

**HISTORY OF DISCOVERY AND PRODUCTION OF PAPER****Husen Khairulloevich Djourayev**

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**Annotation:** In this article, the discovery of paper in the history of mankind has become the reason for the development and progress of society. Before the discovery of paper, ancient Egypt and Babylon used papyrus and parchment, while the Chinese wrote and drew on bamboo boards and silk fabric. After the start of paper production in Movarounnahr in the 8th century, Bukhara-Samarkand paper supplied all of Europe with paper for 350 years.

**Key words:** Parchment, papyrus, paper, China, Movarounnahr, Bukhara, Samarkand, cellulose, machine tool, paper market. culture, history, books.

The history of the discovery of paper has come down to us from ceramic books found in the library of the Assyrian king Ashurbanipal in the 5th century BC, and inscriptions written on palm leaves in India. Also, Novgorod Russians widely used birch bark.

In ancient times, papyrus, a fabric produced in Egypt, was used instead of paper for writing. This cloth was made from cyperus papyrus growing near the Nile River. The stem of the plant has a trihedral appearance when cross-sectioned. The stem was cut into pieces, cut into thin pieces, and then glued together. The resulting papyrus sheet was compacted by blows of wooden hammers, dried in an oven, split with a smooth stone, glued together and divided into long pieces.

Although papyrus is similar in appearance and composition to paper, its production technology is completely different. The production of papyrus originated at least 5500 years ago (scrolls of papyrus from 5450 years ago have been preserved).

In a number of European countries, paper got its name from the root of the word papyrus: dar Papier (German), i.e. papier (French), the paper (English), etc. In science, the field that studies the type of paper is called "papyrology".

**Papyrology** is a historical and philological discipline that studies papyrus texts found in Egypt and beyond. The term "papyrology" was introduced in 1898 by F. Kenyon in his review of the publication of Egyptian finds in the British Museum. Due to the unique climate, the Egyptian papyri themselves, as well as documents in Greek and Latin, have been massively preserved in Egypt. In the sands of Egypt, papyri have been found in Aramaic, Hebrew, Pahlavi, Syriac, Libyan, Coptic, Ethiopian and Arabic, and even fragments of Gothic and Etruscan texts.

In ancient times, the Chinese wrote and drew on bamboo boards and silk cloth. Silk fabrics were expensive and bamboo sticks were heavy and bulky. When studying the finds, only about thirty hieroglyphs were squeezed out on one bamboo stick. And writing a book was very difficult. We know that China has a long history of silk industry. For centuries, the Chinese have learned the secrets of silk production and kept these inventions in the strictest confidence.

Women, who were mainly engaged in the production of silk, boiled cocoons and dried them in special nets. Then, when boiled in water, they formed a mushy mass. The resulting porridges were flattened and smoothed on special surfaces. With this method, the production of silk paper was started. Later, they learned that paper could be obtained not only from silk fibers, but also from plants as a raw material.

The word "paper" may come from the Oriental word for "paper", the cotton from which paper is made. Perhaps it comes from the Italian word "bombini". This is the name given to the very soft, wrinkled and wrinkled paper produced by the Arabs. There is no answer to this question yet. The method of printing, invented by Johannes Gutenberg in 1453, gave a great impetus to the development of paper production in the future and contributed to the progress and culture of mankind.

In 105, Cai Lun, one of the oldest Chinese masters, first invented the production of paper from plant fiber. The invention of paper, the quality of which is not inferior to silk paper, and the price is several times cheaper, was of great importance in the history of mankind. By the 4th century, the use of paper and bamboo planks made from plants and tree bark had been phased out. Over the years, the Chinese brought papermaking to the level of an art, and papermaking was kept a secret for centuries. By the 6th century, "washi" or "Japanese paper" appeared in Japan.

