

Bitmap Type three Centuries before Digital Technology!!

Typography on Persian Carpets

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Abstract:

Persian carpet is one of the main aspects of Persian visual culture that has. All aspects of Persian art and culture in all periods interlace to each other like what happened in carpets loom. So developing and advancement of any relate to what happened in all of them. By beginning of Islamic period, calligraphy spread out in all forms of art and crafts and so on carpet and fabrics. What kinds of calligraphy frequently used in Persian carpets? How masters layout their writings in a map for weaving? What are differences and similarities between what had wrote by reed pen in regular calligraphy and bitmap writing on carpet maps? This article regards history of description on carpets to answer these questions.

Keywords: Persian carpet, calligraphy, Persian culture, traditional art, applied art, typography

1. Introduction

People of every part of the world use special products in their everyday life. Their method to create and use these products based on that culture they are living. This is more obvious in old traditional living. Because in that situation there are not any big industries for serially products at all and in other hand, no mass media or networking to create multicultural space. So traditional people must understand their need, found a way to do away with, create some product and use these in their special method.

Persian carpet is an old example of these self industries. Carpet weaving as a traditional Persian art is a good visual symbol for its culture. You sit on carpet so it is part of architecture. It is full of multicolor motifs and ornamental forms so it is like a painting and fine art and if it filed by script, it is like a book. Also it is an amazing art that is flexible and can work like a cover for everything and designers must think about form and space of what it will cover.

Most of ornamental forms and regular motifs that have been filling Persian carpets have been used in other traditional Persian art and crafts similarly. But carpet map designs

have been followed systematic technology. What is obvious in Persian carpets were weaving till 4 century ago in comparison by other is lack of scripts and calligraphy.

But approximately from four centuries ago carpet men decided to use scripts and typography in this amazing handicraft. So Persian designers and carpet men must have been create new manner for mapping and different skill in woofing. Squared pattern of this Interlacing technology forced carpet designers to refracted type forms and create scripts like bitmap types.

They had think carefully about differences between reed pens usages- specially contrast of thickness in every letter- in writing of every Persian-Arabic letters, to found best method in woofing. How they had reached to this? What kinds of Persian calligraphy they frequently used in carpets? How and why they select best areas for their layout? What were their concepts or subjects of their texts?

This article regards various skills of calligraphy and typography used in Persian carpet and similarities between this old technology and modern bitmap fonts. This is part of an ongoing serial research about typography in Persian traditional art which focused on systematic crafts and technology in applied arts started last year. It has been written in collaboration by Iran carpet museum.

1.2. Brief History

Origins of hand woven carpets have been eastern countries. There are many so-called types of oriental rugs, but broadly speaking, they come under five great classes, viz., Persian, Turkish, Caucasian, Turkoman and Chinese.

The Persian carpet is a part of Persian (Iranian) art and culture. Carpet weaving in Persia dates back to the Bronze Age. Oldest founded carpet named Pazyryk (Figure.1) because it had discovered in a frozen tomb at Pazyryk valley of Altabi mountain placed in south of Siberia. It discovered in summer of 1949 by a Russian archaeology discovery group whit directorship of Sergei Rudenko and now it is keeping in Hermitage Museum, St. Petersburg. Its antiquity is twenty four century but cold weather of Siberia that cause a layer of ice covering around it had been save it till discovery. Most of archaeologists accept Rudenko ideas and reasons about origin of Pazyryk carpet who believe that it had weaved by Iranian carpet men in Hakhamaneshi empire period because there are many clear similarities between its figures and relief figures in Persepolis.



Figure.1

To get a clear perspective of the history of oriental rugs it is necessary to take up the historic background. This goes far to explain the developments of certain periods and repeated use of motifs that at first sight may appear alien to Persian art in general. The majority of these carpets are wool, but several silk examples produced in Kashan survive. The major centers of antique Persian carpet production in Persia were: 1. Tabriz (1500-1550) 2. Kashan(1525-1650) 3. Herat(1525-1650) 4. Kerman/Kirman(1600-1650). Also there are many illustrations from oldest period that show us another carpet-weaving tradition in past centuries.

