

TURKISH MEDICAL HISTORY OF THE SELJUK ERA

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TURKISH MEDICAL HISTORY OF THE SELJUK ERA

Prof. Dr. Ali Haydar Bayat*

THE GREAT SELJUK ERA

The Oguz tribe, who were a pan of the Gokturk Empire that was disbanded in 744, had settled in an area that was under Samanogullari's rule in Mawaraunnahr, Khwarezm and Khorasan. However, after a dispute, Seljuk Bey migrated with his followers to the banks of the Jayhun River. The Seljuks after they won the war of Dandanakan against the Gaznevids, established the Great Seljuk State in 1040 and conquered vast lands (Middle Asia, India, Iran, Iraq, Syria and Anatolia).¹

The scientific and civil life of the Great Seljuk cannot be separated from the Islamic civilization. During this era, although born and raised in Turkish states, medical greats like Ibn Sinā and Bīrūnī, who wrote their works in Arabic, the scientific language of the era, were accepted by other Muslim nations. In an era when the idea of community was more important, it was not expected for them to declare their nationality. Together with this, scientists who were able to travel without any political boundaries and to settle in places where they were appreciated were very common for the era. For this reason, it would be incorrect to make an observation about their nationality from where they lived. This is why it is necessary to be tolerant about the nationalities of the scientists of the Great Seljuk Era.

There was a doctor, Ibn Tilmīz working for the Sultan Sancak.² Sultan Masud's doctor. Abu al-Barakat from Baghdad worked in the palace and had been awarded with a *hil'at*, a robe of honour.³ During the era of the Sultan Malikshah, there were such doctors as Said b. Hibatullah, who wrote *Kitab al-Mugnī fī al-Tibb* and Ibn Jazala who wrote *Kitāb Takvīm al-Abdān and Minhāj al-Bayan fī mā Yasta'milah al-insan*.⁴ Abdullah ibn al-Mudaffar al-Bahālī from Andalusia had been the doctor of Mahmud the son of Sultan Malikshah.⁵ One of the most important books on Pharmaceuticals that was written in this era was *Kitab al-Abniya 'an Haqayiq al-Adviya*.⁶

Hospitals that existed in the Muslim world before the Seljuks were developed and spread by them. However, we have little information on Seljuk hospitals. Among these there are the hospitals and madrasas that were built by order of the vizier to Sultan Sancak, Ahmed Kāshi, in *Kashan, Abhar, Zanjan, Gence and Errān*,⁷ hospitals in *Kirman* (1281) and *Bardasir* (11th and 12th century),⁸ and care centres for the blind and

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¹ Ali Sevim, *Suriye ve Filistin Selcuklulari Tarihi*, Turk Tarih Kurumu, Ankara 1983, p. XI.

² Osman Turan, *Selcuklular Tarihi ve Turk-Islam Medeniyeti*. Turk Kulturunu Arastirma Enstitusu. Ankara 1965, pp. 243-244.

³ Nihat Keklik, *Turkler ve Felsefe*. Istanbul 1986, p. 76.

⁴ Ibrahim Kafesoglu, *Sultan Meliksah*, Istanbul 1973, p. 172.

⁵ A. Suheyli Unver, "Selcuklular Zamaninda Seyyah Hastahanenin Muessisi", *Turk Tip Tarihi Arkivi*, VI/18, Istanbul 1940, pp. 70-71.

⁶ Bedi'ullah Debiri Nejād, "Selcuklular Devrinde Kulturel Durum", *Erdem*, III/8, Ankara 1987, p. 489.

⁷ Nasruddin Kirmani, Nesāimu'l-Eshar (Publ. by Celaleddin Urmevi), Tehran 1338. p. 65 [Osman Turan, *Selcuklular Tarihi ve Turk-Islam Medeniyeti*, p. 250].

disabled in *Musul* (1159). Additionally the vizier Kunduri, on order of Tugrul Bey restored hospitals such as the Adud al-Dawla in Baghdad.⁹ They also created field hospitals for the military, where doctors, medical personnel, wounded, medicines and medical supplies were carried by camels.¹⁰



Figure 1. A pregnant woman miniature from Mansur b. Muhammad b. Ahmad's book *Tashrih Badan al-Insan* (The image was introduced by the editor).

The Turkish Seljuks, in the beginning, acted as the western arm of the Great Seljuk State, but then became independent and created its own identity. The science of medicine in the Turkish Seljuks was not of their own but a continuation of the experience and knowledge of the Islamic medicine through the Seljuk geography.

MEDICINE DURING THE TURKISH SELJUKIAN PERIOD

After the victory of Alp Arslan in Malazgirt in 1071, the doors to Anatolia opened for many Turks to migrate through. By the 13th century Anatolia had become the homeland to one third of the Turks. Even Europeans started to call Anatolia, *Turkiye*.

As Anatolia was an economical bridge between east-west and north-south, the economic and political policies of the sultans, the lowering of the customs tax, the not getting taxes from wheat and metalwork, the guaranteeing of the safety of the international trade routes and the caravanserais on them, the guaranteeing to the traders the income of the country grew parallel to the agricultural and industrial production." The budget of the state was 27 million dinars (gold), compared to 3 million in France and 4 million in England.¹¹ The treasury that was stored was used for making public works.

⁸ Erdogan Mercil, *Kirman Selcuklulari*. Ministry of Culture, Ankara 1980, pp. 235, 354-355, 362-363.

⁹ Mehmed Altay Koymen, *Tugrul Bey ve Zamani*, Ministry of Culture, Ankara 1976, p. 121.

