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Abstract :

A trip to Uzbekistan through ikat silk fabrics.

A detailed description of the manufacture of ikats from the preparation of the warp to weaving.



## Ikat from Uzbekistan

During my recent trip to Ouzbekhistan, I had a close look at fabrics made with the ikat technique at a mill that produces silk fabrics in a traditional way.



A few words about the country

Uzbekistan is situated in Central Asia, between the Aral Sea and the mountains of Thian Shan. This previous USSR republic became an independent country in 1991. It has been out of the main occidental tourist routes for a long time and it is really a great place to discover. It is a crossroad where you can feel the Islamic influence (60% of the population is Muslim) combined with a Soviet-type administration (70 years) and one hundred nationalities. Sixty percent of the territory is comprised of desert. It is extremely hot during the summer and extremely cold during the winter. The famous "Silk route" crosses the country and passes through mythical oasis places such as Khiva, Boukhara, and Samarcand.

This designation of "Silk route" is fairly recent (19th century). It refers to the travel routes that link occidental countries and India to China. It has been used for commercial exchanges since earliest Antiquity.

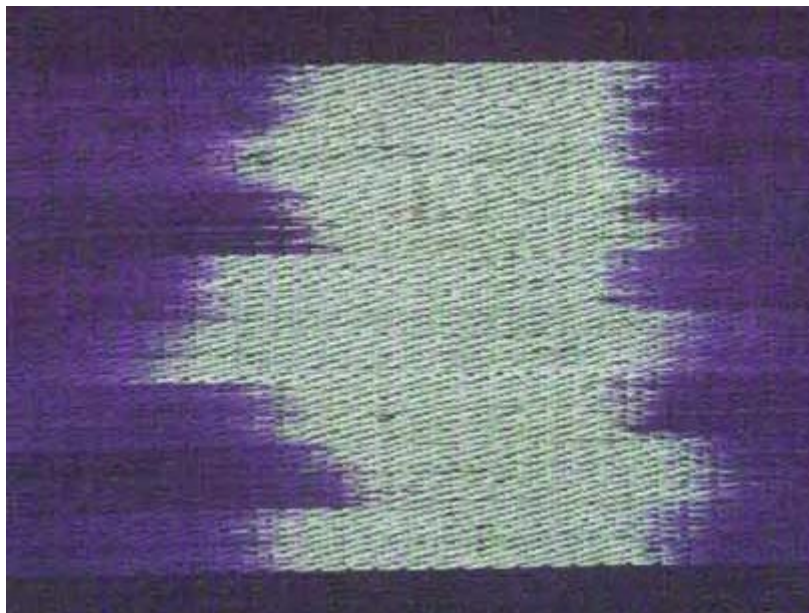
The Chinese "owned" the secret of silk manufacturing, the price for which was greater than gold in ancient Rome. A local legend says that a Chinese princess brought, as a wedding present to her husband the King, some butterfly eggs hidden in her hair bun together with mulberry seeds. In fact, the secret of silk-making appeared in western countries in the 6th century and raising of silkworms in this region is ancient.

The mulberry bush, whose leaves are used to feed the silkworms, is mainly cultivated in the Ferghana Valley which is irrigated by numerous rivers coming from the Thian Shan mountains to the north and the Alai Pamir to the south. The most important silk factory of the CEI is located in the town of Margiland where 150,000 people work. It is also there that I visited the traditional silk manufacturer of Yodgorlik. The mulberry bush is cultivated in other parts of the country as well, especially in Boukhara where I visited another traditional workshop, the National Silk Workshop, in the silk bazaar of Abdoullah Khan.

## Ikats

Ikats are woven fabric which patterns are the result of yarn dyeing before weaving. According to the way that the patterns are dyed on the warp, the weft or on both, ikats are called warp ikat, weft ikat or warp and weft ikat.

The Uzbek ikats that I have analysed are warp ikats. When weaving, the yarns previously dyed can be slightly shifted and this inaccuracy results in a blurry outline in the pattern between the different colors which is the unique quality of ikat cloths. Uzbek people call them "cloudy cloths".



blurry outlines of a pattern in an ikat cloth

Fancy ikats, used in traditional costumes, can be seen in museums. But, you realize by simply browsing in the streets that this cloth tradition is still enduring.

