CHAPTER 3

MEDICINE IN MEDIEVAL AZERBAIJAN

§ 1. PROFESSIONAL AND FOLK MEDICINE

It's very important to make the distinction between Folk Medicine and ancient professional medicine. Folk medicine is treatment that is carried out by folk practitioners, not doctors or professional healers. Secrets of folk medicine are passed down from generation to generation, from parents to children and then to their grandchildren. Folk healers have their own special knowledge and skills in treating disease; they aren't graduates from universities and they don't rely on textbooks or other written sources.

Professional doctors in those times were educated and wealthy. They usually lived in cities. Some became famous as court physicians in palaces of kings and governors.

In contrast, common people of the Middle East, especially illiterate peasants in villages, had no idea about Avicenna and Hippocrates. Despite the fact that there were major hospitals in Tabriz, Ganja, Shamakhi and other medieval cities of Azerbaijan, professional medical care was not available in villages. Therefore, people tried to benefit from the knowledge of folk medicine, which was both widespread and inexpensive.

§ 2. MEDICAL THEORY

The professional medicine of medieval Azerbaijan was a scholarly system that was studied in medieval universities (madrasa) and based upon treatises by such erudite physicians as Avicenna (Ibn Sina, 980-1037) and other prominent medieval doctors of the Muslim World. Their ideas were rooted in scientific observations based on ancient Greek medicine set forth by Hippocrates and Galen. Medicine of medieval Azerbaijan was similar to the Greek-Arabic or Islamic medicine.

The basic theoretical conceptions of the medieval Azerbaijan medicine are as follows: teachings about four elements of Nature (fire, earth, water and air), four qualities of these elements (humidity, dryness, warmth and coldness), four basic humours of organism (blood, bile, black bile and mucus) and four temperaments (sanguine, phlegmatic, choleric and melancholic).

The teaching about Four Holy elements was created by Zoroastrians in ancient Azerbaijan, Persia and the Central Asia.
It made a great influence on the development of science in ancient Greece. In the 6th-5th centuries BC, these scientific doctrines were developed by such Greek scientists as Empedocles, Heracles, and Hippocrates. As evident from medieval sources, during the Middle Ages these theories deeply influenced the traditional medicine in the Muslim East including Azerbaijan.

**Principal Humours and Temperaments**
(According to medieval medical sources)

<table>
<thead>
<tr>
<th>ELEMENTS</th>
<th>HUMOR AND SEASON</th>
<th>PROPERTIES</th>
<th>SIMPLE TEMPERAMENTS</th>
<th>COMPLEX TEMPERAMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>Blood Spring</td>
<td>Warmth</td>
<td>Hot temperament, Humid temperament</td>
<td>Temperament with prevalence of blood (sanguine temperament)</td>
</tr>
<tr>
<td>Fire</td>
<td>Bile Summer</td>
<td>Warmth</td>
<td>Hot temperament, Dry temperament</td>
<td>Temperament with prevalence of bile (choleric temperament)</td>
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<tr>
<td>Water</td>
<td>Mucus Autumn</td>
<td>Coldness</td>
<td>Cold temperament, Humid temperament</td>
<td>Temperament with prevalence of mucus (phlegmatic temperament)</td>
</tr>
<tr>
<td>Earth</td>
<td>Black bile Winter</td>
<td>Coldness</td>
<td>Cold temperament, Dry temperament</td>
<td>Temperament with prevalence of black bile (melancholic temperament)</td>
</tr>
</tbody>
</table>

According to scholars of those times, all substances consist of four elements of Nature. Each element has two of the existing four properties (humidity, dryness, warmth, coldness). Ancient scholars considered that each living being was made of four humours (blood, bile, black bile and mucus). Physicians of those times believed that a deficiency or surplus of any of these substances would cause disease.

Every medicine also has its own nature - cold or hot, dry or humid. For example, if you suffer excess cold in the organism, you must take hot medicine, while a patient with hot nature must balance it with a cold medicine. Foods also were considered to be cold, hot, dry or humid. For example, pepper is hot, while potato is cold. It was recommended to eat cold when an organism is hot, and eat hot when it is cold.

The medieval Azeri authors emphasized that each season was associated with a relevant humour. For example, in summer, the total amount of bile in the organism increases, while the amount of mucus increases in winter. The anonymous author of "Risala-i Tibb" (17th century) writes: "First comes spring which consists of three months. Its nature is hot and humid. During these days, the total amount of blood rises in the organism. The patient should be treated in line with the nature of this season." [30]

"The second season is summer which is hot and dry by nature increasing the amount of bile in organism. The third season is autumn, with its cold and humid nature increasing the mucus amount. The fourth season is winter with its cold and dry nature increasing the amount of black bile." [30]
Of course, this is only a brief survey of the ancient medical ideas spread in Azerbaijan and other Muslim countries during that time.

§ 3. HEALTHY WAY OF LIFE

Generally, medieval medicine focuses on three areas - (1) prevention, (2) treatment, and (3) pharmacology.

Medieval medical texts emphasize preventative medicine and recommend healthy mode of life. Herbs and aromatherapy were considered to be an important part of staying healthy.

"Tibname" recommended that insane, tired and high-strung nervous types be treated with Azerbaijani mugam music. "Such a patient should be made to lie down in a comfortable place, preferably near a flower garden next to a fountain of running water. If someone sits next to him and performs tender melodies on a stringed instrument, the effect is even stronger. Eventually, the patient will relax and fall asleep." [33]

Medieval doctors cautioned people not to get tired. Working to exhaustion and then trying to compensate by sleeping longer was viewed as harmful. Instead, frequent short breaks were recommended. Emphasis was placed on a balanced harmony between work and rest. It is a citation from Tibname [33]:

Hekimler böyle navûyet etmişler ki, çok yuxula- maq badani zeyf edir, maddi ağır edir, balğa- it çok, badani ağır edir.

Doctors say that sleeping too long weakens the body, weighs upon stomach, increases mucus,

lies heavy upon body.

Many physicians strongly warned about the overuse of animal fats. In the 14th century, Yusif ibn Ismayil Khoiý wrote that animal fats are bad to digest and may cause sickness and vomiting. So, whenever possible, overuse of animal fats should be avoided.

He went on to list the consequences of eating animal fats including stupefaction, poor memory, heart disease, weak eyesight and epilepsy. In order to counter these effects, sour substances should be incorporated into meals to help breakdown meat more effectively during

Pomegranates, pears and apples being served during a feast at the Shah’s Palace. A 17th century miniature illustrating a poem by Nizami Ganjavi (1141-1209), famous poet from the city of Ganja (present-day Azerbaijan Republic).
digestion.

