

Compression Study on Velvet and Termeh in Iranian Brocade

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Abstract—From ancient times, in some cultures, the way of choosing the colour and pattern of the fabric, and its decoration, represents a message about their beliefs, traditions and ethnical origins. Due to the diversity of clothing in the Middle East, two special types of Iranian fabrics have been investigated. The process of knitting with a weaving-loom is always accompanied by passing the fibres of the warp in different ways. This study presented the historical investigation of brocades and explanation about traditional Iranian brocades in terms of fabric, shape, and patterns. Moreover, the compression results between characteristics of Termeh and velvet have been reported. The aim of the study was to focus on the history of fabric texture in Iran and general information about brocades and Termeh fabrics in expressions of their historical traditions. In conclusion, it is attempted to introduce knitting techniques and designed models which have been presented for this traditional and expensive Iranian fabric.

Keywords—Texture, brocade, Termeh, Velvet Braid.

I. INTRODUCTION

BROCADE (Zari in Persian) is a relative adjective attributed to gold with a same golden color. Therefore, brocade weaving is referred to as making brocade fabrics with a texture of gold. In this art, fabrics with traditional designs and patterns that are made up of silk and braid are woven with fully traditional handicraft weaving. This traditional woven fabric like many traditional fabrics is made of fibers and woofs. In traditional brocade weaving, fiber is made of silk and when the fabric is woven, it is completely soft and glassy [1]. The raw material of this industry is a natural silk. In weaving this fabric, complex color schemes are not used. The maximum number of colors for the yarns of the fiber and woof are two and six colors respectively.

One of the important points in weaving brocade fabrics is the use of thin gold and silver yarns. Another factor is the complexity of the design and the pattern of the fabric, which is produced using the above-mentioned multi-colors.

II. BROCADE'S WEAVING

What made Iranian fabrics unique and distinct in the world was the beauty of the design, and the patterns and variety of textiles. Iranian brocade fabric is one of the fabrics that have always been of interest to the world in terms of its glorious pattern and color. According to historians, Iranian silk fabrics, some of which were made of gold and silver fibers and woofs, were among the popular fabrics along Greeks for their beauty

and softness. Brocade (Zari in Persian) is an elegant and very expensive fabric made of pure silk fibers, and its woofs are colored silk and braid yarns, which can be golden or silvery. Braid yarns make the brocade fabrics precious and glittering. The braid yarn is the same as the gold yarn; its main part is pure silk and a narrow strip of gold is wrapped around it. To create a braid, the artist needs to turn a wire of gold or silver with 10 cm in diameter into thin yarns and wrap it into silk [2].

III. WEAVING MACHINE

Weaving machine is usually made of old-fashioned and simple style wooden tools. There are typically two people working on each machine. In most cases, the background of the brocade fabric is made of silk and braid yarns make the yarns of the woof.

Steps of weaving brocade fabrics include:

- 1) Mapping
- 2) Flaking
- 3) Silk carrying of warps
- 4) Shoulders.

IV. THE USE OF BROCADE FABRICS

These fabrics were used as a cloth for kings, ministers, and, courtiers. In addition, they were used as a valuable gift at the court. For producing 2-3 cm of these brocade fabrics, more than 7 to 8 hours work per day is required, because of this fact, they are regarded as valuable fabrics: fiber for the textile of these fabrics is of pure silk, and the woofs are colored silk and one of the woofs is a braid yarn which can be of golden or silvery.

V. THE HISTORY OF BROCADE WEAVING

According to historical narratives, it is worth mentioning that the texture of the brocade fabrics, which are produced from braid yarns, dates back to two thousand years ago. Herodotus, famous Greek historian, mentioned, "The Romans paid a lot for traditional Iranian brocades because of their beauty"[3].

Undoubtedly, weaving brocade fabrics, such as carpets and rugs, had been popular since Achaemenid era in Iran. Because in most of the prominent designs of Persepolis, Shooosh and even Pasargad there are some patterns on the edges of the costumes of the kingdoms and courtiers, indicating that their costumes were made of brocade fabrics. Moreover, in the margin the sleeves and the collar of costumes, there were pieces of pure gold in the form of lion, chicken, and star in

