

Vignettes in Medical History
*The Mesopotamian Schools of Edessa and
Jundi-Shapur: The Roots of Modern
Medical Schools*

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THE PRACTICE OF medicine arose out of the primal sympathy of humans for other humans: the desire to help those in sorrow, need, and sickness.' Primitive people learned their early lessons in medicine by dealing with injuries, accidents, and the bites of beasts and serpents. Little by little such experiences crystallized into useful knowledge. By experimenting with nature primitive people recognized the relationship between cause and effect,' which is an important concept in the development and progress of medical care.

Medicine—much like religion—had its origins in magic, the setting in motion of a spiritual power to help or to hurt an individual.' Before long, primitive humans realized that everyone possessed some degree of this spiritual power and that it could also be shaped and enhanced through practice. Even today professionals need practice to gain the experience needed to move forward on the road to success.

Early students of medicine learned their profession in apprenticeships by following their masters. However, as both the demand for medical practitioners and the availability of published knowledge increased, the concept of establishing medical schools took off many centuries before the Christian era began. The school of medicine in Alexandria, established in the third century BC, is only one example. There, prominent physicians like Herophilus and Erasistratus passed on their knowledge to student physicians who were soon to become famous in their own right, such as Galen, Soranus, and Rufus of Ephesus.²

Despite their invaluable role in medical education early medical schools suffered a missing link in the circle of education—the patient. With the exception of Hippocrates most teaching did not include bedside clinical instruction. Even when it was part of the educational process clinical instruction was not done in a hospital setting.³

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It was not until the fourth century AD, when the Assyrians were able to establish their medical schools and their affiliated hospitals in Edessa (present-day Urfa, southern Turkey) and in Jundi-Shapur (present-day Shahabad, southwestern Iran), that hospital bedside clinical instruction was given to students of medicine. Therefore many writers consider these institutions to be the first examples of modern medical schools in the history of medicine.³

The School of Edessa: The Rise and The Fall

The misery of one, for others may be fun—that was the case for Ephraem, the founder of the famous Christian school of Edessa in 364 AD. Ephraem, a celebrated teacher in the academy of Nisibis, fled to Edessa, a Roman territory, after Persians took over his city because he had played a leading role in defending the city against the Persians.

Bishop Jacob established the academy of Nisibis in 325 AD, modeled after the great schools of Alexandria and Antioch. Ephraem was appointed a presbyter to the academy of Nisibis and soon became distinguished by his literary work in Syriac. He composed poems that became the models for Syriac verse. It is no surprise that even today Ephraem is regarded as the standard authority for classical Syriac.⁴

As a refugee in Edessa Ephraem had to earn his living as a bath keeper, but he devoted some time to teaching and reasoning with those who cared for his company. One day while he was so occupied a hermit rebuked him for still being interested in earthly knowledge. This caused him to spend some time in a hermitage meditating, reading, and composing some of his hymns and poems. A revival of learning greatly affected the church at that time and also induced Ephraem to travel to Cappadocia. But before long the city of Edessa was disturbed by the teachings of various heresies arising out of the teachings of Bar Daisan, a Syrian writer who gave an account of Buddhism.⁴ This caused Ephraem to return there and resume his

teachings, which served as the starting point for the school of Edessa.⁴

At first the school of Edessa seems to have been an informal group of disciples who gathered around Ephraem. But this group gradually developed into a well-known academy, although it did not have the official and formal foundations that the schools of Alexandria, Antioch, and Nisibis did.⁴ The professors of Edessa, long familiar with Greek and in possession of many philosophical, theological, and medical manuscripts, must have taught a pure Hippocratic and Galenic type of medicine. Their religious enthusiasm led them to exclude all Babylonian and pagan practices. Therefore the Edessan school of medicine was carrying on Greek traditions of medicine unmodified and without rival in the world during the fourth century after Christ.⁵

Because of the earlier activities of the church in translating the scriptures theology was the major subject in the Edessan school, but medicine was growing as a second major discipline because of two factors:

the translations of Hippocratic and Galenic texts gave theology students an increasing interest in the study of medicine, and the study of medicine was attracting more and more students.³ With two large affiliated hospitals, the Edessan school became a remarkable institution for the teaching of medicine. One of those hospitals, St. Ephraem Hospital, was built in 375 AD during the plague epidemic and had a capacity of 300 beds.⁶