¹⁰ Imad ad-Din Katib al-Isfahani, *Irak ve Horasan Selcuklulari Tarihi* (Trans. Kivameddin Burslan), Turk Tarih Kurumu. Istanbul 1943. pp. 129-230; A. Suheyl Unver, "Selcuklular Zamaninda Seyyah Hastahanenin Muessisi". pp. 70-71.

¹¹ Osman Turan. *Selcuklular Zamaninda Turkiye*. Turan Nesriyat Yurdu, Istanbul 1971. p. XXVI.

The statement by Ibn Havkal in the 10th century, "In the Islamic countries, the rich are spending their money for their own pleasures, where in Turkistan, the rich population is using their wealth for religion and charity,"¹² and the statement by Ibn Batuta in the 13th century,¹³ "Abundance in Damascus, compassion in Anatolia" has been observed.¹⁴ With this understanding, Anatolia amid the confusion at the beginning and end of the middle Ages, started to see an economical and cultural growth not seen before.¹⁵ Cities, whose population exceeded one hundred thousand on important caravan routes like *Konya*, *Kayseri*, *Sivas*, became important centres. Mosques, madrasas, soup kitchens for the poor, lodges for the dervishes, bridges, inns, hammams and hospitals were built, and the social status of the people was raised. Especially during the reign of Kilic Arslan II and Aladdin Qaykubat many scientists and artists were invited to live in Anatolia, and these men, by moving in temporarily or permanently, helped the progress of science.

From the architectural works that have survived to the present, those that are important for medical history are the *dar al-shifas* (hospitals) that prove the civilized status of the Anatolian Seljuks.

Hospitals:

During the Anatolian Seljuk time with its show of economic and cultural progress, hospitals called *dar al-shifa*, *dar al-sihha* or *bimaristan* was opened in every city. Medical assistance was given to those who got sick at caravanserais¹⁶ and soup kitchens for the poor. These hospitals that were built by the royal family and supported by foundations were able to do their duties over a long period without becoming a financial burden on the state. Medical treatments were given free of charge and doctors, ophthalmologists, surgeons and pharmacists worked in these hospitals. Some of the many Seljuk hospitals that have made it to the present are as follows:

Mardin: Necmeddin Ilgazi Hospital (Maristan) (502-516 H/1108-1122): It was started by the Sultan of Necmeddin Ilgazi of Artuq and completed after his death in the name of his brother by Eminateddin Ilgazi. The hospital institution consisted of a mosque, a madrasa, a hammam and a fountain. The institution was built over a vast land and the mosque, madrasa, hammam and fountain has survived until today in ruins. The hospital was in the area south of the hammam.

Kayseri: Gawhar Nasiba Medical Madrasa and Hospital (Maristan) (602 H/1205-1206): It is the first medical building the Turkish Seljuks built in Anatolia. The ruler of the Seljuks Giyasaddin Qayhusraw, through the will of his sister Gawhar Nesibe Sultan who died at a young age, built the complex with a hospital (*shifaiye*) on the west and a medical madrasa (*giyasiya*) on the east.

¹² Osman Turan, *Selçuklular Tarihi ve Türk-Islam Medeniyeti*. p. 276.

¹³ Ramazan Sesen, *İslam Coğrafyacılarına Göre Türkler ve Türk Ülkeleri*. Türk Kültürünü Araştırma Enstitüsü, Ankara 1985, p. 209.

¹⁴ Ibn Batuta, *Seyahatname-i Ibn Batuta* (Trans. Mehmed Serif), Matbaa-i Amire, İstanbul 1922, p. 310.

¹⁵ Claude Cahen, *Osmanlılardan Önce Anadolu'da Türkler* (Trans. Y Moran), E yayinlari, İstanbul 1979, p. 169.

¹⁶ Osman Turan, "Celaleddin Karatay, Vakıfları ve Vakfiyeleri", *Belleten*, XII/45, Ankara 1948, p. 58.

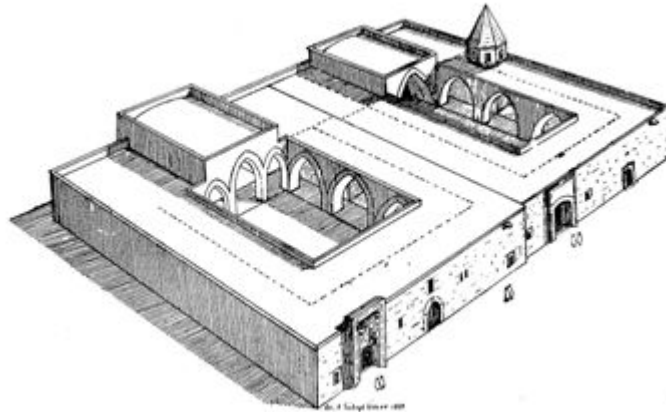


Figure 2. Gawhar Nasiba Sultan Sifahana (The image was introduced by the editor).

The two buildings were connected by a corridor that was 1.5 x 11 meters and the hospital was 40 x 42 m (1680m²) and the madrasa was 28 x 40m (1120m³). Both sections had a plan that included a pool in the middle, a courtyard that was surrounded with pavilions and four antechambers. Together with the rooms around the courtyard, 18 cells that were discovered in the latest excavation on the western wall of the hospital were restored. As it was traditional among the Anatolian Seljuks to bury the founder of the place in the complex, one of the rooms in the medical madrasa with an octagon pyramid roof was built for Gawhar Nesibe.

Sivas, Izzeddin Qaykavus Hospital (Dar al-shifa) (614 H/1217): The hospital built by Izzedin Qaykavus in Sivas in 1217, together with its destroyed parts (54.65 x 61.90m) was about 3400m³ and the largest of the Seljuk hospitals.

