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## INTERPRETATION OF TURKISH MEDICAL ISSUES ON FRENCH SOURCES

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**Abstract.** The rapid development of science and technology in the world since the mid-nineteenth century has also influenced the development of medicine. Global innovations, laboratory innovations and other advances created in different parts of the world began to spread around the world. Turkestan also saw the development of medicine and the continued use of traditional methods to treat patients. However, the medical achievements of Movarounnahr in particular unleashed the pinnacle of glory achieved by Ibn Sina into the developed countries of Europe. In this article, the author tries to explain the penetration of modern trends in traditional Turkestan medicine.

**Key words:** Turkestan, local medicine, foreign practice, medicines, medical culture, social life.

抽象的。19世纪中叶以来，世界科学技术的飞速发展也影响了医学的发展。在世界不同地区创造的全球创新、实验室创新和其他进步开始在世界范围内传播。土耳其斯坦还看到了医学的发展和继续使用传统方法来治疗患者。然而，尤其是莫瓦罗纳赫的医学成就，将伊本·西纳所取得的辉煌巅峰释放到了欧洲发达国家。在这篇文章中，作者试图解释现代趋势在传统土耳其斯坦医学中的渗透。

关键词：土耳其斯坦，地方医学，国外实践，医学，医学文化，社会生活。

### Introduction

The study of Ibn Sina's works with great interest in Europe led to his becoming known around the world as Avicenna. The French were no exception in a number of countries around the world, as there was an urgent need to study the works of Ibn Sina. As a result of this great interest, the study of Central Asian medicine in France attracted the attention of scholars and researchers as early as the seventeenth century.

One such scholar was Professor Pierre Vattier (Pierre Vattier, 1623-1667), who was head of the Arabic department at the College de France. His boundless respect for Ibn Sina's personality and his desire to read his works as primary source material encouraged him to study Arabic. P. Veit also translated Ibn Sina's "Logic" into French [1]. Although this translation by P. Veit was not a great success, it has been preserved as a token of the researcher's diligence.

### Literature review

### Research Methodology

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As important as it is to study the socio-economic and political life of Turkestan in the nineteenth and early twentieth centuries, the study of medicine during this period also deserves attention. It is worth recalling several relevant reasons for studying the medical system of this period. For example, in the medical system before the advent of European culture, development of science, it is important to identify convenient and simple ways to treat diseases developed by our ancestors, sources relying on treatment of serious diseases at a time when technology and laboratories were not developed.

Furthermore, with the arrival of the Russians, the way opened up for French, British and German researchers. To find a solution to the question of how much the influx of Europeans influenced local medicine, it is necessary to consult the works and memories of foreign researchers. It will then be possible to compare the traditional forms of local medicine of the first half of the 19th century with the innovations of the second half of the 19th and early 20th centuries.

### **Analysis and results**

The realisation of the bacteriological discovery in 1857 by the French scientist Louis Pasteur was a milestone in the history of medicine around the world. L. Pasteur proved that these small micro-organisms are the cause of all pus and yeast. Similar bacteriological laboratories soon appeared in St Petersburg at the expense of A. P. Oldenburg. I. Atlasov, M.D., urged local people to lead such sponsors and lead the construction of the laboratory. Various epidemiological and parasitic diseases were rampant in Turkestan at the time.

The medical personnel and local doctors are also extensively described in French sources. The medical personnel are described as follows: "The preparation and distribution of medicines is handled by one person, who is called the honorary mullah (educated). There are also doctors (general practitioners) whose job it is to prepare medicines and treat patients. These doctors were educated in Bukhara and their level of training and knowledge was much higher than that of the mullahs"[3].

Medicines prepared for the population had a good effect. Sources also claim that some mineral stones were brought from Mecca and Medina and that they cured. In general, the remedies are very simple and are also sold in the shop by ordinary shopkeepers. However, in larger cities there are specialised shops or pharmacies. Such pharmacies are located next to other shops in the market and consist of one or two rooms filled with various boxes and bottles. A specialist in the form of a mullah or a doctor would sit in the apothecary, carefully interview patients who came in and prepare medicines. The doctors used the writings of ancient Arabic authors such as Ibn Sina and Ibn Baatar.