Much scholarly work was done at this academy in the later fourth century including the Syriac translations of the *Theophania* and *Martyrs of Palestine* of Eusebius, and of Titus of Bostra's discourses against Manichaeans as well as the *Ecclesiastical History of Eusebius*. Other works included the Syriac translations of the works of Theodore of Mopseustia, *Isagoge* of Porphyry (the usual introduction to logic), and Aristotle's *Hermeneutica*. The latter two works in addition to Aristotle's *Analytica Priora* exist with commentary attached, written by Probus, a presbyter, archdeacon, and chief physician of Antioch.⁴

A little over a century later a monk from Assyria, Nestorios, was appointed the Patriarch of Constantinople. He soon came into conflict with the Orthodox Byzantine Catholic Church because he supported his disciple Anastasius in preaching what was considered a heresy. Basically Anastasius denied the complete merger of the divine and human natures in Christ and was especially fervent in asserting that the Virgin Mary, although the mother of Christ, was not the mother of God. As a result Nestorios and his followers were excommunicated in 431 AD, and have been called Nestorians ever since.³

This was the beginning of the end for the school of

Edessa. The academy became the headquarters of this new sect, and its theologians became the protagonists of heresy. Finally, to silence them Emperor Zeno in 489 AD ordered the academy to close its gates and cease teaching in every subject. Suddenly the great center of learning was gone."⁵

The School of Jundi-Shapur: The Rise and The Fall

Jundi-Shapur or Genta Shapirta (meaning "the beautiful garden") was a Persian city populated by Roman and Greek captives. After his marriage to the daughter of the Roman Caesar Aurelian, Shapur I, the Persian emperor, attempted to Romanize the city even more. The Hippocratic system of medicine was publicly taught for the first time in Persia. Many Greek physicians accompanied Caesar's daughter to this city.⁵

During the reign of Shapur II the city was enlarged and a university named after the city was established. Although mainly controlled by the Nestorians the cosmopolitan nature of the city assured a place of almost equal honor to other systems. The Nestorian influence was the impetus for Nestorians excommunicated from Edessa to seek refuge in Jundi-Shapur. The Persian emperor was favorably disposed to the refugees. Shah Kai Kubad was inclined to welcome the students of Edessa because years ago the Nestorians had helped him escape from death and regain his throne.⁵

It appears that the Church was probably in control of the university. Both medical as well as divinity students and faculty were compelled to attend a daily service before they began their own special studies. The strong ecclesiastical history assured Syriac the first place, although additional languages such as Persian, Arabic, and others were also endorsed. Although the teaching was Greek in essence the university managed to take off with its own eclectic method.

In his account of the university, al-Qifti⁷ said,

"They made rapid progress in the science, developed new methods in the treatment of the disease along pharmacological lines, to the point that their therapy was judged superior to that of the Greek and Hindus. Furthermore these physicians adopted the scientific methods of other people and modified them by their own discoveries. They elaborated medical laws and recorded the work that had been developed."

During the reign of Nushirvan, the most famous of the Sassanian kings, the Nestorian school in Jundi-Shapur was given its greatest impetus. The teachers were given every advantage and encouragement. Greek Neo-Platonist teachers from the school of Athens joined the university when their school was closed

in 539 AD. The university became the greatest intellectual center of the time. The thoughts and experiences of Greeks, Jews, Nestorians, Persians, and Hindus were freely exchanged within its walls.³

In the twentieth year of Neshravan's reign the physicians of Jundi-Shapur convened by the order of the king to discuss diversified scientific subjects, and their debates were recorded. This memorable meeting was presided over by the Nestorian Jibrael Durustbad, special physician to the king, assisted by Sofistai, Yuhanna, and a large number of physicians.³

For several centuries the school and hospital of Jundi-Shapur held first place in the world of medicine and science. Persia, Iraq, and Syria recruited their physicians from Jundi-Shapur, and pupils of all nationalities gathered there for instruction.³ The teaching hospital was organized and functioned at a time when there were no others in the entire Middle and Near East. The unique and pioneering group of Nestorian physicians set an example for later generations, who adopted their methods of training physicians and caring for the sick.

