

Contribution of Muslim Physicians and Scholars of Spain During the period between the ninth and thirteenth Centuries

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Abstract

The period of the 9th to 13th centuries is regarded as a golden period of Muslim history during which Muslims had established the most powerful empire and had produced the most brilliant physicians, scientists and scholars. These scholars made their original contributions and significant additions to existing scientific knowledge. In Cordoba ("Qurṭubah") and other cities of Spain, Muslim scholars established some of the most renowned universities where European scholars came to learn. Muslim scholars achieved excellence in all sciences, including but not limited to, mathematics, astronomy, philosophy, chemistry and medicine. They established general hospitals with speciality units, defined criteria for admission to medical schools and described characteristics of a competent physician. Christian scholars subsequently translated the most valuable material from Arabic to Latin and these books served as standard textbooks in European universities for several centuries. The Muslim contributions became the basis of culture, scientific and technological achievement which as had a lasting influence on the world. I do hope that the knowledge of the work done by the Muslim scholars during the 9th to 13th centuries period will serve as a source of inspiration to current and future Muslim generations.

Key words: Muslim physicians, Muslim scholars, 9th-13th centuries, Muslim Spain.

One of the golden periods of Muslim history was between the 8th and 15th century when Muslims ruled Spain and contributed a great deal to the enhancement of scientific knowledge and civilization.

In the year 711 A.D. a young Muslim soldier named Ṭāriq ibn Ziyād landed in Spain with 12,000 soldiers and within one year the whole of Spain was

conquered.¹ Muslims ruled Spain for about the next 800 years. Muslim Spain rose to its height of glory during the reign of 'Abdul Raḥmān III from 912 - 961 A.D. Cordoba ("Qurṭubah") was the capital of Muslim Spain and was perhaps the most flourishing city in the world. Qurṭubah had a population of half a million, with 700 mosques, 40 hospitals and 80 libraries which contained 500,000 manuscripts.² This was the largest collection of books in the then known world and included works of great Greek and Muslim scholars. Qurṭubah's famous mosque has inspired the Muslim scholars even in the modern ages. Iqbal's famous poem "Masjid Qurṭubah" was a source of inspiration to thousands of Muslims. It was from Muslim Spain that the modern civilization spread over the whole of Europe. European scholars came to Spanish universities and returned home with teachings of Muslim scholars. Muslims can rightfully

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claim the distinction of having introduced civilization, culture and enlightenment to Europe of the dark ages. Muslim Spain with its renowned universities of Cordoba, Seville and Valencia was the most important center of learning in the world during the middle ages.

Islam, with its tolerance and encouragement of both secular and religious learning, created the necessary climate for free exchange and propagation of ideas and knowledge. Arabic became the international language of science in a short period.¹

When the rest of Europe was struggling to come out of the darkness of illiteracy, Muslim Spain was the center of a civilization which illuminated the whole world with the light of its brilliance. "The world is held up by four pillars; the wisdom of the learned, the justice of the great, the prayers of the righteous and the valor of the brave" was the inscription most often found above the entrances of the universities in Spain during the Muslim era.⁴ The list of the Spanish Muslim scholars of science and philosophy, which contributed to the enhancement of the world's knowledge, is very long. Few names stand out from among these.

'Abul Qasim al-Zahrāwī (936-1035 A.D.) also known as Albucasis in the West, was an eminent 10th century surgeon in Spain. He was the court physician to Caliph al-Hakam II (961-976 A.D.). He was very skilled in the use of simple and compound remedies and thus he was also known as the "Pharmacist Surgeon". He wrote an encyclopedia of medicine and surgery entitled "al-Taṣrīf li-man 'ajaza 'an al-Ta'ālīf". This encyclopedic work contains 30 treatises dealing with anatomy, physiology, dietetics, medicine and surgery. Al-Zahrāwī had a sound knowledge and understanding of the relevance of anatomy in surgical procedures. He stated that the art of medicine is lengthy and one should practice anatomy before entering in surgery (referred by al-Zahrāwī as a "hand operation"). The first two treatises were mainly devoted to human anatomy. The last three treatises were primarily devoted to surgery. The first dealt with cautery, which was used extensively in Arabia and it contained a detailed description of the use of various instruments. There was also an extensive description of incisions, perforation, wounds and the healing of wounds. The second book was devoted mostly to lithotripsy, lithotomy, fractures, dislocations and special treatment of fractures of the pelvis. The third book described detailed procedures of ophthalmic (cataract) operations and dental surgery. One hundred and five chapters were devoted to describing the details of various operative procedures including amputation and the crushing of bladder stones. He used the grooved probe for dislodging urethral obstructions and invented a sponge tipped probe for dislodging foreign particles from the gullet. He also used a

