

# Muslims Achieved the Highest Status in The Fields of Medicine, Math, Philosophy, and all Sciences. What happened?

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## Abstract

During the medieval era, Muslim scholars and scientists made significant contributions in fields such as mathematics, astronomy, medicine, law, history, pharmacology, optics, agriculture, and architecture. Institutions such as the House of Wisdom in Baghdad helped bring together scientists and philosophers from various ethnic and religious backgrounds and helped make the city a center for knowledge. Universities in the Muslim world attracted students from around the world. However, during the 11th century, theologians began to oppose the study of philosophy and science, and the withdrawal of support from the government led to a decline in scientific pursuits. By the 15th century, universities no longer taught science and philosophy and very little scientific work was being published. The Ottoman Empire was slow to adopt the printing press, and this also contributed to the decline. The destruction of universities and observatories by fanatical individuals and the effects of colonialism were also factors in the decline.

The paper will discuss how to gain the lost status and prepare young Muslims to become innovators and scientists.

I was asked to present a paper on “Muslim physicians of Spain in the medieval era at the international convention of the Islamic Medical Association of North America which was held in Granada Spain in June 1990. I had to do some research to write this paper as I did not have much knowledge in this area. I wrote about 6 scholars, Al Zaharawi, Ibn Hazam, Ibn Bitar, Ibn Khatib Ibn Rushd, and Ibn Khaldoun<sup>1</sup>. Muslims made a vital contribution to many fields of science, astronomy, mathematics, algebra, law, history, medicine, pharmacology, optics, agriculture, and architecture, Muslim mathematicians created the algebra and algorithms that would enable the building of

computers, Muslim doctors examined the human body and found new cures for disease. Muslim astronomers investigated the movements of celestial objects, named the stars, and paved the way for further exploration. Muslim scholars and scientists’ contributions helped lift Europe out of the Dark Ages and into the great Renaissance.

Most Westerners believed that the world had plunged into literary ignorance for more than a thousand years after the decline of the Roman Empire in the fifth century. Most Western scholars deliberately ignored the

contributions of Muslim scientists to the world. Unfortunately, most Muslims do not know the great contributions made by Muslim scholars to world civilization.

Muslims are inspired by Quranic verses and prophets' sayings. The first verse of the Quran says "Read! In the Name of your Lord, who has created (all that exists). Has created man from a clot. Read! And your Lord is the Most Generous, Who has taught (the writing) by the pen, has taught man that which he knew not." (96:1-5) A man cannot only read and understand things but can also write them for future use.

When Muslims conquered new territories of the Byzantine empire they were amazed and fascinated by the new fields of knowledge i.e. Science and philosophy. Not only did they acquire new knowledge, but they also made great contributions to science, philosophy, and mathematics for 8 centuries (7-15th). The Abbasid Khalifahs supported education. They established the great institution Bait ul Hikmah (House of Wisdom) in Baghdad, which served as a center for the translation of thousands of books from Greek, Latin, Roman, Chinese, and Indian languages to Arabic. They attracted the best scientists, philosophers, and theologians, irrespective of their ethnic or religious backgrounds. This helped Baghdad become the center for knowledge, culture, and trade.

Great universities were established in the entire Muslim world (Baghdad, Cordoba, Egypt, Iran, Turkey, and Uzbekistan) where students from all over the world were coming to study. These institutions promoted a vibrant intellectual curiosity and freedom of expression which was necessary for scientific inquiry and research. Thousands of scholars have contributed to science, philosophy, and mathematics. Some noted ones are Al-Haytham (physicist), Al-Razi (physician), Ibn Sina (physician), Al Biruni (Astronomy), Ibn Battuta (traveler), Jaber ibn Hayyam (chemistry), Al-Khwarizmi (mathematics), Al-Tusi (astronomer), Al-Masudi (geographer), Ulugh Bey (astronomer).<sup>2</sup>

Muslims acquired the paper-making technology from the Chinese in the year 751(400 years before Europe) which helped Muslim scholars preserve their knowledge in the form of books. Bayt al-Hikma is believed to have had the biggest library in the world in the 8th century.

I became curious about why the Muslims who reached the pinnacle in the world of knowledge by the 11<sup>th</sup> century are at the lowest end of the totem pole. I started

in-depth studies of the real reason for the downfall. I have read many articles and books and most of them blamed the Mongol attack on Baghdad which destroyed the universities and killed many scholars. Colonialism was postulated as another major reason.

No doubt the destruction of Baghdad and colonialism were the contributing factors, but I found that the main reason was that some theologians opposed the study of philosophy and science as they were concerned that it would weaken the faith. Another major factor was that the Suljuk khalifas who took power from Abbasids were convinced by their Great Vizier Nizam-ul-Mulk that educated people would demand democracy and khalifas would lose their power. The khalifas withdrew their support of great universities teaching science and philosophy. The universities were asked to change the curriculum to Islamic studies, which was developed by Nizam-ul-Mulk (dars-e-Nizamiyya). The more fanatical people even destroyed the laboratories and observatories. The great observatory built by Ulugh Beg was destroyed in 1490 and the great observatory built by Qutbuddin in Istanbul was destroyed in 1580.

The decline of the pursuit of knowledge of science and philosophy started in the 11<sup>th</sup> century and from the 15<sup>th</sup> century onwards, no university in the Muslim world was teaching science and philosophy, and very little scientific work was published in the Muslim world. The printing press was invented in Germany in the 15<sup>th</sup> century, but the Ottoman empire declined to use the printing press until the 17<sup>th</sup> century as it was declared haram by muftis.