Khoyi recommends vinegar, lemon, pomegranate, unripened grapes and various spices such as fennel, saffron, cardamom, cloves and cinnamon, which have the ability of stimulating the gastric juices and making digestion more rapid and complete.

In Azerbaijan, various folk sports are used to promote health. The most popular include weightlifting, horse riding and national wrestling (güləş). Horse riding was used in the treatment of arthritis, atrophy of muscles, heart diseases, and nerve disorders.

Also taking baths was considered to be very effective for prevention of diseases. Traditionally, Azerbaijanis visited the national bath, the "hamam" several times each week. In the "hamam", services were available from a barber, masseur and pharmacist - perfumer.

§ 4. PROFESSIONAL TREATMENT METHODS

Herbs and aromatherapy were considered to be an important part of staying healthy. Unfortunately, much of the knowledge found in these texts has been lost or forgotten. For instance, out of the 726 medicinal herbs mentioned in medieval sources, only 466 are known to grow in Azerbaijan today. Of these, 252 are not being used for any modern medicinal purpose. Medieval physicians used 115 kinds of minerals and 150 species of animals.

Even today, when Azerbaijanis are in a bad mood, they often say: manım qanım qaradır (my blood is black). In old days, black blood was considered the reason why people experienced bad moods (melancholy). Specialists identified scores of veins, each

Early surgical instruments in treatise on surgery by Abū Bakr Ẓaidah (died in 1013 AD). The manuscript was copied in the 13th c. AD. Institute of Manuscripts, Baku.
of which they thought was responsible for specific diseases.

In addition to doctors, barbers were also involved in medical practices. Not only did they cut and shave hair, but they performed medical practices such as bloodletting, extracting of teeth and use of leeches.

Early physicians were also familiar with aromatherapy, which is becoming more and more popular in the West today. The smell of quince, for example, was believed to strengthen the natural energy of the body. Citron was used to tone the nervous system, and apples, to stimulate the brain.

Music was also recognized as another form of therapy because of its ability to affect emotions. Positive effects were observed when people listened to music or to birds singing, especially the nightingale. Even listening to someone recite poetry was viewed as curative.

Even color entered into the treatment of some physicians. The 18th century text "Tibbname" suggests that one's place of rest be decorated in flowers and painted in pale blue, green or white tones.

§ 5. FOLK TREATMENT METHODS

Folk medicine treatment in Azerbaijan was called Turkahara (Turkic treatment). This procedure was well known among Turkic tribes living in the region of Azerbaijan. It consisted of various methods including magic, medicinal plants, folk surgery and massage.

Evidence for Turkachara treatment in medieval Azerbaijani folklore exists in various sources such as Kitabi Dada Gor-gud (Book of My Grandfather Gorgud). This oral epic predates its written form of the 11th century and preserves traces of ancient Turkic folk medicine.

Herbs in Folk medicine

The Azerbaijan folk poetry genre known as "bayati" describes medicinal herbs that were used by people in their daily lives. One of the poems mentions a person who can't find "yarpiz" (pennyroyal, water mint).

This leads us to conclude that in earlier times these species of mint were used in folk medicine to treat wounds. Modern field research also confirms that villagers still use yarpiz as an analgesic, antiinflammatory and antiseptic remedy. In addition, this herb promotes digestion and is good for the stomach. It also has the ability to draw pus from wounds.

Indeed, yarpiz was one of the most famous herbs of Azerbaijani folk medicine. Mirza Fatali Akhundov, founder of Azerbaijani drama (19th century), refers to yarpiz in his famous play,
"The Story of Monsieur Jordan, a Doctor, and Darvish Mastali-Shah, a Famous Magician". One of the characters, the French botanist Monsieur Jordan visits the Karabakh region to study local flora. He discovers that yarpiz is very popular among the local population. The Azerbaijan Film Studio produced a film based on this play, "Darvish Explodes Paris" (Darvish Parisi Daghdiri) where the famous Russian actor Sergey Yursky played Jordan.

Today, pennyroyal is used both in folk medicine, as well as in cuisine. "Dovga", made from yogurt and greens such as pennyroyal, is considered to be good for digestion and for alleviating intestinal colic. Similar to peppermint, it is also eaten as a fresh table green. Of course, not only is pennyroyal used in Azerbaijani folk medicine, modern medicine also uses it three times a day prior to meals to cure infectious diseases of stomach and intestines and to stimulate the appetite. Thyme is used to flavor meat as well, especially kababs. It adds aroma and aids digestion. It is also used in the preparation of sharbat (fruit and herbal non-alcoholic refreshing drink), which are good for digestion and to promote secretion of gastric juices.

Aromatic melon. Miniature from "Ikhtiyarati-Badii", Institute of manuscripts, Baku, copied in the 17th century. Field research shows that at least 800 species of herbs were used in folk medicine [2].

The most commonly used herb is thyme. The entire upper part of this plant (stem, flowers and leaves) is widely used in both folk medicine and cuisine. Dried thyme is sold in bazaars, markets and pharmacy shops. People add it to their tea to treat intestinal colic or indigestion. One tablespoon is infused in a glass of hot water. People drink it three times a day prior to meals to cure infectious diseases of stomach and intestines and to stimulate the appetite. Thyme is used to flavor meat as well, especially kababs. It adds aroma and aids digestion. It is also used in the preparation of sharbat (fruit and herbal non-alcoholic refreshing drink), which are good for digestion and to promote secretion of gastric juices.

Since ancient times people have used the alcoholic extraction of peppermint for external application. This extraction is called čovhar-nana (sometimes, čovhar-nana as well) (peppermint essence). Jovharnana is used to massage the belly when someone is experiencing intestinal colic. After the massage, the person covers up with blankets. This remedy is applied to treat neuralgia. It is used to ease breathing of those with colds and influenza. People pour jovharnana into a spoon and heat it and inhale the extract as it evaporates. It clears out stuffed noses and eases breathing.

People frequently use the peel of pomegranates for dyspepsia and indigestion. It is a very strong remedy. The skin - either fresh or dried - can be boiled in water and sipped throughout the day. The taste is quite bitter so some people add sugar. Unlike antibiotics, pomegranate skin has no side effects and may be used in the treatment of little children.

Other frequently used herbs include chamomile (çoğanyastığı), which is used for infectious diseases, peppermint (nana) used for abdominal colic and colds, and juniper cones (ardic qozalari) for urinary infections.
Folk Surgery

Folk doctors called *siniqçə* (fracture doctors) specialized in the treatment of dislocations and fractures. To alleviate severe pain in the extremities, compresses made of the fat of sheep's tail were placed on the injured part. Usually, these compresses were kept on throughout the night and removed the next morning. As a result, pain and inflammation decreased and the diseased joint had more flexibility.

