

Book Review

Lost History: The Enduring Legacy of Muslim Scientists, Thinkers and Artists

Author: Michael Hamilton Morgan

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Lost History aims and admirably succeeds at telling the untold story of Islam's cultural and intellectual history, as well as its relationship with the West.

The author in his introduction sets out the goals of sharing the fascinating Muslim history he has uncovered in his reading and research, a history full of invention, creativity, great ideas, tolerance, and coexistence. This culture seeded the European Renaissance and enabled many aspects of the modern West and global civilization.

The impetus for the book came after the September 11, 2001, attack on the World Trade Center, as the author felt the need at the beginning of the 21st Century to share this forgotten, ignored, misunderstood, suppressed, and even rewritten history with the wider community. The result was the book *Lost History*, and what a great job the author has done. It is one of the most informative, researched, and relevant books I have reviewed.

I particularly liked the style and manner in which the author connects the past with the present. The first chapter starts with a young Moroccan-French Muslim family – Karima and Driss Ghafiqi – enjoying a summer day in the central park of Tours, France, in 2006. From there, the author takes the reader to Mecca, Arabia, in AD 570, and traces the beginning of Islam, its rapid spread over the ensuing century and the pivotal battle in Tours, Neustrie (France) in AD 732, in which this early encounter between mainland Europe and the Muslims resulted in a halt to the rapid expansion of the Muslim empire and set it free to turn its energy to invention and creation.

The manner in which Charles Martel's army defeated the better-equipped and larger army led by `Abd al-Rahmān al-Ghāfiqī makes interesting reading with many relevant lessons for all of us to ponder. If the Muslims had agreed to elect a commander

from its diverse ethnic leaders after al-Ghāfiqī died in the battle of Tours, might the outcome of the war and, perhaps, the course of history have been different? Also, lost to history is the fact that the European mythology of the armored knight on horseback and his weaponry and tactics came from this fearsome "alien" Muslim invader. Mounted knights and armor are in reality Muslim exports to Europe.

Subsequent chapters highlight the great accomplishments in Baghdad during the rule of the Abassid Caliph al-Ma'mūn from 813-833 AD, under whose leadership Baghdad rose to become the center of learning and the heart of the Arab golden age. Caliph al-Ma'mūn's House of Wisdom, where Christian and foreign translators rendered the Greek, Roman, Byzantine, Persian, and Hindu classics into Arabic, helped lay the foundation of modern mathematics, astronomy, chemistry, medicine and literature. As a result of al-Ma'mūn's patronage and vision, Baghdad gave birth to algebra and advanced trigonometry, the names of the stars, the mixtures of tinctures and remedies, and the heart of philosophy and literature. It was in Baghdad that Scheherazade told the tales of the *One Thousand and One Nights*.

Baghdad over the next four centuries grew into a global intellectual center with universities, madrasas, the first urban hospitals and observatories. By the 13th century, Baghdad had 36 public libraries and 100 booksellers.

During this period, Cordoba in the Iberian peninsula was developing into another center of excellence and intellect. In the 11th century, Cordoba was the most advanced city in Europe with a population of half a million. It had 300 baths, 300 mosques, 50 hospitals, and a high public literacy rate. Its libraries contained more books than the rest of Europe.

The next chapter is devoted to the numerous contributions of the Persian mathematician al-Khawārizmī. His translated works became the core mathematics and astronomy textbook in Europe and the Muslim world. His greatest breakthrough was placing the zero at the center of the mathematical universe and developing the concept of positive and negative values. He is also remembered as an early

pioneer of algebra.

After al-Khawārizmī, other mathematicians of all faiths did groundbreaking work at the House of Wisdom, leading to discoveries in astronomy, the introduction of decimal fractions and the development of easily reproducible geometric figures which adorned mosques, palaces and villas as tiled expositions of infinity.

Chapter Four features the Persian Omar Khayyām, who, besides being a renowned poet, was a mathematical and astronomical genius. In 1079, Omar Khayyām calculated the length of the solar year to be 365.24219858156 days. In the 21st century, our latest calculation is 365.242190 days. Omar Khayyām also demonstrated that the earth revolves on its axis and that the heavens did not orbit the earth.

Another chapter is devoted to the contributions of Armen Firman, ibn Faris, and Ahmed Çelebi, the pioneers and forerunners of modern day flying.

Chapter Six, entitled "Healers and Hospitals," starts in Cordoba in 1002 with a young woman facing a difficult labor and the obstetrician debating the use of forceps for delivery. That sets the stage for introducing al-Zahrāwī, who made the forceps himself while working in the Andulasian city of Cordoba in 1005. This Andulasian master surgeon was the Muslim lord of obstetrics, dentistry and pharmaceuticals. His 30-volume compendium *al-Taṣrīf* described all his inventions, and, over the ensuing 300 years, in bits and pieces, Europeans translated it into Latin and other European languages. Among the more than 200 medical instruments al-Zahrāwī designed were obstetrical forceps, instruments to examine the inner ear and the urethra, and instruments to remove foreign bodies from the throat.

This chapter dwells at some length on the environment that prevailed in Baghdad in the 8th century, when thinkers and artists and inventors benefited from generous patronage and income, when libraries and centers of learning were commonplace, and when many minds discussed and debated and through agreement and dispute strove towards finding answers to universal questions. In short, Baghdad was an intellectual incubator.