The hospital in Jundi-Shapur had both outpatient and inpatient departments. There were separate wards for men and women and for medical specialties such as medicine, surgery, orthopedics, and ophthalmology. A separate ward with barred windows was used for the care of mentally ill patients. Special attention was paid to ophthalmology as compared to other surgical branches. A pharmacy under the control of a competent and licensed pharmacist was used for both the outpatient and inpatient services. A large hall containing manuscripts was available for professors to use to meet with undergraduate and graduate medical students for lectures and conferences. Over the course of four centuries the hospital was staffed and managed by Nestorian physicians, most of them from the Prophet Bukht-Yishu or Mesues families.⁸ For six generations and over 250 years the Bukht-Yishu family remained preeminent in medicine; the last descendant died in 1006 and was as eminent and as highly honored by the rulers and nobles of his time as the first member of his family had been.⁹

The strongholds of the Jundi-Shapur school and hospital were not affected by the Islamic invasion in 636 AD under the second Caliph Omar. The Nestorians and their schools and hospitals were treated with great respect by the Moslem conquerors for three reasons. First, the Arabs had no knowledge of the science of medicine and looked upon the Jundi-Shapur institution with wonder and admiration. Second, many of the physicians who cared for Muhammad and the first Caliphs were loyal graduates of the same school. Finally, the Nestorian denial of the Virgin Mary as the mother of God and their views regarding the trinity

appeared very strongly to the Moslems, whose credo insisted upon the one and only Allah.³

By the thirteenth century as a result of the earlier transfer of the medical center to the Abbasid city of Baghdad the glory of the city of Jundi-Shapur dwindled down, and it became nothing but a small town that finally vanished entirely over the course of the following years.

The Painful Reality

Throughout the course of history change has frequently been driven by innate jealousy, politics, and the struggle for power. The school of Edessa is an excellent example of this. When the curators of the school expressed views that were directly contrary to the established norms powerful political pressure resulted in the abrupt closure of the school. A new orthodox church was constructed on the site, and to make the point very clear it was named "Our Lady, Mother of God."¹⁰

In the aftermath of the closure of the school at Edessa the Nestorian zealots took refuge in the city of Jundi-Shapur, where they continued to fight for their cause. From Jundi-Shapur their achievements became the starting point for the Arabian and the Islamic scientific revival, which proved to be the connecting link between Greeks and Arabs on the road to the European renaissance."

Today many of us may wonder about the fate of the two schools in question. The Church of "Our Lady, Mother of God," originally the school of Edessa, was converted by the Moslem conquerors into a mosque, which was a common practice then. The new mosque (Fig. 1) was given the name of "Mosque of Ibrahim" and is still standing in the city of Urfa in southern Turkey.¹² Nothing is left of the school of Jundi-Shapur

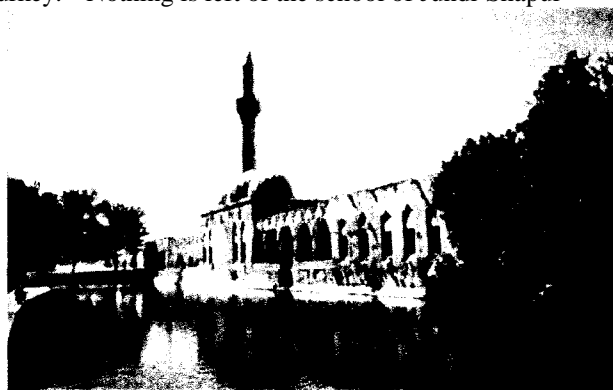


FIG. 1. Traditional site of the School of Edessa, which was converted later to the church called Our Lady, Mother of God. It was finally converted to the Mosque of Ibrahim in present-day Urfa, southern Turkey. (Courtesy of *Archaeology*; from Segal JB New mosaics from Edessa (page 155). *Archaeology* 1959:12: 151-7.)

but fragments of broken tiles and pottery in and around some ten mounds near the city of Shahabad in southwestern Iran (Fig. 2). As the sand of the desert continues to blow over it, the fall of yet another prominent and premier intellectual and educational center in the world is mourned.³



FIG. 2. View of the tallest mound of the remains of Jundi-Shapur near the present-day Shahabad in southwestern Iran. Photograph by Alien O. Whipple. (Courtesy of Princeton University Press; from Whipple AO. *The Role of the Nestorians and Moslems in the History of Medicine*. Princeton, NJ: Princeton University Press, 1967.)"

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