

Harun 'al-Rashid's Baghdad

The sweep of the armies of Islam out of the Arabian peninsula following the death of Mohammad was to lead to the development of many great Islamic civilizations, from the famous MOORISH civilization in Spain to the civilization of the MOGULS in India, the builders of the Taj Mahal. After the death of the Prophet in 632, the center of gravity of the growing Arab Empire shifted from Mecca to DAMASCUS in Syria. For the next hundred years Damascus was the home of the Umayyad Caliphate, the official religious governing body of Islam.

Following the temporary decline of the Umayyad Caliphate in 750, the center of the Islamic world gravitated to Iraq with the rise of Abol Abbas, the founder of the new Abbasid Caliphate. His brother and successor, Mansur, built a new capital, Baghdad. The zenith of the Abbasid caliphate and the Arab "Golden Age" came with the ascendancy of Mansur's grandson, Harun 'al-Rashid, the famous Caliph of the *1,001 Arabian Nights*.

Harun's Baghdad is perhaps best known for the wealth and luxurious lifestyles of its inhabitants. As a commercial center it was unsurpassed for its time. Ships from all over the world brought their rich cargoes to the Persian Gulf and up the Tigris River to Baghdad. Silks and porcelain from China, spices and precious metals from India, and ivory, gold dust, and black slaves from Africa were shipped to Baghdad by sea. Caravans brought jewels overland from Turkey, pearls from Arabia, and furs and white slaves from Scandinavia and Russia. Taxes in the form of money or goods flowed into the capital from all the provinces of the empire, and wealthy merchants developed trade networks on land and sea linking the commercial centers of Europe, Asia, and Africa. The Middle East, because of its geographical position, became the center of world trade! As a result, the ruling classes were able to live on a scale that the world had rarely seen before. Harun's wife, Zubeidah, who set the fashions of the city, wore jewel-studded shoes and had workmen design and construct a tree of mechanical chirping birds made of pure gold. At the wedding of her son, Marnun, Zubeidah arranged for the couple to be showered with pearls while they sat on a carpet of gold-studded jewels. Many of the guests in attendance were honored with the gift of an estate or a slave, given to them by means of a ticket hidden in the perfumed gifts distributed during the wedding.

Luxurious living was not confined to the ruling classes. With Baghdad and the Middle East as the center of world trade, a new and wealthy middle class of artisans, merchants, and professional men arose whose services commanded high salaries. Indeed, the economic boom affected all classes, and few lives were left untouched.

Although wealth was perhaps the most spectacular aspect of Harun's Baghdad, its cultural and scientific achievements were more significant. Harun wanted Baghdad to be the center of learning, and to this end he invited famous poets and scholars from all over the Middle East, including Turks and Persians as well as Arabs, to come to Baghdad to work and live.

The intellectual ferment began with the translation of books from all over the world into Arabic. One of these books was an Indian text on astronomy and the Indian system of numbers. Borrowed by the Arabs, this system has in turn been adopted by the Western world and is used in the West today. What we know as Arabic numerals, the decimal system, and the use of the number zero have come to us by way of Harun's Baghdad. A large number of Greek texts were also translated, including the works of Aristotle and Plato as well as works on medicine, mathematics, and astronomy, the medical works of Hippocrates, Euclid's *Elements of Geometry* and Ptolemy's astronomical writings were among the books translated from Greek into Arabic, with the help of Syrian Christians who could read both Greek and Arabic. Much of Greek learning that otherwise might well have disappeared was thus saved for the world. The resurgence of interest in Greek civilization today owes much to these unknown translators of Harun's court.

Under Harun's son, Marnun, the translation of documents continued with the establishment of a HOUSE OF WISDOM, which had a vast library with an academy for scholarly learning and also sponsored original research.

Original research in the field of medicine included the dissection of apes by the Christian physician, Yuhanna, and the production of a ten-volume treatise on the eye by his student, Hunayn. There were many famous practicing physicians as well, such as AL RAZI, known to the West as Rhazes. Al Razi, when asked to pick a site for a new hospital in Baghdad, had strips of meat hung from poles around the city, and chose as the site for the hospital the place where the meat had decayed the least. Al Razi wrote books on smallpox and measles as well as his most famous work, an encyclopedia that catalogued all Greek, Hindu, and Persian medical knowledge as well as the results of his own medical research.

An equally famous physician, Ibn Sina, known to the West as AVICEMNA, codified all Greek and Arabic medical knowledge into a volume that became the standard medical textbook in the Arab world and in Europe for the next eight hundred years. The first pharmacies date from this period, during which there were more than nine hundred registered pharmacists in Baghdad.