In addition, fat from both the badger and fox was valued as a potent remedy. Ointments from these fats were applied to painful joints and bones. Sometime, pepper, ginger or other spices were added to the fat. For rapid recovery of broken bones, folk healers recommended such food as *xəş, kellepaça* or *başayak*. These are soups made from hooves and heads of sheep and cows and are rich in nutrients as they contain connective tissues vital for repairing damaged joints. Another group of folk healers was called *çöpçü*. They were skillful in removing any bones that got lodged in the throat.

Childagh - Folk Reflexotherapy

On the Absheron peninsula, there are still folk healers named *childagchi* (spot burners) who treat nervous diseases and remove tiredness by applying heat to certain spots on the forehead, arms and legs. Childagh is still practiced in Mashtagha, one of the villages in the suburbs of Baku. Many people still seek out this treatment [1].

The art of Childagh is quite unique although it has not been thoroughly investigated. It is not known when Childagh was introduced into this region or from where it originated. It seems to be a modified form of Chinese reflexology replacing needles with cauterrization (burning). Perhaps this art came to Azerbaijan from China during the Mongolian invasion of the 13th century when many features of Chinese culture and medicine were brought to Azerbaijan. The Mongolian rulers of the Elkhanid Dynasty who ruled in Azerbaijan favored such Chinese traditions.

Childagh has not been found to be documented in the ancient medical manuscripts of Azerbaijan or surrounding Muslim regions. However, Ibn Sina does mention in his Canon that some nervous diseases were treated by burning three points on the forehead. Shahrafaddin Hakim, a Turkish physician of the 15th century, also describes this treatment in his book of surgery, which is now preserved in the Topkapi Museum in Istanbul. This book provides color miniatures showing this treatment. We see a physician burning the points on a patient's forehead with a metallic stick-like implement. Some Azeri Turkic verses by Muhammed Fuzuli (1494-1562) also provide information about early cauterrization practice.

Childagchi at work
In childagh as practiced in Azerbaijan today, the healer uses a cigar made of wormwood or plain cotton wool. Chinese also use this same type of cigarette.

§ 6. MEDICINE AND MAGIC

Healing by magic was also an essential part of folk medicine in Azerbaijan. Beginning in ancient times, shamans (gam in ancient Turkic) from Oguz tribes who inhabited Azerbaijan used various magical songs, music and verbal formulas to stave off evil spirits. They used various parts of animals in this process. Vestsiges of these practices are evident in Azerbaijan even today, even though Islam severely criticizes such beliefs and considers them to be superstitious [10].

For example, some people believe that if a childless woman eats fried rooster genitals, she will become pregnant. According to another folk belief, the eyes of an owl work well for both inability to sleep, as well as an excessive desire to sleep. This folk idea is described in the medieval book, Tibbname (Book of Medicine) of 1712: "It is necessary to remove both eyes of an owl and put them in a bowl with water. A heavy eye will sink, a light eye will float on the water's surface. If a person suffering from insomnia swallows the heavy eye, he will fall into a sound sleep. However, if he consumes the lighter eye, he will not sleep all night" [33].

Some healing practices are related to Islam as well as folk magic. For example, according to the Tibbname, if one reads the Sura of Fatiha from the Koran every morning and then trims his eyebrows with a comb, he never will die of plague. Another belief advises that bad memory can be treated by writing down the Fatiha on a big piece of sugar and then eating it on an empty stomach. All such recommendations are held in disdain by Islam and have nothing to do with religion nor with traditional medicine of medieval Azerbaijan. However, such beliefs continue to persist.

Rhinoceros
Horn And Lion’s Heart

It is believed that if one eats the heart of a lion that he will be brave and recover from such conditions such as depression, bad mood and nervousness. Even today, Azerbaijanis have an expression to describe such a courageous person. They say: "Did you eat a lion’s heart?" (Şir ürayi yemisən?). It's impossible to find any lions' hearts in Azerbaijan today because they all became extinct in the 16th century.

However, there have been occasions when people have gone to the Baku Zoo and tried to persuade personnel to sell various animal parts: snake skins, wolf paws, camel fur, rhinoceros excrement, and even elephant urine.

It is still believed that this statue of Camel in Sofi Hamid Sanctuary nearby Baku treats infertility in women and other diseases.
Such a situation is described in Magsud Ibrahimboyev's short story, "The Horn of Rhinoceros". The protagonist of the story, an elderly person decides to marry a young girl. He discovers an ancient book with a folk recipe describing how to make himself appear younger and healthier. One of magical ingredients was powder from the horn of rhinoceros. So he goes to the zoo at night with the intention to saw off a horn of a rhinoceros. However, he is suddenly attacked by a small kiwi bird, which made such a noisy racket that the perpetrator gets arrested by the police.

**Hedgehogs and Wolf Claws**

Hedgehogs are extremely popular in Azerbaijani folk medicine. It is believed that the fried meat of hedgehog cures female infertility. So many hedgehogs have become victims of this superstition.

The wolf is considered a sacred ancestor or totem of Turkic tribes. Many beliefs are associated with this animal. All of them date to Pre-Islamic times though they still live on in folk belief today despite the negative attitude of Islam towards such "pagan ideas".

All parts of the wolf are believed to produce positive medical effects. For example, the wolf's claws are considered the best medicine against male impotence. It was recommended to carry claws to increase potency. Another belief advised soaking the claws in oil for a long time and then using this oil as an ointment.

**Extrasonsors and Fortune Tellers**

Azerbaijan has its share of extrasonsors who are convinced that they have the ability to treat others with the help of words, suggestions or bioenergy. Many extrasonsors are folk healers and have no medical diploma. Sometimes they mix their practice with Islam and magic, meaning that they make a diagnosis based randomly selecting texts in the Koran along with amulets and magical formulas. One of Azerbaijan's most famous extrasonsors Tofig Dadashov claims to be able to treat diseases by drawing upon his telepathic skills.

There are also fortunetellers and magicians who claim to have the ability to remove evil eye with the help of black and white magic.

Therapy with massage and chiropractics is less widespread now in comparison to a few decades ago, but they continue to be practiced. Throughout Azerbaijan there are centers where Tibetan, Indian and Chinese folk medicine is used to treat those in need of medical assistance and cures.
CHAPTER 4
MIDDLE PHARMACOLOGY

§ 1. INTRODUCTION

Azerbaijani people have a rich and ancient tradition in the field of pharmacology. Physicians of those days widely used medicinal plants, minerals and substances of animal origin (milk, honey, oil, meat, gall, bones, feathers, skin, etc.). There are numerous medicinal plants described in medieval Azerbaijani manuscripts on medicine and pharmacology that date back to the 9th-18th centuries AD. Phytotherapy was very popular. Traditionally, no part of a medicinal plant was wasted; all parts were used - seeds, flowers, leaves, stems and roots.

