

others, known as *Mozarabs* (would-be Arabs), learned Arabic, veiled their women, stopped eating pork, appreciated Arabic music and poetry, and sometimes married Muslims. One Christian bishop complained that Spanish Christians knew the rules of Arabic grammar better than those of Latin. During the reign of Abd al-Rahman III (912–961), freedom of worship was declared as well as the opportunity for all to rise in the bureaucracy of the state.

Even assimilated or Arabized Christians, however, remained infidels in the eyes of their Muslim counterparts, and by the late tenth century the era of toleration began to erode. Warfare with the remaining Christian states in northern Spain picked up in the tenth and eleventh centuries, and more puritanical and rigid forms of Islam entered Spain from North Africa. In these circumstances, the golden age of religious harmony faded. Under the rule of Abu Amir al-Mansur (981–1002), an official policy of tolerance turned to one of overt persecution against Christians, which now included the plundering of churches. Social life also changed. Devout Muslims avoided contact with Christians; Christian homes had to be built lower than those of Muslims; priests were forbidden to carry a cross or a Bible, lest they offend Muslim sensibilities; and Mozarabs were permitted to live only in particular places. Thus, writes one scholar, “the era of harmonious interaction between Muslim and Christian in Spain came to an end, replaced by intolerance, prejudice, and mutual suspicion.”²⁵

That intolerance was perpetuated as the Christian reconquest of Spain gained ground after 1200. Many Muslims were then forced out of Spain, while those who remained could no longer give the call to prayer, go on pilgrimage, or publicly practice their faith. When the reconquest was completed in 1492, all Jews, some 200,000 of them, were likewise expelled from the country. Thus, as Christianity was displaced by Islam in Anatolia, the opposite process was taking place in Spain.

The World of Islam as a New Civilization

As the religion spread and the Abbasid dynasty declined, the civilization of Islam, like Western Christendom and the Hindu world, operated without a single political center, bound more by a shared religious culture than by a shared state. Unlike the other civilizations, however, the Islamic world by 1500 embraced at least parts of virtually every other civilization in the Afro-Eurasian hemisphere. It was in that sense “history’s first truly global civilization,” although the Americas, of course, were not involved.²⁶ What held the Islamic world together? What enabled many people to feel themselves part of a single civilization despite its political fragmentation, religious controversies, and cultural and regional diversity?

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Networks of Faith

At the core of that vast civilization was a common commitment to Islam. No group was more important in the transmission of those beliefs and practices than the *ulama*. These learned scholars were not “priests” in the Christian sense, for in Islam,

Description
What makes it possible to speak of the Islamic world as a distinct and coherent civilization?

at least theoretically, no person could stand between the believer and Allah. Rather they served as judges, interpreters, administrators, prayer leaders, and reciters of the Quran, but especially as preservers and teachers of the sharia. Supported mostly by their local communities, some also received the patronage of *sultans*, or rulers, and were therefore subject to criticism for corruption and undue submission to state authority. In their homes, mosques, shrines, and Quranic schools, the ulama passed on the core teachings of the faith. Beginning in the eleventh century, formal colleges called *madrassas* offered more advanced instruction in the Quran and the sayings of Muhammad; grammar and rhetoric; sometimes philosophy, theology, mathematics, and medicine; and, above all else, law. Teaching was informal, mostly oral, and involved much memorization of texts. It was also largely conservative, seeking to preserve an established body of Islamic learning.

The ulama were an “international elite,” and the system of education they created served to bind together an immense and diverse civilization. Common texts were shared widely across the world of Islam. Students and teachers alike traveled great distances in search of the most learned scholars. From Indonesia to West Africa, educated Muslims inhabited a “shared world of debate and reference.”²⁷

