbolic art can be seen in these pictures. As it is shown in Figure 8, all elements of the image, such as proportions, colors, and people are real.

In this image, colors, proportions and elements are all in accordance with reality and no symbolic elements can be seen (Fig. 1, 2).

As can be seen picture 2, there are lots of unreal objects unrealistic colors

To support our analysis, we provide some evidence to show how concepts are presented in the colors available in the paintings. The most important concept in the life of ancient Egyptians is afterlife. This is manifested in the architecture of their monuments which has superiority over the architecture of the palaces and houses.

As many of their paintings are also about death and afterlife, we choose those images representing this recurring theme to examine how colors reflect the concepts.

Mummification and mourning ceremony

The following pictures show the mummification ceremony throughout the history of ancient Egypt. The dominant and common colors of these paintings are white, golden and black, which signify immortality and afterlife concepts. The black head of Anubis and yellow bones of gods are also recurring elements which signify the concepts of death and immortality respectively.

As can be seen in the following picture, the color of the mummy and Anubis skin, divine beings, are golden,

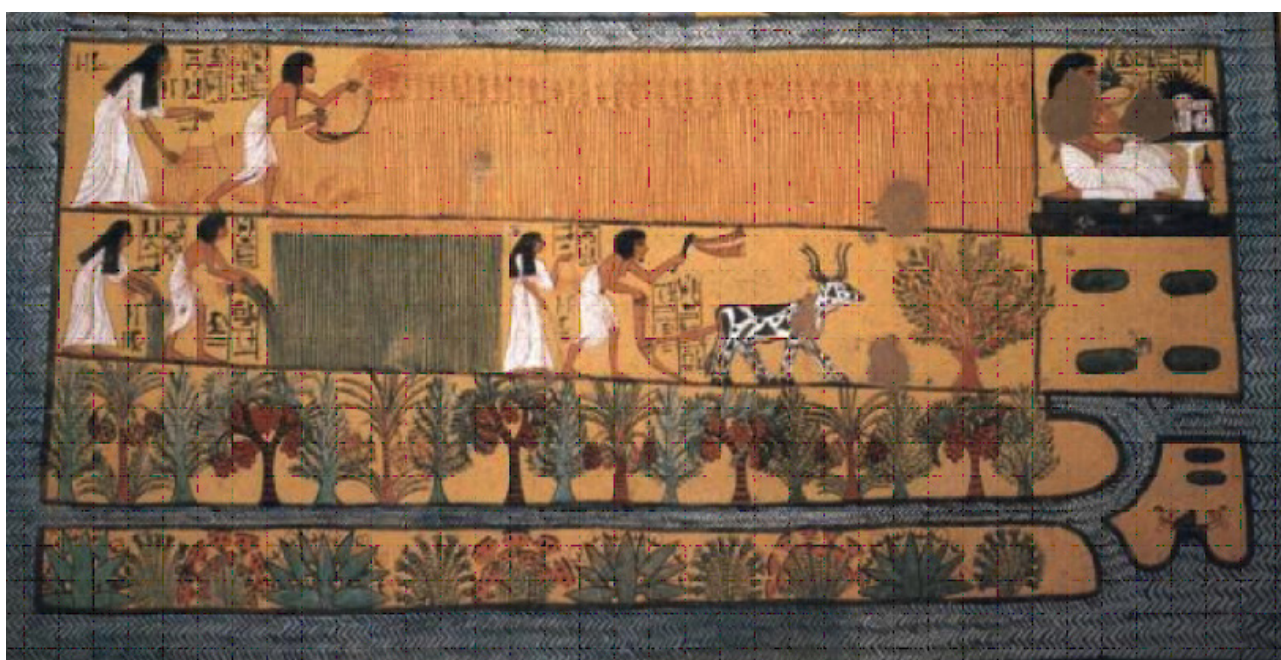


Fig. 1. The Image of a daily life of people. Source: Marie & Hagen, 1999: 171.

while the skin color of the priest and the mourning women are brown and pinkish. As discussed earlier, gold and yellow colors are the symbols of immortality. As can be seen, the symbolic meaning of yellow is used in this image. The blue hair of Anubis and mummy represents its cosmic features. The dress of mourning women and the priests are white. This color

represents sacred rituals and ceremonies (Fig. 3, 4). In the following picture, the yellow bones and blue hairs can be seen.