The hospital was built like a madrasa with antechambers and a courtyard. The 690m² courtyard was covered with stone and surrounded with 30 rooms with porches. The mausoleum of the donator Izzeddin Qaykavus, which is located inside the hospital, was built with the special Seljuk art of brick lay and mosaic tile.

The foundation deed, dated 1220, is the only example from the Seljuk hospitals that has survived to the present. This is why it is very important. From this foundation deed we are able to gather information on the hospital staff and how the hospital was run. The administration of the hospital foundation was given to the palace treasurer and founder of the Cankiri hospital, Camal al-din Farruh. The administrators decided on the wages of the experienced, well performing doctors, surgeons, ophthalmologists and pharmacists, and provided the raw material for the making of medicine. They also decided on the wages of the various workers in the hospital. Five farms, 7 pieces of land and 108 shops devoted to the foundation covered an area as big as a couple of villages and the money generated from these areas were used in maintaining the hospital. The leftover money was used to buy more income generating sources.¹⁷

¹⁷ Ali Haydar Bayat, "Anadolu Selcuklu Hastane Vakfiyelerinin Tek Ornegi Olarak Sivas Darussifasi Vakfiyesi", *Turk Kulturu*, XXIX/333, 1991, pp. 5-19.

Divrigi: Turan Malak Hospital (Dar al-shifa) (628 H / 1228): The complex consisted of a mosque and a hospital. The mosque was built by Ahmed Shah, the ruler of the Divrigi area of the Menguceks, and the hospital was built by his wife, the daughter of the Erzincan Bey, Turan Malak Sultan.

This one and only Ulucami and hospital complex was built on the east side of the city on sloping land. It is very fortunate for Anatolian Turkish art that this building has survived.

The hospital had a plan of a madrasa with a courtyard with four antechambers and due to the harshness of the climate, it was covered with three vaults supported by four columns, and was lit up with a large lamp. There were seven rooms around the courtyard and an octagon pool under the place where the light was hanging. There was a stone stairway in the south corner that led to the mezzanine and there was a big hall and two rooms across the front. In the northeast corner of the courtyard, where the gate to the mosque and hospital was located was the mausoleum of Turan Melek.

Konya and Aksaray Hospital (Dar al-shifas): It is known that in Konya and Aksaray, as they were the capitals of the Anatolian Seljuk State and adorned with many monuments, there were three hospitals. The first of these three hospitals that has not survived to the present was probably commissioned by Kilic Arslan II and became the *Mâristan-i Atik*.

Dar al-shifa-i Alâi, which was commissioned by Aladdin Qaykubad, was located on the north side of the Aladdin hill, near the Seljuk kiosk, just in front of the Ertash gate, on the left side of the Farhuniye/Sûd Tekke street.

The third hospital in Konya was commissioned by one of the viziers of Izzeddin Qaykavus II, the religious judge Izzedin Muhammed. The complex had a mosque, a madrasa and a hospital. The hospital unit was funded from revenues from the Kestel and Kocmar villages near Kadinhani. In 1254 when Izzeddin Muhammed reorganized the foundation, the hospital was referred to as *Maristan-i Atik*.

We do not have much information on the hospital that was established in Aksaray circa 13th century.

Cankiri, Camal al-din Ferruh Hospital (Dâr al-afiye) (633 H/1235): This hospital was commissioned by the foundation administrator of the Sivas hospital, Atabey Camal al-din Ferruh. The only remaining parts of the hospital are the inscription made by Atabey Camal al-din Ferruh and a grail with two intertwined snakes.

Kastamonu, Ali Bin Suleyman Hospital (Mâristan) (671 H/1272): It was commissioned by Muhazzibuddin Ali, the son of one of the Seljuk viziers Muinaddin Suleyman in 1272 in Kastamonu. After a terrible fire about one hundred and fifty years ago only the front where the door was and some of the sidewalls remain.

Tokat, Muinuddin Suleyman Hospital (Dar al-shifa) (1255-1275): One of the buildings of the complex (madrasa, hospital) that was built by one of the statesman of the Seljuk State Parvana Muinuddin Suleyman in Tokat was a hospital. From the complex only the madrasa, now used as the Tokat Museum, has remained. Probably the hospital was one of the adjacent buildings to the madrasa.

Amasya, Anbar bin Abdullah Hospital (Dar al-shifa) (708 H/1308-9): It was built during the era of the Ilhanı ruler Olcayto Mahmad, around the years 1308/09, by Anbar bin Abdullah, the slave of princess Yildiz Hatun. The hospital was built on the side of the road next to the Yesilirmak river and its dimensions were 24.58x32.90m using a madrasa plan and with an antechamber and ten rooms.



Figure 3. Amasya Gokmadarasa (The image was introduced by the editor).

Besides being a hospital complex, it was also known as a place that trained doctors. We have information about the doctors that were assigned here during the Ottoman era. Some of these doctors were Sukrullah (1488), Sabuncuoglu Serefeddin (after 1465), who worked here for ten years and created many valuable pieces of work for Turkish medical history, and Halimi (1516).

Hot springs:

Due to its geological structure Anatolia has rich healthy hot water sources. These hot springs that had been mentioned since antiquity by writers such as Homer, Calinos and Strabon were used for healing purposes. Hot springs that were left from the Roman and Byzantium eras were still being used by the Turkish Seljuk State and new springs were opened for public use.

