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THE ORIGIN OF *BIMARISTANS* (HOSPITALS) IN ISLAMIC MEDICAL HISTORY

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The word *Bimaristan* – which is of Persian origin – has the same meaning as hospital, as *Bimar* in Persian means disease and *stan* is location or place, i.e. location or place of disease.¹

Although it was known that the Prophet Muhammad was the first to order the establishment of small mobile military *Bimaristan*, and Rufaydah was the first female nurse to look after wounded Muslim followers in her mobile military tent², Noushirawy³ in his new book on *Islamic Bimaristans in the Middle Ages* mentioned that the first proper *Bimaristan* in Islam was built in Damascus by al-Walīd bin Abd el-Malik in 86 Hijri (707 CE). The aim of its building was treating patients and the care of affected chronic patients (as lepers and blind people, etc.) The leprosy patients were treated freely and given money. There was more than one physician in the *Bimaristan*. It is obvious that Noushirawy adopted what was mentioned in *al-Kāmel fī 'l-tārikh* of Ibn al-Athīr⁴ on this point specifically.

1. The *Bimaristan* system

The people who are interested in establishing any institution must set an administrative or technical system to be followed. Of course the physicians in the Islamic world put in mind to follow a precise system inside the hospitals so that it would be based upon academic graduation which fulfills two aims: First, the welfare of the patients to be dealt with their treatment according to the updated rules of medical treatment. Second, *Bimaristans* used for teaching medicine to the newly graduated physicians responsible to treat patients successfully. Therefore the *Bimaristans* in the Islamic world followed all the technical rules that fulfilled the two purposes together.^{5,6,7,8}

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Figure 1. *Madrasa* (school) and *Maristan* (hospital) of Sultan Qalawūn in Cairo, Egypt. Source: http://www.nmhschool.org/tthornton/mehistorydatabase/fatimid_mamluk_architecture_cairo.htm

Concerning the technical choice of a *bimaristanic* site, they used to choose the best location with regard to the health conditions. They preferred to build the *Bimaristans* over hills or by rivers. Al-Adhudī's *Bimaristan* is a good example of this; it was built by Adhud al-Dawla⁹ in Baghdad by the River Dejlāh (Tigris) and the water of the river flowed through its courtyard and halls and returned to pour into Dejlāh.

Harūn Al-Rashīd asked al-Rāzī to build the first general hospital, so al-Rāzī selected the place after putting few pieces of meat in different places in Baghdad to check the least spoiled one with the best fresh air.

Concerning organization, it was natural that the physicians comprehended the necessity of separating men and women: therefore they took into consideration as much as possible to divide the *Bimaristan* into two sections, one for men and the other for women. Each section was independent, each having large halls for the patients.

Concerning the administrative organization of the *Bimaristan*, it was as follows: each section contained a hall for each type of disease, while each hall had one physician or more and each group of doctors in a section had a chief doctor. The halls were specialized: a hall for internal diseases, another for splinted

patients (trauma and fractures), and another one for delivery, a special hall for each type of disease including communicable diseases.

Ibn Abī Usaybi'a described in his book *'Uyūn al-anbā' fi tabaqāt al-atibbā'* the halls of internal medicine which frequently included a section for the patients affected by fever and another one for patients having mania. All sections of the *Bimaristan* were equipped with all the medical instruments and apparatuses necessary for the physician.

Ibn Abī Usaybi'a tells us¹⁰ that 'Adhud al Dawla set a test for a hundred physicians, when he decided to build the Adhudi *Bimaristan* on the Western side of Baghdad, and he chose twenty four physicians out of the hundred to work in the *Bimaristan*.

The chief of all physicians in the hospital was called *Al-Saūr*. The administrative and medical system in the hospital was based upon using boys who worked as employees or health workers, assistants or dressers; some of them were servants and they cleaned the *Bimaristan* and cared after the patients when necessary.

According to this order and system, the *Bimaristan* was performing its medical job from a diagnostic point of view, disease definition and prescription of treatment. Moreover, they understood the necessity of adjoining a pharmacy to the *Bimaristan* to give out the drugs, which were given according to the physician's prescription, and the pharmacy was called *Al Sharabkhāna*.