According to information, in the battle with the Arabs (Muslims) at the foot of the Tien Shan mountains in 751, more than 20,000 Chinese were taken prisoner. Other sources provide information about the Chinese invasion of Central Asia along the Talas River (now Kyrgyzstan) and the capture of the Chinese by Abu Muslim, the ruler of Samarkand at that time. To save their lives, Chinese soldier craftsmen uncovered the secrets of papermaking. After the Muslims (Arabs) mastered the technology of paper production, they supplied European countries with paper for years.

In China, mulberry and bamboo are mainly used to make paper. Various pieces of fabric served as the main raw material for Bukhara paper. This information is also given in the work of Ibn Nadim "Fihrist", where the author, speaking about the type of paper made with the addition of fabric, in contrast to Chinese paper, mentioned that there are various disagreements about the date of origin of this method (according to him, some say that this style was created during the Ummavi period, while others say that it was the Abbasid period). Also, several types of paper that were popular at that time, including "Suleimani", "Nukhi" (the Bukharians produced this type of paper, attributed to Nuh ibn Nasr Samani), "Ja'fari", "Takhiri", "Faruni" and others. [7.23.]

The historian of Istakhri says: "That in the 9th century paper was produced only in Movarounnahr. By the 10th century, paper-making enterprises operated in Damascus, Tiberias (the name of an ancient city in Tiberias-Palestine) and Tripoli, but Bukhara and Samarkand remained the centers of paper production. With the introduction of paper production in Bukhara, the Egyptian monopoly on the production of papyrus ceased. Najmuddin Umar Nasafi also mentions in his book "Kitobu-l-kand" that in Bukhara in the 9th century there was a paper market, and one of the muhaddis, Abu Suleiman Davud Marvazi (d. 281/895), was a

broker in this paper market. He also recorded valuable information about Abu Muhammad Abdullah ibn Muhammad ibn Nasr Razi Warraq, Abu Ali Ismail ibn Yahya Warraki Samarkandi and many other scholars who were engaged in paper production and trade.” [4. 116-150.]

Ehsan Zunun, an Arab Islamic scholar, said: “That warrocks (paper sellers) gathered in the shops of the paper market to exchange opinions about newly arrived books. Students also actively participated in these scientific discussions. One of these markets operated in Bukhara. Among the Bukhara scrolls are the historian Abu Abdullah Muhammad ibn Ahmad Gunjor, the store of Muhammad Dallal, Kamil ibn Makki ibn Muhammad ibn Vardan, Ahmad ibn Shuayb ibn Salih, Muhammad ibn Zakaria ibn Yahya ibn Abdullah ibn Dinar, who was close to the house of the paper shops of the lawyer Salih Jazra and Muhammad ibn Yahya ibn Nazr ibn Muawiyah were known.” [3. 55.]

It is known from history that in East Turkestan book printing by woodcut and typesetting methods has been practiced since the 3rd century AD. As a result of the production of paper in Bukhara, the process of typography throughout the Islamic world accelerated, and secretarial and typographic art also developed. In Baghdad alone, at the end of the 9th century, there were more than a hundred book craft enterprises.

According to the Soviet and Russian archaeologist, art historian, orientalist Boris Ilyich Marshak, drawing works of fine art on paper, especially on parchment, on reams of paper that were folded, was a common art in the art of this period. The art of decorating various books with pictures is developing.

Since ancient times, the need for paper has been the reason for its popularity. We can even attest to the existence of various narratives about not wasting paper in forensic sources. For example, in a work called “Salati Masudi”, created in the XIV century, the following narration is given: It is mentioned in “Khairat-l-Fuqa” and “Hijlatu-l-Fuzala” that “Khoja Abu Hafs Kabir Bukhari said: -“ I could not pass by the counters of paper sellers with his hand without ablution”. [10. 153.]

Also elsewhere in Khairat al-Fuqaha, the following narration is given from Imam Abu Hanifa: “If you do not perform ablution, do not go to a place where paper is sold. This is the glorification of Islam. "To trample on written papers is to despise letters."