Within this environment one reads about the work of scholars such as `Ali ibn Sahl Rabbān al-Ṭabarī and his fresh apprentice ibn Zakariyya al-Rāzī. Together, they questioned the teachings and traditions of Galen. Later, al-Rāzī authored some 200 major manuscripts on nearly every known aspect of medi-

cine, as well as on philosophy, alchemy and metaphysics. He was the first physician to differentiate between smallpox and measles and authored a book on the subject. He invented the pharmaceutical mortar, spatula, and vials; mercurial ointment; and treatments for common ailments such as constipation, headaches, colds, congestion, and even depression, for which he tried poppies for their euphoric narcotic effect. He tried animal experiments. He initiated a new method involving formal training programs for physicians.

Within 100 years of al-Rāzī, this accomplished mind and man, rarely equaled in many centuries of time, would be matched and possibly surpassed by ibn Sīnā, known as the Prince of Physicians and in the West as Avicenna. He was revered by Europeans for 400 years as the greatest medical thinker of all time. Ibn Sīnā's two most important works are the *Canon of Medicine* and the *Book of Healing*, and they were widely translated and discussed not only in the Muslim world but in medieval Europe. Al-Rāzī's work and the *Canon* did more to develop European medicine and thought than any other body of work or event.

Ibn Sīnā concluded that tuberculosis is an infectious disease and that hookworm caused certain intestinal ailments. He set down empirical scientific rules for testing and rating the effectiveness of drugs in treating various conditions. In essence, he set the rules for standard clinical drug trials.

Later, another great family of physicians, both men and women, emerged in Seville in the Iberian Peninsula. The most famous of these physicians was ibn Zuhr, known by the Latin name Avenzoar. He acquired fame for his animal experiments, including trying the tracheostomy technique on goats and subsequently on humans. This man of the 12th century made sure his daughter and granddaughter followed into medicine.

From Baghdad to Cordoba and Seville, the reader next travels to Cairo, where ibn al-Nafīs set new standards as the first head of the famous al-Manṣūrī hospital and dean of its school of medicine. There, in 1284, he made the dramatic discovery of the true anatomy and functioning of the heart and how blood flows through it to the lungs, where it mixes with air.

Al-Nafīs's discovery of cardiopulmonary circulation and gas exchange is as important to modern medicine as Khawārizmī's zero is to modern math. He also mapped coronary circulation. Some 350 years later, in 1628, William Harvey began to expound his

ideas regarding the circulation of blood in the chest and the body.

The concluding chapters review some of the architectural and landmark monuments built by the Muslims. Some examples are:

- The Dome of the Rock in Jerusalem, initiated by Caliph `Abd al-Malik in 691 and completed nearly 60 years later
- Madīna al-Zahrā', built by Caliph `Abd al-Rahmān III, which used one-third of the entire national treasury over 40 years and was attacked and destroyed by the mercenaries from North Africa sent by the Almoravids to bring down the Umayyads in Andalusia.
- Other unique monuments highlighted include Registan in Samarkand, Uzbekistan (147-1660); Ishfahan, Persia (1592), and Taj Mahal, Agra, India (1631).

The author traces the transmission from Muslims to Europeans the Arab-musical notation and even suggests that the popular tune "Do Re Mi Fa So La Ti Do," popularized in the movie *Sound of Music*, has its origin in the 9th and 10th century Arabic musical notation. The well-known poet Jalāl al-Dīn al-Rūmī, born 1207, from Persia initiated the new popular form of the Whirling Dervishes, and books such as *One Thousand and One Nights* have an interesting background.

The final chapter highlights the qualities of Muslim leadership using examples from Caliph Abū Bakr, Caliph `Alī and others who championed an ethos of social fairness and justice, advanced public health and tolerance of diversity in faith, nationality, and ethnicity.

`Alī, the fourth caliph, set down in writing a detailed template for enlightened leadership. This later surfaced in the Umayyad and Abbasid caliphates, Fatimid and Sunni Egypt, Seljuk Persia and Anatolia, the Delhi Sultanate and Mughal India, and the Ottoman Empire.

This chapter describes in some detail the character and work style of Hārūn al-Rashīd and focuses on the manner in which the Christian Crusaders treated the population in Jerusalem after conquering the city in 1099. They spared neither men nor women nor children, in sharp contrast to the manner in which Saladin treated the population of Jerusalem when he reconquered it in 1187.

There were some notable Muslim women in leadership during this time. One of them was Razia Sultana, who during her short life of 35 years became a legend, particularly in the Indian subcontinent.

This chapter concludes with a brief description of the rule by the greatest Turk Sultan Suleiman I, who ruled the Ottoman Empire from 1526-1566.

This remarkable book concludes on an optimistic note. The author states that the rise of Europe and the decline of the Muslim lands are two sides of the same coin. The author notes that, in the 21st century, for every crisis spot in the Muslim world there is now a promising center of innovation in the Muslim community, particularly in Europe and America.

I recommend this book for all, in particular the senior students at various Islamic schools in North America and the various college campuses. The Islamic Center of Long Island in New York ordered a bulk supply for the senior students, attendees and the many public school teachers and guests who visit.

Submitted by

Faroque Ahmad Khan, MB, MACP
Associate Editor, JIMA
Director Research and Publications
King Fahad Medical City
Riyadh, Saudi Arabia
Professor of Medicine
SUNY
Stony Brook, New York