And as it is the case today, they used to inspect the *Bimaristan*. This was the responsibility of an employee assigned by the minister or the Caliph and given the authority to enter the hospital to be acquainted with the patients' status and the care offered to them, the food given to them and whether the boys were serving them or not, whether the physician is performing his duty perfectly or is he neglecting it. This system assured the stay and continuity of the *Bimaristan* in a serious way that allowed it to work with a high competence technically, scientifically and administratively.

It is worth mentioning that each patient had his own card on which the physician recorded his observations while treating him or her. Also the physician had his own special register to record his observations on the diseases he was treating. The physician performed his experiments and tests according to his observations. If the physician faced any problem in any matter of diagnosis, he went to the head of his division or the chief physician. Frequently the physicians held meetings to discuss cases. Undoubtedly these discussions and consultations were considered as a small scientific conference of physicians. We do the same today!

In 1248 the Al-Mansūrī hospital was built in Cairo (Egypt) as a large hospital (with 8000 beds) and many specialized wards (general medicine, surgery, fractures, fever, eye diseases...) Al-Mansūrī hospital was provided a mosque for Muslim patients and a chapel for Christians. Admission was performed regardless of race, colour or religion. There was no limited time for in-patient treatment, and patients stayed till he/she was fully recovered (the sign of recovery was the ability to eat a full chicken). On discharge, the patient was given clothes and pocket money also. The same was done in Al-Nūrī *Bimaristan* in Damascus.

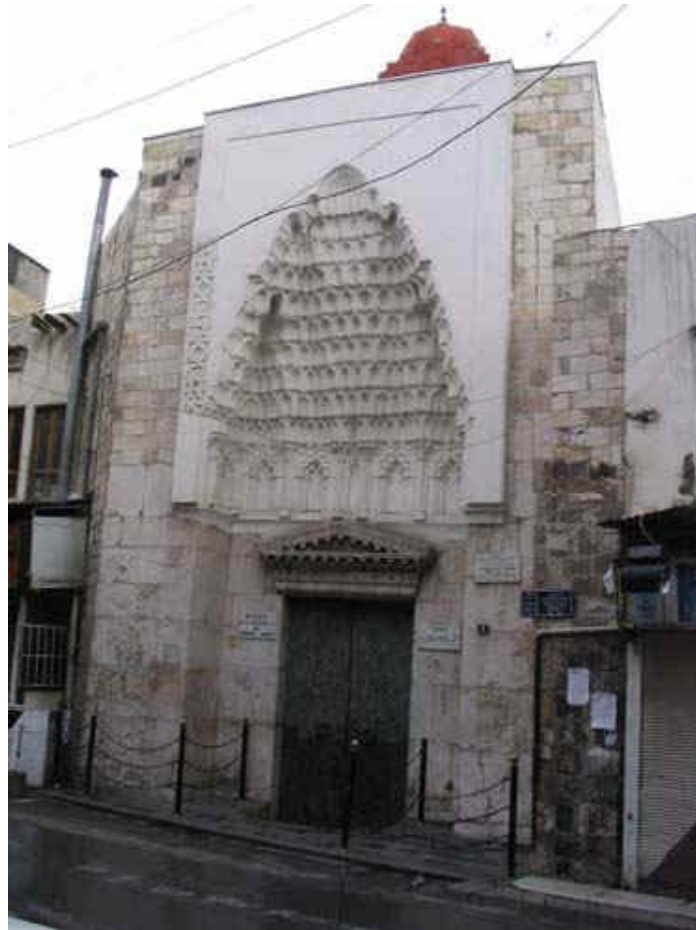


Figure2. Al-Nūrī Hospital in Damascus, Syria. Source:
<http://www.thymos.com/monument/syria/syria412.jpg>

We notice that the historians of Arab medicine wrote special long pages on the medical personalities about whom discussions were held to set the work system in the hospital between the physicians. There were shifts for the doctors, some worked in the morning and others at night, some worked a certain time in the morning and another period at night, so that they cared for the patient. At the same time they could get enough rest to allow them to continue working in the *Bimaristan*, supervise the treatment system and medical care of the patients.