The devaluation of the paper also led to an increase in its value. Ahmad ibn Qaj Warrak (IX-X) bought paper for all his inheritance at 800 or 700 dinars and wrote hadiths on it for years, and Abu Ali ibn Shihab made a profit of 1025 dirhams from the paper itself, i.e. that there were only a few people who productively used this area of industry even in the early Middle Ages. If we compare the price of paper at that time with other prices, (the soldiers of Asad ibn Abdullah in 118/736 were paid 20 dirhams, and artisans who had good earnings were supposed to be 10-15 dirhams per month. , and in Basra goat meat costs 10 dirhams. Already a monthly salary of a craftsman could buy 2-3 pieces of paper. For this reason, as mentioned above, judicial sources give instructions not to waste paper and appreciate it. [10. 153.]

Based on the above information, in the VIII-IX centuries, along with many industries, paper production also developed widely, as a result of which Bukhara and Samarkand paper

ousted Egyptian papyrus from the circulation market. The presence of paper shops and even separate paper markets in many cities of Movarounnahr and the presence of various branches of paper production testify to the wide development of this industry.

By the 9th century, the technology of paper production by Samarkand artisans was brought to the highest level. New types of Samarkand paper began to be produced. Examples include "Samarkand Sultan Paper", "Samarkand Silk Paper", "For Sultans", "Samarkand Silk". Later varieties "Mir Ibrahimiy" and "Nimkanop" were created. Vegetable fibers - hemp and flax fibers - were used as the main raw materials. In addition, tree bark and scraps of rags were used as raw materials. The manufacturing technology of such papers is simple and cheap. Over the centuries, more than four hundred mills have been dedicated to the production of paper on the banks of the city's Siyob Ankhor. At one time, Zahiriddin Muhammad Babur said in his work "Baburnoma": "Samarkandin is the best paper in the world, Konigildin goes to Juvazi papers, Konigil is on the banks of the Siyab, this water is called Obi Rakhmat." Samarkand paper has conquered not only eastern, but also western markets."

Sultan Ali Mashkhadi said: "Samarkand paper is very good. If you are a smart person, do not reject him, a letter written to him will come out very smoothly and beautifully. - determines. In the era of the master Amir Temur, great importance was attached to the production of paper, Samarkand parchment paper, papyrus and wooden boards were banned for use. "In the 9th century, paper was produced only in Movarounnahr. By the 10th century, paper mills were also developed in Damascus, Palestine and the Syrian city of Tripoli, and Samarkand was considered the main center of paper production. [9.14.]

Historian Abu Mansur Salibi writes: "Samarkand paper is a thousand times better than Egyptian paper." Or when the traveler A. Vemberi visited Samarkand in the 19th century and writes: "The papers of Bukhara and Samarkand gained fame in neighboring countries." Later, Europeans, mainly Italians, Germans and British, learned the technology of paper production. Large and small factories were built because of the need for paper. The discovery of paper is of great importance in the formation and development of not only the field of literature, but also of universal culture. Before the invention of paper, materials such as papyrus, leather, parchment, gauze, bone, pottery, tree bark, and wood were used as materials for handwritten books. Each of these writing instruments, each of which had its own significance for a certain period, was not without some shortcomings and defects.

In particular, while papyrus was light, it was very thin, pottery was prone to wear and gauze was prone to rotting. In addition, many of these writing instruments were food for insects. This is one of the reasons why most ancient manuscripts have not come down to us. Our ancestors also wrote their records on stones and rocks when necessary. Writing on ceramic tablets was more characteristic of the East. Even during the period when papyrus was widely used as a material for writing, the peoples of the East did not exclude ceramic tablets from use. They still managed to write a few messages and notes and keep accounts. Wooden boards covered with wax on both sides were used in school lessons. The students were doing the exercises. Adults used it as a postal service. But writing large works of art on these materials

(ceramic, wax and stone tablets) was difficult. As a result, our ancestors, who were in constant search, discovered papyrus.

Wrapping paper was also widely used in ancient Central Asian literature. In addition, handwritten books in the form of notebooks and famous oriental manuscripts were prepared. The results of research conducted by the orientalist Kasimjon Sadykov show that the form of making books from rolled paper was popular among the ancient Turks, especially among the Moni communities, and large-scale Moni monuments were made in this way. Both Buddhists and Sogdians used the wrapping paper method. This shows that this type of literature has a regional identity and was created under the influence of mutual cultural ties between the peoples of Central Asia.