syringe for the irrigation of the bladder and the cleaning of the ear. In addition, al-Zahrāwī wrote about obstetrics describing instruments used for delivery. His books contain the pictures of gynecological instruments used in the 10th century, e.g. vaginal speculum and instruments to perform craniotomy for delivering the dead fetus. Al-Zahrāwī also treated hydrocephalus in young children by making a small hole in the skull by means of cauterization to extract the fluid. His last treatise contained a description of 200 surgical instruments. The majority of these instruments were devised, designed and used by al-Zahrāwī himself.^{1,3,4}

His celebrated writings were translated into Latin by Gerard of Cremona in 1187 A.D. and were used as the standard textbook of medicine in Europe for several centuries. His writings on anatomy and surgery raised the author to the level of Hippocrates and Galen. In fact, his work represented the first step of surgery as an independent specialty away from medicine, grounded on the knowledge of anatomy. "Al-Taṣrīf" became famous in the universities of Europe in the Middle Ages and was the chief reference work for surgery in the universities of Italy and France.⁷

Al-Zahrāwī was the first to establish a large medical school in Muslim Spain. He was very meticulous about maintaining a high standard of education and medical ethics. He encouraged discipline and a positive attitude. Al-Zahrāwī was against the use of alcoholic beverages in therapy. He discussed problems related to alcohol addiction and some of the consequences resulting from chronic alcohol use e.g. melancholia, convulsions, heart attacks and cirrhosis of the liver. Al-Zahrāwī wrote extensively about child rearing, discipline and the responsibility of teachers and parents. "Al-Taṣrīf" also contained a description about discipline and temperament. He advocated compassion as well as chastisement when his students lied or cheated. He described the conventional code of behavior in adolescents, and emphasized that students should be instructed about the way they speak, sit, eat and drink, and relate to others. Al-Zahrāwī was one of the first scholars in Islam to promote the nursing profession, and encouraged women to become midwives. Because of his enthusiasm and devotion, good hospitals and nursing care was enhanced in Andalusia.⁴

Ibn Haṣm (994-1064 A.D.) was one of the intellectual giants of Muslim Spain. He was a scholar and a prolific writer, having written 80,000 pages in four hundred volumes on various subjects including Islamic theology, history, philosophy, science and medicine. He was born and grew up during the glorious period of Muslim Spain, but he had also seen the political divisions and internal wars which subsequently resulted in the decline of Muslim power

there. He took a leadership role in reforming the social, political, scientific and religious institutions to prevent them from decline. He was convinced that all worldly things including sciences were subordinate to Islam. His thorough knowledge of the Qur'ān and Ḥadīth (Prophet Muḥammad [PBUH] sayings) made him an expert on Muslim jurisprudence. He, like many other scholars of that time faced strong opposition, and restrictions were imposed upon him. However, his ideas survived and influenced many succeeding generations. His most famous work is "Marātib-ul-'ulūm" (the categories of the sciences), which discussed the importance of true research based on observation and inference not just on philosophical or hypothetical ideas. He also emphasized the harmonization and interdependence of the religious and secular sciences. He emphasized the pursuit and study of as many sciences as possible within the ability of the individual. Ibn Ḥazm wrote extensively on the subject of medicine. He divided the science of medicine into two parts: the science of the soul, which is the result of science of logic and deals with moral conduct and behavior, and the science of the body, which consists of the knowledge of the nature of the body and of illness, its causes and responses to diet and drugs. He described the medicine of the body in two parts; a) surgery dealing with cauterization, amputation, etc. and b) knowledge of drugs. He further divided illness into two parts; preservation of health by preventing the occurrence of diseases and the treatment of diseases when they occur. Ibn Ḥazm also wrote about what is expected of a good doctor. "A doctor should be kind, understanding, friendly, good and able to endure insults and criticism. He must keep his hair short, his finger nails clean, he must wear white clean clothes and behave with dignity".

