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The Role Of Islamic Scientists In The Advancement Of Science

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The movement initiated by the Prophet of Islam which changed the history of the nations, despite the assumptions of a number of people, wasn't confined within the framework of a moral movement; it caused a fundamental scientific metamorphosis in human society as well. Even moral and social matters are based on logical, scientific reasoning.

Islam breathed new life in to the dying body of society and steered it in the direction of economic, scientific, and political progress. As a result, many surprising initiatives and discoveries came in to existence and, in numerous ways the positive aspects of today's civilizations are indebted to this Islamic movement.

As we know, before Muhammad's (S.A.W) appointment to the prophethood ignorance prevailed to such an extent that, as noted by historians, if among the Arabs a man knew how to read and write a little, he would have been called " perfect ". Today, we can still find people with this nickname.

The Christian world was not much better off. They were so imprisoned by their ignorance that when a man was once appointed Pope who accidentally had some knowledge and started to spread that knowledge, he was viewed with suspicion, because it was against their nature to be knowledgeable, and the Pope was accused of being possessed by the Devil. They declared that Satan had entered his body and had led him astray from the path of God and Jesus.

Yes, under such circumstances the holy call of

Allah will exalt those of you who believe, and those who are given knowledge, in high degrees (***Holy Qur'an, 58: 11***)

echoed throughout the darkness of that age and it did not take long for a revolution to take place and

such renowned scientists as Avecenna, Farabi, Zakaria Razi, Ibn Rushd and hundreds like them shined among the Muslims.

In Islamic countries, schools and libraries were established where many people studied to become scientists while, at the same time, Europe was ruled by ignorance.

Dr. Gustave Le Bon, a Christian scientist, has stated,

"When Islamic civilization was at its highest peak in Andalusia (Spain) our scientific centres were castles, our masters and rulers were living in a semi-barbaric state and they felt pride in not having any system of writing being illiterate. Among we Christians, the most knowledgeable one was the ignorant priest, who was extending his utmost effort just to take out the old Greek and Roman religious books, clean them and write some ambiguous comments on their pages."

In order to clarify the moral level of the Christians' civilization and also to prove what has been said, I refer to an interesting event from the Middle Ages[1].

In Italy, a man called Istan Mura voiced his doubt that Jesus was alive. The Committee for Investigation of Ideas detained him and reported his infidelity to the Pope. The Pope, after due consideration declared the man to be " legally dead".

Mr. Mura was then called before the Committee for the Investigation of Ideas and his forehead was branded by a red-hot iron so that everyone would see his "dead" status. Afterwards, the miserable man was not allowed to speak to anyone. His wealth was confiscated, his wife was married to another man and his children were also taken away from him. The night that his wife was married again, after much difficulty he met them and said:" You are my wife: how can you marry someone else?" The woman did not reply, and the crowd of people nearby laughed. The condemned man ran through the streets, crying: "Just because I expressed my opinion on a matter, the followers of Jesus have taken away my wealth and have taken my wife away!"

Before we discuss further the ways that Muslims have contributed to the spread of the sciences, it is necessary to outline the factors which caused this scientific revolution.

1. Campaign Against Illiteracy

The first and foremost factor in the spread of Islam was writing and reading, because verses of the Qur'an were not written down at first, and those with the ability to recite the verses taught the Qur'an to others.

The Prophet of Islam (S.A.W) encouraged people to seek education. After the Battle of Badr, each prisoner of war was told to each the art of reading and writing to ten children from Medina, in order to gain freedom.

This is a clear example of the line of thought of the founder of Islam.

The Prophet of Islam (S.A.W.) even compelled some of his followers to learn foreign languages. One example is Zayd-ibn-Thabit, who was sent on a mission to learn Hebrew, as he himself stated:

"I was taken to the Prophet of Islam (S.A.W), and when he was informed that I knew seventeen verses of the Qur'an by heart, the Prophet was surprised. I recited them all, and when the Prophet saw that I possessed this talent, he commanded me to learn Hebrew, the language of the Jews, and added that 'I fear that the Jews may change the Book (the Qur'an).' I applied myself and learned Hebrew in a short time. I was put in charge of writing the Prophet's letters to the Jews and translating the letters they sent to us."

Other Muslims also were ordered by the Prophet (S.A.W.) to learn the Syriac language. When the Arab Muslims expanded their conquests to neighbouring countries, they had to learn the art of their writing and reading in order to better govern those countries. This was also another reason for the increase in the number of literate people. In addition, foreigners who accepted Islam had to learn and to understand their religious duties. This was another factor which brought the civilization of other countries to Islamic centres.

2. Development Of Ideas

Another important factor for this movement was the teachings of Islam. The Qur'an, by narrating the history of other nations and the histories of Adam, Abraham, Jonah , Moses, Joseph and other prophets, could move the icy and stony brains of the people.

