

### The Art of Paper Making and Calligraphy

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**Annotation:** Following article deals with the history of papermaking and calligraphy. It is stated that the development of the art of papermaking is one of the important factors in the development of calligraphy and book art, especially in the rise of the fine art of miniatures.

**Keywords:** books, calligraphy, mathematics, chemistry, geometry, paper cutting, “muzahib”, miniatures, master classes, “sinch”, “bolor”, “vassajuft”, post, bookset, bookmark, ink.

Before paper was discovered by the Chinese in 105 AD and reached European countries, people wrote on smooth silk, pottery, treated leather and papyrus, and palm tree branches. It was not until 751 AD, when the Muslims were captured by the Chinese in the Battle of Talas Valley, that they learned how to make paper. It was this event that led to the spread of paper around the world.

Paper production began in 794 AD when Fazl ibn Yahya, and a minister of the Abbasid Caliphate pounded the first paper factory.

Along with the development of Islam, the establishment of the paper mill played a key role in world civilization. Baghdad is known to the world as the center of paper production. The popularization of paper led to a sharp reduction in the price of books, which in turn led to the spread of knowledge.

Due to the popularization of the art of literacy, new professions and services have also expanded.

Paper production has been established in Egypt since the 9th century. The first paper copy of the Holy Koran was copied in the 10th century.

Over the next 200 years, paper was spread to all Islamic countries. As a result, book preparation became easier, and book prices dropped sharply. It became possible to make thousands of copies of one book. In turn, the art of calligraphy developed, and the variety of inks and paints began to increase.

Jacques Riesler, professor of the Islamic Institute of Paris, wrote in the book "Arab Civilization" that "Undoubtedly, the greatest gift of Muslims to Europe was paper". Danish historian Johansen Pedersen admitted that "the establishment of the paper industry by Muslims made a turning point not only in the history of Islamic books, but also in the history of books of the whole world".

Bukhara is an ancient city known to the world as the center of science, enlightenment, culture, art and religion of the East. This city is a unique city in the east, and it is not for nothing that it is called the source of Islamic culture. The monuments of Bukhara were built on the basis of perfect knowledge, and at the heart of them lie the immutable laws of specific sciences such as Mathematics, Chemistry, and Geometry. They were given a special decoration not just for silence, but to seal the wisdom of the sciences, unique examples of the art of writing. If we look into the long past of Bukhara calligraphy art, we can see that its deep roots go back to the ancient pre-Islamic period. From the point of view of the history of writing, the writing culture of the Central Asian regions, including Central Asia, began to form in the V-IV centuries BC.

Much information has been collected in science about other ancient writings that were formed during these periods of the history of our written culture or chronologically a little later. Ancient Sogdian writing was established by archaeologists in centuries BC.

Two other scripts formed in our country on the basis of Aramaic script, Parthian and Bakhtar scripts are also mentioned by our scientists.

After the Arab invasion, cultural and scientific thinking flourished in Central Asia, especially in Bukhara, Khorezm and Samarkand.

Along with the spread of Islam in our country, the Arabic script became the only script. The Arabic writing superseded the ancient Central Asian writings (the ancient Uyghur, Orhun-Enasai, Sogdian, Khorezmian writings). By the 8th century, it was the only official writing for the peoples of the Middle East in science and state affairs.

The history of our people in the Islamic period of the 14th century was written on the basis of this inscription. While writing our history, our great calligraphers did not consider the words they were writing as just a combination of letters, they did not forget the elegance and grace characteristic of the East while writing the letters, that's why the more glorious our history is, the more elegant, beautiful, refined and musical the writing they left behind.

The sophistication of the art of calligraphy did not escape the attention of ordinary people in ancient times. Therefore, rare miracles are visible in examples of folk art. We think of it as just patterns, whereas the patterns represent the words love, loyalty, and devotion. We can see such words more often as embroidered hats, belts, and words, and you will read them in prayers and watch them as patterns.

The art of calligraphy in the East cannot be imagined without miniatures or Oriental miniatures without the art of calligraphy.

In both miniature art and calligraphy, fine dimensions are important. Another close aspect of calligraphy and miniature art is that the writings and patterns seem to move.

Calligraphy is one of the most important and rare professions of book art. In addition to calligraphers (letter copyists, writers), paper maker, muzahib (painting with gold), lavvoh (decorator of titles and tables), musavvir (painting and decoration maker), and sahkhof (cover maker) were also involved in the creation of the book. But the calligrapher performed the most necessary task in bookmaking. At the beginning of the 20th century, there were more than one hundred fifty talented and unique calligraphers in Bukhara. Among them, Mir Ali, Hirovi, Fathabadi, Mirza Ismatullah Munshi, Muhammad Amin, Mir Masum Bukhari, Avaz Badali Bukhari, Haji Yodgor, Domlo Bobobek, Abdulmajid Mahdum Bukhari, Subkhanquli, Muhammad Reza Namadi, Mirza Mavlon Bukhari, Abdullah Savdo became in the history pages of Bukhara calligraphy schools.

In the 9th-12th centuries, with the development of exact sciences and its success in the field of architecture, geometrical patterns were widely used to express Islamic ideas and achieve greater perfection in architectural generality.

In the period of Islamic renaissance (9th-12th centuries), there were specific changes and renewals in all types of creativity, and in art, the direction of moral teaching that the desire for pleasure is a characteristic of a person began to prevail.

