

significant ($p > 0.01$). In addition, at a temperature of 72 ° C, using the amyloglucosidase enzyme and treatment of the treatments, the pH of the samples decreased to a greater extent.

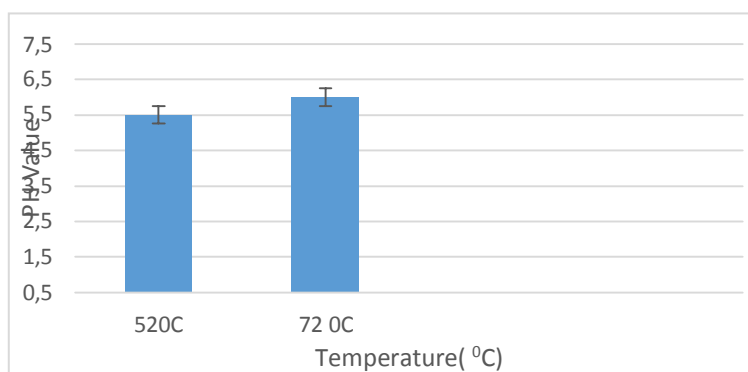
Analysis of variance of the effect of temperature on the pH of samples

Change	DF	SS	MS	F
Temperature	1	5.36	5.36	1.50

CV=5.25%

Results of comparison of mean temperature effect on pH of samples

Temperature	57o c	72o c
Average Ph	5.72	6.08



Generally, the lowest amount of brix in processed samples was observed at 57 ° C and its highest value was observed in processed samples at a temperature of 72 ° C. Also, the change in the type of enzyme (glucosyl, amyloglucosidase) did not make a statistically significant difference in the brix of the specimens. On the other hand, at constant temperatures of 57 and 72 degrees Celsius, there was no significant difference in the brix of the produced samples by changing the type of enzyme (amyloglucosidase or glucoside). Regarding the Brix factor, the highest brix was glucose enzyme, at 72 ° C, and then in processed samples with glucose enzyme at 72 ° C and process samples. The amyloglucosidase enzyme was obtained at 72 ° C. In relation to the pH factor, the temperature increased from 57 ° C to 72 ° C, but the factor was increased in samples. However, this difference was not significant between treatments.

References

1. Food and Agriculture Organization of the united nations
2. Malting quality indicators of Croatian dual-purpose barley varieties Kristina Mastanjević1*, L. Lenart1, Gordana Šimić2, A. Lalić2, V. Krstanović1 1 Josip Juraj Strossmayer University of Osijek, Faculty of Food Technology Osijek, F. Kuhača 20, 31000 Osijek, Croatia 2Agricultural Institute Osijek, Južno predgrađe 7, 31000 Osijek, Croatia
3. The Molecular Genetics of Floral Transition and Flower Development Junko Kyojzuka, in Advances in Botanical Research, 20147.2.5
4. Effect of steeping temperature on the quality of malt and Pito (an indigenous Ghanaian drink) Louisa Ebbah,1 Damian Laryea,1 John Barimah1 and Clement Djameh.
5. Agu G. H. Palmer (1996) 10.1002/j.2050-0416.1996.tb00924.x

THE EVALUATION OF THE ART OF PERSIAN PAINTING (FROM THE BEGINNING TO THE ADVENT OF ISLAM)

Dr. Kohansal Vajargah Hassan,

University of Guilan-Rasht-Iran, kohansal@guilan.ac.ir

Jalilvand Mina,

MA in Iranology (history), Jalilvand_mina@yahoo.com

Abstract. Painting is the manifestation of expression, yearning heart, attitude and worldview represents of a territory people; hence it is an important element in the study of beliefs and the gradual perfection of their spirit. The history of painting in Iran can be found in the remains of Paleolithic period and images of caves in Lorestan - Mirmelas and Dushh; although Will Durant believes that the start of this art is from the time of painting on the pottery. Iranian paintings regardless of the period in which the image is drawn, reflect special idealism. Iranian painter would not

represent the exact nature; he devotes all his time to emphasize the beauty of painting. Painting in pre- Islam whether those drawn in old books and manuscripts or on the walls and little scales always have maintained their relation between poem, culture, local beliefs, legends and myths. And this feature distinguishes Iranian paintings. Arjang is a perfect example of the evolution of these relations.

Key words: painter, art of painting, Iran, prehistory, ancient Iran.