Even until the Renaissance, Christian scholars tended to confound astronomy with astrology and chemistry with alchemy. Ibn Ḥazm was outspoken on this point. He was a staunch antagonist to people who supported the ideas of talisman, magic, alchemy and astrology. He described astrology and alchemy as pseudosciences which were unproven, false and forged subjects. Andalusian scholars also had to deal with theological problems posed by the introduction of Greek philosophy into a context of Islam. How could reason be reconciled with revelation? Ibn Ḥazm was one of the first to deal with this problem. He had no difficulty in relating logic to Islam. He gave illustrative examples of how it could be used in solving legal problems drawn from the "Sharī'ah" (Islamic Jurisprudence). Nothing illustrates the ability of Islam to assimilate foreign ideas better, than Ibn Ḥazm's words in the introduction to his work, "Let it be known that he who reads this book of ours will find that the usefulness of this kind of work is not limited to one single discipline, but includes the

Qur'ān, Ḥadīth and legal decisions concerning what is permissible and what is not, and what is obligatory and what is lawful." Ibn Ḥazm wrote a large and detailed commentary on Aristotle's "Posterior Analytics". He supported certain Aristotelian concepts with enthusiasm and rejected others. He considered logic a useful tool and philosophy to be in harmony, or at least not in conflict, with revelation. He was regarded as the most observant, most careful in analysis, and most meticulous in detail and clarity of his position. His mastery of the Arabic language and his skillful use of poetry and prose are evident in all his work. His book "Ṭawq al-Ḥamamah" was a literary masterpiece in the art of love. He expressed profound insight about the dimensions of human relationships.^{1,10}

'Abbās ibn Firnās came to Qurṭubah in the middle of the 9th century to teach music (then a branch of mathematical theory), then became interested in the mechanics of flight. He constructed a pair of wings made out of feathers in a wooden frame and attempted to fly, anticipating Leonard de Vince by some 600 years. He later was involved in the regularity of the facets of certain crystals and developed a formula for manufacturing artificial crystals.¹

Al-Idrisi (1100-1166 A.D.) was a famous geographer born in southern Spain. He studied in Qurṭubah and travelled widely, in Spain, North Africa, Anatolia, France and England. He settled in Sicily, where he was employed by King Roger II to write a systematic geography of the world. He wrote one of the greatest books of descriptive geography, which is still famous as a classic "Kitāb Nuzhat al-Mushtāq fī Ikhtirāq al-'āfāq" (The pleasure of excursion of one who is eager to traverse the regions of the world). This book is usually known as "The Book Rogers". It represents a serious attempt to combine descriptive and astronomical geography. Al-Idrisi described the world systematically following the Greek division of it into seven climatic zones of equal width. Each climatic zone was mapped and the maps were highly accurate for the time in which they were compiled. He employed men who were sent to various countries to observe and record what they saw. They were skilled in drawings and their work was used in compiling the information. Al-Idrisi described the customs, peoples, the distance between major cities, the products and climate of the entire known world. He prepared a silver planisphere on which a map of the world was depicted. This was regarded as one of the wonders of the world. Al-Idrisi also wrote scholarly books on medical matters. His work, "Kitāb al-'Adwiyah al-Mufradah" (book of simple drugs), contains several names of used drugs, in 12 languages, which showed his linguistic capabilities.^{1,11}

Ibn Zuhr (1113-1199 A.D.) is known in the West as Avenzoar, was a famous Seville physician who

taught and practiced medicine in Andalusia in the 12th century. He mastered anatomy and described in detail the inflammations, abscesses and tumors of the mediastinum and the way to distinguish them from pleurisy and pericardial abscesses. From his writings it would appear that medicine, surgery and pharmacy were considered to be distinct professional specialties. He mentioned for the first time the operation of tracheostomy which was his original contribution to surgery. One of his works "al-Taysir fil Mudawah wal-Tadbir" (book of therapeutics) was translated into Latin in 1280 A.D. and became a standard textbook of medicine in Europe until 1550 A.D. He opposed the superstitious remedies of astrologers as fakes. He introduced the laws of scientific observation and described the natural course of healing. His other famous book on foods and drugs was "Fil-'Adwiyah wal-'Aghdhiyah". This was also used as a standard textbook of medicine. His third famous book "Kitāb al-Iqtisād" (book of moderation) deals with therapeutics, psychotherapy and hygiene. He is said to be the first physician to have described artificial feeding through the gullet and operations for renal calculus and tracheostomy. Medicine as a profession continued in his family for six generations.³⁻⁶