According to the 14th century writer Omari, there were over 300 thermal springs that the public used for healing purposes. The most famous was the Ilgin hot springs built by Aladdin Qaykubad in 1236 on top of the thermal springs that had been known about since the time of the Roman Justinian. This hot springs area that has remained intact along with its inscriptions consisted of two hammams with a pool under its domed roof.¹⁸ We can also mention the other hot springs of the time as follows; *Agamemnun* in Izmir, *Haymana*, *Kizilcahamam* in Ankara, *Chardak* (1175) in Eskisehir, *Yoncali* (1233) in Kutahya, *Kizozu/Aslanagzi* (1256) in Havza, *Karakurt* (1135) in Kirsehir, *Ilica* in Erzurum and *Karakaya* in Ayas.¹⁹

¹⁸ Ali Haydar Bayat, "Anadolu Selcuklu Donemi Darussifalari Uzerine Toplu Bir Degerlendirme", *I. Uluslararası Selcuklu Kultur ve Medeniyeti Kongresi, Bildiriler, I*, Selcuk Universitesi, Selcuklu Arastirmalari Merkezi, Konya 2001, pp. 121-148.

¹⁹ Bedi Sehsuvaroglu, "Anadolu Kaplicalari ve Selcuklular ", *I. U. Tip Fakultesi Mecmuasi*, year 1957, issue 2, p. 305-325; A. Suheyl Unver, "Kutahya'da Selcuklulardan Kalma Yoncali Ilicasi 631 (1233)", *Turk Tip Tarihi Arkivi*, VI/21, Istanbul 1943, p. 29-34; A. Suheyl Unver, "Selcuklular Zamaninda ve Sonra Anadolu Kaplicalari Tarihi Uzerine ", *CHP Konferanslari Serisi*, Kitap 8, Ankara 1939. p. 89-109, Riza

Hamams also play an important role in the development of health areas during the Seljuk time. Many hammams were built by foundations, sultans and statesman for the public, for both men and woman.²⁰

Medical Education:

In the Islamic world, in the Mustansiriye Madrasa in Baghdad, other than the professors that taught Islamic science, the existence of *shayh al-tibb* professors that taught 10 students²¹ and the announcement that medical classes were being given in the *Mansuriyya* and *Muayyadiya* madrasas in Cairo, show us that medicine was taught in some of the madrasas. Also, Nuaymi's introduction of three medical madrasas in Damascus (*Dinvariyye*, *Dunaysiriyya* ve *Labbudiyya*), illustrates that although few, there were independent medical schools.²² Private lessons were also given. Damascus doctors Muhazzabaddin and Muhaddab (1232) had left instructions that after their deaths that their homes and books were to be used for medical studies.²³



Figure 4. A medical treatment miniature from Sharaf al-Din Sabuncuoglu's book *Jarrahiyyat al-Haniya* (The image was introduced by the editor).

There is no proof that medical classes were given in Turkish Seljuk madrasas. The Seljuk hospitals in Anatolia, on one hand being a health facility were also places where doctors were educated through a master-apprentice relationship. Two documents regarding the appointment of doctors in hospitals have survived to the present. In one of these, the doctor Burhanaddin Abu Bakr, who was appointed to succeed on the death of doctor Izzaddin of the Konya Hospital, was told to take care of the sick with kindness and compassion not to discriminate between the sick and the insane, and that his salary would be paid by the

Reman, *Balneoloji ve Sifali Kaynaklarımız*. Istanbul 1942; Enis Karakaya, "Kaplica", *Turkiye Diyanet Vakfi Islam Ansiklopedisi*, XXIV, Istanbul 2002, pp. 351-352.

²⁰ A. Suheyl Unver, "Konya'da Selcuklular Zamanidaki Hamamlara Dair", *Turk Tip Tarihi Arkivi*, VI/17, Istanbul 1940, pp. 83-86.

²¹ Abdullah Kuran, *Anadolu Medreseleri*, vol. 1, Ankara 1969, p. 4; Osman Turan, "Selcuklu Devri Vakfiyeleri III", *Belleten*, XII/45, Ankara 1948, p. 75.

²² Ismail Yigit, "Memluklu Donemi (1250-1517) Ilmi Hareketine Genel Bir Bakis". *Turkler*, vol. V, Yeni Turkiye Yayinlari, Ankara 2002, pp. 750, 751, 752 [Nuaymi, *ed-Dâris fi Târihi'l-Medâris* (publ. by Cafer el-Haseni), vol. 1, Beyrut 1405, p. 54].

²³ Osman Turan, *Selcuklular Tarihi ve Turk-Islam Medeniyeti*. p. 241; *Dogu Anadolu Turk Devletleri Tarihi*, Turan Nesriyat Yurdu, Istanbul 1973, p. 220; *Turkiye Selcuklulari Hakkinda Resmi Vesikalar*, Turk Tarih Kurumu. Ankara 1958, p. 54.

foundation of the hospital. The second document stated that due to Sharafaddin Yakub being a talented doctor he was appointed to the hospital, that he should not mix the medicines together other than what was stated in Medical books, that he should not discriminate between the rich and the poor, and that he should enlighten the students with precise proofs during their education at the hospital.²⁴

Physicians and Their Work:

We are able to gather information on the Turkish Seljuk doctors from history books, publications, literature, and from their writings that have survived to the present. Although some present publications state that the position of head doctor was given, there are no documents to prove this.²⁵ Seljuk rulers appointed some of the valuable doctors for their own health problems when they saw fit.

From sources that have survived until now, we can see that in the Anatolian Seljuk era, due to developments in the medical field, there were many doctors active in the cities. Especially during the rule of Kilic Arslan II and Aladdin Qaykubad, there were many doctors invited to Anatolia. Because of their wide range of knowledge, their reputation and intellectual personalities, some doctors were sent on political missions to foreign countries by their administrators (i.e. Abu Bakr bin Yusuf).²⁶

Some of the doctors worked in hospitals, but some of them travelled from city to city, practicing medicine. For example the doctor Saduddin Mes'ud, in a letter he wrote to a friend, mentioned going to Sinop, Kastamonu, Amasya and Niksar to heal patients and that he longed to return but that he had to go to the Canik area to cure some patients. We learn from the narratives of Evhadudduddin Kirmani that in Anatolia there were ear cleaners that travelled with a copper flask that contained oil and alcohol,²⁷ similar to the quack eye doctors that roam the same areas today performing cataract operations.