The prevailing colors in picture 5 are white, black and yellow like the other paintings (Fig. 5).

The Judgment after death

The picture below shows the afterlife and the Day



Fig. 2. The Image of the Day of Judgment. Source: <http://www.crystalinks.comegyptart.html>

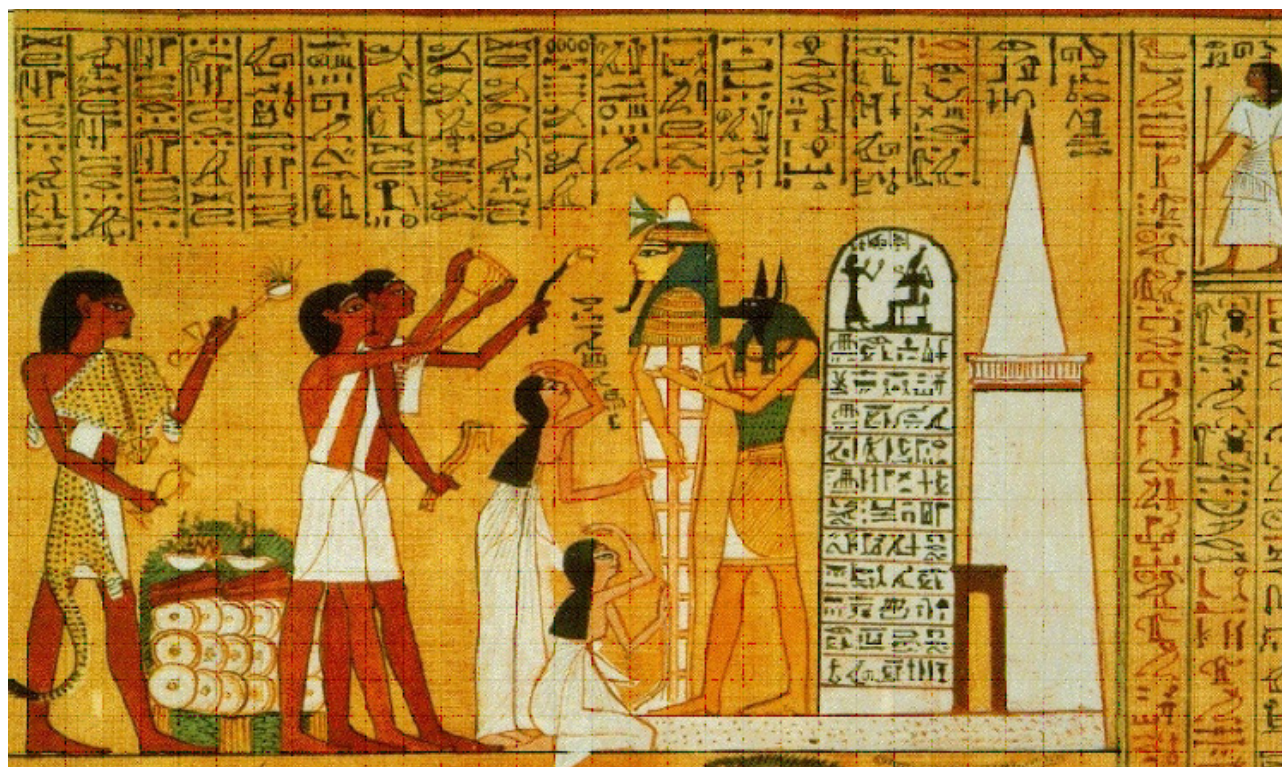


Fig. 3. Anubis is embalming one of Egyptian pharaohs. Source: Oakes & Gahlin, 2003: 419.