In spite of this rich heritage, the traditional phytopharmacology of Azerbaijan has not been satisfactorily investigated. Until quite recently, we had no information about the quantitative and qualitative composition of plant species described in medieval Azerbaijani sources. These plants had not been identified and classified into taxonomic and therapeutic groups.

Since 1987, the author of the present book has been engaged in identifying and analyzing the medicines described in these manuscripts. As a result of this work, numerous medicinal plants used in Azerbaijan during the Middle Ages have been identified. [5]

§ 2. STUDIED MANUSCRIPTS

For studying traditional phototherapy of Azerbaijan, a wide range of the medieval sources on medicine and pharmacognosy have been analyzed. The main attention was paid to studying the primary sources from the collection of the Institute of Manuscripts of the Azerbaijan Academy of Sciences in Baku. About 40 medieval sources of the 10th to the 18th centuries including 17 manuscripts have been selected as the objects of the recent study. The list of the manuscripts studied is given below.

Works of Medieval Azerbaijani Authors

1. "Adwar al-Hammiyat" by Muhammad bin Namvar Tabrizi (1194-1245).

2. "Kitab al-Hawi fi Ilm al-Madawi" by Mahmud bin Ilyas (13th-14th centuries).

3. "Jam al-Baghdadi" (written in 1311) by Yusif bin Ismail Khoyi (Ibn Kabir).

4. "Siraj al-Tibb" by Hasan bin Riza Shirvani (18th century).

5. "Fawaid al-Hikmat" by Haji Suleyman bin Salman Qajar Iravani (18th century).


8. "Mualijat-i-Munfarida" (1775/6) by Abulhasan al-Maraghi.
Works of Persian Central Asian and Arabic Authors Widely Used in the Medieval Azerbaijan

1. "Kamil al-Sina'at al-Tibbiyat" by All bin Abbas Majusi Arjani (d. 994 AD).
2. "Zahir-i-Kharazmshahi" by Zeynaddin bin Ahu Ibrahim Jurjani (1045-1137).
4. "Ikhtiyarat-i-Badi'i" (1369) by Abu bin Huseyn al-Ansari (1329-1404).
5. "Kifayat al-Mujahida" (1423) by Mansur bin Muhammad.
6. "Jam' al-Fawaid" (1511) by Yusif bin Muhammad al-Illarawi.
7. "Karabadin" by Mu'izzafar bin Muhammad Hluseyn Shafai (1586/7-1628/9).
8. "Tuhfat al-Muminin" (1669) by Sayyid Mir Muhammad Mu'min (d. 1697).
11. "Zad al-Musafirin" (1729) by Muhammad Mahdi bin All al-Nagi.
12. "Karabadin-i-Kabir" (1777) by Muhammad Huseyn Khan Alavi Samarkandi.

All these manuscripts have been collected from various regions of the Azerbaijani Republic. They were copied in our country and belonged to Azerbaijani owners. The above mentioned books were widely used by medieval Azerbaijani physicians and these writings may be considered as the most popular books of Medieval Azerbaijan.

§ 3. RESEARCH METHODS

Studying the medieval sources on medicine and pharmacy is fraught with numerous difficulties and involved various sciences. Medieval sources were handwritten in the Arabic script employing medieval special terminology and medieval ideas on medicine. Medieval Azerbaijani authors collected medical information from a wide range of sources written by Indian, Chinese, Arabic and Greek scholars. Consequently, the same concepts were often identified by numerous foreign terms.

Physicians of those times used more than 2000 names to designate hundreds of species of medicinal plants in 27 languages and dialects including Azerbaijani, Turkish, Arabic, Persian, Ancient Greek, Latin, Ancient Hebrew, Chinese, Hindi, Sanskrit, Araamic, Coptic, Berber, Ancient Turkic, Uigur, Andalus (dialect of Arabic), Isfahan (dialect of Persian), Gilan and Mazandaran (Iranian languages) [4].

The scientific terminology of such modern languages as Azeri, Arabic and Persian is not the same as that used during the medieval period. Other languages (Coptic,
Ancient Greek, Latin, Aramaic) ceased to exist many centuries ago and consequently hamper the correct translation of many medieval terms. In this chapter, the facts and methods of both the social (history, philology, philosophy, etc.) and the natural (botany, zoology, mineralogy, chemistry, medicine, pharmacology, etc.) sciences have been used to try to solve these difficulties.

Translation of the medieval terms has been carried out according to modern and medieval dictionaries. However, sometimes special dictionaries do not contain the necessary information or offer various interpretations of the same terms. Fortunately, the medieval manuscripts on pharmacy contain detailed biologic descriptions of botanicals. These descriptions have also been analyzed to identify plant species. The old scientific books were widely applied. Modern scientific literature was analyzed as well. Reference books on flora helped the author in various stages of this work.

Information on the medicinal plants of medieval Azerbaijan is scattered in various sources that were written in different languages. It must be noted that various dictionaries can give us unskill or contradictory translations of the same terms. Work with these sources requires great caution and a critical approach to the material, and a thorough comparison with the other data obtained on the basis of morphological, ecological and bio-geographical analyses of the plant species described in medieval sources.

§ 4. SYSTEMATICAL ANALYSES OF THE IDENTIFIED SPECIES

As a result, 724 species of plants described in medieval sources on medicine and pharmacognosy have been identified. These plants belong to four sections (Equisetophyta, Polypodiophyta, Gymnospermae, Angiospermae), to six classes (Equisetopsida, Polypodiopsida, Gnetopsida, Pinopsida, Monocotyledones, Dicotyledones) and 143 families.

It turned out that 16 families contain about 54% of identified plants. The remaining 121 families include 45% of the medicinal plants. Physicians of those times used a number of species of lichens belonging to three genera: Lecanora, Roccella and Usnea. Some species of mushrooms also were used: Polyporus officinalis Fries., Tuber album Sow., Tuber meianasporum Vitt., Morchella esculenta Pers.

Of the 724 species of plants described in the medieval sources on medicine and pharmacognosy, 422 species (58.3%) belong to indigenous plants and occur in the territory of modern Azerbaijani Republic. Comparative analysis shows that only 166 of them are currently being used in modern phytotherapy of Azerbaijan. It must be noted that 60 of mentioned species are known as plants of folk medicine, whereas the 106 species are currently being used in scientific medicine of Azerbaijan.