Introduction. Painting and miniature is an art dealing with drawing, image processing and coloring. Considering the meaning and its domain suggests this definition that the art of painting and miniature is an art concerning drawing, coloring and making different forms including human, animal, object and even human perception of supernatural affair by employing various materials in different sizes as well as various aspect of present two-dimensional surface (Nasri.J & Shirazi.A,2009:1336). Iranian have long been active in the field of painting and decoration. Based on historical data and archaeological evidence of ancient time, different periods of development followed by the transformation of images and people thought of Iran can be studied. In this article in addition to introducing the concept of painting art, its formation and evolution in pre-Islamic Iran according to figures available with respect to priority, the characteristics of painting art in both prehistoric and historical period are investigated.

Prehistoric period. Paleolithic (15000-10000 BC). The remains of prehistoric man are so old that perhaps it can be said art is as old as human life. Iranian painting and drawing art can be studied from Paleolithic period. Paintings of battle scenes, hunting, human and animal on the southern and northern walls of the cave Mirmalas in Lourestan are the prototype artifacts manifesting the caveman's way of thinking. Cave Doushe in this region with more complete and clearer drawing with the same subject is and other example of prehistoric painting which of course doesn't belong to the same time as Mimelas. There are different view on this issue why these paintings and shapes have been drawn, but they all agree that caveman need of hunting was indispensable to life. To survive he took refuge to magic to dominate the hunt. In these paintings with scratches on, he wants to dominate the hunt with magic (Tajvidi, 1961: 52). Most of the paintings drawn on the walls of the caves in simple and native ways using ochre red, black and yellow. Animals are generally profile but people are sometimes in full face view (Paakbaz, 2004:14). Although the Iranian cave paintings are not as old as Lasco- France- and Altamira- Spain- but a close relationship between their spirit and perception and also the designs can be found in them (Sharifzade, 1996:24). This makes Lourestan cave painting and images unique. There is a gap of more than ten thousand years in Europe cave paintings and its well-known today arts; the relation between the people who have created images of caves and those who have settled there after several thousand years cannot be identified, however there is a relation between Lourestan cave paintings and today Iranian painting art. It is the marked difference between them and European parallels.

Neolithic (7000 BC). Neolithic man following the chase animals were finally able to subdue and tame some animals and for livestock feeding he had to move and migrate. Gordon Child called this period Neolithic Revolution as a fundamental transformation in the evolution of human beings came to existence in this period. The establishment of villages, agricultural and social life was started. The oldest history of the rise of this revolution took place almost 8000 years BC in northern Mesopotamia and southwestern Iran (Tohidi, 2001:17). The first known Neolithic sites in southwestern Iran, Dehloran, Khuzestan plain and the foothills of the Zagros Mountain in Kermanshah have been discovered that later was extended to the Iranian Central.

After coming down from the mountains and settled down in the plains as well as the preparation of the pottery to save and use food man tried to present his beliefs by the help of art especially painting. The creators of these containers show their way of thinking through the design of every day events, hobbies, dreams and ideas. Animal motifs including birds, wild boar and skipping ibex can be found on the pottery. Initially artists tend to realism and illustrate images of snake, leopard, mountain sheep, ibex, stork and ostrich with or without square spaces. They don't illustrate animals' body by the help of simple line any more. Then variety of styles come to existence. Animal tail shown longer, the horns are also disproportionately wide and closed (Ghirshman, 2010:44). The same trend continued in other animals and even humans and plants and by adding variety tries to express his thoughts; later he changes style of naturalism to abstract concept.

Man of sedentary age signs up his mental picture and idea on the building walls. One of the prototype buildings engaged is in the plain of Qazvin introduced by Dr. Negahban. The buildings dating back to the late seventh century and the beginning of the sixth millennium BC have specific situation with the painting decorated and adorned with mountain goats.

Seals are one of the best pieces of prehistoric and historical document appeared by the formation of trade. Inscription on them show the thoughts and beliefs of their owner. Prehistoric seals have irregular designs; they are symbolic. The meaning of the stamp motifs are not clear. By the time they play an important role in religious life and possibly, according to the opinion of the time people use them to protect themselves from evil forces or against injury or disease. These seals have been found in different part of Iran such as Khuzestan, Fars, Sistan, Kerman, (Tohidi, 2001:48). Generally sedentary causes the formation of civilization and the formation of beliefs. Man accepts he is under control of nature forces and subdues what happens to seeds, crops and livestock to the supernatural forces. The beginning of the human civilization plays an important role in the formation of many of painting symbols a well as show-magic rituals, rites and ceremonies (Nasri.J & Shirazi.A, 2009:1344). Human thoughts divides supernatural forces into two parts- astral and terrestrial; waiting for rain and snow and fear of the climate constraints beside fertile land under cultivation and yields lead him to this attitude. Thus believe on these forces make them create god and goddess.