Between the 15<sup>th</sup> and 18<sup>th</sup> centuries, Muslims still had great empires: Ottoman, Safavid, and Mughal. They built the empire on physical strength, but they did not keep up with the advances Europe was making in scientific and industrial development. All Muslim countries succumbed to colonialism between the 17-18<sup>th</sup> century as they could not stop the onslaught of Europeans.

Europeans transferred all intellectual work done by Muslim scientists by translating their work from Arabic to Latin, Greek, and other European languages but they failed to recognize the monumental work done by great Muslim scholars like Al-Haytham, and al-Zaharawi. al-Biruni, Ibn Sina, and Ibn Khaldun due to racism and Eurocentrism maintain their superiority.

After 2 centuries, Muslim countries gained independence in the 20<sup>th</sup> century from the clutches of colonialism, but they remained educationally backward and behind in industrial and scientific development. Countries that gained independence after the Muslim countries, China,

Japan, South Korea, Taiwan, and Singapore have made great scientific and industrial progress, leaving the Muslims far behind.

## The Progress in Science During the Past Two Centuries.

Electricity has not only removed the darkness, but it is also used now in every home for air conditioning, washer/dryer, microwave, vacuum cleaning, and everything else. The big industries are running on electricity, producing goods for our daily use. The advances made in transportation from bicycles, automobiles, trains, and airplanes, make our life comfortable. Mass communication has developed, which makes it easier to communicate with people all over the world. Now you can talk by using WhatsApp to anybody around the world, free of charge. The computer and the Internet have now become an integral part of our daily life. Science has helped us to conquer many deadly diseases such as Tuberculosis, polio, smallpox, cholera, Typhoid, Malaria, and pneumonia. The new antibiotics are treating illnesses that were untreatable before. Diabetes and heart disease are becoming more manageable, prolonging life spans. Even the advances in glasses and hearing aids make life comfortable. X-rays are helping in the diagnosis of diseases. Complicated operations are performed with few fatalities. Meteorologists can forecast and predict thunderstorms and tornadoes, saving thousands of human lives. Now, the robots are making human life less tiring and more comfortable.

Science has changed our lives, making them safe and comfortable. All these happen in the last two centuries. Did Muslims invent any of the above discoveries I enumerated? We stopped gaining knowledge in science 700 years ago.

1.7 billion Muslims living in 57 Muslim-majority countries in the world constitute 25% of the world's population. However, only 1% of all scientists and 6% of scientific publications are made by Muslims. Muslims spend 0.5% of GDP on research and development vs 10% of spending by Western countries. The literacy rate is 40% in Muslim countries vs 90% in the Western world. The Muslim world has 500 scientists and technologies per million population vs 5000/per million in Western countries. There are 3 Muslim Noble laureates vs 195 Jewish Noble laureates. These statistics show the reason for poverty, backwardness, and

undesirable conditions in which Muslims are living nowadays.

The great Muslim scholars of the Medieval years were the product of the educational and cultural environment at its peak in the Muslim world. They did not see any dichotomy between religion and science and their motivation was to gain knowledge for the benefit of mankind.

Colonials reintroduced the subjects of science and technology in universities in Muslim countries. Despite resistance from Muslim ulama, few educationalists supported and promoted scientific education, such as Sir Syed Ahmed Khan in India, and Shaykh Abduh in Egypt. In the last 50 years, three Muslim scientists received the Noble Prize. Unfortunately, they had to do their major research work in Western countries. We have many young scientists emerging who were doing most of the work in Western countries.<sup>3</sup>

Our message to the young Muslim students is: "If our forefathers can do this, we can do it too." If we wish to achieve the same status, we need to restore the intellectual climate which was created by great Muslim scholars of medieval years and stimulate and motivate the young generation to accept the task of becoming innovators and scientists.

Allah says in the Quran, "Allah will never change their condition unless the people first act to change ourselves." (13:11)

The modern Muslim world has made very little contribution to science, and more scientific literature is created in India and Spain than in all the Muslim nations combined. We are preoccupied with the duality of "Dunya" and "Akhirat". We are focusing more on the "Akhirat", however, the two words "Dunya" and "Akhirat" occurred in the Quran 115 times each. We also make a dua several times a day, "Rabbanaatina fid-dunyahasatanun". Of the great scholars, Ibn Sina was Hafiz-ul-Quran and Ibn Rushd had extensive knowledge of Islamic fiqh. Some great scientists had a deep knowledge of Islam. We need to promote an integrated system of education where science and Islamic morals and values must be taught together. Keeping the balance between the materialistic and spiritual aspects is the purpose of human creation. Accumulation of wealth should not become a primary goal of education and science should not be developed for destructive purposes.

The word “tafakkur” appeared many times in Quran which means reasoning and critical thinking... Muslims should focus on critical thinking which is the key to scientific research and development. This is what is lacking in the Muslim world. The absence of scientific temper is the major factor for the decline. With all the wealth at our command, we still depend heavily on Western technology from transportation to communication, healthcare, and everything else. Our life depends upon the technology developed by non-Muslim western countries. The Quran says that the believers have been sent for the betterment of mankind and that they will promote what is good, and prevent what is wrong (3:110). God has given human being the gift of intelligence for critical and rational thinking and advised Muslims to “Amal Salehat”, which appears more than “waaqemussalatawaaatuz zakat”. Quran is directing us to use scientific discoveries and explore nature (created

by God) to improve human conditions, and this should be regarded as worship. We need to pay attention to the closure of the Muslim mind which has created a crisis for the ummah all over the world.

## References

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