The fundamental studies and reference books on
medicinal plants of Azerbaijan do not contain any information about other 256 indigenous species that are described in the medieval manuscripts on medicine and pharmacognosy. Therefore, these 256 species (60.7%) are no longer used in the modern Azerbaijan phytotherapy. The identified medicinal plants may have therapeutic value once they have been experimentally and clinically tested.

§ 5. DESCRIPTION OF PLANT SPECIES IN MEDIEVAL SOURCES

While describing the species of plants, medieval authors gave wide information on their therapeutic properties. For example, Muhammad Mumin (d. 1697) wrote:

"QUINCE (Cydonia vulgaris Pers.). Ripe fruit can be used as a tonic and has diuretic qualities. It strengthens heart and nervous system. Warm quince salve can be applied to irritated skin. Sour fruit is recommended to person with an accelerated heartbeat. It stimulates the appetite. Fruit and juice are good against liver diseases, hepatitis, rhinitis, pneumonia and nausea. Juice can be used to stop bleeding, blood spitting, ulcers and injuries of the urethra, vomiting and hang-over. Besides, it quenches thirst well. Quince pulp (especially of sour fruit) acts as an opiate; therefore it should be taken in small quantities, preferably with honey, stewed or in the form of jam.

Excessive consumption of fresh fruit might cause cough or colitis. The fluff of skin is strong opiate and helps to stop bleeding, but is bad for the larynx and vocal cords.

The seeds are strong styptic. The infusion is good against angina, cough and irritation of the mouth. Seed's compresses are applied to fire and sun burns. Core of seeds intensifies libido, acts as a purgative and stimulates breathing. It is used against ulcer, cough and the vocal cords' inflammation. The moisture around the seeds is good against dry cough as well as burns." [27]

From the above quotation, it appears that medieval physicians applied the same plant against a number of different diseases. Individual plants or their mixtures were used to prepare different medical forms such as unguents, powders, tablets, pills, infusions, syrups, different mixtures, etc.

Physicians of the Middle Ages knew that different parts of plants have different healing properties. Modern pharmacoeutic use only some parts of plants, while medieval physicians used roots, stems, leaves, flowers, fruits and seeds, with each part used in an adequate way. Traditionally, no part of a medicinal plant was wasted; all parts were used.

As a rule, the medieval manuscripts on medicine contain numerous chapters devoted to treatment of various diseases using remedies of natural origin. For instance, the title of the first chapter of "Tibbnama" (1712) is as follows: "The First Chapter. Narrates About Treatment of Headache And Migraine." [33]

The following chapters of the mentioned book are devoted to healing such
diseases as melancholy, epilepsy, meningitis, poor memory, nasal bleeding, toothache, extraction of teeth, week gums, and so on. Some examples of these recommendations are given below (the manuscript of "Tibnana," Code: C 541, pp. 41-77). The medieval weight units are converted into grams, scientific names of plants and comments are given in parenthesis.

**Colic in Stomach.** "Take dried leaves of peppermint (Mentha piperita L.), mix with some vinegar and massage the belly. The ointment from cinnamon (the dried bark of Cinnamomum cassia (Nees) Nees ex Blume) is also useful, if it is applied externally on the stomach".

**Colitis.** "Root of althea (Althaea officinalis L.) is the best remedy against colitis. To remove the acute pain one should eat 3 g of its leaves. Besides, take so-called mastic (the resinous exudate from Pistacia lentiscus L.), add twice as much sugar and eat during several days.

**Cough.** "Take 20 g of basil's (Ocimum basilicum L.) leaves and flowers, mix with 20 g of thyme (Thymus sp.) leaves, and infuse in 1 liter of water for 15 minutes. Then, add to infusion two spoons of honey and stir it. The diseased person has to take one spoon of this medicine in every half an hour."

**Headaches.** "To heal chronic headaches (migraine), take 5-10 g of basil's (Ocimum basilicum L.) leaves, boil in a cup of water, titter, add some honey or sugar and drink. Repeat this treatment every day during two weeks. If headache is associated with cold, you have to drink decoction of thyme (Thymus sp.) or add its leaves into common tea. Ginger (the dried rhizome of Zingiber officinale Rosc.) is used for preparation of analgesic ointment against headache. You should take the ginger's juice, stir with sesame (Sesamum orientale L.) oil or rose (Rosa damascena Mill., R. centifolia L., R. gallica L.) oil and spread on the head."

**Heart Diseases.** "Decoction of balm-mint (Melissa officinalis L.) leaves with rose water is good against excessive heartbeat (tachycardia). The pomegranate (fruits of Punica granatum L.) syrup is also used to heal this disorder. Make a mixture of juice of plantain (Plantago major L.) leaves, rose water, purslane (Portulaca oleracea L.) juice; and drink it. Apples (Pirus malus L.) and their decoction are good in prophylaxis and treatment of heartbeat as well."

**Hemorrhoids.** "Grind 15 g of the oleander (Nerium oleander L.) leaves. Put threshed leaves into a pot filled with 100 g of olive oil and carefully boil them. Then, decoction should be filtered to obtain pure oil. Take a bit of cotton, submerge into oil and prepare suppository to apply on the hemorrhoids. If diseased is a child, you should prepare decoction from pomegranate's (fruits of Punica granatum L.) skin. Then the child should take a bath with this decoction."

**Indigestion.** "For a day a diseased person should avoid any food and follow to a rigorous diet. Then, he should eat fresh leaves of balm-mint (Melissa officinalis L.). To improve the poor digestion, it is good to sprinkle dried powder of peppermint (leaves of Mentha pipe-
rita L.) on the dishes. Such seasonings as cinnamon and mastic also are good for digestion. Besides, it is recommended to eat various dishes with fresh herb of tarragon (Artemisia dracunculus L.)."

**Kidney Diseases.** "Cones of cypress (Cupressus sempervirens L.) and juniper (Juniperus sabina L.) are good against inflammation of kidney and urinary bladder. The green cones of cypress should be boiled in two glasses of water. Then, the diseased person should take half a glass of this decoction three times per day during one-two weeks. Cones are good diuretics and remove inflammation from urinary organs."

**Melancholy.** "Saffron (Crocus sativus L.) is called 'the medicine cheering heart' because it removes the had spirit. Those who want to be cheerful and vigorous should take 1 g of this remedy. To remove bad spirit you have to carefully and slowly chew and swallow one or two cloves (dried flower buds of Eugenia caryophyllus (Spreng.) Bull. et Harr.)."

**Pains in Ear.** "Pomegranate (fruits of Punica granatum L.) should be cleaned from seeds, stuffed with rose oil and heated. Then you have to prepare the ear drops from this oil and to use it against ear pain. Besides, you may boil the sour pomegranate's juice, mix it with equal amount of honey and drop into ears."