Researcher Melania Lepinski's dissertation on "The History of Women Medical Workers" [4] also mentions the role of women in medicine around the world, including the Turkestan region. According to the researcher: "In 1899, there were 11 female doctors in Central Asia. There were 3 in Samarkand, 2 in Namangan, one each in Andijan, Bukhara, Kokand, Merv and Tashkent. In April 1900 the first Muslim doctor, Roza Kutluyarova (Razeia-Koutlouïarova), studied in St. Petersburg and worked in Tashkent" [4]. There is also information about another foreign physician, Oskar Ferdinandovic Heifelder (1828-

1890), who worked during this period. O. Heifelder took part in M. Skobelev's expeditions as a military doctor. Later B. Annenkov, responsible for construction of the Central Asian railway, was appointed head of the railway sanitary service. He also conducted research into the cultivation of ring larvae in gelatin while establishing a high-level sanitary service for workers and labourers in railway construction.

During this period diseases occurring in Turkestan were widely reported from both local and foreign sources.

A multi-volume study of the history of the peoples of the world entitled "**The Universe, a History and Description of All Peoples**" [5] was published in Paris, and each volume is devoted to a description of a different continent or continents. Part of it, entitled Tatarstan, Baluchistan, Bhutan, Nepal and Afghanistan, was published in French by L. Dubois in 1848. We know that the Royal Library in Paris has a collection of the most valuable manuscript sources in the world. The author of the work L. Dubois worked at the Royal Library and was intimately familiar with these manuscript sources. Although the scholar had not visited Asian countries, he based his work on reliable sources. The work draws extensively on works by English and Russian authors.

The chapter on Tatarstan describes in detail the regions of Movarunnahr, Khorasan, Mongolia, Manchuria and East Turkestan.

The source acknowledges that in addition to describing social life, such as the administrative territory of Bukhara, Khiva and Kokand khanates, there is extensive coverage of state administration, the military system, taxes, and

ethnographic information, such as way of life, dress, diet, and festivals. This includes climate, water, air, flora and fauna, and medicine. The methodology for presenting data on specific areas and destinations is based on the draft works of Russian and other European researchers mentioned above.

This means that decades before the organisation of the Turkestan expeditions, French tourists and explorers were familiar with Russian and foreign sources and their translations and had a clear understanding of the country. They had even developed preventive measures against the risks of diseases that could be encountered in the country.

"**The Universe, History and Description of All the Peoples. Tatarya, Baluchistan, Bhutan, Nepal and Afghanistan**", which gives a rather extensive description of the diseases found in the Emirate of Bukhara. The hot climate and the regularly continuing dryness of the air are cited as the causes provoking these diseases. Its harm to human health is unquestionably superior to other factors. The diseases that arose in Bukhara were not only dangerous, but also unfavourable and prolonged.

The Bukhara Sharif newspaper, published in the Bukhara Emirate in 1912-1913, published information on diseases, the state of public health and modern medicine, sources of spread of diseases, pathogenic microbes and bacteria, water and airborne diseases, long-term storage of contaminated water in jars and canisters and the appearance of bacteria which can only be seen through a "particle" (microscope) [6].

"The Universe, a History and Description of All Nations. Tataria, Baluchistan, Bhutan, Nepal and

Afghanistan", which explains the interaction of climate and disease: "one of the periodic, recurrent diseases is malaria (fièvre). Its most common time is late August, early September. The disease does not cease until temperatures reach zero degrees below freezing. Foreigners are more susceptible to the disease than locals. Fatal cases are rare" [5]. The symptom of the disease was attributed to the temperature, which varied greatly during the day and in the evening. Such features of the climate also affected the yield of the nabot world. In chronic patients who were unable to eat adequately, hunger and dysfunction caused the disease to worsen.

Another of the dangerous diseases caused by adverse climatic conditions is 'rishta'. "This disease, which is very common in Bukhara, is called "Rischta dragonneau" or sea worm. This disease poses a great danger not only to the inhabitants of the city but also to foreign tourists. Foreigners in Bukhara are just as prone to it as locals. Many tourists start noticing the consequences of poisoning by the larva spreading the disease in Bukhara only after they leave the city" [5].