The development of the craft of papermaking was an important factor in the development of the art of calligraphy, and art of bookmaking, especially in the rise of the fine art of miniatures.

According to historical sources, paper was made in the territory of our country from the beginning of the Middle Ages. More specifically, paper production was started in Samarkand at the end of the 7th

century. Pieces of silk cloth, hemp fiber were used for paper production. Samarkand was famous for "Paper Maroqand", which produced paper in the Near and Middle East in the 8th-9th centuries. By this time, Samarkand had become the only and largest center of paper production in the Near and Middle East.

The introduction of Islam and the establishment of a single religion, as well as the production of copies of the Holy Qur'an, played an important role in the development of paper making in Samarkand. The demand for writing various documents, letters and works of early classical poets increased. Paper mills were built in the Konigil fortress, located on the banks of the Siyob river, in a convenient place for paper production.

"The best paper in the world is produced in Samarkand", wrote Zahiriddin Muhammad Babur.

It is said that the appearance of silk in the Bukhara oasis is the result of the introduction of Islam and some scholars who went to Arabia, became Muslims, and brought silkworm seeds back through China. It is attributed to Az-Arzaniyan, a scientist from the village of Arzaniyan of the present Jondor district (previously Harbun). "Majusi, a scientist who lived until the second half of the 2nd century, traveled to Arabia from the end of the 6th century to the 7th century during the Caliphate of Ali ibn Talib, and accepted Islam from the descendants of Ali. On the way back, he passed through China, where he met cocoon growers. After living with them for a while, he returned home with cocoon seeds in his cane.

But Abulqasim Firdavsi writes in his world-famous book "Shokhnama" that the weaving of cloth by feeding silkworms and taking the best quality shiny thread from it was developed in the time of Afrosiyab.

In ancient times, silk production was widespread in Bukhara. The local population called the fiber obtained from the cocoon Arbi reshin - abreshim. Those who made silk products from it, were engaged in weaving. Mulberry, which was food for feeding silkworms, was planted in the Bukhara oasis in the depths, so that the water did not come to the surface. Balkhi mulberries were abundant in every yard - place, roadsides, gardens. Shade in the heat of summer, the fruit ripening in spring was food and medicine for humans, the leaves were food for silkworms, the bark of the branches was raw material for making paper, and the wood of the trunk was used in construction for making sinch, bolor, vassajuft, pillar, door, window, plaque, bookmark, pencil case and boxes. One mulberry tree emitted more than 300 liters of sap into the air in a year.

They used the following method to make paper from coir. The cheapest top layer of the cocoon is a mixture of yarn, lime, and caustic soda ground in stone. Ground raw materials were left to brew for 10-15 days. The infused smashed dough and boiled them. The stem and root of the licorice and the ripe brick root were added to the broth and boiled again. The finished decoction was filtered in a special sieve in the size of a sheet, laid on a flat surface and dried. A liquid decoction of wheat and rice flour was prepared and applied to the surface of each sheet. After drying, the sheet was treated with cow, ox horn, and agate silk. Such paper is of good quality and easy to work with ink.

In the artisanal method, paper was made from cotton, flax, and hemp, in addition to silk. It should be noted that the importance of flowing water in paper making was extremely great. Of course, a mill built on a fast-flowing river, ditch played an important role in the processing of paper raw materials and the preparation of decoctions.

Types of paper made of silk, cotton, flax stalk, hemp stalk were considered the main writing instruments for calligraphers. Writing, decorating, and the cover gave birth to the book. The art of literacy included many types of crafts. After paper, the most important raw materials were ink and paint.

Calligraphers needed ink like water and air. Its preparation was carried out by ink. The Bukhara ink cooks made a decoction by adding the glue of “mozu” seeds, or “sada” alder glue, rice, wheat juice to “charvi” or hip fat or marrow powder. The ink became smooth when the pine seeds were boiled and added to the ink. Such ink did not spread on the paper and dried quickly. The record had not been spilled and moved for a long time.

The written books were decorated with patterns of different paints and colors and with gold. The cover is made of leather, cardboard – “pape” - Mosul, suitable for the content of the book. When the manuscript was finished, it was sealed in a special case. At the meeting of rulers, ministers, scholars, the master or “piri ustoz” cut the cover and presented the book.

The publication of papermaking made an unprecedented contribution to the development of science. He served for the enlightenment of humanity.

The art of paper making, whose history goes back thousands of years, is one of the beautiful products of human thought, which is the basis for the development of calligraphy and miniature art. If there were no paper, historical written sources would not have been created and there would have been no development. This priceless wealth of the material and spiritual heritage of humanity occupies an important place in its development.

Since the early years of our independence, the tremendous interest in our values has led to the revival of various crafts.

Zahiriddin Muhammad Babur wrote in his "Boburnoma" that "the best paper in the world was produced in Samarkand". Master craftsman Zarif Mukhtorov, who revived this forgotten craft, installed paper mills on the banks of the Siyob River in the village of Konigil and started the production of Samarkand paper.

The artist Davron Toshev and Master Akmal Muhiddinov revived the art of paper making in Bukhara at the "Usta Davron" craft center.

All conditions have been created for foreign tourists and experts to visit the centers opened by them. Demonstration of "Skills classes" has been launched.

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