Original scientific research was also conducted in the field of astronomy. Because of their desert tradition, the Arabs had always been interested in the stars; the Sabeen Arabs had even been star-worshippers prior to the coming of Islam. With the translation of Ptolemy's astronomical works, interest in astronomy increased, leading to the construction of an observatory in Baghdad that was to calculate accurately the length of the solar year. And five hundred years before the Western world accepted the fact that the earth was round, Arab astronomers conducted experiments to determine the length of a terrestrial degree on the earth; their estimate of $56 \frac{2}{3}$ miles was within a half mile of the correct number. Other astronomers studied the moon's influence on the tides, and corrected errors in Ptolemy's observations of the orbit of the moon and planets. A mathematician, Al Phwarizmi, designed the first set of astronomical tables in Arabic and wrote a book on algebra that was widely used in Europe and thus introduced the word algebra into English. Other original research was done in the fields of chemistry, zoology, music, and philosophy.

The Arabs of Harun 'Al Rashid's Baghdad almost single-handedly created the science of chemistry. They were able to distinguish between acids and alkalis, produce many drugs, and were convinced that all metals were made of the same basic substance, and could, therefore, be transformed into other metals or alloys. They also invented many of the laboratory equipment used in the chemistry and biology labs today--the pipette, beakers, and glass test tubes.

The expansion of the Arab Empire contributed greatly to the development of the field of geography. Muslim merchants had reached China in the 7C, long before the reign of Harun, and Arab traders had journeyed as far as Russia, Zanzibar, Morocco, and Spain. These travelers kept records, and as a result, an interest in geography developed. The greatest geographer of his time, YAKUT, organized existing geographical knowledge into an encyclopedia including cultural, historical, and geographical data on the entire known world.

The Arabs became the most important geographers of the time and the maps which they charted were being used by Columbus on his voyage to the New World. The Arabs made important contributions to literature as well. Arabs have always had the special gift of storytelling and poetry. The Arabic language itself is suited to colorful tales about life in the desert or palace. Hundreds of poets created poems of great beauty. The one most known in the West was the Persian poet, OMAR KAYYAM, who wrote *1,001 Arabian Nights*, based on the glory and splendor of Harun 'Al Rashid's Baghdad. Poets were held in high regard; music developed and combined with poetry to provide the Muslim with tales of love, war, and heroism. The lute, the lyre, and the flute were supplemented by horns, drums, castanets, cymbals, and tambourines.

In art the two fields in which the Arabs excelled were architecture and the decorative arts. Beautiful mosques were built with spacious interiors, large domes, great pillars and arches to provide Muslims with a dignified place in which to pray. Besides the mosques, the Muslims built large palaces, of which the most famous is the Alhambra in Granada, Spain. Beautiful patterns from flowers and geometric figures were used to decorate the interior of mosques and palaces. Skilled craftsmen produced rugs, pottery, tiles, and metalwork of original and delicate designs.

Learning in Baghdad was not confined to the scholarly work of the House of Wisdom. There were elementary schools for BOTH boys and girls. Theological colleges were established for the advanced study of Islam and became the models for the religious colleges of today in the Middle East, such as the famous religious university of Al Azhar in Cairo. There were public as well as private libraries, and many bookstalls were to be found on the streets of Baghdad.

The development of an empire brought the need for an efficient government and communication system. A well-trained police force was organized to keep order in the towns and a standing army, drawn from all the tribes and provinces, helped keep the countryside under control and safe for travel. For the benefit of travelers, inns and hostels were maintained various parts of Harun's domain, and a system similar to our pony express assured mail delivery throughout the provinces. The delivery of mail was supplemented by a carrier-pigeon service for the speedy exchange of messages. To assure maximum food supplies, ancient canal systems, established in Baby Ionian times, were restored and irrigation was extended throughout the land. Increased food production meant increased wealth for the nation, for taxes were often paid in food or goods as well as in cash. It also made more ambitious military conquests possible, and these in turn brought new lands under cultivation.

By 710, Arab armies had crossed North Africa to Morocco, and from there, with the help of the Moroccan Moors, they crossed the Straits to the Rock of Gibraltar, and Spain. The revival of the Umayyad Caliphate in Spain led to another glorious period in Arab history, which reached its peak during the reign of ABDUL RAHMAN from 912-961. The Arab, or Moorish civilization of Spain is perhaps more familiar to Westerners than that of Harun's Baghdad. Tourists today still visit some of the great Moorish cities in Spain, such as Cordova and Granada. It was not until five hundred years later, in 1492, the year that Columbus sailed in search of a new route to India, that the Moors were finally forced out of Granada by the Spanish Christians. Soon thereafter, they retreated back across the Straits of Gibraltar to Morocco.

For 700 years, the Arab and Muslim civilizations had dominated the Middle East and North Africa, and in Harun's Baghdad and Moorish Spain their way of life represented the highest civilization of its time. With the fall of Baghdad to the Seljuk Turks in 1055, and the final ouster of the Moors from Granada in 1492, Arab influence in the Middle East and in world affairs dwindled, and the initiative in world affairs passed to the Europeans. In the Middle East the Arabs increasingly came under the control of another Muslim power, that of the OTTOMAN TURKS, who were to rule supreme for more than 400 years, until their final downfall as an international power following World War I (1918).