Paralleling the educational network of the ulama were the emerging religious orders of the Sufis. By the tenth century, particular Sufi *shaykhs*, or teachers, began to attract groups of disciples who were eager to learn their unique devotional practices and ways of achieving union with Allah. The disciples usually swore eternal allegiance to their teacher and valued highly the chain of transmission by which those teachings and practices had come down from earlier masters. In the twelfth and thirteenth centuries, Sufis began to organize in a variety of larger associations, some limited to particular regions and others with chapters throughout the Islamic world. The Qadiriya order, for example, began in Baghdad but spread widely throughout the Arab world and into sub-Saharan Africa. Sufi orders were especially significant in the frontier regions of Islam because they followed conquering armies or traders into Central and Southeast Asia, India, Anatolia, West Africa, and elsewhere. Their passionate preaching, exemplary living, and reputation for supernatural powers gained a hearing for the new faith. Their emphasis on devotion rather than law allowed the Sufis to accommodate elements of local belief and practice and encouraged the growth of a popular or blended Islam. But that flexibility also often earned them the enmity of the ulama, who were sharply critical of such deviations from the sharia.

Like the *madrassas* and the sharia, Sufi religious ideas and institutions spanned the Islamic world and were yet another thread in the cosmopolitan web of Islamic civilization. Particular devotional teachings and practices spread widely, as did the writings of such famous Sufi poets as Hafiz and Rumi. Devotees made pilgrimages to the distant tombs of famous teachers, who, they often believed, might intercede with God on their behalf. Wandering Sufis, in search of the wisdom of renowned *shaykhs*, found fellow seekers and welcome shelter in the compounds of these religious orders.

In addition to the networks of the Sufis and the ulama, many thousands of people, from kings to peasants, made the grand pilgrimage to Mecca—the hajj—each year, no doubt gaining some sense of the umma. There men and women together, hailing from all over the Islamic world, joined as one people to rehearse the central elements of their faith. The claims of local identities based on family, clan, tribe, ethnicity, or state never disappeared, but now overarching them all was the inclusive unity of the Muslim community. For at least the few days of the hajj, the many worlds of Islam must surely have seemed a single realm.

Networks of Exchange

The world of Islamic civilization cohered not only as a network of faith but also as an immense arena of exchange in which goods, technologies, food products, and ideas circulated widely. It rapidly became a vast trading zone of hemispheric dimensions. In part, this was due to its central location in the Afro-Eurasian world and the breaking down of earlier political barriers between the Byzantine and Persian empires. Furthermore, commerce was valued positively within Islamic teaching: Muhammad himself had been a trader, and the pilgrimage to Mecca likewise fostered commerce. The extraordinary spurt of urbanization that accompanied the growth of Islamic civilization also promoted trade. Baghdad, established in 756 as the capital of the Abbasid Empire, soon grew into a magnificent city of half a million people. The appetite of urban elites for luxury goods stimulated both craft production and the desire for foreign goods.

Thus Muslim merchants, Arabs and Persians in particular, quickly became prominent and sometimes dominant players in all of the major Afro-Eurasian trade routes of the postclassical era—in the Mediterranean Sea, along the revived Silk Roads, across the Sahara, and throughout the Indian Ocean basin (see Chapter 8). By the eighth century, Arab and Persian traders had established a commercial colony in Canton in southern China, thus linking the Islamic heartland with Asia's other giant and flourishing economy. Various forms of banking, partnerships, business contracts, and instruments for granting credit facilitated these long-distance economic relationships and generated a prosperous, highly developed, "capitalist" economy that spanned the Old World.²⁸

The vast expanses of Islamic civilization also facilitated a substantial exchange of agricultural products and practices from one region to another, the largest such transfer in world history prior to Europe's encounter with the Americas. The Muslim conquest of northwestern India opened the Middle East to a veritable treasure trove of crops that had been domesticated long before in South and Southeast Asia, including rice, sugarcane, new strains of sorghum, hard wheat, bananas, lemons, limes, watermelons, coconut palms, spinach, artichokes, and cotton. Some of these subsequently found their way into the Middle East and Africa and by the thirteenth century to Europe as well.²⁹ Both cotton and sugarcane, associated with complex production processes and slave labor, came to play central roles

Connection
In what ways was the world of Islam a "cosmopolitan civilization"?

in the formation of the modern global system after 1500. These new crops and the development of the intensified agricultural techniques that often accompanied them contributed to increased food production, population growth, urbanization, and industrial development characteristic of the Muslim Middle East in early Abbasid times.