Well known doctors with good reputations were addressed as: "*Malik al-Hukama, Sultan al-Atibba, Platon al-dahr Hippocrat al-Asr, Masih al-zaman, Fahr al-Millat wa al-Din...*"²⁸

There were many doctors who created works during the Anatolian Seljuk era, who were invited by the rulers to come to Anatolia temporarily to do their job. Some of these doctors are as follows:

Hakim Barka/Baraka: He is the first doctor to write a medical book in Turkish, *Tuhfa-i Mubarizî*. In the preface he states that he first wrote the book in Arabic under the name *Lubab al-Nuhab*, and then he translated it into Persian under the name *Tuhfa-i Mubârizî*. He then submitted this book to the Amasya Governor of Aladdin Qaykubat, Mubaruziddin Halifat Alp Gâzi. The Governor liked the book but stated, "If it

²⁴ Osman Turan, *Türkiye Selçukluları Hakkında Resmî Vesikalar*. Turk Tarih Kurumu, Ankara 1958, pp. 51-52, 53. 67-68; Osman Turan, *Selçuklular Tarihi ve Türk İslam Medeniyeti*, p. 251.

²⁵ Ali Haydar Bayat, *Osmanlı Devletinde Hekimbasiilik Kurumu ve Hekimbasiilar*. Atatürk Kultur Merkezi Baskanligi, Ankara 1999, p. 3; A. H. Bayat, "Mevlana'nin Dostlarindan Tabib Ekmeleddin Mueyyed el-Nahcuvani", *III. Milli Mevlana Kongresi (12-14 Dec. 1988) (Tebliğler)*, Selçuk Üniversitesi, Konya 1988, p. 233.

²⁶ Kamal al-Din Ibn al-Adim, *Bugyat al-Talab fi Tarih Halab* (Publ. by Ali Sevim), Turk Tarih Kurumu, Ankara 1976, p. 94.

²⁷ Mikail Bayram, "Anadolu Selçukluları Donemi Tababeti ile İlgili bazı Notlar". *Yeni Tıp Tarihi Arastirmalari*, issue 4, Istanbul 1994, p. 151.

²⁸ Hasan b. Abdi'l-Mu'min el-Hoyi, *Gunyetu'l-Kâtib ve Munyetu't-Talib Rusûlmu'r-Resâil ve Nucûmu'l-Fazâ'il*, Publ. by Adnan Era, Ankara University Faculty of Theology, Ankara 1963, p. 13.

had been written in Turkish, it would have been an invaluable piece of work." Therefore, he translated it into Turkish. He also wrote the book *Kitab-i Hulasa dar 'ilm-i Tibb*.²⁹

Ekmeleddin Muayyad al-Nahcuvânî: Ekmeleddin, who was described to Mevlana as "our son whose self is pure and correct," was born in Nahcivan. We do not have the information of where he learned to become a doctor and when he came to Konya. We understand from the names given to him by the palace, statesman and Mevlana: *Malik al-huqama, wa'1-atibba: rais al-atibba; huqama-i jihan, sultân-i etibbâ-i zaman; iftihâr al-atibba; Calinus al-fadl, Aflatun al-tadbir, Calinus al-zaman; tadbir al-dahr, Eflatun al-zaman: Bokrat al-'asr*, that he was a well-respected doctor.³⁰

Abu Bakr b. az-Zaki el-Mutatabbib al-Konevî: We get most of the information from the works *Ravdat al-Kuttab* and *Hadikat al-Albab* that he wrote in 1279 from letters to Akmal al-din. From this we learn that he was a student of Akmal al-din, that he made medicine for the statesmen, that he cured an emir's son, that he found an impostor trying to be a doctor and that he had written a brochure *Bâb-i Munâzara-i Meyân-i Dil u Dimag* (the debate between the heart and brain).³¹

Gadanfar Tabrîzî: His real name was Abu Ishak Ibrahim b. Muhammad al-Ma'ruf bi-Gadanfar al-Tabrîzî (if there is not someone else with the same name at that time) and he was one of the doctors that worked with Akmal al-din on the deathbed of Mevlânâ to cure him. His copies of the writings of the commentary *Hâsil al-Masa'il* on Hunayn b. Ishak's (87)] *al-Masa'il fi't-Tibb li'l-Mutaallimin* and his commentary on Ibn Sina's *at-Isharat wa'l-Tanbihat, al-Tabi'yyat* part that he wrote in 1301-2 has survived until the present. We know two of his works that he reproduced. These are Bîrûnî's *Kitabu's-Saydana* and the criticism of Behmenyâr to Ibn Sinâ's *Envâr al-Afqâr*.³²

Hubays al-Tiflîsî: It is thought that he came to Anatolia when Kilicarslan II decked out Aksaray with mosques, madrasas, soup kitchens for the poor and bazaars, and when many scientists and merchants settled there from Azerbaijan. He has written about thirty books on topics such as medicine, language, literature, astrology, dream explanations and the pronunciation of words in the holy Kur'an. Although he has many works, he is not mentioned in Islamic sources. Among his medical works some examples that he wrote are as follows:

Adviyat al-Adviya: A book on Pharmaceuticals, the gathering of medicines, how to store, bum, cook and use the formulas of ink medicine and how they are made.

Ihtisaru Fusuli'l-Bukrat: An Arabic copy of Hippocrates' Aphorisms.