Ibn Rushd (1126-1198 A.D.) is known in the west as Averroes. He was a famous philosopher of Andalusia, born in Qurtubah, studied the Qur'ān, Ḥadīth, Islamic law, astrology, mathematics, philosophy and medicine. He was appointed chief judge of Qurtubah, but was arrested because of his strong views in philosophy and religion. However, he was soon released and later appointed as a judge in Seville. He earned a great reputation as an ardent Aristotelian and had written commentaries on Aristotle which gave him the popular title "the commentator". His clear penetrating mind enabled him to present Aristotelian thoughts in a comprehensive, clear way. He added his own distinctly Islamic philosophic ideology to these thoughts. This work had a strong and positive influence on the development of European philosophy. His teachings and impact on Western Christian philosophers of the Middle Ages is called Averroism. Ibn Rushd stated that the aim of philosophy in its quest for truth is to establish the true inner meaning of religious beliefs and conviction. The inner meaning must not be divulged to the masses, who must accept the plain, external meaning of scriptures contained in stories, similes and metaphors. The unity of the outlook in Ibn Rushd's religious, philosophical writings and his commentary on "The Republic" by Plato gives his political philosophy a distinctly Islamic character and tone and thereby added to his significance as a religious philosopher. His work in its Latin translation, had a lasting effect on the development of European philosophy. His most important medical

work "Kitāb al-Kulliyāt fil-Ṭibb" was an encyclopedia of medicine. It dealt with anatomy, physiology, pathology, hygiene and therapeutics. He was the first to discover an immunity against smallpox. Ibn Rushd also served as a personal physician to two Caliphs of Andalusia.^{3,11,12}

Ibn al-'Arabī (1165-1240 A.D.) was a famous Sūfī Muslim philosopher of Spain. He incorporated many fragmented and nonsystematic mystic doctrines into a system and gave an explicit theoretical formulation. His famous work "al-Futūḥāt al-Makkiyyah" described the esoteric science in Islam. He was a literary master who wrote "Turjumān al-Ashwāq", a collection of love poems upon which he himself composed a mystical commentary. His other work "Fuṣūṣ al-Ḥakīm" was regarded as a masterpiece of mystic thoughts in Sufism.¹⁴

Ibn al-Bīṭār was an Andalusian botanist of the 13th century. He visited Africa, India and Europe to learn about plants and animals. He published three books on the medicinal plants, minerals, metals and animals. His famous book on Materia Medica is called "Collection of Simple Drugs and Foods". It is an alphabetically arranged compendium of medicinal plants. He also wrote Arabic, Roman and Berber names of the plants and gave information about the preparation of the drugs and its administration. Muslims produced the first pharmacopoeia and established the first apothecary shop. His book "al-'Adwiyah al-Mufradāh" was translated into Latin and printed in 26 editions during and after the 15th century and used in the formation of the first London pharmacopoeia issued by the College of Physicians during the reign of King James I.^{3,6,12}

Ibn al-Khatīb was another great Andalusian physician who did extensive work on the theory of contagion. He discovered the fact that if an individual was in contact with infection, he gets the disease, whereas he who was not in contact remains free. He also wrote about transmitting the disease through garments, vessels and earrings, etc.³

Ibn Khaldūn (1332-1406 A.D.) was one of the greatest social scientists of the world. He was not born in Spain, but his ancestors and family were from Seville, Spain. He spent a major part of his life in Spain. He was the first historian who sought to develop and explicate the general laws which governed the rise and decline of civilization. He was a philosopher, historian and an outstanding social scientist. He wrote extensively on human society in general and Islamic society in particular. He constantly referred to other cultures for comparative purposes. His study of the nature of society and social changes was described in a new science called "Ilm al-'Umrān" (science of culture/civilization), which described human society and social transformation. He gave a sophisticated analysis of how human societies evolved from nomadism to urban

centers and how and why these urban centers decayed and finally succumbed to less developed invaders. Anyone interested in the problems of the rise and fall of civilization, the decay of cities and the complex relationship between technologically advanced and traditional systems, should read ibn Khaldūn's famous work "al-Muqaddimah" (The Introduction). This is, in fact, a philosophy of history, providing criteria necessary for distinguishing historical truth from error. His work was regarded as undoubtedly the greatest work of its kind that has ever been created by any mind in any time or place. As a theorist on history, he had no equal in any age or country.¹⁻¹³