The Holy Qur'an, by elaborating on the principles of belief and explaining the power of Almighty Allah and His unity, also attracted the attention of thinkers and prompted them to contemplate about the world in accordance with such verses as:

Do they not consider the kingdom of the heavens and the earth and whatever things Allah hos created (***Holy Qur'an 7: 185***)***,***

So let man consider of what he Is created: (***Holy Qur'an 86:5***)***,***

and, Most surely in the creations of the heavens and the earth and the alternation of the night and the day there are signs for men who understand. Those who remember Allah standing and sitting and lying on their sides and reflect on the creation of the heavens and the earth: Our Lord! Thou hart not created this in vain! Glory be to Thee; save us then from the chastisement of the fire: (***Holy Qur'an 3: 89,190***)

which could stimulate the people's minds and direct them towards the secrets of nature, the wisdom of the creation of the world and other matters concerning nature.

3. Emphasis On Scientific Matters

The most important matter is that, in the early days of Islam , all or most scientific matters were interrelated. For instance, those who were authorities in theology also knew philosophy, narration and interpretation, while those who were authorities in narration and interpretation were knowledgeable about literature, poems and phrases explaining the meaning of the Qur'an. Not many people could be found in those times, who specialised in only one subject, because specialty came from an orderly discussion in a technical or scientific manner, which did not exist at that time.

The most popular discussions were about religious matters such as Qur'anic interpretation, narration and jurisprudence. Discussions were also often held about history, philosophy, logic, chemistry and medicine.

Establishing Islamic Primary Schools– Schooling in Mecca

After the dawning of Islam, Mecca and Medina became two important scientific centres. The city of Mecca was the birthplace of Islam and Islamic legislation.

After the migration of the Holy Prophet (S.A.W), the increased power of Islam and the conquest of Mecca, the Holy Prophet (S.A.W) appointed Mu'az to teach Islamic jurisprudence and the Qur'an. Mu'az was one of the best youths of Ansar[2] for he possessed knowledge and excellent morals and participated in most of the Muslims' battles. He was well–acquainted with Islamic precepts and had collected all of the verses of the Qur'an which had been revealed to the Prophet (S.A.W). Mu'az was the best person to be appointed to teach and educate the inhabitants of Mecca. Unfortunately, it did not take long for the disease of the plague to claim his life, and he passed into the next world. Thus, this great man of wisdom and knowledge bid farewell to earthly life.

Abdullah Ibn Abbas was appointed to succeed Mu'az, and he began teaching and educating people right away. The fame of this city concerning learning and science is because of his efforts.

Schooling in Medina

Medina was the centre of Islamic propagation and was the second city of the leader of Muslims. It was the home of many of the Prophet's followers and, most importantly, many historical and political events took place in this city.

The majority of the laws of Islam were explained in Medina and then spread to other regions, therefore, those interested in learning and understanding Islamic instructions had to travel to Medina in order to realize their aims.

After the passing away of the Prophet (S.A.W.), Medina became the centre of the caliphate and Muslim

leaders resided there. In each war after, the victory of the Islamic troops, some of the prisoners of war, by the Caliph's order, were transferred to the capital city of Medina, and since among these prisoners of war, in particular those from Rome and Iran, many were knowledgeable and educated, as a result, Medina became familiar with the customs, traditions, sciences and other aspects of other nations' civilizations.

It did not take long for Medina to become an important centre of science and knowledge and those who were educated there became specialists in subjects, such as jurisprudence, narration, and history.

For many years, from all corners of the world, students travelled to this city for education, as stated by Ibn-al-Athir:

" Abdul Aziz Ibn Marwan sent his child to be educated in the educational centres of Medina. After learning religious studies and expanding his research, he travelled to other places and continued his advancement of knowledge with amazing speed."

The way the Muslims were conquering lands was really surprising and perhaps unprecedented in other nations' histories. Their acquisition of knowledge was also surprising, as will be discussed in a later chapter.

Compilations, Collections and Codifications

Some historians believe that compilation in Islam began in the second half of the first Islamic century, but it can be said that the writing and collecting of articles started from the beginning of the first century and at the time of the Prophet, because the Prophet appointed some people to write down the Qur'anic revelations. They wrote it on paper, bones and flat stones. Several Muslims also collected the Prophet's (S.A.W) narrations, including Abdullah Ibn Abbas, who wrote the narrations he himself heard, and Muslims' historical accounts of war and the Prophet's participation in the Muslims' wars. An example of these Muslims is: Wahab-ibn-Monabbeh, who throughout the years 110-134 A.H. (after Hijra), wrote about the history of Islamic battles.

Urwat-ibn-Zubayr, who was one of the most famous jurisprudents of Medina in 23 to 94 A.H. wrote the biography of Prophet Muhammad (S.A.W) and also about his battles.

Abdur rahman Ibn Mughirah, who was the student of Urwat, wrote and compiled the Prophet's (S.A.W) way of life.

Ibn-Shahab-al-Zohari, who lived from 51 to 124 A.H., also wrote a book about the Prophet's battles.

1. The History book of Albert Malleh, the French historian.
2. Ansar were a group of Companions of the Prophet of Islam who welcomed him at Medina.

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