Technology too diffused widely within the Islamic world. Ancient Persian techniques for obtaining water by drilling into the sides of hills now spread across North Africa as far west as Morocco. Muslim technicians made improvements on rockets, first developed in China, by developing one that carried a small warhead and another used to attack ships.³⁰ Papermaking techniques entered the Abbasid Empire from China in the eighth century, with paper mills soon operating in Persia, Iraq, and Egypt. This revolutionary technology, which everywhere served to strengthen bureaucratic governments, spread from the Middle East into India and Europe over the following centuries.

Ideas likewise circulated across the Islamic world. The religion itself drew heavily and quite openly on Jewish and Christian precedents. Persia also contributed much in the way of bureaucratic practice, court ritual, and poetry, with Persian becoming the primary literary language of elite circles. Scientific, medical, and philosophical texts, especially from ancient Greece, the Hellenistic world, and India,

were systematically translated into Arabic, for several centuries providing an enormous boost to Islamic scholarship and science. In 830, the Abbasid caliph al-Mamun, himself a poet and scholar with a passion for foreign learning, established the House of Wisdom in Baghdad as an academic center for this research and translation. Stimulated by Greek texts, a school of Islamic thinkers, known as Mutazalites ("those who stand apart"), argued that reason, rather than revelation, was the "surest way to truth."³¹ In the long run, however, the philosophers' emphasis on logic, rationality, and the laws of nature was subject to increasing criticism by those who held that only the Quran, the sayings of the Prophet, or mystical experience represented a genuine path to God.

But the realm of Islam was much more than a museum of ancient achievements from the civilizations that it encompassed. Those traditions mixed and blended to generate a distinctive Islamic civilization with many new contributions to the world of learning.³² (See the Snapshot.) Using Indian numerical notation, for example, Arab scholars developed algebra as a novel mathematical discipline. They also undertook much original work in astronomy and optics. They built upon earlier Greek and Indian practice to create a remarkable tradition in medicine and pharmacology. Arab physicians

A Muslim Astronomical Observatory

Drawing initially on Greek, Indian, and Persian astronomy, the Islamic world after 1000 developed its own distinctive tradition of astronomical observation and prediction, reflected in this Turkish observatory constructed in 1557. Muslim astronomy subsequently exercised considerable influence in both China and Europe. (University Library, Istanbul, Turkey/The Bridgeman Art Library)



Snapshot Key Achievements in Islamic Science and Scholarship

Person/Dates	Achievement
al-Khwarazim (790–840)	Mathematician; spread use of Arabic numerals in Islamic world; wrote first book on algebra
al-Razi (865–925)	Discovered sulfuric acid; wrote a vast encyclopedia of medicine drawing on Greek, Syrian, Indian, and Persian work and his own clinical observation
al-Biruni (973–1048)	Mathematician, astronomer, cartographer; calculated the radius of the earth with great accuracy; worked out numerous mathematical innovations; developed a technique for displaying a hemisphere on a plane
Ibn Sina (Avicenna) (980–1037)	Prolific writer in almost all fields of science and philosophy; especially known for <i>Canon of Medicine</i> , a fourteen-volume work that set standards for medical practice in Islamic and Christian worlds for centuries
Omar Khayyam (1048–1131)	Mathematician; critic of Euclid's geometry; measured the solar year with great accuracy; Sufi poet; author of <i>The Rubaiyat</i>
Ibn Rushd (Averroës) (1126–1198)	Translated and commented widely on Aristotle; rationalist philosopher; made major contributions in law, mathematics, and medicine
Nasir al-Din Tusi (1201–1274)	Founder of the famous Maragha observatory in Persia (data from Maragha probably influenced Copernicus); mapped the motion of stars and planets
Ibn Khaldun (1332–1406)	Greatest Arab historian; identified trends and structures in world history over long periods of time

such as al-Razi and Ibn Sina accurately diagnosed many diseases, such as hay fever, measles, smallpox, diphtheria, rabies, diabetes, and more. In addition, treatments such as using a mercury ointment for scabies, cataract and hernia operations, and filling teeth with gold emerged from Arab doctors. The first hospitals, traveling clinics, and examinations for physicians and pharmacologists also were developed within the Islamic world. In the eleventh and twelfth centuries, this enormous body of Arab medical scholarship entered Europe via Spain, and it remained at the core of European medical practice for many centuries.³³