The earliest surviving corpuses of Persian carpets come from the Safavid dynasty (1501-1736) in the 16th century. It is generally accepted among specialists that it was the Safavids who transformed the carpet from production by artists assured by nomadic tribes to the status of a "national industry" of which the products were exported to India, into the Ottoman Empire and to Europe.

But at first inscriptions was just a valuable indicator for determining the artists, the places of fabrication, the sponsors, etc.

Undoubtedly it was part of a serially development of script using on fabric and carpet in all Islamic countries that used Arabic letters for writing and carpet designers followed it tradition. So we must survey reasons and purposes in all usages of Arabic letters in artwork of these countries.

2. Variety of Calligraphy in carpets

Writing in Arabic letters appearing on flat or pile weavings has served some of these same purposes: It has personalized weavings, it has marked them as fashionable, and sometimes it has taken the form of short, aphoristic phrases. However, Arabic was also the language of the quran, the vehicle of the revelation of islam and this lent importance to all Arabic writing. Thus, writing in Arabic has served as a significant political, social, and economic indicator over the historical continuum of the 1400 years of Islamic history and, in this context the style of the script has been as important as its message.

For historical reasons, Arabic calligraphy and hand writing become rich in the variants of letter forms. In broad terms, certain styles were regional. Some become hallmarks of specific dynasties; some were used almost exclusively to write Persian or Ottoman Turkish, two other major languages which utilized the Arabic alphabet. Specifically, the script styles that appear on flat and pile weaving are limited in number: Kufic, Nastaliq, thuluth, and naskhi. In addition, kufesque, a series of non semantic, geometric forms resembling Kufic scripts, also appears. All these forms and the order of their appearance over time on weaving reflect the developing political, economic, and social history of the lands that produced them. This unit explores the variety and versatility of Islamic calligraphy and historical efforts to perfect and codify scripts and generate new forms in carpets.

2.1. Kufic

Kufic scripts were the origins of inscriptions on carpets. During the seventh through tenth centuries, writing on carpets, whether flat or pile, appeared in Kufic script and only in the Arabic language. In later period, other languages were used, although always in Arabic script. Kufic script was the official sign of Islamic power during this period; The first calligraphic script to gain prominence in Qur'ans and on architecture and portable works of art was Kufic. Also it was the script displayed on coins, on road markers, and on weaving from the state factories from the Umayyad or earliest dynastic period (661- 750 A.D) as can be seen on tapestry fragment from this period. Kufic was the official and visible sign of Islamic power; other handwriting styles were used for record keeping.



Figure.2

The initial Kufic script style was relatively simple; almost painfully awkward which features angular letters, horizontal format, and thick extended strokes because Arabic script forms were in an early stage of development. Eventually, variations of Kufic emerged. Examples range from simplest form of Arabic scripts in Square Kufic to letters intertwined with floral ornament (floriated Kufic) and letters that appear to be woven into knots.

These inscriptions reflected the state of calligraphic art at that time. The Kufic that was used throughout all of this period was simple in the execution. It was the Gestalt of the script that indicated the presence of Islam. Moreover, the different techniques required for inscribing carpets as well as stucco, glass and building materials took time to develop. It is more obvious in square Kufic that have geometric details. But these simple geometric forms make easier ways to adopt them by bitmap designs. So we can separate a square Kufic writing to dots of a carpet map or bricks of the wall easily. But designers used these simple forms in complicated techniques. Therefore designers had tried to deform letters and compact them to fill all parts of a beautiful geometric boundaries in a broad range from a rectangle to a star form. So sometimes it seemed like a puzzle of letters.



Figure.3

In addition to these formal characteristics of the script, all the writing on weaving in this period was message-bearing. Highly visible, this message may have been set apart from the decorative layout, or it may have served as a framework within the decorative schema; in either case, the style of the script, as its message, was a placed sign, a signature of the ruler; it symbolized his political power and economic control.