Fig. 4. The mummification ceremony of one of the pharaohs by Anubis. Source: <http://www.robinurton.com/history/ancientegypt.htm>

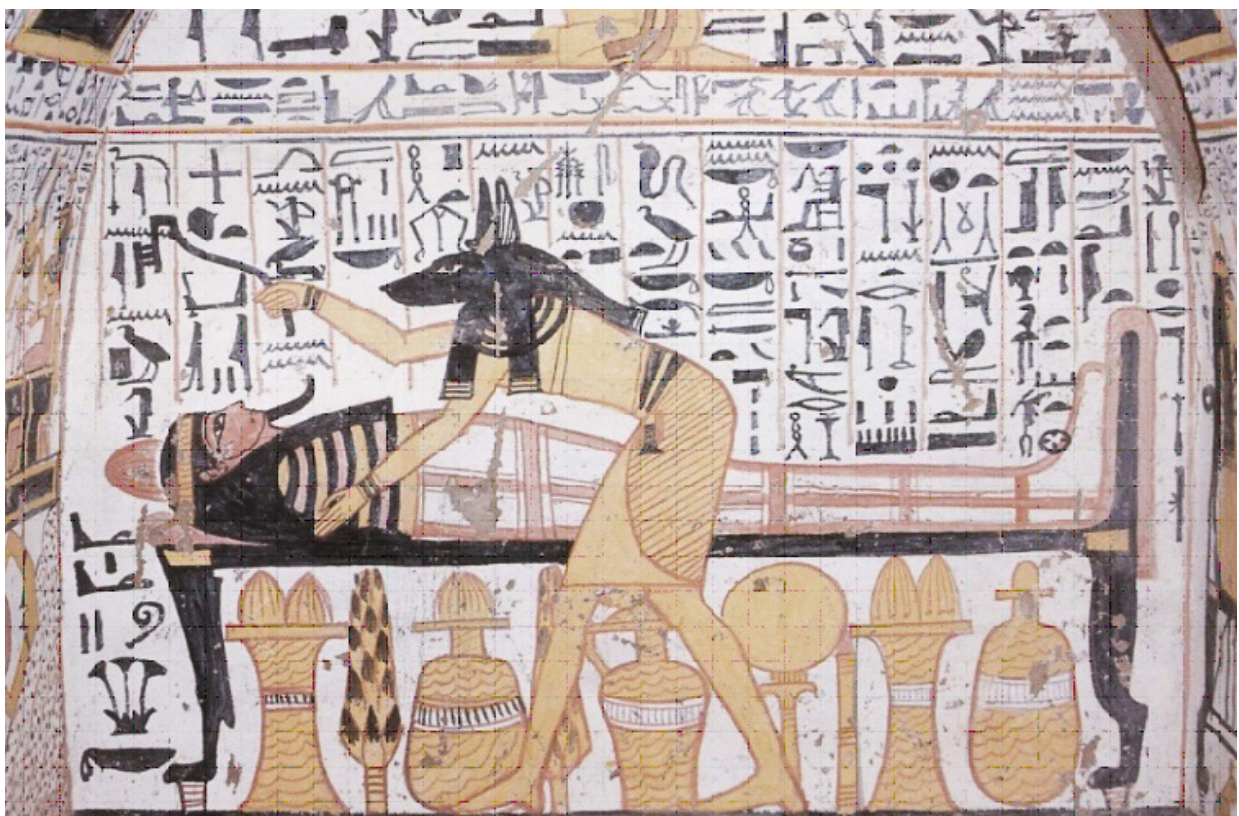


Fig. 5. The mummification ceremony of one of the pharaohs by Anubis. Source: Marie & Hagen, 1999: 140.

of Judgment. Osiris is sitting on the judgment board on the right side of the image and Anubis is the one on the left side of the image judging the dead and weighing their hearts. The background color of the image is yellow. This color signifies the immortality of the other world. The skins of the gods are golden, white or green, but ordinary people have red pale skins and wear white dresses. The skin color of the gods, symbolize the life, while the skin color of the people is not symbolic, as in all the images, the skin

colors of men and women are red or pale red. But the clothes of men are also white (Fig. 6).