**Pains in Joints.** "There is a good analgesic ointment against rheumatism. Take some garlic (Allium sativum L.), chop it, mix with equal amount of camphor and massage the joint. The chamomile (flower heads of Matricaria chamomilla L.) oil also removes rheumatic pains. A person with ill joints should also take a bath with decoction of thyme (Thymus sp.) leaves. He has to take 500 g. of thyme, chop it and put in the little bag which should be placed in boiling water for 15 m. Then, he should empty this decoction into bath."

**Quinsy.** "Gargles with decoction of the black plum-tree (Prunus domestica L.) leaves are good against this disease. Gargle removes inflammation and strengthens muscles of a throat. Infusion of aloe (leaves of Aloe vera L.) is also used against quinsy. Take one sour and one sweet pomegranate (Punica granatum L.) and boil them with skin. Use this decoction for gargling."

§ 6. THERAPEUTIC APPLICATION OF HERBS

Most of species (150 spp. or 36.4%) was used externally as antiseptics for ulcers, furuncles, scabies, mange and other skin diseases. This group includes such drugs as leaves of oleander (Nerium oleander L.), juices of onion (Allium cepa L.), ramsons (Allium ursinum L., A. victoriae L.) and garlic (Allium sativum L.). The mentioned plants were used for preparing unguments, powders and different medical forms that were applied externally. The second group contains plants species applied to diseases of kidney and urinary bladder (92 spp. or 23%). This group contains the following herbal medicines: flowers of corn camomile (Anthemis arvensis L.), fruits of dog-rose (Rosa canina L.),
leaves of blackberry (*Rubus fruticosus* L.), bark of willow (*Salix sp.*), etc. These remedies were given mainly in decoction or infusion form. The plants of this group were used against various diseases of liver and bile duct. In medieval sources most of them were designated as chologogues. Scholars of the Middle Ages point out that there are two kinds of bile in a human's organism: the so-called "black bile" (*qara ədə* in Old Azerbaijani) and the "yellow bile" (*san ədə* in Old Azerbaijani). The following plants were considered by medieval authors as chologogues: spearmint (*Mentha spicata* L.), dandelion (*Taraxacum officinale* Wigg.), saffron (*Crocus sativus* L.), barberries (*Berberis vulgaris* L.), fumitory (*Fumaria officinalis* L.), celandine (*Chelidonium majus* L.), chicory (*Cichorium intybus* L.), black radish (*Raphanus sativus* L.) etc. Many plants were used against other ailments.

Azerbaijani physicians of the Middle Ages widely used botanicals which are similar to our present armamentarium. For example, *Matricaria chamomilla* L. was applied against inflammatory diseases and nervousness, and *Valeriana officinalis* L. in treatment of cardiovascular diseases. Botanicals of modern phytotherapy were used by medieval physicians more widely than we use them today. For example, *Valeriana officinalis* L. was applied not only to treat nervousness and heart diseases, but also as a diuretic and haemostatic medicine. These properties of valerian are confirmed by modern studies as well.

Muhammad Mumin, the author of the 17th century, recommended to treat cancer of skin with the help of cabbage's (*Brassica oleracea* L.) leaves. It was recommended to apply the fresh threshed leaves or their juice on the patient's skin. The future experimental studies have to check this medieval recommendation.

Despite the wide application of saffron (*Crocus sativus* L.) in medieval phytotherapy, nowadays this plant is almost forgotten by modern scientific medicine. Most of authors of the Middle Ages recommended to use saffron in treatment of Diseases of liver, heart and as a tonic. For these purposes, the homeopathic doses of saffron were applied. Presently, saffron's infusion is successfully used by some traditional healers in Azerbaijan for treatment of diseases of liver.

§ 4. SOME "FORGOTTEN" BOTANICALS OF THE MIDDLE AGES

These plants are not included in the list of species recommended for medical application by Ministry of Health. Besides, they are not used even in the folk medicine of modern Azerbaijan. Some examples of them are cited below.

*Amaranthus retroflexus* L. This well-known decorative plant is not used by scientific medicine in Azerbaijan. According to the modern literature it may cause allergy. However, it may be supposed that this herb has the antimicrobial and anti-inflammatory properties.
For example, the medieval sources inform that decoction of leaves was used against tumors and diseases of skin. Besides, juice of leaves was applied to heal wounds. To treat ulcers in mouth and inflammation of gums, it was recommended to rinse it with decoction of dried amaranth’s leaves.

Anacyclus ciliatus Trautv. It was considered that seeds of this plant strengthen an organism, and has the diuretic, antipyretic, anti-inflammatory, sudorific, lactogenic and expectorant properties.

Doronicum macrophyllum Fish. The root of this herb was used as a tonic. It was believed that it strengthens liver, heart, digestion and organs of senses. Decoction of the root was prescribed against arrhythmia.

Gypsophyla elegans M.B. Root was used as diuretic, styptic and cholagogus. Externally was applied against herpes. It was believed that the decoction of root crushes stones in urinary bladder.

Microlophus behen (L) Taht. The herb was used as a tonic and medicine against tiredness and arrhythmia.

Myosotis arvensis L. Flowers, leaves and roots were used as antiseptics and sedative medicines. Recently, this plant is widely cultivated in Azerbaijan for decorative purposes.

Onopordon acanthium L. Seeds and root were used against spasms, blood-spitting and as antidote against the scorpion’s bites. It was believed that the bandage with seeds stops bleeding.

Salsola dendroides Pall. Decoction of stem or leaves was used as cholagogus. The juice was applied on burns and irritated skin.

The future scientific studies have to check effectiveness of the plants described in the medieval sources.

§ 1. WHAT IS AROMATHERAPY?

Aromatherapy is a type of alternative medicine that is gaining popularity in the United States and Europe. Specialists in this field believe that flowers and herbs have value beyond their wonderful smells—perhaps these plants even have the power to heal.

The practice of aromatherapy is believed to date back several millennia to the Egyptians and Babylonians, who often took baths with aromatic herbs and other substances for hygienic and medicinal purposes. For instance, Egyptian queen Cleopatra was known to bathe regularly with rose petals.

In Azerbaijan as well, aromatherapy was once considered to be part of mainstream medicine. Medieval Azerbaijani doctors regularly prescribed essential oils and other fragrances for their patients. For example, a bath that smelled of roses—such as Cleopatra used to take—would have been prescribed for someone who was feeling melancholic or who had a headache. Today, this term usually refers to treatment with essential oils. These fragrant extracts come from flowers, fruits and herbs—such as rose, violet, thyme, lavender and marjoram—and are usually breathed in or applied to the skin.
Although the term "aromatherapy" was only coined in 1937 by Ren-Mauric Gattefoss, a French cosmetic chemist, the technique itself is thousands of years old.