Oriental literary art occupies a special and unique place in the cultural development of the world. The formation and development of book business in the Ancient East, in particular in Central Asia, is inextricably linked with the formation in this region for the first time in the Eastern world of paper production.

It is known from sources that the discovery and production of paper in China gave impetus to the rapid development of betting on a global scale. No matter how the Chinese keep paper production, which is considered a profitable industry, from the second half of the 8th century in Bukhara they began to produce products that are not inferior in quality to Chinese paper. Because in Bukhara there was a lot of all the raw materials necessary for the production of paper - silk, cotton, hemp, cane, straw, mulberry bark. Thus, the popularity of Bukhara paper spread throughout the world in a short time.

Regarding the creation of Bukhara paper in historical sources, one can find different opinions. In the 7th century, when papyrus and parchment were still being used as the main writing materials in Europe, the production of paper had already begun in the eastern countries. This created wide opportunities for the distribution of handwritten books in all countries that were part of the Arab Caliphate, especially in present-day Central Asia. The fact that paper of the highest quality was produced in Damascus, and that the first Arabic paper book that has come down to us is called the Damascus (rolling) book, is confirmed by evidence in historical sources.

On the quality papers of Damascus and Bukhara. - The well-known Turkish scholar and calligrapher Mahmud Badriddin Yazir in his book "Writing in the world of culture and the beauty of the pen in Islamic culture" (Ayyildiz Press, Ankara - 1974) in the II volume based on ancient manuscript sources used in the past. lists several types of cogids (papers): they pay attention to "khashebi" (paper is made from abreshimi - silk) and "damishki", but they do not accept from Samarkand cogids: the simplest of the cogids is "damys", the meaning of them is known. The second is "State - Prosperity", which is clear to everyone. The third is "Khatoyi". The fourth is Adilshahi. The fifth one is "Hariri Samarkandi". The seventh is "Hindi". Eighth - Nizamshahi. The ninth is "Kasimbegi". The tenth is Hariri Hindii, who is on a small continent. Eleventh - Guni-i Tabrizi, white-yellow - color. Production is special for Tabrizli. The twelfth is Mukhayir, also white and yellow. If we add to these types of paper the above-mentioned "Khashebiy" and "Samarkandi", then there will be 14 varieties in total... Calligraphers agree

that the "Abadiy" cogid is one of the first types (classes) of cogids. The cogides of Bukhara will also join the ranks." [3. 55.]

According to a study by Turkish historian and scientist Professor Karabaek, the production of paper from old uvads (old used cotton) or rags is interpreted as a discovery by the inhabitants of Bukhara and Samarkand. Because it is recognized that the production of paper from uvada was started in Bukhara before the 10th century, more precisely, before 940. But in some sources there are also opinions that the technology of making paper from uvada has existed in China since the second century AD. In any case, by the end of the 10th century, Bukhara and Samarkand paper completely replaced papyrus and parchment in Islamic countries.

During the Middle Ages, papermaking became a very lucrative industry and began to generate large profits. Bukhara began to sell its paper to other provinces of the Caliphate. The supply of this type of paper to the European market was a significant impetus to the rise of cultural development not only in Europe, but throughout the world.

The production of Bukhara and Samarkand paper was kept secret for about three hundred years. Only in the 11th century, paper began to be produced in Iraq and Syria, taking this paper as a model. Later, through Egypt, North Africa and Morocco, which in history was called the "Arab bridge", the technology for making Bukhara paper came to Spain. By the 13th century, the secrets of making the product had spread throughout Europe. The first enterprises for the production of paper were built in Spain at the beginning of the 12th century, in Italy in 1276, in France in 1348, in Germany in 1390. Paper production began in Russia in the middle of the 14th century. [1. 273.]