geometric patterns like triangles and so on. Today most of these pieces of gold are available in the museum of ancient Iran and other museums of the world, which are dealt with Achaemenid period [4]. In the course of this period, the textile industry of Iran, especially weaving silk and soft woolen fabrics, was popular, and the Achaemenid kings were known for their beautiful and fashionable clothes. According to Herodotus and Plutarch's writings, although Alexander the Great was an enemy of Iran, after his entrance to Iran until his death, his clothes were from Iranian brocade fabrics. After the destruction of the Achaemenid Empire, and in the period of the Parthians, the arts and industry, especially knitting industry of Iran, were not significant enough. Only a few pieces of silk fabrics was found in China's Lola Land, which was the last Iranian border in the Far East. There are also a variety of brocades from the Sassanid period in churches and museums outside of Iran. Many historians believe that this period has been the golden age of Iranian art and civilization. Many of the woven fabrics of this period have survived in the churches and museums of the West. The brocades of Sassanid era were so popular, that they were demanded from all parts of the world, and when someone traveled to Iran, the best gift that could have taken to his homeland was a piece of brocade.

After the Seljuk, the art and industry of Iran had lost its pervious greatness and the Mongolian's attack from the Far East to Iran lead everything and everyone to an abyss. In Mongolian's era, slaughter and destruction were common in Iran, and in this situation, neither was a way for the artists to act, nor did the government like art and artists. However, in the last days of Mongolian government, the situation improved slightly, but the glory of the previous era, did not repeat [5].

VI. BROCADE WEAVING IN ANCIENT TIMES

In the Sassanid era, weaving fabrics in Iran had become famous in the world, and a variety of woven fabrics, including brocades, were given as gifts from Iranian kings and merchants to the western and Roman countries. The patterns of Sassanid textiles by inspiration from nature and religious and historical concepts were the hallmarks and popularity of this era. Nowadays, many Iranian fabrics with Sassanid designs are kept in museums and churches around the world. For instance, the brocade fabric of the Nancy church in France, where 1200 years ago the European travelers wrapped the Holy Cross in it and took it to the Europe, in the design of this fabric, there are two imaginary animals next to a tree in the circle frame, which is one of the most common Sasanian designs. This fabric is related to the 3rd and 4th centuries, and that is seen in the Sasanian art of Iranian fabrics weaving [6], [7].

VII. PUBLICATION PRINCIPLES

As outlined above, in this article we are going to examine the appearance of the fine and exquisite Iranian fabrics, especially brocades. Therefore, in order to obtain information about the history and origins of each of these woven textiles, the historical trends of knitting and weaving industry in Iran

will be briefly reviewed. In this process, we reviewed the existing evidence from the ancient era and extended it to post-Islamic periods. Given that the works left over from some eras were rather rare and there was no credible documentary, and historical evidence, and because of some factors such as the low durability of fabrics over time, weather conditions, destruction as a result of natural disasters, wars, etc. reasoning about the weaving industry was not possible at that time. Many scholars and historians mention two important and striking periods in the Iranian fabric weaving art at Sassanid and Safavid periods, one related to pre-Islamic and another one related to the post-Islamic period in Iran. Earlier in the review of this industry in ancient times, Sassanid weaving is mentioned and we have listed examples of the works and evidences of that period, which are related to the subject matter of this research, namely brocade. Therefore, by using four old-fashioned brocades, some patterns for the present era are considered, which suggests the usability of this ancient Iranian industry [8], [9].

A. Pahlavi's Brocade

The upcoming dress is a wonderful and unique dress that the Queen, Taj al-Muluk was wearing at the wedding of Mohammad Reza and Soraya. When you look at this glorious dress, you will find decorations such as Sermeh embroidery and attractive brocade embellishments and stone embroidery that have doubled the beauty of the dress. Of course, the specialty of Taj al-Muluk's dress is not limited to the clothing embroidered, and the margin of the trail and its skirt also play an important role in its attractiveness. The whole margin of this skirt is sewn with 50 woolen ermine fabric that adds to its beauty. It is good to know that the ermine is a small weasel that is about 10 cm in size. Unfortunately, there is no information about the designer and tailor of this dress [10].



Fig. 1 Taj al-Muluk's dress

TABLE I
TAJ AL-MULUK'S DRESS' PROPERTIES

Historical period	Pahlavi
Material	velvet Fibers and Gold Woofs
Year of sewing	1950
Location	Sa'd Abad Museum's Palace

B. Farah's Dress

In the upcoming dress, you will see one of the beautiful dresses that Farah had put on in the 2500-year-old celebrations. This brocade shirt and coat are decorated with plant designs with a green, blue and golden color. If you look at this shirt carefully, you will see that it is quite long, with a stand-up collar without any sleeves. The shirt also was covered by a coat with long sleeves and a three-centimeter collar, which was perfectly homogeneous with the shirt. As mentioned, this shirt was made of brocade fabric; the fiber of this cloth was made of pure silk with a cotton woof. It is worth mentioning that at least 90 people had been working for two years to sew this brocade costume that Farah Pahlavi had been wearing [11], [12].



