

Application of the Golden Ratio (Rule of Thirds) in Achaemenid and Sassanid Reliefs Carved in Rock

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Abstract: Art constitutes an inseparable part of the Iranian culture which continues to intermingle with history as time passes. For that matter, precise examination of the ancient time artistic works can assist us with the perception of the way of thinking and beliefs of the people as well as historical, social and political events that have once taken place in specific periods of history. Clear and effective artistic representations and expressions in the reliefs carved in rocks in the Achaemenid and Sassanid eras which direct the astonished viewer to recognize the symbols of power of those eras is a secret the key to which is but analyzing of the artistic elements used in the making of these works. These rocks and stones as well as huge reliefs carved in them produce some sense of admiration in the viewer. The very element which attests to the excellent taste of the carver when producing a masterpiece is his unintentional and unconscious use of mathematical rules which dominate images similar to painting and photography i.e. observing the rule of thirds. By observing the rule of thirds, the carver has managed to express and represent the symbols of power in that era.

Key words: Achaemenid • Sassanid • Configuration • Golden spot • Rule of thirds

INTRODUCTION

An artistic representations in an unintentional and unconscious manner rather than aestheticising is a characteristic of the ancient Iranian art style. "The kind of art that due to long age and consistence of quality is of significance within certain periods throughout the history of culture [1]." Giant reliefs carved in rock walls are clear instances of this type of artistic expression. Earlier researches conducted on the Iranian arts, mainly stress the decorative aspect of the ancient Iranian art [1], whereas, giant reliefs carved in rocks during the Achaemenid and Sassanid dynasties constitute the type of art in which the carver has discovered the best method to express the symbols of the power of kingdom. Then, what is this method? Does application of huge rocks and stone walls containing carvings that are way larger than human dimensions serve to be the key to the clear display of symbols of power and majesty? Application of what creative aspect in the relief carving as an art has assisted the carver in representing symbols of power? What are symbols of power in rock reliefs?

The achievements of this research provide a fresh response to the reason underlying the impact that Achaemenid and Sassanid rock reliefs leave on the viewer- Disclosure of mathematical relations among reliefs

or Golden Ratio (Rule of Thirds) in rock reliefs. One of the most reliable sources for learning more about what was going in the ancient times- a feature of the Iranian art- is rock reliefs that in terms of visual expressions not only act similar to inscriptions carved in stone but provide us even with a better idea about the then historical, political and economic events, structure of the state, customs and of course beliefs of people living at that period of time. Carving in giant size stones and rocks which by themselves served to be symbols of power, majesty and durability in the glorious palaces, rock graves, temples and huge stone walls which were exposed to various tribes, all and all serve to develop an atmosphere for the display of the glory of kings and the kind of customs they adhered to.

MATERIALS AND METHODS

At a first glance, it so appears that it is the glory and grandeur of these rock reliefs and their magnificent dimensions that so effectively convey the message of the artist to the viewer. However, when analyzing reliefs and pondering into the relationships that reside among them, one can discover the nature of artistic expression in these works.

By creating a rectangular or even square frame in rocks and stones which themselves represent antiquity and consistence, the carver artist observes some kind of ratio between reliefs and the frame on the one hand and between frame and stone on the other. He also observes the olden spots or the rule of thirds in order to express the relief in a new and different language aimed at displaying the symbols of power and creating a respectful atmosphere inside the silent stones and rocks at that period of time.

How can stone frames- after thousands of years and similar to movie screens- reflect the power and majesty of kings, the superior state of Ahura Mazda, failure and defeat of enemies or the delicate and eternal moves taken by the Empire's nations and tribes? What characteristic entices the viewer to focus on the very spot which the carver has meant to display? The response lies in the observation of ratio in the carved reliefs. A mathematical ratio which has its roots in the Pythagorean geometry. An equation that has caused a unique coordination and balance to dominate the earth and galaxies i.e. Golden Ratio or the rule of thirds. The "Rule of Thirds" principle includes the framing procedure in visual images such as painting and photography. This is how it works. The more significant elements of the image are placed where horizontal and vertical lines interact and divide the image into three segments. This is where the viewer is

attracted to the image most. That is to say, the ratio of the smaller segment of the image to the larger segment should equal the larger segment/entire image segment. Within this space, the main subject is more clearly visible when located on the right one third of the image. In other words, in an impressive configuration, the viewer's eyes can easily trace the main lines [2]. The ancient Egyptians apparently had no knowledge of the Golden division, however, in many of their structures, they have made use of ratios that are very close to the golden division. For instance, among the three large pyramids in Giza of Egypt, in the smaller pyramid, the height/foundation length ratio stands at $0/614$ which is very much close to the golden rate [3]. The rule of thirds is in fact the short form of golden ratio. The rule of thirds was first invented by John Thomas Smith in 1974 [4].