§2. ANCIENT BELIEFS

In the ancient kingdoms of Mannai (9th-7th centuries BC) and Atropatenia (4th-1st centuries BC) - now situated in the provinces of Eastern and Western Azerbaijan (Iran) - people believed that they had to be clean and beautiful in order to attain a higher spirituality. For these purposes, ancient Azerbaijanis used aromatic oils such as frankincense, myrrh, galbanum, rosemary, hyssop, cassia, cinnamon and spikenard.

Some fragrant herbs and trees served a religious purpose. For example, the cypress, with its fragrant needles, was known as the tree of the prophet Zarathustra (Zoroaster). The dispersion of oils was also thought to purify the air and provide protection from evil spirits.

According to ancient Turkic beliefs, all fragrant flowers were created by Tangry, the Supreme God of the Blue Sky. The Goddess of Grasses and Trees, Olen, was his wife. Olen was also considered to be the patroness of physicians. Each year, at the beginning of spring, the Turkic peoples held solemn festivals in honor of this goddess and burned fragrant herbs such as wormwood.

Ancient Turkic legends tell that the souls of all children arise inside flowers and are then moved to their mothers' bodies. In a 7th-century legend, the elder named Gorgud says:

"I was created inside a flower... moved to my mother's body, and born with the assistance of the gray-eyed Angel." [31]

Azerbaijanis treated diseases and injuries with aromatic substances. One scene describing such an occasion comes from the ancient Azerbaijani epic "Dada Gorgud" (Grandfather Gorgud), a compilation of legends that were set down in writing during the 11th century but contain stories that can be traced back to the 6th and 7th centuries. [23]

Aromatic plants weren't just for healing. For instance, as far back as the 4th century AD, the people in Caucasian Albania (now northern Azerbaijan) used the herb thyme as both a tonic and an aphrodisiac.

§ 3. ESSENTIAL OILS

After Islamic invaders conquered the region in the 7th century, Azerbaijanis began studying the chemical properties of essential oils. They learned from the experience of Muslim alchemist Jabir ibn Hayyan (702-765) and other scholars who had helped to develop and refine the distillation process.

In those times, Azerbaijanis could easily have extracted rose oil and prepared rose water, substances that were very popular throughout the entire East. Other essential oils used by medieval Azerbaijanis were fennel, melissa (lemon balm), spearmint, nutmeg, dill, chamomile, cinnamon, lime, orange, bergamot, lemon, myrrh, coriander, black cumin, tarragon, bi-
rch, cedarwood, cypress and myrtle. According to existing Azerbaijani manuscripts, at least 60 plant species were used in aromatherapy at the time. Unlike today, even aromatic animal species were used. Our documents identify eight of them.

By studying essential oils, medieval Azerbaijani doctors were able to expand their understanding of aromatherapy and its ability to cure disease. Specific oils were used to treat certain ailments. For instance, basil oil was believed to relax the muscles and have a calming effect. As an ointment, it could heal wounds, cuts and sores. Basil and camphor mixed with flour was used against scorpion bites, and bergamot root was known to alleviate insect bites and act as a repellent. According to the poets Nizami Ganjavi (1141-1209) and Muhammad Fuzuli (1494-1556), rose oil was used as a remedy for headaches and as a topical antiseptic. Mahmammad Yusuf Shirvani (18th century) recommended an unguent of cumin for sword wounds. Though the concept of antibiotics was not known at the time, physicians did use ointments of cumin, honey and raw onion juice as topical antiseptics.

We know that juniper oil was also used as an antiseptic because Haji Suleyman Iravani, a 17th-century Azerbaijani physician, recommends using ointment from juniper cones to heal wounds. Cypress was used as a strong diuretic for treating urinary disease. And for a person with a cold or a stuffy nose, doctors recommended inhaling the vapors from an infusion of thyme, peppermint or spearmint.

§ 4. LUXURY TREATMENTS

Not everyone could afford these treatments. While substances like violet oil and rose water were fairly inexpensive, imported essential oils were quite costly and only available to the wealthy. Rich people liked to dab themselves with aromatic ointments, substances that also functioned as a form of currency. Kings would barter and buy land, gold, slaves and wives with their crudely extracted oils.

Tenth-century writer Abu 'Ali Tanuhi observes that shahs and sultans possessed hundreds of jars of rare aromatic ointments in their treasure houses. Some of the ointments - which were worth their weight in gold - were brought from India, Egypt and Byzantium. Tanuhi writes of a miserly ruler who opened his ointments with pride, then closed them again, explaining: "I can't bring myself to touch these treasures." [36]

Animal substances like musk, castor and ambergris were particularly expensive, as they had to be imported from China, Russia, the Persian Gulf and India. Not only were these fragrances supposed to attract the female sex; they were also believed to have therapeutic properties.

A dab of ambergris - a gray, waxy substance from the intestinal canals of sperm whales - would strengthen the brain and heart, believed 17th-century physician Hasan ibn Riza Shirvani. This substance is often found floating in tropical seas; to reach Azerbaijan, it had to be imported from the coastal regions of the Indian and Pacific oceans.

The scent of musk, it was believed, would streng-
then the heart and nerves and help to get rid of melancholy. To alleviate a headache, musk was mixed with saffron; a single drop on one nostril would be sufficient.

Castor, a substance secreted by male beavers to attract mates, often served as a substitute for musk. One or two drops of castor applied to the face and arms would make a person more ap-pealing, it was believed. In 1311, Kabir Khoi wrote that a bandage with a few drops of castor was good for treating headaches. Beverages containing castor and vinegar were also used to treat abdominal pain.

Fourteenth-century Azerbaijani scholar Yusuf ibn Ismail Khoi describes eight different methods for administering aromatherapy: (1) Use a pillow filled with medicinal plants. (2) Carry a small pouch filled with dried medicinal plants. (3) Inhale the boiling decoctions of medicinal herbs. (4) Inhale the scent of flowers in special gardens. (5) Hang bunches of healing grasses inside the house. (6) Breathe the odor of burned medicinal plants. (7) Use an aromatic ointment. (8) Take an aromatic bath.

§ 5. AROMATIC HERBAL BATHS

From ancient times through the Middle Ages, different nations of the Mediterranean and Near East used aromatic herbal baths widely for medical purposes. Over time this practice, which began in Ancient Egypt and Babylon and was further developed by famous Greek scholars and practitioners, spread throughout Southern Europe and the Near East and, latterly, influenced medical practices in Western Europe.

Herbal baths, which were highly valued by the ancients, are not completely forgotten today. Modern science proves that bathing can relieve muscle tension, dilate blood vessels, and slow the heart rate.