After the conquest of Central Asia by Tsarist Russia, the production of paper here was discontinued. In Central Asia, paper was produced not only in Bukhara, but also in the cities of Samarkand, Kokan and in the surrounding villages. The Hungarian scientist-traveler Herman Vambery writes the following about paper made in Bukhara: "The fame of writing paper made in Bukhara spread not only to Turkestan, but also to neighboring countries. These papers were made of silk, and because of their smoothness and thinness, they were very suitable for Arabic writing.

The raw materials needed for the production of paper (old blankets, rags separated from furs, rags) were sorted by color. The purpose of sorting is to separate colored rags and use them to make rough paper for wrapping things. The sorted rags were weighed in a haulage truck for two hours.

In relation to special factories producing paper, the terms of the Persian-Tajik word *zhuvozi kogoz*, (paper mill), *obi zhuvoz* (water mill), enterprise *kozbardori* (paper manufacturer) are used. In such workshops, cotton fiber is soaked in flour and rinsed thoroughly in water. Then the water is squeezed out. Then 1 pound of lye and 1/2 pound of limestone were added to 5 pounds of cotton fiber and weighed again in a glass jar for an hour. The resulting mixed talc was placed in the sun for 10 days. In this case, the mixture becomes discolored and degreased in the sun. After that, the mixture was again weighed in the *obzhuvoz*, washed with water. For the second time, alkali and limestone were added in the ratio indicated

above and weighed in the obzhuvoz. Then the mixed talc was kept in the sun for another 10 days, again placed in a bag and weighed for 15 days. Thus, paper raw materials - pasty porridge was ready. The finished paper porridge is pressed and placed in special containers (a woven cane bag). In some cases, egg and fennel were added to paper stock before final printing to give the paper a yellow color. For casting paper, a special mesh and chetan woven from mulberry branches were used.

**Tukhmak**-seed is a yellow dye made from the flower of a yellow-flowered plant that grows in oases and is used to dye paper.

**Sirach** is a sticky porridge made from the powder of the root of a perennial plant that grows in the hills and mountains.

More horsehair was used to make a special net. Before pouring the paper, a grid is laid on top of the chetan and the paper mass is evenly distributed over it. At the same time, special attention was paid to the thickness of the paper, because here it was determined how thick or thin it would be. To facilitate this process, the paper pulp was mixed with water before application. If necessary, paper porridge is laid out twice. After the paper porridge completely drained off on the chetan (a special mesh for obtaining paper porridge), the compacted paper was transferred to a board covered with rags. A sheet of paper is placed on top of the board. In this case, it was not necessary to put a rag between them, because the sheets of paper, which were very rigid, did not stick to each other. Thus, in one night, due to the increased load, a stack of paper of 240 pages was completely drained. the resulting sheets of paper were thinly smeared with sirach glue made from wheat flour and glued to a plastered wall to dry. [10. 110] After a certain period of time, the dried sheets of paper were separated from the wall and cut to the required size using a special knife. Then a wheat flour paste is applied first to one and then to the other side of the paper. In order to process the finished papers, they are placed on a pear wood board and trimmed with stone. If necessary, the last process was repeated two or three times. The paper is hung until completely dry. In many cases, the paper was polished up to seven times to make it more shiny.

Books published in India are printed on thin yellow paper, which is called Jaidari in the local language. Lithographs and printing reduced the value of manuscripts. You can also find that the manuscripts were copied on thin, low-quality paper instead of the high-quality papers such as silk, cannabi, and hahn-fish that were popular in the past.

The raw materials needed for the production of paper (old blankets, rags separated from furs, rags) were sorted by color. The purpose of sorting is to separate colored rags and use them to make rough paper for wrapping things. The sorted rags were weighed in a haulage truck for two hours.

In conclusion, we can say that as a result of the creation of the paper industry in Uzbekistan in the 1930s and the opening of the only Tashkent paper mill in Central Asia in 1932 and the production of 1595 tons of paper in the same year, the ancient paper industry in Bukhara was completely abolished.

In Bukhara, craftsmen are reviving the ancient traditions of paper production.

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