Muslim Spain, like Damascus in Syria, and other major Muslim cities of the Middle Ages, was the center of scientific and medical knowledge for the world. This was the time when the position of medicine was dismal. Medical teaching was virtually nonexistent. Europe's mental inertia began to come to an end in the 12th and 13th centuries when they became aware of the wealth of knowledge in the Muslim world. Thus the period of translation from Arabic to Latin began and European scholars journeyed to Spain to learn and translate Arabic manuscripts and returned to their native land to pursue their various fields. Thus the Muslim scientific and medical work was studied in Europe and proceeded to exert a powerful and lasting influence on the Western intellectual movement.⁷ Towards the end of the 12th century, a decline in Islamic medicine began to take place. Although its literary output did not diminish, it was mainly restricted to commentaries or reproduction of the famous works of the past. The decline and the eventual fall of the great civilization saw its greatest tragedy in the destruction of vast stores of knowledge accumulated through centuries by hundreds of scholars. Of the literally millions of books in the Muslim libraries, only about 250,000 volumes were saved in Eastern and Western libraries, and the rest were destroyed by the conquering Christian lords and with them, the achievements of a great many scholars and scientists were forever lost.

After the fall of "Ghīrnāṭah" (Granada) in 1492 A.D., the Muslim states ceased to exist and many of the original Muslim elite left Spain and migrated to Morocco, Turkey, Egypt and Tunisia where they were received with sympathy and understanding. The Muslim masses were left in Spain uncared for under the Christian rule. Arabic was removed from the administration, schools attached to the mosques were barred from teaching academic and secular subjects e.g. science, mathematics, and history books were rewritten so that the future generations would not know of their glorious past. Islamic law was abolished from the land. Christian converts to Islam were

persuaded to reconvert to Christianity. Within a hundred years Muslim masses gradually fell out of the grips of Muslim leadership. Most of the remaining Muslims were forced to change their religion, leave the country or they were simply executed.¹⁴ Within three centuries, hundreds of thousands of Muslims had died and three million people were driven to exile. The once brilliant Muslim universities deteriorated and thus ended the great Muslim civilization in Spain.

One wonders about the possible shape of the world today if the Muslims could have continued their reign of Spain and Muslim scientists and scholars could have continued with research and improving the sciences and technology. Maybe the world would have given more respect and recognition of Islamic contributions to the sciences and civilization. Perhaps the coming generation of Muslims will learn from history and rekindle that light again and follow in the footsteps of their ancestors.

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Muslim Spain A Page from Islamic History

By M. Basheer Ahmed, M.D.

I always had a desire to visit Spain. I had read extensively about the great Muslim empire in Spain. The majesty and beauty of that long-gone era had been brought home to me by Allama Iqbal's poignant poem on Majid Qurtaba. As I stood in the vast courtyard of this magnificent mosque, emotions too powerful to put into words overcame me. A myriad of thoughts criss-crossed my mind as I felt transformed to another world. I had never before been so incredibly proud of my Islamic heritage. History seemed to roll in colorful and moving vignettes through a troubled and confused mind. How could we have lost such a glorious empire? The visit to the famous cities of Cordoba and Granada was like a dream come true.

In the spring of the year 711, a young Muslim soldier named Tariq bin Ziad landed at what was to be called Jabl ul Tariq (Tariq's mountain now called Gibraltar) with 12,000 devoted Muslim soldiers. As he faced the vastly superior army of Spain's Visigoth king, he declared to his men, "Before us is the enemy, behind us is the sea; we have but one choice." History bears eloquent testimony of his men's response to these striving words. The whole of Spain was conquered by the forces of Islam within a year. Muslims were to rule Spain for the next 800 years (712-1492). Initially Muslims kept Toledo as the capital. Four years later (716) Cordoba was declared the capital of the Muslim Spain — Andalusia. This new state existed as a part of Khilafate Omayyad for some 40 years. In 756 A.D., Prince Abdul Rahman I, an intelligent and energetic man from the Omayyad dynasty, proclaimed the independence of the western Islamic state in Spain — Andalusia. He reigned from Cordoba as its capital. He worked diligently to make Muslim Spain into a strong and highly organized state. The most famous and magnificent Al Jumma Mosque of Cordoba is located at the side of the river Guadalquivir and stands in poetic testimony to his rule. One of the oldest and largest Mosques in the world, it was declared by UNESCO as a mankind patrimony in 1986 at the occasion of its 1,200th anniversary. The mosque has three separate parts: a *minaret*, an abutment court and a covered prayer area. It was built not only for prayers, but was envisioned as a centerpiece of the most brilliant civilization of the known world. The structure of the mosque is supported by 850 majestic columns and the large central dome incorporates a breathtaking mosaic made of 35 tons of gold and glass pieces. From the mosque's entrance to the *Mihrab*, the distance is so great that very little light reaches the inner sanctum and this magnificent gold and glass dome serves as the skylight. On the *Mihrab* and on the surrounding walls, Qur'anic inscriptions in beautiful calligraphy are engraved. Once inside, one is entranced by a subtle and moving interplay of light and shadows through a forest of columns and arches. But above all there is an overwhelming sense of awe and mysticism and a religious aura that demands respectful silence and makes one forcefully aware of the sacred place.