Almost all the explorers and tourists who have visited this country have left notes in their writings about risht. This disease is caused by the consumption of unclean water and also by maggots in the waters of the Zarafshan River. The river was divided into several canals, which acted as a water reservoir in a cross-section of the areas. On hot summer days, when there was a water shortage for several months, the population also agreed to consume water in any case. However, the water that accumulated in one place was very dirty and contained microscopic sized insect seeds. Every year about a quarter of Bukhara's population contracted measles.

"Universe, history and description of all nations. Tataria, Baluchistan, Bhutan, Nepal and Afghanistan," which states that the connection developed rapidly mainly in those with lymphatic temperament, that is, in sluggish, feeble-minded clients. This worm had a flat appearance, a dark brown colour and was up to 2-3 feet long (a measure of length 30.48 cm). The presence of the worm could be determined by conditions on the body such as the appearance of swelling-like bulges, formation of purulent wounds in the areas where it was located. The patient felt severe bone pain and fever. Dry mouth and constant thirst troubled the patient. All the Bukharians were aware of the symptoms of Rishtan disease. They also knew that the worm increased in size, matured and approached the skin. The skin was then immediately torn open and the ring was extracted under intense pressure.

The fact that the practice of removing the ring requires safety measures is explained as follows: "extreme caution is required in order to extract it in its entirety. The head of the worm must never remain inside the wound. Otherwise it will penetrate the body's internal organs, causing a new type of disease in a 'latent connection' state. This is considered a very high-risk disease. It causes tumours in the body that never heal. The nervous system begins to fail. Such patients may remain in a state of perpetual paralysis throughout their lives, as if they are petrified due to an underlying disease of communication" [5]. According to the information, there may be more than 120 connections in the human body.

Connectivity and other diseases in Bukhara are also described in the work "**The Irrigation System in Central Asia**" by the French researcher G. Moser [7]. According to him,

"serious deficiencies in the irrigation system led to the emergence of disease. In other words, the accumulation of water in the pond and neglect of its hygienic condition led to the spread of malaria, smallpox, ringworm, plague and plague "[7].

**René Koechlin** (1866-1951), an expert and researcher in an entirely different area of public life, wrote "Journey to Central Asia. From Paris to Samarkand"[8, p.161], studying the construction of bridges and railways, he addresses the medical conditions encountered in this area. In his memoirs one can find records of diseases occurring in arid and desert areas and measures to prevent them.

Researchers G. Moser and R. Koechlin speak of the Bukhara region, but, the former from a natural perspective, the latter as a railway engineer. While R. Koechlin studied in 1888, this issue was later studied by Henry Moser in 1892.

It is worth recalling information about Riste in the work of René Koechlin: "In the field of railway construction, very good conditions were created for builders. Local conditions from a hygienic point of view were carefully studied when selecting the location for the station. On the section from Chardzhouya to Samarkand only the water of the Amu Darya is used. This is due to the fact that the waters of the Zarafshan River are unsuitable for the presence of parasites causing ringworm" [8: p. 101-102].

Prevention of such diseases was also carried out for administration and railway workers, i.e. privileged persons or social strata. For example, a special filter called "Chamberlain" was used by railway workers and military personnel to prevent water contamination and bacteria.

Leprosy was also repeatedly mentioned in Bukhara as a dangerous and contagious disease (Lèpre). In French sources its interpretation is expressed as "Makkom" [5], "makhaou" [9], "makao" [10]. Many Russian and foreign tourists and researchers in the Central Asian region noted leprosy in their memoirs.

"The history of the world or of all nations. The universe, the history and description of all nations "explains the disease as follows:" Leprosy is a small white spot on the skin. Later, this spot enlarges and covers the whole body. The skin becomes dry and rough. Hair falls out and nails begin to separate from the body. Teeth are erased from their place, the patient's whole body is deformed and vision is impaired. Leprosy is weak and spreads rapidly to the lymphatic organism. It is a hereditary disease transmitted from generation to generation "[5].

Although the disease continues through offspring, its occurrence and development has also been caused by poor nutritional processes. Besides Bukhara, many leprosy patients could be found in rice-growing areas such as Samarkand, Miyankol and Shahrissabz. Some authors concluded that leprosy was caused by excessive consumption of an intoxicating drink called boza, made from black barley [5].