No technical data about the carpet is recorded, but great emphasis was placed in the account on the fact that contrary to the Caliphs wishes, the bureaucracy at the court prevailed and the more traditional, comprehensive political formula appeared on the prayer carpet.

In addition, during this period, some Arabic inscriptions on pile carpets and kilims, as well as other material objects include blessings invoked upon the owner, part of the expanding use of calligraphy.

In the earliest part of this period, Kufic script presented its message primarily through the meaning of the words and its decorative and aesthetic function was of secondary importance. However, within this period there was a developing capacity to make the script more visually effective and to add a decorative purpose. The state of the art of calligraphy is not itself a political, social, or economic factor, but it influences iconographic development of written message and deserves a short note before turning to the functions and formal characteristics of inscriptions during the second and succeeding periods.

2.2. Kufesque

After Kufic during a period, from eleventh to the fifteenth centuries, new social and political forces led to the development and official adoption of cursive scripts, rounded hands, and beyond those to the appearance of Kufesque.

One special phenomenon found in Islamic art is the use of letter-like forms that actually make no sense. They might have been made by illiterates, but also by craftsmen versed in Arabic who wanted to use the prestigious Arabic alphabet without conveying a specific message. These forms are called pseudo-calligraphy.



Figure.4

Pseudo-Kufic, or Kufesque, also sometimes Pseudo-Arabic, refers to imitations of the Arabic Kufic script, or sometimes Arabic cursive script, made in a non-Arabic context, during the Middle Ages or the Renaissance: "Imitations of Arabic in European art are often described as pseudo-Kufic, borrowing the term for an Arabic script that emphasizes straight and angular strokes, and is most commonly used in Islamic architectural decoration". [1] Pseudo-Kufic appears especially often in Renaissance art in depictions of people from the Holy Land, particularly the Virgin Mary. It is an example of Islamic influences on Christian art.

This word was coined by the numismatic expert George Miles in 1964 and combines the words Kufic and Arabesque to denote ornament that utilized Kufic letters in non-readable combinations.

More recently, seven 'Kufesque' ornaments/characters on the south wall of the Kapnikarea Church in Athens have been read as a true Kufic inscription, pointing out that the builders of the church may have been Arabic-speaking Christians or Muslim craftsmen.

Chrysanthos Kanellopoulos and Lara Tohme, 'A True Kufic Inscription on the Kapnikarea Church in Athens', *Al-Masaq* 20.2 (2008), pp. 133-39, at p. 139. The authors argue that the 'inscription', which can be read as *al-mulk lill_h* (power [belongs] to God), is an invocation referring to the power of God, the only master of the Universe, and is reminiscent of the Greek title for Christ 'Pantokrator'. (Crostiti, B., La Porta, S. (2013)) The formula *al-mulk lillah* is very common. In her study of monumental inscriptions in tenth and eleventh century Iran and Transoxiana, Sheila Blair notes that this phrase is so frequently repeated as to be cliché or even space filler. (Balley, J. (lecture 18 May 2009))

2.3. Naskhi and Thuluth

The establishment of strong independent states within the lands of Islam, achievement of dominance by Islam in Middle East, cause usage of Arabic scripts for other languages; Persian and Turkish, and identification of new script styles with them. Also the growth of distinct calligraphy styles marking each dynasty and need to keep legible records, leading to standardized styles of calligraphy. These developments become possible only because proportioned script had been developed to respond to these forces.

New styles of writing become hallmarks of the dynasties of this period, namely the cursive or scribal hands. These new styles had come out from a new system of proportional cursive scripts was codified from the tenth to the thirteenth century. In a proportional script, each letter's shape is determined by a fixed number of rhombic (diamond-shaped) dots. A rhombic dot is the shape formed when a calligrapher presses his or her pen to paper in one downward motion, producing the diamond shape.