This has created a series of symbolic images showing the specific meaning and leads him to combine the designs (Pope, 2001:9).

Chalcolithic (5000-3000 BC). By the advent of copper, industry and technology change and innovation in sculpture art and decorative objects made of metal emerged. Emergence of expertise and increased production of consumer goods are social events in this period. Increasing population and prosperous business career make people think about the mass production of consumer goods. So production workshops, artists and painters recruited. Obviously a lot of the specific meaning of ritual symbols served were just decorative, and their concepts were forgotten. But it certainly cannot be claimed that these figures are purely decorative and ritual are devoid of any meaning. The apogee of perfection and elegance of these paintings and figures can be found in Susa pottery. In this period, lines and shapes applied with deliberate plan and perfect harmony with the whole. Luristan bronze from the twelfth to eighth centuries BC is also the most important specimen of ancient Iranian painting (Paakbaz, 2002:15). Carved motifs on the quiver of several apparently distinct events related to a single story attract the viewer's attention. The Tree of Life, creatures and fantasy themes in the paintings show the mythological meanings and verify that prehistory painter is not basically interested in imitation of nature. He traces the use of exaggeration and distortion signs to express specific content.

Bronze Age (2000BC). As trade developed, care and identification of goods seemed essential; therefore stamp as a tool for identifying and recognizing ownership entered into business relations and transactions. Before that, the first sign of stamp used in architecture and on mud bricks (Bayani, 1984:10). Carved decorations and symbols on stamps represents their different usage in several periods. According to Grishman (2010:50): "At first, stamps had geometric decorations but it was common practice to visualize human forms, plants and some signs that were undoubtedly inspired by pottery decorations. Prada (1978:24), in addition of discussion about usage of Iranian stamps, states that carved designs on stamps such as geometric, human or animal motifs had also some kinds of defensive significance; therefore stamps commonly used as a bracelet in a necklace or bracelet certainly had the role of spell. In many Bronze period stamps, motifs show representation of people social life, the way they work and part of their current industry. Hunting with bow and arrows and hunted animals, scenes of fishing and fisherman with a basket full of fish holding on their head, celebration and orchestra, spinning and knitting, two people sitting on the sides of millstone crushing grain into flour, plowing, flocking and backing, temples works and silo, all are considered important sources of research and finding information about Prehistorical Iranian People (Prada, 1978:27-28; Bayani, 1984:48).

Iron Age. Although in this era painted pottery displaced by simple ones, in some cases we can find imprinting pottery and gray ware besides, even around 1100 BC. The potter has also beautified and decorated the pottery (Grishman, 2010:61). The use of animal head shapes for decoration jewelry and even metal containers in Sialk B is another way of beautifying used in this period. Golden and silver objects of Hassanlou and Marlik are the best examples of this art. The adornments of the objects embossed with the geometric, theriomorphic, plant and even mythological motifs is a feature of Iranian traditional painting in the Iron Age which is left thereafter.

Iran Pre Islam period (708-651 BC). As Aryan tribes came to Iran they dispersed and occupied different part of Iran plateau. They lived according to feudal system. The most important tribes or group of them formed the government- Median, Persian and Parthian.

The Mede Empire (708-559 BC). There are no remains of the Median era but Herodotus pointed references to decorated walls of palaces and great houses and the Ziggurat in Hamadan as well as the mountain tombs can be considered as document (Herodotus:58). Among these tombs which reflects belief and attitude to life after death Farhad and Shirin in Kermanshah with the image of Fravahar is a good example. Dokan-e Davood in Sarpol e-Zahab represents a man dressed in Median clothes praying ceremony holding Barsom in his hand. Isaqvand near Harssin including three Stone Mountain tombs with the image of a man with Iranian dress standing in front of two fireplaces. Behind it, there is a picture of another person raising his hands. Herzfeld believes he is Geumatay (Haatam, 2002:99).

The Achaemenes Empire (559- 331 BC). The remains of this period are very limited so talking about painting techniques is not easy, however glazed bricks decoration on the walls of palaces and relief motifs show sign of interest in intense colors and minute which can be introduced as basic rule in Iranian art. Generally Iranian painting art has been influenced by other countries art but three preserved qualities can be known in the art of Achaemenid dynasty: 1- interest in intense colors 2- interest in minute 3- bring about changes in nature motif (Sharifzade,1997:33).