Herbs can contribute to these benefits. Bathing with infusions of fragrant herbs is used traditionally to treat many diseases, may eliminate physical and mental tiredness, and is beneficial for the skin and hair.

Since the late 1960s, owing to the widespread use of phytotherapy in the United States and Europe, herbal baths have become even more popular. Many unique methods of application of herbs in our daily life have been developed, and today a number of medical preparations and cosmetics are produced with herbs and sold throughout the world. Soaps, shampoos, and shower gels containing various herbs and other plant-derived aromatic substances are now widely available for bathing or hand washing.

However, volatile oils are not the only agents working in an aromatic bath. Fragrant plants contain numerous other constituents (tannins, flavonoids, alkaloids, etc.) that are also therapeutic in an herbal bath. The infusion of a whole fragrant herb is often considered to be more effective than its pure volatile oil.

Despite the number of modern works on phytotherapy, compared with the ancient medical manuscripts, they contain limited information about aromatic baths. Many ancient recipes have been forgotten. To revive them, one must refer to the ancient books on medicine and pharmacy. These sources contain numerous recommendations that might be of interest to modern physicians and could enrich modern herbal medicine.
§ 6. HISTORY OF
AROMATIC BATHS

During the Middle Ages, a cult of bathing was formed in Azerbaijan, Persia and Turkey. Contemporary sources attribute great healing properties to bathing. An 11th century Iranian writer, Keykavus Ziyari, wrote, "Since architects began to raise buildings, they created nothing better than a bathhouse." [43]

In order to maintain health, it was recommended that a person visit a bathhouse at least two or three times each week. Bathhouses served as both beauty parlors and health clinics. Medieval Middle Eastern bathhouses usually offered services such as bathing and massage with the application of aromatic oils. Many large public bathhouses had a staff of masseurs for this purpose, because it was believed that massage alleviates physical and mental tiredness, and improves circulation.

Aromatic oils were also used to treat various diseases. For example, thyme ointment (Thymus spp., Lamiaceae) was applied for rheumatism, and an ointment with henna (Lawsonia inermis L., Lythraceae) or onion (Allium cepa L., Liliaceae & Alliaceae) was used for herpes. The staff of many bathhouses included a barber who cut hair and shaved the customers, and then applied henna (Lawsonia inermis L., Lythraceae), dyer's woad (Isatis tinctoria L.,

Brassicaceae), or other dyes to their hair.

After a bath and a massage, visitors to the bathhouse could rest and relax in a special room where they would drink coffee or tea with fragrant herbs that included peppermint, thyme, sweet marjoram, rose petals, cardamom (Elettaria cardamomum (L.) Maton var. cardamomum, Zingiberaceae) or cloves (Syzygium aromaticum (L.) Merr. & L.M. Perry, Myrtaceae). In Azerbaijan, customers could also order sweets, dinner, or a pipe. Stays in the bathhouse were so pleasant that some people would spend all their free time there; some even slept there. As a rule, after a visit to the bathhouse, people felt rejuvenated, attractive, healthy, strong, and energetic.

The Azerbaijani authors of the Middle Ages suggest numerous plants to use in one's bath, including grape leaves (Vitis vinifera L., Vitaceae), chamomile (Matricaria recutita L., Asteraceae), pomegranate (Punica granatum L., Lythraceae & Puniceaeae), basil (Ocimum basilicum L., Lamiaceae), anise (Pimpinella anisum L., Apioideae), violet (Viola sororia Willd., Violaceae), almond oil, garlic (Allium sativum L., Liliaceae & Alliaceae), and barley (Hordeum vulgare L., Poaceae) [3].

Bathing queen Shirin (the 16th century Tabriz miniature).
Ancient manuscripts provide evidence that during the 9th-14th centuries the aromatic oils of about 50 species of herbs and flowers were used for treatment through bathing and external application. Medieval sources provide information about methods of preparation and the curative properties of these baths.

Azerbaijani bathhouses used fragrant substances in several ways, including:

1. Aromatic decoctions or infusions were added to the water in a bath. For example, Mumin (d. 1697) wrote that bathing in a decoction of pine needles (Pinus spp., Pinaceae) is good against diseases of the uterus and rectum.

2. Ointments containing aromatic herbal oils were applied to patients' bodies after or before bathing. For example, it was recommended to massage a patient's body with the ointment of pine pitch, euphorbium juice (from Euphorbia spp., Euphorbiaceae) and guggul (resin of Commiphora wightii (Arn.) Bhandari, Burseraceae), which was considered a good cure for stones in the bladder if applied after bathing with a special decoction. Some caution must be taken when using euphorbium juice, which is caustic.

3. Usually, fragrant fruits or perfumes were placed near a bathing person. It was believed that aromatic substances strengthen the heart and have a sedative effect. "[Hot] water in a bath should not cover the patient’s breast and heart," wrote Ibn Sina. It was recommended to bathe as long as the skin continues to redden and swell.

Bathing queen Shirin. A 17th century miniature illustrating a poem by Nizami Ganjavi (1141-1209), famous poet from the city of Ganja (present-day Azerbaijan Republic).

However, one was advised to stop bathing after the skin began to pale.

According to the folk medicine of Azerbaijan, after a hot bath or nap, one was advised to apply rose, narcissus (Narcissus spp., Liliaceae & Amaryllidaceae), or violet aromatic oil to the face and body. Women especially liked these oils since they make the skin tender and silky when applied after bathing.
§ 7. BATHHOUSES

The medieval Azerbaijan bathhouse was a very beautiful architectural object, usually a stone building with arches, domes, and beautiful gates. In Azerbaijan, the inner part of the public bathhouse consisted of the entrance hall and one or several large bathing halls with pools. There was also a cloakroom and rooms for rest. Bathhouses were heated by hot steam circulated in pipes under floor and walls. Several large medieval bathhouses are still preserved in Baku, including the Haji Gayib Bathhouse (built during the 15th century C.E.) and the Gasim bey Bathhouse (built during the 17th century C.E.), which now houses a museum of medieval pharmacy. In medieval times, the bathhouses would serve men one day, and women the next.

The Shirvanshah Palace within the perimeters of the "Inner City" (Ichari Shahar) also had a large bathhouse dating from the 15th century, but it lies in ruins now.

Medieval Azeri sources attribute great healing properties to bathing. In order to maintain good health, it was recommended that a person visit a bathhouse at least two or three times each week. Medieval authors suggested several plants to use in one's bath, including grape leaves, chamomile, pomegranate, basil, anise, violet, almond, garlic and barley.

All public bathhouses had masseurs who applied healing and aromatic oils on the visitors' bodies. It was also possible to get meals, drinks and medicine, and you could even rest or sleep in the bathhouse.