In the country, most women wear the Uzbek traditional costume that is made up of a dress and a pair of pants fitted to the ankles. It is made of an ikat of a common quality that is called Atlas. This bright colored cloth can be purchased at a modest price in most markets (see the picture of the young woman weaving at the end of the article).



Woman's indoor dress (beginning of 20th century)



Detail of a man's costume (beginning of 20<sup>th</sup> century)

There is a range of traditional patterns. Some are elaborate, others are very simple.



Traditional patterns, Museum of Decorative Arts in Tachkent

At the Yodgorlik workshop, Mr. Davlat, the artistic manager, explained that traditional as well as contemporary cloths are woven now. New patterns are designed in the sampling department.

The workshop store offers a wide range of cloth that visitors can purchase.

I met [Philippa Watkins](#) there. She is a textile designer as well as a journalist who teaches at the Royal College of Art, London. In 1997 she started to work with the Yodgorlik workshop to build a cloth collection that would be more suitable to western tastes. Common uzbek cloth would be too bright and elaborate for a western woman to wear.

Philippa draws her inspiration from ancient cloths and sometimes from current trends in fashion and design.



Some designs of the Yodgorlik

Workshop Here is the process of

manufacturing an ikat:

Silk spinning

Silkworm cocoons used to be wound up in the mill.

Nowadays, the silk they use is spun industrially. However, you can visit a room where you can see the implements that were used to spin the silk.

Warp preparation

Warping starts using white silk yarn on a big vertical wooden warper.

Then, the warp is divided in several bunches of yarns. Each bunch of yarns (which will match a strip of a warp direction in the cloth) is wound up to make a hank on which a part of the pattern will be dyed.

To do so, each bunch of yarns goes through a wooden bar, of approximately a meter long, that has a hundred holes or so.

Then, the warp is spun around heavy metal cylinders, about 2 meters apart, and kept one meter from the ground by four sturdy posts.

This part of the work is quite delicate and requires two operators. One carries the warp, gathered in a ball, on a tube and must make the warp yarns go alternatively on top and below the metal tubes, maintaining the tension. The other person guides the bunch of yarns with a wooden bar, making sure that at each turn, the bunch of yarns are stacked exactly on the top of the previous layer to get the same number of independent hanks at the end of the operation.



Spinning and slashing of  
the warp

The first operator must be in very good physical condition. Going a hundred times or so on four legs, under two bars and one meter from the ground would be a very good exercise to train for high jump competitions!

The second operator must possess some extraordinary skills as well. Apart from guiding the yarns, he must at each turn slash the yarns; that way each bunch of yarns is humid and will stick nicely onto the previous bunch. Should this bunch fall on another one, separating the hanks would become a very difficult job.

To slash the warp, he fills a bowl of liquid from a bucket, swallows a mouthful and spits it out powerfully, forming an arc with this spray of small droplets, to hose the whole warp evenly.

When the whole warp is spun, it is separated in hanks.



### Design setting

The 2-meter long hanks are stretched just above the ground to tie each part of the pattern.



Hank before dyeing process



tying (in black) to dye in yellow



tying to dye in green

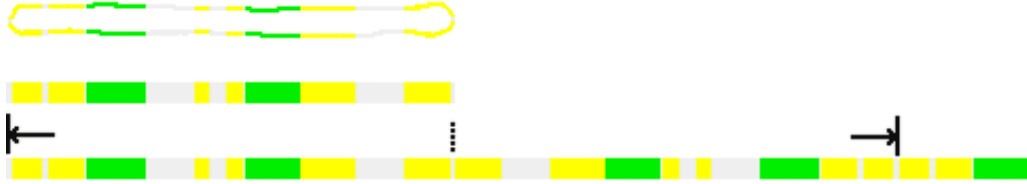


dyed hank ( grey shows the non dyed part ).