Achaemenid art never tries to illustrate third dimension of human images; visualization of person portrayed profile is enough. Animal motifs were cleverly used, particularly metalwork; many excellent examples known as the Oxus Treasure. In the stone reliefs of the Persepolis there is a serenity which comes from the abstract spiritualism of religion. They become characteristic of painting art in Iran. Sometimes Sialk traditional pottery and Lourestan bronze motifs appear in this period. Achaemenid art illustrate Babylonia, Assyria, Urartian, Egypt and Greece achievement; however it has benefited Elamite and nation elements. Achaemenid style represents the first Iranian official style; a perfect way to express the greatness and power of king. It reaches the highest point in sculpture of Persepolis (Rajabi, 2002:3/346; Godard, 1998:132-133). It is entirely likely that elements of their influence persisted in later time and artists avoid to demonstrate the perspective intentionally. Historical records mention magnificent carpets in Persian palaces of the Achaemenid period. Apadana palace built by Darius connected to vertical surfaces glossy multi-colored tall tiles probably to decorate the walls of palace courtyard. On one of them there is a pair of winged lion. The other is a tile with the image of Immortal Army. (Curtis, 1995:81)

The Arsacid Empire (250 BC- 224 AD). Parthian domination in Iran caused the gradual return of traditionalism in a new form of Iranian art; first the influence of Hellenistic art, then Greco- Iranian art and finally

specific Iranian art. Art of this period including themes of hunting, banquets, ceremony of gift and immolation. In Parthian art, painting plays an important role. The great number of the reliefs can be considered as painting art. The most important example of wall-paintings discovered in Iran, in the ruins of a castle or palace known as Kuh-e-Khwaja - the first century AD (Rajabi, 2002:4/248; Vaziri, 2007:1/128; Ghirshman, 2010:41).

Illustration of full face view, representation of the female, the choice of colors including white, black, blue, purple, red and yellow and putting adjacent images on each other to induce the depth are unique characteristic in kuh-e-Khwaja that followed during the Sassanid era and also the start of Islamic Iranian painting art. In fact most of these images are important because they are known as painting traditions and elements in Islam art. One of the most noticeable changes from the Achaemenid era is the use of statues in the round and full face views and most use of queen and women images in the Parthian era. This is attributed to the influence of Greek art.

Full face view, stiffness and strength of figures, notice the details in the clothes and jewelry are characteristic of Parathions art. The stone cutters try to inspire impression under the intense long steady look (Paakbaz, 1381:23). The best preserved example in Dura Europos (Syria) known as Mithra in Hunting ground depicts Parthian elements. Mithra's sitting position on the horseback with a bow in her hands, her dressing, saddle of the horse, animals stamped and landscape gardening are all Iranian elements.

The Sassanid Empire (224-651 AD). The Sassanid art transformation known as a great complete one which was used well in Iran and Mesopotamian about 4000 years before it and later was improved and continued by the Sassanid. It expressed itself in a great stress on links with Achaemenid tradition than seems to have been the case in the time of the Arsacids. Ardashir I laid the Sassanid art foundation, however his successors ignored it. The impact of western art is obvious as a large number of Roman prisoners and migrants were settled in Iran and were employed in the great undertakings of the Sassanid government. One may also assume that the great architectural activity of Shapur attracted artists and craftsmen from the west to seek employment in Iran. In the Sassanid mural marking the outer edge of images and outline as well as coloring are noticeable.

Iranian elements appear in the Sassanid painting art- phoenix, salamander and water-bird are the most important elements. Many of this period reliefs are influenced by painting. Its art represents idealized version of king and stresses the important of the king (Prada, 1978:263). Scene of victory in war and hunting, rendering of the investiture, ascending the throne beside animal motifs and floral design accession ceremony with symbolic meaning are some example which are clearly recognizable. Shapur's triumph in the rocks near Bishapur, KhosroII hunting scene in Taq-e- Bostan and scene of hunting in Susa and Dura Europos frescoes and murals are preserved example of the Sassanid art(Rajabi,2003:5/375; Ghirshman,2010:183-184).

To avoid future deviation from the religious beliefs Mani (216-276AD) employed painting (Vaziri, 2003:1/133). His followers remained in the same belief and continued book illumination and illustration, although especially in the court of Oqur they had no chance to progress their art. Found photos in Turfan reveal this fact. Manichean tried to make a meaningful relation between text and images; they accepted calligraphy and painting as complimentary arts. Their painting tradition remained in middle Asia so the Saljuqs and spread by them in Iran (Paakbaz, 2002:48). Iranian painting art underwent enormous changes not too long after Arab attack but it never lost the main features.