Al-Maqrīzī mentioned in his *Khitat* (Plans)¹¹ that the patients were registered at the admission in the *Bimaristan*, their clothes were taken away and their money put in trust by the *Bimaristan* guardian. The patients received clean clothes instead of those taken from them, and they were given drugs and food under the supervision of the physicians freely till they were cured.

Ibn al-Ukhuwwa described in his book *Ma'ālim al-Qurba fī Talab al-Hisba* the entrance of the patient to the outpatient clinic to see the physician. He said in a very important text :

"The physician asks the patient about the cause of his illness and the pain he feels. He prepares for the patient syrups and other drugs, then he writes a copy of the prescription to the parents attending with the patient. Next day he re-examines the patient and looks at the drugs and asks him if he feels better or not, he advises the patient according to his condition. This procedure is repeated on the third day and the fourth... till the patient is either cured or dies. If the patient is cured, the physician is paid. If the patient dies, his parents go to the chief doctor, they present the prescriptions written by the physician. If the chief doctor judges that the physician has performed his job perfectly without negligence, he tells the parents that the death was natural; if he judges otherwise, he tells them: 'take the blood money of your relative from the physician'; he killed him by his bad performance and negligence. In this honorable way they were sure that medicine is practiced by experienced well trained persons."¹²

2- *Bimaristan* Varieties according to Different Purposes

Each type of diseases might require a special *Bimaristan* for a group of patients. This can be noticed at least by specialization of *Bimaristans* for leprotics and mentally affected patients.

a) Mental Disease *Bimaristan*

Muslims realized the importance of the care for mentally affected patients. They frequently added to the big *Bimaristans* special places isolated by iron bars, specially for patients with mental diseases¹³, to avoid the aggression of these patients on the others.

Muslim physicians knew that psychiatric and mental diseases required a special type of care and that the physician must be acquainted with the etiology of the disease from which the patient is suffering.

It is worth mentioning that Ibn Abī Usaybi'a¹⁴ tells us in his book '*Uyūn al-Anbā'*' about some cases of this type of disease and how the skilled doctor Wahīd al-Zamān could treat them.

b) Leprosy *Bimaristan*

This was built specially for patients with leprosy. At the start of our talk about *Bimaristans* we referred to what Noushirawy mentioned about al-Walīd ibn Abd al-Malik saying that "he was the first who was interested in establishing such types of *Bimaristans*".

According to Ibn al-Qifi¹⁵, the first who wrote a book on Leprosy was Yūhana bin Māsawayh. The cause of interest in such a disease arises from the Muslim's idea of isolating the patients who had communicable diseases from the rest of the society. We find the same behavior with the doctors of today towards such diseases.



Figure 3. Northern façade of Maristān of Sultan al-Mu'ayyad Shaykh, in Cairo built in 1418-20 in the Mamluk period. Source: http://archnet.org/library/sites/one-site.tcl?site_id=2079

c) Road Bimaristan

Arabs knew this type of Bimaristans and they realized its importance, because the pilgrimage to Mecca and the Holy places or the commercial caravans that traveled for long distances required care for the travelers, such as treating wounded persons or saving a person asking for help.

Ibn Kathīr¹⁶ pointed out in his book *Al-Bidāya wa 'l-nihāya* (The Beginning and the End) that road Bimaristans were conducted by a wise director who knew how to give treatment: The rich people, who had the ability to equip the caravans with medical missions supported those Bimaristans financially.