A word written in one of the proportional scripts can vary in size but the letters will always be in strict proportion to one another. There are six proportional scripts (the Six Pens)—naskh, thuluth, muhaqqaq, rayhani, tawqi', and rika'. In Egypt and Syria a distinct form of Thuluth was employed in the period of Mamluk dynasty; Naskhi was used by the Seljuqs of Anatolia and Persia and by the Mongol and Timurid dynasties of Persia and Central Asia.

In comparison with Kufic, this new system let designers to use inscription in different composition without changing in letterforms that cause decrease in legibility. So border of inscription tend to be simpler.



Figure.5

2.3. Nastaliq

Scripts have their own distinct function and history; some were used widely while others remained local. For example, Maghribi was developed and used primarily in Spain and North Africa, while Nasta'liq, a flowing script originating in Iran and Central Asia, spread eastward and became popular in Mughal India and Ottoman Turkey.

Among the fine modes of calligraphy, Nastaliq undoubtedly has all Iranian taste in calligraphy. Old tales relate the birth of Nastaliq to Mir Ali Tabrizi, one of the calligraphers of the Teimuri reign. Yet the surviving manuscripts from the fourteen century show that Nastaliq was born several decades before Tabrizi's time. Due to its acceptance among the Iranian public, it became greatly widespread and popular in a manner that most of the Persian books in the sixteen and seventeen century were written in Nastaliq. As distinct from earlier inscriptions, the writing on carpets of this period reflected literary modes and manners, rather than political and economic needs of the court. At the Safavid court, where carpet inscriptions appeared in significant numbers, the impact of the art of the illustrated book is clear. It is seen in the layout design, and pictorial motifs. It was in this period and particularly since Shah Tahmasp that the first carpets with floral decoration were created, in order to satisfy the taste of the Safavids. The difference

between the carpets of the nomads and the floral ones is due to the role of the "master" (ostad), who draws the pattern which will be reproduced by the knotters. The designs of the carpets of the nomads are themselves transmitted by tradition. So what is obvious in the nomads is lack of description.

However, painted depictions prove a longer history of production. There is much variety among classical Persian carpets of the 16th and 17th century. The Persian rugs run largely to the graceful floral design with occasional figures of animals and birds. But common motifs include scrolling vine networks, arabesques, palmettes, cloud bands, medallions and overlapping geometric compartments rather than animals and humans. This is because Islam, the dominant religion in that part of the world, forbids their depiction. Still, some show figures engaged either in hunt or feasting scenes.

Also Carpet in Persian culture is a symbol of paradise. Motifs and figures which appeared in carpets lead legends and narrations about other world. So all of them are symbols and refer to what people learned about paradise and their dreams about that.

Also In Safavid dynasty, calligraphy flourished in parallel situation which evolved best masters and masterpiece of calligraphy. So carpet men started to use scripts in their carpets more.



Figure.6

It is therefore not surprising, that most of inscription that appear are in verse and the dominant scrip style was Nastaliq, which have been developed for its lightness and grace in order to achieve harmony between the appearance of the written Persian word and the poetry and painting it accompanied and a good harmony by carpet motifs that Their lines are more often curved or circular than straight. The weave is closer, more compact and creates firmness in the rug. Moreover, script during this period was not an obligatory part

of carpet design; it reflected an artistic choice based, one assumes, on a sense of its aesthetic suitability. Although the extensive literary use of script characterized the Safavid court, Nastaliq script was also used for dedicatory or personalization purposes. The sixteenth and seventeenth centuries were an age of great carpets.

Nastaliq had a good harmony by carpet motifs but in other hand had a big problem in adapting by bitmap system. So carpet designers did some deformation in letters and in most of carpets they elongate ascenders and descenders and enlarge circle to save them from deforming to angular forms. Also curves had going to be right forms or larger than regular sizes.

6. Conclusions

For a good issue than a broad subject like this we must work more and more. But as a conclusion for this ongoing research I must say that description on Persian-Arabic carpets like all system that forced us to some restriction help us to find better answer for our problems in type design. Every day I work on this subject more and more. Hope to reach to pragmatic result in future.

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