Conclusion. The revolution in the system of human living- cave man, sedentary and then civilization- can illustrate the revolution of human beliefs. By reflecting on paintings and motifs as a mirror of people thoughts the process of formation and movements from polytheism to monotheism can be found. By drawing the image of hunting on the walls of the cave the belief in power of magic appeared. Dealing with agriculture and sedentary supernatural forces were resorted in order to protect and save himself from injury, damage and calamities. Soon he came to the conclusion that without the help of superhuman powers he could not save himself; he took refuge to supernatural forces and tried to make their owners satisfied. As the time passed these forces consolidated and provided the basis for the tendency to monotheism.

References

1. Amiet, P (1972). "Glyptique Susienne, Memoires de la Delegation Archeologique en Iran", Paris, voll ii.
2. Bayani, M (1363/1984). The Date of the Seal in Iran. Tehran: Yazdan Press
3. Curtis, J (1385/2006). Later Mesopotamia and Iran. British Museum Press
4. Ghirshman, R (1389/2010). Iran from the earliest times to the Islamic conquest year. Qom: Niloufarane
5. _____(2011). Iranian Art during the Sassanid and Parthian Periods. Tehran:
6. Godard, A (1377/1998). Art of Iran. Tehran: Daneshgahi Press
7. _____(1998). Persian Art- the Parthian & Sassanian Dynasties. Tehran: Elmi Farhangi Press
8. Haatam, Gh (1381/2002). Knowing the Art in Iran. Tehran: Payam-e- noor Press
9. Herodotus (1368/1989). Ancient History. Tehran: Adab-o- Honar
10. Herzfeld, E (1381/2002). Iran in Ancient East. Tehran
11. Jaafari Dehaghi, M (1382/2003). Pre-Islamic Iran Understanding & Critique of Historical Sources .Tehran: SAMT
12. Kambakhsh Fard, S (1380/2001). Pottery and Pottery in Iran. Ghoghnoos Press
13. Nasri Ashraf, J; Shirazi, A (1388/2009). History of Iran Art. Tehran: Arvan
14. Pakbaz, R (1383/2001). Iranian Painting from Ancient Time. Tehran: Narestan Press

15. Prada, E (2012). The Art of Ancient Iran. Tehran: University of Tehran
16. Pope, A (1380/2001). Iran Art. Tehran: Elmi Farhangi
17. Rajabi, P (1377/1998). The Lost Years-from Xexxes time until the collapse of the Achaemenian. Tehran: Tous
18. _____(1998). The Lost Years- the Parthian. Tehran: Tous
19. _____(1998). The Lost Years- the Sassanian. Tehran: Tous
20. Sharifzade, A (1377/1998). Painting Art in Iran. Tehran: Daneshgahi Press
21. Tajvidi, A (1373/1994). Iran Art from the earliest times. Voll 1, Tehran: Farhang-o- Honar
22. Tohidi, F (1380/2001) Acquaintance with the cultural heritage. Tehran: cultural heritage organization Press
23. Vaziri, A (1373/1994). General History of Illustration Art. Tehran: University of Tehran Press

Figures



Fig 1. Mirmalas Cave painting. Acquaintance with the cultural heritage (p. 83), kambakhsh Fard, 2001, Tehran: cultural heritage organization Press.



Fig 2 & 3; Susiana. "Glyptique Susienne, Memoires de la Delegation Archeologique en Iran", Amiet, 1972, no: 621-660, Paris, voll II.



Fig 4; Tappeh Hessar-4000 BC. Acquaintance with the cultural heritage, (Voll1, P.8), Tohidi, (2001), Tehran: cultural heritage organization Press.



Fig 5; Pasargad-3500-3000 BC. Acquaintance with the cultural heritage, (Voll2, P.8), Tohidi, 2001, Tehran: cultural heritage organization Press.



Fig 6; Talle Bakun/ Persepolis- 4500 BC. Later Mesopotamia and Iran, Curtis, 2006, British Museum Press.



Fig7; Sialk (B)- 1000BC . Acquaintance with the cultural heritage, kambakhsh Fard, 2001, Tehran: cultural heritage organization Press.



Fig 8; Sialk-1000/900 BC. Acquaintance with the cultural heritage, (Voll2, P.14), Tohidi, 2001, Tehran: cultural heritage organization Press.