²⁹ Cevat Izgi, "Anadolu Selcuklu Tabibleri", III. Turk Tip Tarihi Kongresi, Istanbul 20-23 Sept. 1993, Bildirileri, Turk Tarih Kurumu. Ankara 1999, p. 220-221.

³⁰ Ali Haydar Bayat, "Mevlana'nin Dostlarindan Tabib Ekmeleddin Mueyyed el-Nahcuvani", III. Milli Mevlana Kongresi (12-14 Dec. 1988) (Tebliğler), Selcuk University, Konya 1988, pp. 231-262.

³¹ Feridun Nafiz Uzluç, "Anadolu Selcuklulari Hekimlerinden Zeki Oglu Ebubekir "Sadr-i Kunevi", Ankara Tip Fakultesi Mecmuasi, 1/3, 1947, pp. 91-99; German; "Ebubekr der Sohn des Zeki, Gennant Sadri Kunevi ein Arzt aus Zeit des Anatolischen Seldhukkenreiches", Acta Medica Turcica, 1/2, Ankara 1949, pp. 29-37; Abu Bakr Ibn al-Zaki. Ravzat al-Kuttab va Hadikat al-Albab (pub. Ali Sevim). Turk Tarih Kurumu, Ankara 1972, pp. 51-52 (139-149); Feridun Nafiz Uzluç (pub.); Mevlana'nin Mektuplari, Sebal Basimevi, Istanbul 1937, pp. 21-25; A. Suheyl Unver, "Turk Tip Tarihi Hakkinda Muallim Cevdet'in Bibliyografyasi", Muallim M. Cevdet'in Hayati, Eserleri ve Kutuphanesi (edit by Osman Ergin), Bozkurt Matbaasi, Istanbul 1937, p. 632; Cevat Izgi, "Anadolu Selcuklu Tabibleri", III. Turk Tip Tarihi Kongresi (Istanbul 20-23 Sept 1993), Bildirileri. Turk Tarih Kurumu, Ankara 1999, p. 229.

³² Cevat Izgi, "Anadolu Selcuklu Tabibleri", III. Turk Tip Tarihi Kongresi (Istanbul 20-23 Sept 1993), Bildirileri. Turk Tarih Kurumu, Ankara 1999, pp. 225-226; Cevat Izgi, "Gazanfer et-Tebrizi", Turkiye Diyanet Vakfi Islam Ansiklopedisi, XII, Isianbul 1996, pp. 433-434.

Kifayat al-Tibb: This work consisted of two books and 224 chapters. It was written in Persian and was presented to Melikshah.

Risāle fī Sharhi Ba'zi'l-Masai'l- li-Asbab and 'Alāmāt Muntahāba Mina'l-Qanūn: It is a pamphlet that explains the reasons and symptoms of illnesses, using examples from ibn Sina's *al-Qanūn*.

Other works include *Sihhat al-Abdān*, *Takdīm al-'Ilac* and *Bazrakat al-Minhāc*, *Rumūz al-Minhāc ve Kunūz al-'Ilac* and *Lubabu'l-Asbab*.³³

Sherhu Kulliyat al-Qanūn and *Hallu Shukuki'l-Murade fī sharh al-Fahr al-Razi* written in 1253, Ibn Sina's *al-Ishārāt wa't-tanbihāt* in his book *Zubdat al-Nakz ve Lubāb al-Kaff*.³⁴

Abdullah Sivāsī: He lived in the 14th century and was known for his summary of the works of Hippocrates' *Aforizma*, Ibn Abu Sadik en-Nishāburi's commentary in his book *Umdat al-Fuhūl fī Sharh al-Fusūl*, written in 1314 in Aksaray.³⁵

Ali Sivāsī: He lived in the 14th century and is known for his book *Kitābu Iksīr al-Hayāt fī Talhisi Kava'id al-Mu 'ācelāt* that he wrote for the Amasya princes' tutor, Emir Yashbak.³⁶

Tācuddin Bulgarī: He was one of the students who came from the Volga Bulgarian Turks who had come to the Islamic states for scientific education. He was sent in his older age as an ambassador to Baghdad by Giyasaddin Qayhusrav II. He has one book, *Muhtasar fī Ma'rifat al-Adviyat a'l-Mufrada*.³⁷

Muhazzibiddin bin Hubal (1213): He was a student of the famous doctor, Abu'l-Barakat from Baghdad. He was praised highly by Allatshahi Ibrahim and made a fortune when he returned to Damascus. One of the doctors that tried to cure Sultan Aladdin Kaykubat when he was in Malatya, Izzeddin ibn Hubal was probably his son. His book, *al-Muhtar fī'l-Tibb*, was used as a main reference book during his time.³⁸

Other than these doctors whom we know about from their works, there are also those who we know about from their being in the sultan's service such as: Hasnun, Faridaddin Muhammed Jājarmī, Izzeddin ibn Hubal, 'Isā, Jarrah Vāsīl, Abu Sālīm b. Karāya, Safiyuddawla, Rakkalī Ridvan bin Ali (1247),³⁹ Taqi al-din Abu Bakr of Ra's al-Ayn,⁴⁰ and Aladdin of Erzincan.⁴¹ There are those who had also been mentioned for being

³³ Cevat Izgi, "Anadolu Selcuklu Tabibleri", III. Turk Tıp Tarihi Kongresi, Istanbul 20-23 Sept. 1993, Turk Tarih Kurumu, Ankara 1999, s. 212-219; Cevat Izgi, "Hubays et-Tiflisi", Turkiye Diyanet Vakfi Islam Ansiklopedisi, XVIII, Istanbul 1999, pp. 68-270; Mikail Bayram, *Baciyān-i Rum*. Konya 1987, p. 40; Claude Cahen, *Osmanlılardan Once Anadolu'da Turkler* (Trans. Yildiz Moran), E Yayinlari, Istanbul 1979, p. 248.