Observation of the golden ratio and magnificent composition visible in all Achaemenid and Sassanid era relief works is unique. In majority of these rock reliefs, this is the king and his crown, which have been located on golden lines or spots described in the rule of thirds. For instance, in this brief article, we are dealing with two Sassanid and two Achaemenid reliefs carved in rock.

Bistoun rock relief is the first one. The relief works that remain amidst inscriptions carved in the rocks are the largest of all. This inscription is located 30 kilometers from the city of Kermanshah on the side of the ancient caravan road which stretched to the west and borders of India linking west to east. This road also linked Babylon and Ekbatana. This inscription is 7.80 meters high and 22 meters long. This inscription appears in ancient Persian, Elamite and Babylonian languages containing over one thousand lines [5].

In this embossed image (illustration 1), we see the Achaemenid king, Darius the First, who is 1.73 meters tall, taller than others and located in the golden one third on the left corner of the frame. The king's crown and hand have also been located in the golden spot. In the upper one third segment of the image appears Farvahr as a symbol of Ahura Mazda standing above all. What the inscription is intended to express- victory and triumph of the Achaemenid king Darius over enemies and the grace of Ahura Mazda on him- have been demonstrated involving the carver's creativity. This type of expression addressed higher numbers of audience, for in that era, only a scant number of the noble class members could read and write and naturally visual language served to be the most influential and effective method for advertisement and dissemination of information. Also in the rock tombs of the Achaemenid era such as the tomb of Xerxes in Naghsh-e Rostam, rock reliefs still serve to be the best and most effective way for expressing the glory of the king in the past.

Not far from Persepolis, north of Rahmat Mountain (Mehr), on the southern skirt of Hosein Kouh height, lies a natural screen which is 70 meters high and 200 meters wide on a stone wall used in the best possible manner by the Achaemenid and later Sassanid carvers. Four tombs belonging to Achaemenid kings and five relief images of Sassanid kings appear on the top and the bottom of this screen respectively. Of the four Achaemenid tombs the single one tomb which is located on the right side of the screen belongs to Achaemenid Xerxes (468 BC). On this rock relief, (illustration 2) Ahura Mazda has been located on the upper one third segment, the king and the fire-place on the middle one third and the carriers of throne on the lower one third segment.

This type of visual expression with more emphasis on the king has been applied in the Sassanid rock reliefs. During the Sassanid era, similar to the Achaemenid era, the rock reliefs have been allocated to primarily demonstrate the glory of kings and dynasties. Most of these rock reliefs lie close to sacred places and tombs of

Achaemenids so much so that over 30 Sassanid rock reliefs have been carved in the rocks west and south of Iran particularly in Fars province which served to be the origin and capital of Achaemenid dynasty. The oldest of these rock reliefs is demonstrative of the grant of kingdom and throne to the first king of Sassanid dynasty namely Ardashir Babakan (241 BC). In the configuration of this image, a two sided conjunction has been maintained so much so that all pictorial elements residing on the sides of the image are in conjunction and balanced. In addition to crowning, the triumph of Ardashir over Ardavan the 4th, the last Ashkanid king (illustration 3) has been screened in this rock relief. The kind of element that bestows a powerful sense of expression to the above rock relief more than observation of harmony and conjunction is its concentration on golden spots. By drawing the "one third principle" lines, we realize that the king and Ahura Mazda have been placed on golden spots in full conjunction. Their hands are shown on the upper one third line while exchanging the royal crown. Also in the engraves demonstrating the victory of Adeshir, the Sassanid in Salmas (illustration 4) near Khan Takhti hamlet, 30 kilometers from Salmas city in west Azerbaijan province of Iran, we witness how the carver artist produces a masterpiece. In this engrave which is five meters wide and between 2.50 to 2.80 meters long, Ardashir the 1st of the Sassanid dynasty and his crown prince Shapour are seen facing each other on horseback in full conjunction. Ardashir himself, his hand and weapon have been located in the golden spot. Conclusion: The Achaemenid and Sassanid rock reliefs are characterized by their precise

configuration and artistic expressions. The Achaemenid and Sassanid carvers have benefitted most from balanced figures, golden ratios and artistic beauties when developing their masterpieces. There reside a direct relationship between balanced figures in rock reliefs and expression of symbols of power. Through his unintentional and unconscious artistic expression, the carver artist has left rock reliefs for our and future generations as a valuable heritage. Relying on this method of artistic expression, the following conclusions are drawn.

In the Achaemenid and Sassanid rock reliefs, the king is certainly placed on the golden spot. On crowning scenes, the crown and power ring are as well placed on the golden spot. On battle scenes, the king and his sword or any symbol of the defeat of enemy have been located on the golden spot. On scenes showing appeal to God, praying hands are located on the golden spot. More details of conclusions will be provided in future articles.

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