Allama Iqbal, the famous philosopher poet of the India-Pakistan subcontinent, was so moved by this magnificent mosque that he wrote the famous poem of "Masjid e Qurtaba," which became a source of inspiration for thousands of Muslims.

Muslim Spain rose to its height of glory during the reign of Abd al Rahman III from 912-961. He was one of the greatest rulers in the history of Muslim Spain. He declared himself Caliph of the land in 929. Under his leadership, Cordoba became the center of learning and culture in Europe for Muslims, Jews and Christians alike. Cordoba was perhaps the most flourishing city in the world and certainly the most advanced of all in its cleanliness, street lighting and other municipal facilities. While the streets of London had no public lamps for several hundred years to come, the streets of Cordoba were solidly paved and well lighted.

The Caliph had the cooperation of the Jews from the very beginning. Spain was the only country at the time where they found a real home, after prolonged persecutions from the Christian rulers of Europe. Unlike Visigoths who either baptized or exiled their Jewish subjects, the Muslims were tolerant of both Christians and Jews whom they respected as people of the Book. Jews especially held the highest offices in the state administration. Under Abd-al-Rahman III and his successors, Cordoba blossomed into a metropolis of 21 suburbs, 200,000 houses with a population of one-half million. It had 40 hospitals, 700 mosques, and 500 public baths where hot and cold water ran into silver plated basins and clients were offered rose water for their use free of charge. At a time when Christian kings could barely write their names and scarcely a library north of Pyrenees had more than 500 books, the Caliph established 80 libraries just in Cordoba with a collection of 500,000 manuscripts. This was the largest collection of books in the then-known world and included the works of Aristotle and other Greek philosophers. The works of Muslim scientists and scholars eventually filtered into Northern Europe through translation by Christian and Hebrew scholars. The University of Cordoba attracted men from all parts of the world. Some of the most distinguished teachers of the time lectured there on theology, literature, mathematics, astronomy, science, medicine, and philosophy. The largest city in Western Europe, Cordoba ranked with Baghdad and Constantinople as the most renowned cultural and intellectual centers of the world. It was from Muslim Spain that the era of modern civilization dawned over the whole of Europe. European scholars flocked to these Spanish universities and returned home to spread their ideas.

Of the extensive royal architecture that once crowded Muslim Cordoba, little survives. By far the grandest palace, a Versailles of its time, was built by Abd-al-Rahman III five miles northwest of the city at the foot of the Sierra Morena. For 25 years, until its completion in 961, he lavished on it a third of the royal budget. He named it Madinat al-Zahra, meaning the city of Zahra (Rose). Under his son and successor, al-Hakam II, it grew into a small city with double walls each as thick as 15 feet enclosing the complex. According to one account, Hakam's family, his generals, scribes, workmen and shopkeepers all gave it a population of 20,000, to which the royal bodyguard added another 12,000. But

Madinat al-Zahra underscores another of history's lessons: Even great powers are mortal. Barely 50 years after its completion, the great palace lay sacked and leveled as the caliphate dissolved into a score of bickering city-states. Amid the chaos that followed, many Muslim rulers became clients of northern Christian princes, and religious boundaries often became obscured.