Fig. 2 Farah's dress

TABLE II
FARAH'S DRESS PROPERTIES

Historical period	Pahlavi
Material	Silk Fibers and Gold Woofs
Year of sewing	1971
Location	Royal Clothing Museum

C. Persian Textile



Fig. 3 Persian Textile (The Golden Yarns of Zari)

TABLE III
PERSIAN TEXTILE PROPERTIES

Historical period	Pahlavi
year	1975
Material	Silk Brocade with Golden Thread
Texture Type	Upper Warp and Lower Warp
Pattern and Design	The Fish with Shah Abbasi Flower, With Main Repeating Motif.
Brocade weaver	Master Seyyed Hossein Mozhgani.
Barcode designer	Master Mohammad Tarighi

D. Silk Brocade. Persian Textile



Fig. 4 Silk Brocade. Persian Textile

TABLE IV
SILK BROCADE PERSIAN TEXTILE PROPERTIES

Historical period	Pahlavi
year	1975
Material	Silk Brocade with Golden Thread
Texture Type	Upper Warp. Draw Loom
Pattern and Design	The Fish with Shah Abbasi Flower, With Main
Brocade weaver	Master Mohammad Salimian Rizi
Barcode designer	Master Mohammad Tarighi

VIII. SUGGESTED DESIGNS USING OLD BROCADE FABRICS



Fig. 5 Suggested Designs Using Old Brocade Fabrics

Golden color is used in the design of luxurious businesses. The golden color has a close relationship with yellow (and orange and brown). While green may be the color of money, gold is the color of wealth and a symbol of luxury. The golden color in designing has many features of yellow color like heat, sense of energy and hope.

Golden color is a symbol of welfare, abundance, courage

and glamor, which shows audacity, warmness and luxurious manner. This color has a long and royal history and brings glory. Just because gold is a precious metal, the golden color to which it relates also provides wealth and luxury. While all the luxurious furniture is not golden, the golden color still brings glory to the viewer [13], [14].

Using the brocade fabrics mentioned Fig. 5, some designs for the present era are drawn using Photoshop and Corel Draw programs, and these dresses are considered as evening dresses, because their fabrics are so expensive and the cost of them are not suitable for daily dresses. The main color of these clothes is golden tonality and to some degree, yellow and dusty colors are seen. The composition of these fabrics is more in harmony with black tones, as well as with warm and active colors. The color circle can be divided into a range of active and passive colors. Active colors are referred to as colors that are in the group of warm colors, such as red, yellow, and orange. These colors produce excitement and flexibility. When they are placed against the inactive colors, they are fully exposed; inactive colors are those colors that are more neutral and lighter than active colors. These colors are in the category of cool colors and give a relaxing effect to the people, which include green, blue and violet. In the designs mentioned, golden color is the most attractive color even in the absence of other colors. These designs are unique and indicative of authenticity, and always remind us the dresses of kings and gentiles. The brocade fabrics are relatively heavy and thick and are more suitable for the design of autumn and winter collections, also sewing them needs to be followed carefully because the brocades are woven with traditional instruments and are very sensitive. To make these fabrics more comfortable, linings are used, because the silver and gold fibers give roughness to the fabric [15].

IX. RESULT AND SUGGESTION

The brocade fabric is one of the most important arts in the knitting industry of Iran and has attracted the attention of the people. The best raw materials and sophisticated techniques are used in the production this fabric. It is aged more than a thousand years ago and to juice up this magnificent industry, we have to use this fabric and introduce it to the whole world. For Iranian designers, it is a great chance to promote and use Iranian art and culture. In the present era that luxurious and unique designs are common, there is a great chance to use this magnificent Iranian art as much as possible.

X. CONCLUSION

With its charm and glory, Iranian brocades are very suitable to be used in this modern fashion world. Many popular brands are looking for a unique and precious fabric for their special collections. Designing dresses with brocade fabric is very suitable for people who want precious and special dresses, which are luxurious, and, of course, very few in numbers.

The use of brocades gives a sense of freshness, and brings a new and luxurious style to the fashion world, and in the present era, in which many trends have changed quickly and

replaced by others, brocades can be enduring and even they can be special for themselves and fashion lovers. Undoubtedly, well-known brands in their luxurious designs and evening and classical dresses, will welcome this fabric, as the noble men and kings who have assigned much popularity to this fabric.

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