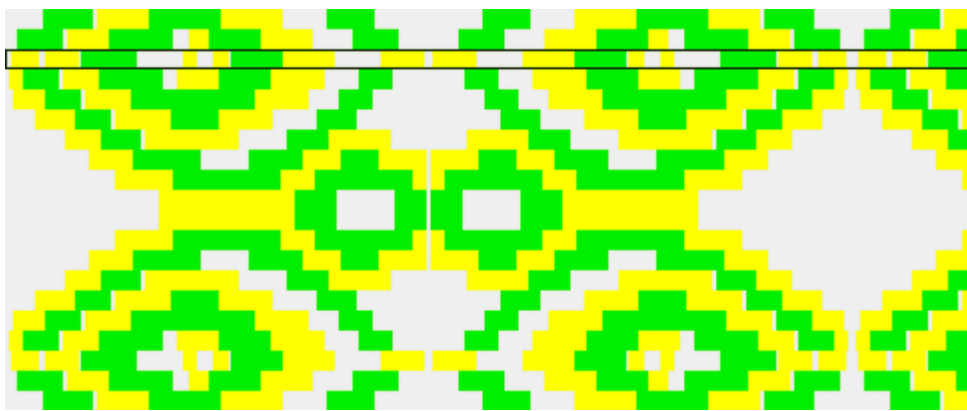


Each color must be dyed in a different dye bath. If you start with the yellow, every part of the hank that must not have yellow on it will need to be tied up. The hank will take the yellow dyeing only on parts that are left untied. This process goes for all colors that need to be added for the creation of the pattern.

To ensure that dyes do not go through the ties, the yarn must be wrapped around the hank very tightly. This job used to always be done by men. Nowadays, both men and women tie yarn because strong cellophane for packaging is used.



Symmetry and design repeat



Cloth strip that matches a hank

Since the ties are made when the hank is folded in two, there is a symmetry in the pattern that matches the middle of the hank every two meters. The pattern repeat is 4-meters long.

It is difficult to dye the two hank folds and you can see on the cloth samples a thin white strip every two meters that the ikat effect hides quite well.

Complex patterns require more time to dye the warp.

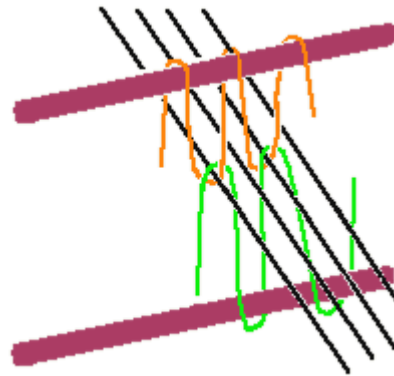
The more hanks, the smaller the shift in the design width.

The more colors, the more tie and dye operations.

The more parts in the design length, the more complex ties.

## Warp setting

The Uzbek traditional loom has four to eight shafts. They are not independent shafts and do not have heddles with eyelets. Instead of inserting the warp ends in the shafts, the shafts and the heddles are built up on the stretched warp, outside the loom, for each cloth.



Shaft with "stitched" heddles.

To make a shaft, two yarns must be "sewn" successively (green and orange on the sketch) to trap the selection of the warp yarns of the shaft. These two yarns will respectively form the upper and lower parts of the "heddles".

The "sewing" is made around a smooth and small wooden board that is ten centimeters wide, and used also as a gauge so that each loop forming a heddle is the same size. Along the top edge of this wooden board, a yarn is caught to be passed through the loops. Once the sewing operation is complete, this yarn will be used as a guide to be replaced by the upper or lower wooden stick of the shaft.



When all shafts are threaded, the warp is put on the loom.



A wooden frame can hold several looms. The loom beats are hung and have a flying shuttle. The reed can take warps of 80 centimeters wide. Shafts are attached by a system of weights and pulleys that allow a counterbalanced lift.

Pedals, set in a harmonious form of an arc, are directly linked to the shaft extremities by two cords. To maintain the warp tension, a weight is hung at the other end of the frame, 6-meters away from the back of the loom.



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