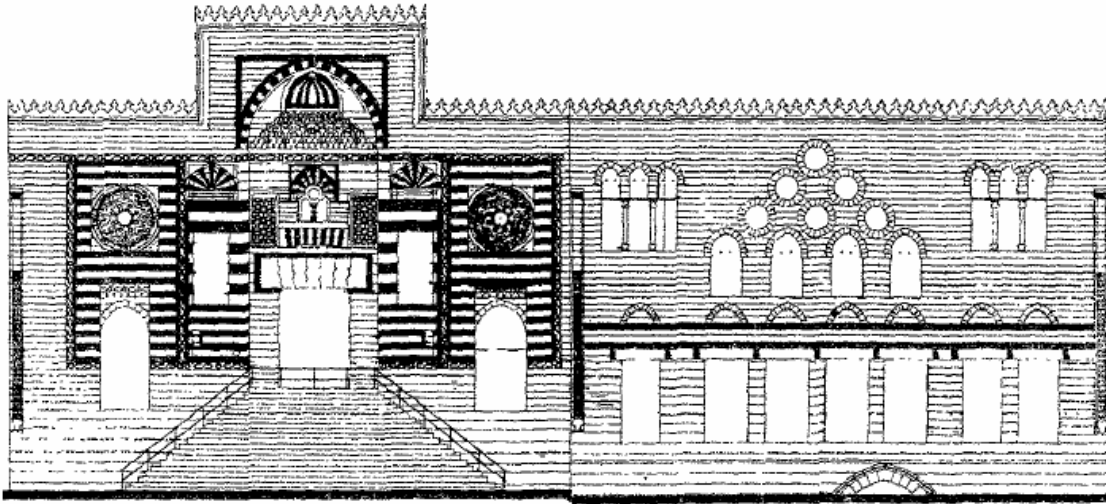


Figure 4. Front view of Sultan al-Mu'ayyad Shaykh Hospital in Cairo, Egypt. Source: Abdelbaki Mohamed Ibrahim (ed.), "Bimaristān al-Mu'ayyad". In *Ālam al-Binā'*. Cairo: Center for Planning and Architectural Studies, n°206(1998): pp. 32-33.

d) Prison *Bimaristan*

The Muslims cared medically for the imprisoned the same way they did for people outside the prison. This is clear from the letter of 'Īsā ibn Alī al-Garrāh¹⁷, Minister of the Caliph al-Muqtadir, to Sinān bin Thābit (*al-Tabīb Al-Natassī*) who was distinguished in Arab medicine and who embraced Islam at the hands of Al-Qāhir. After 'Īsā ibn 'Alī had visited the prisons, he found it was necessary to treat the patients and preserve their humanity; as a result, he sent his famous letter to Sinān in which he said:

"I thought of the imprisoned people and that they are exposed to diseases, due to their big number and their hard situation; they are incapable to deal with their excretions or to meet doctors to seek their advice about diseases. You have - May God grant you honor - to assign physicians to visit them daily and they should carry with them drugs and syrups and all they need to treat the patients and cure illnesses with God's will".

Sinān followed this advice. Also according to what Ibn al-Qiftī mentioned, al Muqtadir asked Sinān bin Thabit to build a *Bimaristan* and give it his name, the Muqtadir *Bimaristan*. He ordered to build it at Bab Al-Sham and financed it with 200 dinars monthly. This was in 306 Hijri and Sinan ibn Thābit was assigned as chief doctor. When al-Muqtadir was told that one of his physicians had killed a man by mistake, he ordered Sinān to perform a test for the physicians. So, they were tested in Baghdad and their number became eight hundred physicians.

e) The Mobile *Bimaristan*

This type of *Bimaristan* visited villages, peripheries and cities caring for the health of people who lived away from the state capital and allowed the state services to reach anyone who needed treatment in the state.

'Alī ibn 'Īssā al-Garrāh - al Muqtadir's minister - ordered the first state physician Sinān bin Thābit, in a written letter, to let doctors travel to the peripheries of the state. He said in his letter: "*I thought of people who live in the peripheries and that among them are patients who do not receive any medical care because there are no doctors there. So, assign - May God prolong your life - some physicians to visit the peripheries; also a pharmacy containing drugs and syrups. They have to travel all through the peripheries and stay in each region enough time to perform treatment of patients, then they move to another one*".

It was the state's responsibility to care for the *Bimaristans*. The senior physicians were aware of establishing work rules and bases to teach the students who came to learn medicine from everywhere. Therefore, medicine schools were established in the Islamic world, in which teaching was performed by two methods: (1) The theoretical method in the medical schools, and (2) a practical method for training and practice where students gathered around the doctor in chief to see and examine the patients and the treatment he prescribed. When the students finished the studying period they applied for an exam, took an oath and got their certificates. When they started to practice medicine, they always worked under the state's supervision. This means of course that *bimaristans* were institutes for teaching medicine and to complete the study for junior doctors.¹⁸ From a practical point of view, the professors prescribed the treatment for the patients, examined them in the presence of the students. They performed these instructions in an organized way and they did a follow up to the patients and hence they acquired the necessary practical experience for a medical student.

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