Those affected by leprosy had their whole body disturbed and the disease was considered incurable. Therefore in Bukhara special rooms were set aside for them. They were not allowed to have contact with the public and were constantly kept out. Such patients were treated in Bukhara. As the lepers had separate mosques, baths, markets and schools, they did not need to come to the capital. The reason for such precautions could be explained by the fact that

the disease was contagious. Almost all Bukharians were predisposed to leprosy. Their skin was dry, rough and yellowed, resulting in loss of eyebrows and eyelashes.

Some attribute the origin of leprosy to the disruption of proper nutrition, others to the arid climate. In each case they have seized it, despite obstacles we cannot even imagine. Sources report: "Uzbeks eat a lot of mutton. This can be imagined from the fact that Europeans consume only horsemeat. However, because horse meat is so expensive and hot, the Europeans are content with a small amount of it. Bukharians like lamb dumplings, fatty kebabs, cheese and yoghurt. Beef is eaten only by the poor. While such a diet would not be part of a healthy diet, it would not cause serious skin diseases such as those that exist in Bukhara in other parts of the world".

In Bukhara, the face was covered with pus wounds, resulting in impaired smoothness of the skin and children with a rough complexion were seen. Even with simple irritation, they were more likely to contract skin diseases.

Foreigners living in Bukhara were no exception. They also experienced general weakness, frailty, clumsiness, which in turn extinguished their enthusiasm for any occupation. In such cases, the patient experienced dehydration and lethargy (*létargie*).

In addition, "eye diseases are widespread in the Emirate of Bukhara. Basically, it started from the fact that the eyelashes grew to the inside of the eye. Even when the eyelash was cut, it started growing back. Apart from discomfort, the disease has serious consequences, such as total loss of vision "[5].

Another common disease in Bukhara is vomiting (*vomissement*), which sometimes lasts up to six months. Nervousness (*tremblement nerveux*) is also common throughout the emirate.

In Bukhara syphilis is a very dangerous form of skin disease. Patients died either from the disease or from improper treatment. Since mercury (*mercure*) was used by local physicians to treat it, it was used in large doses regardless of the stage of the disease [5].

In Bukhara, smallpox (*petit vérole*) was also widespread and severe among patients. Rakhitis was common in children. The population of the Balkh region suffered greatly from various ophthalmological and bodily diseases [5: p.8].

There is little information about the medicine of the Khiva Khanate in French sources. Here the medical staff had no in-depth knowledge of the occurrence of disease and only treated the patient by observing external signs. In most cases the treatment had no effect on the eradication of the disease. For example, "the use of ice when there was a high risk of malaria, i.e. when the body temperature was high, made the patient shiver even more. They used stimulants to relieve depressed patients"[5: p.73]. Practitioners also used leprosy to bleed from the head. Medicine in Khiva was handed down from generation to generation. Practitioners studied the exact properties of several plants as well as wound healing.

There is also little information about the medicine of the Kokand Khanate, only instructions on how to treat certain diseases. A tea of boiled rosehip root with the addition of honey and oil was used in the treatment of chest defects. For itching (*scabies*) or other skin

conditions, it is recommended to wash in salt water. To relieve bone pain by burning dried sheep dung collected from a fall, the patient's feet were held in its steam, part of the affected body was covered and the curtain was darkened. Wet compresses of herbal infusions known to treat various tumours.

Fumigation (smoking) of cinnabar on charcoal (red mineral, mercury sulphide, mercury ore) was used for leg pains. In Kokand khanate, in treatment of cold and various wounds, the injured part of the body was treated by exposure to smoke from the intestines of a ram. In case of bone fractures patients were advised to use copper powder and crushed powder of some mineral stones.

In some cases patients were treated by wrapping them in the skin of freshly slaughtered animals and taking unpleasant medicines such as cinnabar (the red mineral of mercury sulphide), sheep's blood and ghee. Patients with dog bites suffering from malaria and rabies were also treated with special methods. For this purpose a bird's palm, called "tilegus", was dried, ground into a powder, water was added, a tincture was prepared and rubbed on the patient.

