



TYPES OF PAPER USED IN PREPARING ANCIENT MANUAL SOURCES, COMPOSITION AND PREPARATION PROCESS

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ABOUT ARTICLE

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Abstract: The study of ancient manual sources provides invaluable insights into the history and culture of past civilizations. One crucial aspect of these sources is the material on which they were prepared, particularly the types of paper used. This paper aims to explore the various types of paper employed in the preparation of ancient manual sources, focusing on their composition and the preparation processes involved.

This study draws on a comprehensive review of existing literature, historical records, and archaeological findings to identify and categorize the types of paper used in different historical periods and regions. Furthermore, the composition of these papers, including the raw materials and manufacturing techniques, will be examined to understand the physical and chemical properties that contribute to their durability and preservation over time.

In addition, the preparation process of ancient paper will be investigated, shedding light on the methods and tools used by ancient scribes and artisans to create writing surfaces. The influence of cultural, geographical, and technological factors on paper preparation will be analyzed to provide a comprehensive understanding of the diverse practices employed by various civilizations.

By examining the types of paper, their composition, and the preparation processes, this research aims to contribute to the broader understanding of ancient manual sources and the historical contexts in which they were produced. Understanding the materiality of these sources is

crucial for their preservation, conservation, and interpretation, and this study seeks to provide a valuable resource for scholars, historians, and conservationists engaged in the study and safeguarding of ancient cultural heritage.

INTRODUCTION

Several researchers have tried to make detailed comments about the discovery of paper, the development stages of the paper-making craft in Turon, and the technologies of preparation based on the analysis of information in ancient manuscripts. However, until today, information about the raw materials used for the production of Samarkand paper, the methods of preparation, and the craftsmen who worked in this field have not been sufficiently researched. The results of the researches in this field have not yet been established to produce Samarkand paper in the ancient historical way. Of course, in the following years, in this regard, some businessmen from Samarkand built water mills and began an attempt to produce that famous paper by means of them. However, the quality of the products they produce in small quantities is still not comparable to the historical Samarkand paper.

As long as the scientific and practical processes in this regard are not consistently continued, the technology and composition of this famous paper will remain unknown to researchers and paper-making experts. For this reason, establishing production based on research and their results, increasing attention to this field is one of the most important and urgent issues today.

THE MAIN RESULTS AND FINDINGS

According to the information of several researchers, it is said that the composition of paper made in Turon is mainly composed of reed, flax fiber, hemp, silk waste, cotton and tree bark.

A. Vamberi writes about Samarkand paper: "Because it is made of new silk, it is smooth, elegant and suitable for calligraphic writing."

Usually, in the process of registration and description of ancient manuscripts and documents, the type of paper is indicated separately. Some records say "written on silk paper". However, almost all of them do not specify whether the paper is made of silk or other raw materials.

P.D. Zotov who conducted chemical tests on a number of manuscripts kept at the Institute of Oriental Studies of the Russian Academy of Sciences. P.D. Zotov writes: "In order to check whether the paper contains silk fibers or not, we studied the composition of the paper of some manuscript sources in the institute." For the same purpose, P.D. Zotov examines the biological content of fifteen volumes of manuscript paper in the fund. Based on the result of the investigation, it is concluded: "Silk fiber was not used in paper making."

P.D. Zotov's research has almost no bearing on the subject we are studying. At first he studied only a few manuscripts. However, more than 26,000 ancient and rare written sources are kept in the fund of this institute. Second, his research and reasoning are imperfect, and his conclusions are inconsistent with the historical record. This case is very doubtful and unreliable. The case requires more thorough research.

P.I. Pashino writes that Turan paper is made of cotton. A. Semyonov emphasizes that Turan paper is made of cotton, silk, and hemp, and talks about three types of paper.

In his research, I. Kireevskiy, A. Semyonov, M. Salimov states that Samarkand paper was made from different raw materials from ancient times to the 17th century and divides them into three types.

The first type of paper is made of silk fibres and does not contain any cotton. This paper is of excellent quality, mature, with a very smooth surface, and is of a pale yellow colour. It is very pleasant to the touch, it is called "silk" in Uzbek. He was well taken by the manager and because of this, he was distinguished by his softness. This paper is called "silk paper" in Persian.

The second type is semi-silk paper. Made from a mixture of equal amounts of half silk and half hemp fibres. This paper is thick and firm, has a good grain and is polished to a good quality. This paper was called "half hemp" - "nimkatony" paper and for a long time it was considered one of the best among the papers used for creating manuscript works.

The third type is a paper composition made entirely of cotton fibers. Although inferior in quality to semi-silk paper, it is valued for its many good properties. This type of paper did not have watermarks like old European papers, and no mold marks were visible.