³⁴ Cevat Izgi, "Anadolu Selcuklu Tabibleri", pp 224-225.

³⁵ Cevat Izgi, "Anadolu Selcuklu Tabibleri ", p. 228.

³⁶ Cevat Izgi, "Anadolu Selcuklu Tabibleri ", p. 229.

³⁷ Cevat Izgi, "Anadolu Selcuklu Tabibleri", pp. 219-220; Emine Uyumaz, "Sultan I. Alâeddin Keykûbad Doneminde Anadolu 'da Hekimlik Yapan Bazı Tabibler", *Yeni Tıp Tarihi Arastirmalari*, issue 4, Istanbul 1998, pp. 153-156.

³⁸ Ibn Ebi 'Useybia, *Uyunu'l-Enbâ fī Tabakatu'l-Étibbâ*, Daru'l-Sakafiye, Beirut 1987, vo. 11, pp. 334-336; Osman Turan, *Dogu Anadolu Turk Devletleri Tarihi*, p. 120.

³⁹ Ibn-i Bibî, *el-Evâmiru'l-'Alâ'iyye fî'l-'Umuri'l-'Alaiyye*, Turk Tarih Kurumu, Ankara 1956, p. 296; Translation, Ibn Bibi, *el-Evâmiru'l-'Alâiyye fî'l-'Umuri'l-'Alaiyye* (by Mursel Ozturk), Ministry of Culture 1000 Temel Eser. Ankara 1996, p. 312; Emine Uyumaz, "Sultan I. Alaeddin Keykubat Doneminde Anadolu 'da Hekimlik Yapan bazı Tabibler", *Yeni Tıp Tarihi Arastirmalari*, issue 4, Istanbul 1998, p. 153-154; Ali Sevim (Trans.), *Ibnu'l-Adim, Biyografilerle Seljuklular Tarihi (Bugyetu't-Taleb fi Tarihi Haleb) (Secmeler)*, Turk Tarih Kurumu, Ankara 1972, pp. 193-194.

⁴⁰ Kamal al-Din ibn al-Adim, *Bugyat at-Talab fi Tarihi Haleb* (Pub. Ali Sevim), Turk Tarih Kurumu, Ankara 1976, p. 94.

around the Sultan, such as Saraf al-Din Ya'küb, Burhan al-Din Abu Bakr, Sa'duddin Mas'ud, Badr al-din ibn Harirî, Badr al-din Jarirî, Shams al-din b. Hubal, Fahraddin Abu Bakr Ahmed b. Mikail bin Abdullah Konavî. There were also those doctors who had been temporarily invited to come to Anatolia. Abdullatif bin Yusuf el-Bagdâdî, who had been invited by Aladdin Davutshah of the Mencionuk at a high salary, wrote many books when he was in Erzincan.⁴² It is also known of a doctor in Konya named Mevlânâ Emir Hasan.⁴³ There was also Gabriel, Hasnun of Urfa (1227) and his student 'Isa, Shamon of Harput and Ahron who worked in Malatya. From libraries that kept written works in Sivas, Erzincan, Konya, Aksaray, the copied works of great doctors are proof that there was a scientific livelihood in these areas.⁴⁴

It is understood that a portion of these scientist had a very active life. For example the doctors from Konya Fahr al-din Abu Bakr Ahmed bin Mika'il bin Abdullah and Fahr al-din Abu'l-Barakat bin Abdussalam bin Mansur Mardîni,⁴⁵ pharmacist Kutbeddin Sancar bin Abdullah Atik al-Sâhib Aladdin Ata al-Melik Cuveynî al-Rûmî, had moved to Tabriz from Anatolia.⁴⁶ After the battlefield loss in Kosedag in 1241, there was a lot of activity in the Eastern cities and Doctor Imaduddin Malatî and other scientists moved from Malatya to Konya.⁴⁷

Pharmacists:

During Seljuk times, medicines were prepared and sold in herbal stores (*attar*). The medicines were prepared accordingly to the medical books and the main ingredients consisted mainly of plants from Anatolia. The rest of the raw material was obtained from India and other Islamic countries through the Spice and Silk Roads. Hospitals and caravanserais had their own little pharmacists.⁴⁸

Epidemics:

Throughout history one of the greatest disasters mankind has seen are epidemics. In their most critical times, they have killed millions, causing people to migrate, paralyzing workforces, agriculture and stockbreeding decline, all creating negative effects on the economy. The worst epidemics of the middle Ages were the plague, black death/peste noir, peste, pestis in the West, *tâun* in the Islamic world and *kiran, olet* among the Turks.

Because Anatolia is a bridge between the East and West, it has seen many epidemics throughout its history. The first great epidemic was seen in the Mediterranean countries during the 6th century, called the Justinian

⁴¹ Osman Turan, *Doğu Anadolu Türk Devletleri Tarihi*, p. 74, Ahmed Eflaki, *Ariflerin Menkıbeleri*. vo 1 (Trans. Tahsin Yazıcı), Milli Eğitim Bakanlığı Yayınları, İstanbul 1964, pp. 337-338.

⁴² Osman Turan, *Doğu Anadolu Türk Devletleri Tarihi*, pp. 64, 74.

⁴³ Ahmed Eflaki, *Ariflerin Menkıbeleri*. (Trans. Tahsin Yazıcı), vol II, Maarif Vekaleti, İstanbul 1954, p. 446.

⁴⁴ Cevat İzgi, *"Anadolu Selçuklu Tabipleri"*, pp. 232-233.