After analyzing the data, most key elements of nature in the life of ancient Egyptians emerged.

We also found that the ancient Egyptians attributed the gods to these elements of nature either because of the fear of these elements or respect. In Table 2, summarizes the manifestation of each color in nature, the symbolic stones for each color, as well as the lexical and symbolic meanings of the colors.

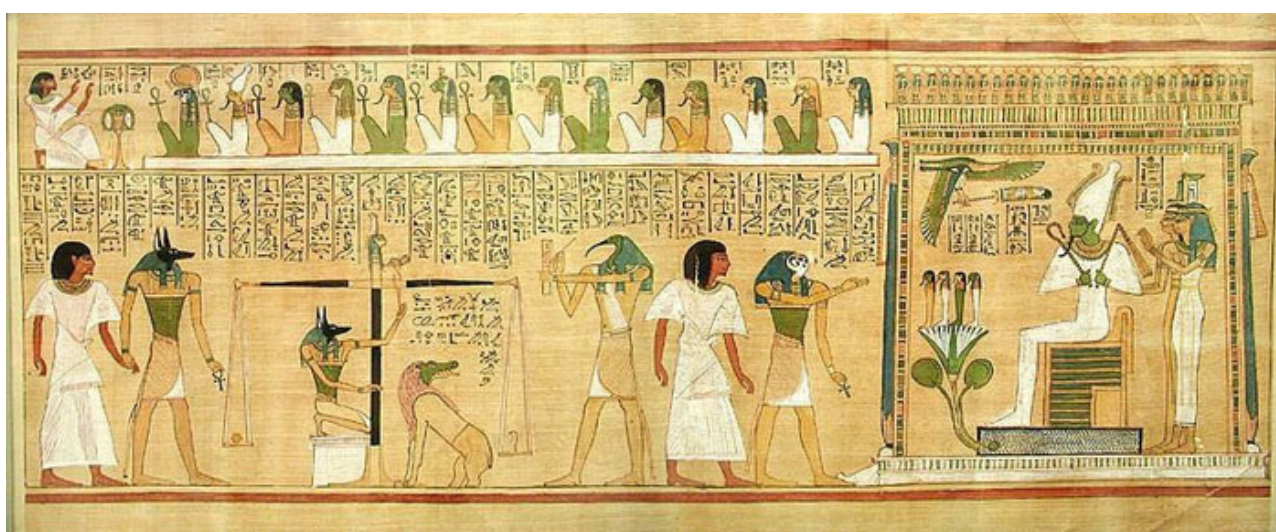


Fig. 6. Weighing peoples' heart on the Judgment Day in the underground world. Source: Oakes & Gahlin, 2003: 395.

Table 2. A summary of the colors, their symbolic meanings and their reference in nature. Source: authors.

Symbolic meanings	Lexical meanings	Stone	god	the manifestation of the color in nature	color
renascence, prosperity	to prosper, to be fresh	Turquoise ¹¹	Osiris, Sobek, Tanten	plants and agriculture crops	green
power, victory, violence	violence, victory	Agate ¹²	Ra, Sekhmet	the sun, desert, gold	red
resurrection, holiness	resurrection, to shine		Osiris	daylight	white
resurrection, death	renascence		Osiris, Anubis	alluvium, night	black
immortality			kings' bones	the sun, gold	yellow
Sacredness and inundation of the Nile		Azure	Hapy, Ra, gods' hair	the sky, the Nile	blue

Conclusion

The ancient Egyptian tended to objectify all the phenomena, especially those natural forces which were influential in their lives. It is because the reason explaining the order of nature and its forces were mysterious to the people. Moreover, the people's lives were tied up with these forces, and they had no control over them. To make the world more understandable to them, they interpreted the natural forces as the gods of the world around them.