The papers made in the workshops of paper craftsmen are called by different names according to their composition and practical use. "Sultan paper" (sultan paper) made in Samarkand workshops is one of the best types.

N. Habibullaev noted that Alisher Navoi's works were copied on this paper during the time of Shayboni Khan and Ubaidullah Khan by their order. In addition, there were also types of paper called "nisfi" and "satanic". Courtiers, nobles used the above-mentioned types of paper of the highest quality when writing letters, agreements, contracts and various documents. Hilal al-Sabi writes in his work "Rusum dar al-Khalifa": "Nisfi" paper was used for letters signed by the Caliph or his minister, and "Shaitany" paper was used for contracts and agreements."

Ibn al-Nadim gives the following information about several types of paper in his work "Kitab al-fihrist".

1. Sulaymani - perhaps this paper was named after the treasurer of Harun al-Rashid's time, Sulayman bin Rashid.
2. Al-Ja'fari - named after Harun al-Rashid's minister Ja'far bin Khalid bin Barmak (executed in 803).
3. At-Talhi - named after the ruler of Khurasan, Talh ibn Tahir (822-826).
4. An-Nuhi - this paper was mostly used in the palace of Samarkand viceroy Nuh ibn Nasr (942-954) in Khorasan.
5. Al-Firawni - the reason for this name is not clear, it must be some kind of paper that could compete with Egyptian papyrus.

Now let's talk about paper makers. Paper-making artisans worked individually or in groups in the waterside workshops. Workshops for craftsmen are also available for rent. Papermakers are called by different names according to the work they do.

A paper maker is called a paper maker, and a paper maker is called a sealer. The finished papers were sold both in the workshops themselves and in the paper markets of the city. Among the buyers were many merchants from foreign countries. In this way, Turan paper has spread and gained popularity in different countries of the world due to its high quality.

The names of paper-making workshops are also mentioned in the information in some foundation documents. Most of the paper masters worked in one place as a team. There is also information that they sometimes work by joining trade unions. R.N. Nabiev writes a work entitled "Remarks on Khoja Ahror" based on the results of his work devoted to the study of the political and economic life of Movarounnahr in the 15th century, and in it: "In the 15th century, a paper craftsman named Imomiddin worked for the famous statesman Khoja Ahror. The heads of the paper production workshops depended

on him", he informs. This information indicates that there was a trade union of several papermaking workshop craftsmen. This organization served to solve some personal and social issues such as developing their work, solving their problems, mutual assistance.

In the process of making paper, the master printed his special stamp on the paper in order to indicate where and by whom the product was made, and to promote its quality. One such marked paper has been preserved. It is a white ring about the size of a coin. This sign was the signature of Mir Ibrahim, a famous Samarkand paper craftsman who lived in the first half of the 16th century. In Turan, paper with such a stamp was called "Mir Ibrahim". In a manuscript written in Bukhara, it is said about him: "During the period of Ubaydullah Khan Shaibani (1533-1539), three of the mirs were famous, each of them was a master without equal in his art. The first was Mir Ubayd, a skilled calligrapher, and the second was Mir Shafii, a book collector, and a craftsman who was able to decorate books with gold ink and paints. The third is Mir Ibrahim, the wonderful paper craftsman mentioned above.

Stamping on paper was perfected in European workshops and especially in large-scale enterprises. It later became an important promotional tool, giving complete information about the paper and the enterprise from which it was made, until our time.

Those famous mirs who lived during the Shaybani period made special copies of the Qur'an and decorated them in Bukhara.

Similarly, at the beginning of the 18th century, two paper production workshops were established in the village of Choroko near Kokan and operated for two hundred years. The owner of one of them, Master Ubaidullo, has been engaged in this craft for 40 years, and his father and grandfather have been producing paper quality paper for 40-50 years in the master-apprentice tradition. This workshop operated until 1924.

The process of preparing the paper composition and obtaining paper from it was a very complex and responsible work. The papermaking process went through various stages of development from the 8th century to the 19th century. Due to socio-economic conditions, some minor changes also occurred in the raw materials used in paper making. The methods of paper production in Turanian cities and eastern countries were similar, and there were no significant differences between them. For this reason, information from any source related to this field is important for a clearer picture of the production of Samarkand paper.

A treatise written by al-Mu'iz ibn Bodis (1007-1062), a representative of the Zirid dynasty in one of the Arab countries located in North Africa, in 454 AH (1062) has reached us. The information contained in it is remarkable, and the author describes the process of making paper as follows: "The pieces of rope are thoroughly crushed, the fibres of the rope are softened for a day in a special container with lime solution. Then, the special material is mixed by hand, washed in clean water, hung in the sun and dried all day. This process is carried out for a week. At this time, the lime solution is also replaced. After the specified period of time, the softened material is thoroughly rinsed with clean water until lime residue remains, and crushed in a wet stone or wooden crusher. The prepared mass is washed several times in clean water. A cane mold is lowered into the semi-ready porridge-like watery mass, and the mixture is held evenly and put into the mold. After that, the mold is turned over to the bottom board and dried in the sun by leaning it against the wall for a while so that it is free of water."