⁴⁵ İbrahim-Cevriye Artuk, 'Fahreddin el-Mardîni, II. *Türk Tıp Tarihi Kongresi (İstanbul, 20-21 Sept 1990), Kongreye Sunulan Bildiriler*, Türk Tarih Kurumu, Ankara 1999, pp. 187-189; İlhami Nasuhioglu, 'Artuktular Doneminde Bilim ve Kültür', *Dirim*. I/5, İstanbul 1976, p. 217.

⁴⁶ Ziya Musa Bunyatov, 'İbn al-Fuvatî'nin Talhis Macma' al-Adab fi Mu'cam al-Alkab Eserinde Belirtilen Konya Sultanlığının Gorkemli Sahislari', *VIII. Türk Tarih Kongresi (Ankara, 11-15 Oct. 1976) Kongreye Sunulan Bildiriler*, vol. II, Türk Tarih Kurumu, Ankara 1981, pp. 594-596.

⁴⁷ Mikail Bayram, 'Selçuklular Zamanında Anadolu'da Bazı Yoreler Arasındaki Farklı Kültürel Yapılanma ve Siyasi Boyutları', *Selçuk Üniversitesi Türkiyat Araştırmaları Dergisi*, issue 1, Konya 1994, p. 85; 'Selçuklular Zamanında Malatya'da İlimi ve Fikri Faaliyetler', *I-II. Milli Selçuklu Kültür ve Medeniyeti Semineri*. Selçuk University, Selçuklu Araştırmaları Merkezi, Konya 1993, p. 123.

⁴⁸ Erdoğan Mercil, 'Anadolu Selçuklularında Serbest Meslekler', *Cogito*. issue 29. İstanbul 2001. pp. 147-148; Osman Turan, *Türkiye*

Plague. It lasted three years and destroyed a great number of the population it hit. There are no records of the deaths and destruction in Anatolia but just in Istanbul about 16,000 died per day, which gives an idea of its destruction.

There were many epidemics in various places where the Seljuks ruled that came from Anatolia and foreign countries. Mostly epidemics started after military campaigns, sieges and famines. The main epidemics were: the plague that started in Istanbul; during the time of Suleyman Shah I (1078), killing 160,000 in four months; during the time of Kilicarslan I (1093), during the siege of Antakya, during the First Crusade (1098) when just from the French military 100,000 died; during the time of the Danismand ruler Malik Muhammed (1143), an epidemic in Malatya first killed poultry, then humans, mostly small children; during the military campaign to Cukurova of Mesud I (1153), a part of the Seljuk and Konya military; during the rule of Kihcarslan II (1178) a plague due to a famine in Syria, Iraq, Diyarbakir and Ahlat, the people were not able to bury their dead in time as the rate of death was too high; during the Third Crusade (1189), the French army had many casualties due to an epidemic stemming from the heat and famine; during the rule of Aladdin Qaykubad (1221), an epidemic in Konya, in 1244 in Malatya, in 1259 in Syria and in Anatolia due to a famine; and the Mongolian invasion that took place at the same time an epidemic in Mardin and Mayyafarikin (Silvan) all caused immense damage.

The reasons for the epidemics were not known, and reasons for the epidemics were explained by supernatural causes, as the people tried to stop the epidemic material and spiritual ways. In the Christian world, sacrifices, magic, religious ceremonies were performed and miracles were expected from saints. In the Islamic world they obeyed the saying of Hz. Muhammad, "Do not enter a place of plague, and do not leave it," creating a quarantine, but as they did not know the cause of the epidemics other from trying various medicines, they also tried superstitious beliefs.⁴⁹

Other than the already mentioned methods of treatment, herbal remedies were also used in scientific medication that was also used by the people. For example, garlic for prolonged fevers (*allium sativum*) or honey made into a paste; myrobalan (*fructus myrobalani citrinae*) for diarrhoea; a mix of honey and vinegar to lower fever; honey, garlic and yogurt for colds; eating of raw turnip to strengthen the eye; scammony plant for constipation; myrobalan roots (*radix scammoniae*) for diarrhoea; theriacs for intestinal pains; visits to thermal baths for skin diseases; drinking watered wine for reaction to weather changes; opium milk for over sleeping (opium, *succus papaveris*); hot springs for leprosy; blood letting for colds and visits to a hammam.⁵⁰

The most important part of the Anatolian Seljuk medical practice for Turkish cultural history is probably that it started to put medical practice into Turkish, and within the paradigm of Islamic medicine, the first Turkish works were produced. This started in 1233 when Doctor Baraka moved from Khwarezm to Anatolia and translated his own book *Tuhfa-i Mubârizî*, that he had written in Arabic into Turkish, and continued during the Beylik era when works written in Aydinoglu, Mentese, Karesi, Candaroglu Beyliks were in Turkish.⁵¹

Selcuklulari Hakkinda Resmi Vesikalar, p. 54.

⁴⁹ Fedâ Samil Arik, "Selcuklular Zamaninda Anadolu'da Veba Salginlari", *Tarih Arastirmalari Dergisi* 1990-1991, XV/26, Ankara 1991, pp. 27-57; Sezgin Gucluay, "Tarihte Ticareti Etkileyen Unsurlar", *Turk Dunyasi Arastirmalari* issue 126, 2000. pp 48-49.

⁵⁰ Ali Haydar Bayat, "Anadolu Selcuklulari Devrinde Konya'da Saglik Hayati". *Turk Kulturu*. XXVII/311, Ankara 1989. p. 174.

⁵¹ Ihsan Fazlioglu, "Selcuklular Doneminde Anadolu'da Felsefe ve Bilim" (*Bir Giris*). *Cogito*. Issue 29, Istanbul 2001, p. 164.

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