Finally the forces of timeless history asserted themselves. Corruption, nepotism, power, politics and the ever present external threat from across the borders led to the weakening of the inner structure of the Muslim state. In 1085 Alfonso VI of Castile captured the city from Muslims. The re-conquest of Spain by the Christians had begun. However, for several years after the fall of Toledo, the city remained bilingual and the Muslims held several important administrative positions. Alfonso X patronized an important 13th century translation school where Muslim, Jewish and Christian scholars collaborated to translate Arabic manuscripts into Latin. The most famous works that were translated into Latin and introduced to the rest of the European countries include *Commentaries on Aristotle* by Ibn Rusd (Averroes), *Alkawrizimi's Algebra*, and Ibn Sinas famous book on medicine, *The Cannan*, which remained Europe's standard textbook of medicine until the 16th century. There are several buildings still preserved in Toledo that were built by Muslims. These are: the Besagra gate, Al Canbura bridge, Taller Delore palace (walls of this palace contain several inscriptions from Qur'an), the Cathedral (originally built as a Mosque), the Al Cazar Palace and the famous Mosque of Cristodelaluz. Outside the wall of the Mosque there is an inscription in Arabic that says, "Only Allah is great."

The fall of Toledo (1085) drove Spanish Muslims to desperation. They sent for armies of the Berber Muslims, the Almoravids, who poured in from Morocco to stem the Christian advance. But the newcomers soon seized power for themselves to unite Muslim Spain with North Africa, which they ruled from their capital in Marrakech. Gradually, these desert warriors also succumbed to the new found luxury, and half a century later another wave of North African puritans, the Almohads, crossed the strait of Jabal ul Tariq to replenish them. In 1170, the Almohad ruler Yaqub Yusuf, moved the Spanish capital to Seville. Panaramic views of which can still be enjoyed from Sultan Yaqub's 300-foot tall minaret, one of the three sister towers he commissioned. Two others survive in Rabat and Marrakech.

Eventually the Caliphate broke up into a number of petty kingdoms that were unable to stand up to the Christian kingdoms of Northern Spain. Even after a new dynasty of Muslims from Sahara took over Andalusia, Cordoba fell to the Christian Recoquista in 1236 and Seville 12 years later. Muslim lands shrunk to a mere 200 mile long bastion in Spain's southwest area from Gibraltar to Almeria.

The last dynasty to rule Spain was Nasrid Dynasty (1231-1492) from Granada. During their reign they built a magnificent palace/fortress called Alhambra. Six-hundred years later the palace still retains its beauty and charm. In the inner section of the palace the courtyard is called the court of the lion, and is famous for its singing water and

dancing fountains. Water was diverted from the river Darzo, which was many miles from the city, and was stored at a higher level than the palace. It ran down to the palace courtyard causing all the fountains to sing and dance using a technology not known to the Europe of the middle ages. Throughout the palace there are numerous Arabic and Qur'anic inscriptions. One Arabic line is repeated throughout the palace meaning "Nothing is eternal and powerful but God." The last king of the Nasrid Dynasty was Abu Abdullah (Babdil) who was deported in 1492. The sun had finally set on the Muslim empire in Spain.

I hope that the coming generation of Islam will learn from history and rekindle that light again in the footsteps of their ancestors.

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Discipline and Exhortation of True Believers

By Dr. Fouad Ayad

Blessings of Fasting

Fasting is highly rewarded by Allah Almighty as described in the Holy Qur'an.

- It was narrated by Imams Bukhari and Muslim that Prophet Muhammad (peace be upon him) said:

"A Muslim who fasts shall experience joy twice, once at sunset when he resumes eating and drinking, and another time in the Hereafter when he meets Allah Almighty."

Fasting needs strong willpower. It is a worship done in private. No one but Allah Most Gracious knows about it. It is a secret between Allah and the Muslim. Fasting weakens the evil in the worshipper and diminishes his natural instincts and desires. It is a protection against committing any sin.

Conditions of a Perfect Fast

- During his or her fast, a Muslim has to cast down his eyes to avoid looking at a forbidden object that may be tempting or distracting from praising Allah Almighty at that time.
- During his fast, a Muslim must watch his or her tongue by avoiding lies, backbiting, saying any obscenity or being engaged in any argument during his fast.



MOORISH SPAIN A LIGHT SLOWLY FADES

IN A MERE hundred years, the Prophet Muhammad's followers spread the word of Islam westward from Mecca through North Africa to Spain and France, where their advance was halted in 732 (map, top right). It took seven centuries for the Christians to reconquer

their territory. The first major city reclaimed was Toledo, taken in 1085 by Alfonso VI of Castile and León. Under his tolerant rule Moors, Jews, and Christians flourished, and the city became a renowned intellectual forum. In 1236 prosperous Córdoba, seat of the