This 11th-century work is still the only primary source describing the papermaking process of that period. It serves to expand the imagination about paper making. However, the information presented in this work does not fully describe the production process. Researcher N. Habibullaev analyzed the description given in this source: "It is clear from this description that the method of making paper is

described not by a master, but by an interested observer. "Perhaps the author of the work did not observe this process very carefully or wrote it according to someone else's story," he concludes. In addition, this researcher Martin Levy, Karabachek and Andrews emphasizes that his conclusion is correct from the opinions of a number of scholars who stated that this work was written by Sultan Mu'izz ibn Bodis or his son Tamim and that they did not participate in the process of making the paper. Although the above-mentioned scholars believe that this work was not written by a master papermaker, it is one of the valuable primary sources that serve to expand the imagination of papermaking.

In ancient times, the bark of the mulberry tree was also used as a raw material for making paper. In this case, branches of the mulberry tree, which are not too thick, are chosen. They are cooled in water according to the prescribed procedure, and the upper bark is removed using a bladed tool. Two types of paper were made from the bark of the mulberry tree. From the lower layer of the bark cut from the branches of the mulberry tree, very fine, smooth, shiny, expensive tissue paper was produced. The rough upper part of the bark was boiled in 15% slaked lime water for 10-12 hours. Then the softened fibers are rinsed in clean water and at the next stage they are felt with special tweezers.

After the work was completed, the felt fibres were put in the water again. Craftsmen called a special mulberry bark-like hammer "kosnokhi". The felt fibers were mixed by adding the necessary amount of glue so that they would stick together better when placed in water. In this way, in the last step, a simple but strong paper material was prepared from the rough upper layer of the mulberry bark. In our time, this method is fully used in the workshops that are trying to restore and produce the ancient high-quality Samarkand paper, which is famous in history.

We have noted that the primary written sources do not contain much specifically written information about the history of paper. Information on this topic is often found briefly in texts devoted to various events, and some events are mentioned in passing. When looking at the general picture stretching back over centuries, all information about the history of paper is scattered among many manuscript sources and not so many fragments. A number of works of this type can be found in the treasury of UZR FASHI works.

So far, in the process of work, no perfect work has been found in this fund, which specifically covers the field of paper and cover production. Although our efforts were small, they paid off. In the main collection of the Institute of Oriental Studies named after Abu Rayhan Beruni, one manuscript consisting of eight works on various topics was found to contain the information we were looking for. It came out of the pamphlet dedicated to the art of bookkeeping, marked with the number #415/5. This pamphlet "رسالة در تریق ساختن سیاہی و دیگر رنگ ها" - "Risalat dar tariq is called fake ink and other rust. The size is 24.5x13 cm, the size is 4 sheets (182-185), the script is written in Persian.

This pamphlet poetically describes the methods of preparation of gold, blue, red, green, and black dyes used for colouring paper, manuscript pages, and cover decoration. Brief but valuable information is given on pencil sharpening and the qualities a pencil maker should possess, instruction in letter writing exercises, and directions for correct line formation.

N. In the research carried out by Habibullaev on the topic "History of paper production in Central Asia", "Brief history of paper" (No. 410), "Instructions for making paper" (No. 9386), "Processing of paper" (No. 115), "The importance of paper" written in Turkish, kept in this fund (№1164), "Giving lime to paper" (№3377), "Sadoi Fergana"; "Hafti rang kakoz" written in Persian (#5536); "Kitabat al-kitob" (No. 1697), "Fand-ul-Khutut" (No. 2306), published in Arabic, show that there are brief but important information about the history of paper craft. However, the data in these works were not analyzed in detail. It turned out that the information about the history of paper in the mentioned pamphlets also

consists of very short lines. Nevertheless, they serve to enrich the general understanding of the Turonian papermaking craft in science. These types of brochures reliably confirm that Samarkand has been a leading city in this field for many centuries.

Conclusion

The fact that social life goes through different stages of development and the regular influence of development on production conditions in it would also cause the raw materials used in paper making to change. In this social process, the paper-making craftsman was faced with the need to find and tried to find new raw materials to continue the production of his products without interruption. We have seen above that experts and researchers found that paper was made from bamboo, silk and silk waste in the early AD. In the later Middle Ages, hemp and lub were added to these raw materials. From the 9th - 10th centuries, yarn fabrics and high-quality paper began to be obtained from tree bark. In the 19th and 20th centuries, and especially today, the new technologies of paper production have been highly developed. As a result, wood and its chips have become an important and unrivalled raw material in this industry.

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