The practice of using natural resources during this period is also observed. The Turkestan Catalogue, published in French in St Petersburg in 1873. [3: p.48], is also a source of scientific and statistical information on the medicine and natural riches of the country. The following information about the publication of the brochure was placed on the pages of the press of that period. "This brochure was published under the auspices of the Ministry of Finance in Vienna for the World's Fair. It contains a geographical description of the Turkestan region and maps.

The Turkestan section of the exhibition is intended to describe various objects connected with the culture of the region, mainly using materials by Maev and Bunyakovsky. Unfortunately, there are no historical sketches of the Russian invasion in the book "[11].

Notes on the topography of Turkestan in the catalogue; Ettisuv Province; Syr Darya Province; there are paragraphs such as the Aral Sea. The second part also contains information on ethnography, silk, cotton, paper, sugar, building materials and equipment, oil, flour, tobacco, cosmetics, and medicines.

In particular, the tobacco products section of the catalogue lists smoking products such as tobacco, green tobacco, opium, cannabis. Detailed information on poppy is given: "According to doctors, locals used to boil poppy in water and prepare tinctures to forget about grief. At first they drink it in a weak dose and then increase it. When they give it up, the same dose is gradually reduced. According to doctors, it is impossible to get rid of it completely. Because the patient becomes addicted to alcohol. In most cases, they prefer to increase the dose more than before"[3: p.70].

According to doctors, the excessive use of opium weakens the body, reduces one's natural strength and leads to spiritual decline. Indifference prevails and there is no desire to work. However, if he starts drinking opium again, his strength will increase and he will have an interest in work and life. The effects of poppy on a person's body are characterised by a large amount of sleep, with indifference to everything around him and staying under the influence of a sound sleep.

Continuous use of the drug leads to general weakness, loss of strength and appetite.

According to local doctors, four poppies was enough to kill a healthy and strong body that did not use the drug.

Petroleum products have also been partly used in medicine. In particular, the presence of oil at Moibulak, 40 versts from Namangan. "The Sarts use the oil to treat scabies. They also steam oil in furnaces and make asphalt" [3: p.71-73].

Almost all women's cosmetics are made from the country's local plants. Very few are imported from Russia. Tumulus (*Isatis tinctoria*) is a plant that grows in all gardens and is used for eyebrow tinting. Antimony (antimoine) - imported as a product from Russia. Women used to dye their eyelashes black with it. The powder is made from lead pellets (lead oxide powder). Eilik (Fard[rouge]) - mainly produced in Kokand. It is prepared by soaking the root of the plant (*Boragines*) in water and rubbing the pink liquid into the face with a cotton swab. Xna (*impatiens Balsamina*) is a sinagul plant that is grown in almost every garden because of its beauty. Its flowers and leaves were used for painting nails. For this purpose, some yeast was added to it, then rubbed on the nails and covered for the evening. As a result, the nails became yellow-red in colour [3: p. 73].

Medicines are mainly produced from the plant kingdom, which consists of roots, herbs, stems and branches, leaves, flowers, seeds and dried fruits of plants.

A smaller use is made of natural minerals. These include yeast, nitrate, ammonia, cinnabar, arsenic and others. The practice of blood sampling for leprosy has proved to be very useful in the treatment of many diseases" [3: p.76].

It should be noted that sources play an important role in drawing an exhaustive conclusion about the medicine of that period, i.e. in presenting the

medical landscape of that period. Furthermore, the achievements and shortcomings of medicine show that multidisciplinary social layers, such as the army, population and society, serve as a basis for strengthening social cohesion. Because without doctors, without medicine, society and the state will never develop, and there is a possibility that entire armies will be destroyed. And the development of medicine was required to ensure durability and sustainability. So, although the French studies were carried out to study the country, it is clear that the natural sciences and medicine are an integral part of it.

### Conclusion and recommendations

In conclusion, Turkestan medicine of the second half of XIX - beginning of XX centuries was widely covered not only by local sources, but also by foreign historians. In this period, along with descriptions of types of diseases, their causes and treatment methods, the peculiarities of use of natural resources in medicine are also reflected. On the basis of these sources, it is possible to study not only local medical conditions, but also examples of foreign practice.

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