Thus the colors attributed to the gods were derived from nature or from nature- associated concepts which were manifested in the form of the gods. Also, understanding colors helps to understand nature. The natural elements with distinct colors influencing the lives of the ancient Egyptian people would have been a factor contributing to the formation of concepts and their attributed colors. The results of the study showed that ancient Egyptian painters used the six main colors in the paintings to express their desired concepts. The symbolic meaning of these colors and their natural origin can be summarized as follows:

Blue is the color of the sky and the Nile and symbolizes the inundation of the Nile River and supernaturalism.

Green is the color of plants and agricultural crops, and symbolizes the rebirth and the prosperity in agriculture.

Red is, the color of the sun, the gold and the desert, and the symbol of power, victory and violence.

White is the color of the day and the sunlight and symbol of afterlife, sanctity, purity and purity. Black is the color of alluvial remnants of the annual flood of the Nile and the night and symbol of rebirth.

Yellow, is the color of the sun and gold, and it is a symbol of immortality. Thus, in general, the symbolic meanings of colors in the paintings of Egyptian people derive from the sun, the Nile, alluvium, agricultural products, night and sky which were the most important elements of nature for the people.

Endnote

1. BCT: Base Color Term

Reference list

- Assmann, J. (2001). *The Search for God in Ancient Egypt*. Translated by Lorton, D. Ithaca: Cornell University Press.
- Berlin, Brent; K. P. (1969). *Basic Color Terms: Their Universality and Evolution*. Berkeley: University of California Press
- Hermann, A. (1969). Farben. In Klauser, T. (Eds.). *Reallexicon fur Antike and Christentum*. Stuttgart: Hiersemann.
- Brunner-Traut, E. (1977). Farben. In W.Helck & Westendorf, W. (Eds.). *Lexicon der Agyptologie*. Wiesbaden: Harrassowitz.
- Frankfort, H., et al. (1946). *Egypt. In The Intellectual Adventure of Ancient Man: An Essay on Speculative Thought in the Ancient Near East*. Chicago: University of Chicago Press.
- Holland, G. & Holland, S. (2009). *Gods in the Desert: Religions of the Ancient Near East*. Plymouth: Rowman & Littlefield Publishers.
- Hornung, E. (1982). *Conceptions of God in Ancient Egypt: The One and the Many*. Translated by Baines, J. Ithaca: Cornell University Press.
- Lorna Oakes, Lucia Gahlin. (2003). *Ancient Egypt*. London: Hermes House.
- Redford, D. B. (ed.). (2002). *The Ancient Gods Speak: A Guide to Egyptian Religion*. Oxford: Oxford University Press.
- Rainer Hagen, R. (1999). *L'egypte*. Paris: Taschen.

- Sapir, E. (1921). *Language: An Introduction to the Study of Speech*. New York : Harcourt, Brace and Company.
- Schenkel, W. (2007). Die Farben in agyptischer Kunst and Sprache. *Zeitschrift fur agyptische Sprache und Alterumskunde*, (88): 131-147.
- Schenkel, W. (2007). Color term s in ancient Egyptian and Coptic. In Robert, E., et al. (Hg.), *Anthropology of color: Interdisciplinary multilevel modeling*, Amsterdam and Philadelphia. S. 211-228. Available from: http://archiv.ub.uni-heidelberg.de/propylaeumdok/1577/1/Schenkel_Color_terms_2007.pdf.
- Wilkinson, R. H. (2003). *The Complete Gods and Goddesses of Ancient Egypt*. London: Thames and Hudson.