

UICL 2302

Thinking of Science & Technology

**Science and Technology Transcend
Beyond Boundaries**

Knowledge Transfer

The knowledge of science built up thousands years ago. In a time of tolerance and cooperation among religions, the knowledge of the Ancient and Classical Civilizations of Greece, Rome, Persia (Iran), India and China passed to the Muslims in western Asia. Centuries later, in western European, Spain, that heritage of learning brought about this heritage of learning from ancient into modern times.

How people Shared their knowledge

- From the source of knowledge to its recipients through literatures
- Across time, across barriers, and across generations
- A process of moving 3 types of knowledge such as:
 - News
 - Ideas
 - Experience
- Knowledge transfer across time:
 - Classical Antiquity
 - Islamic Golden Age
 - Renaissance and Europe
 - Modern Times

Historical Periods

- Prehistory, 5000000 BC
- Antiquity, 3000 BC
 - 1 AD
- Middle Ages, 476 AD
- Early Modern Age, 1492 AD
- Modern Age, 1789 AD
 - Present Day

The Evolution of Communication

- 30.000 BCE, Cave Paintings and Stone Carvings
- 776 BCE, Carrier Pigeons
- 530 BCE, Marathon Man
- **Common Era**
- 1650, News, First Daily News
- 1840, Telegraph
- 1876, Telephone
- 1902, Radio Signal
- 1927, Television Broadcast
- 1969, Internet
- 1994, World Wide Web
- 1997, Instant Messaging
- 1999, Blogging
- 2004, FaceBook
- 2006, Twitter

Key Elements and Factors to Transfer Knowledge

- The main method/technologies
 - Expansion of Empires; Trade roads; Books; Postal system (Romans); “City of Knowledge”; War and Peace; Written and spoken; person-to-person; oral transmission of knowledge; song; The spread of religions; travel; exchange of ideas; the search for religious wisdom; Buddhist monks and pilgrims traveling along the Silk Roads; the spread of Christianity into Africa and Europe; the spread of Islam across Africa; Asia and southern Europe; the spread of the Arabic language; greatly encouraged the spread of learning through the growth of cities; trade networks; and new technologies
- The main barriers
 - Time; Language; Desire of Power; Christianity

The Transfer of Knowledge across Time and Space

(500 BCE – 500 CE) (750 CE -1000 CE) China

(500 BCE – 750 CE) (750 CE – 1000 CE) India

*(450-750 CE) Gundi-Shapur, Near Ahwaz, Iran

*(870-1000 CE) Baghdad

Hellenistic World

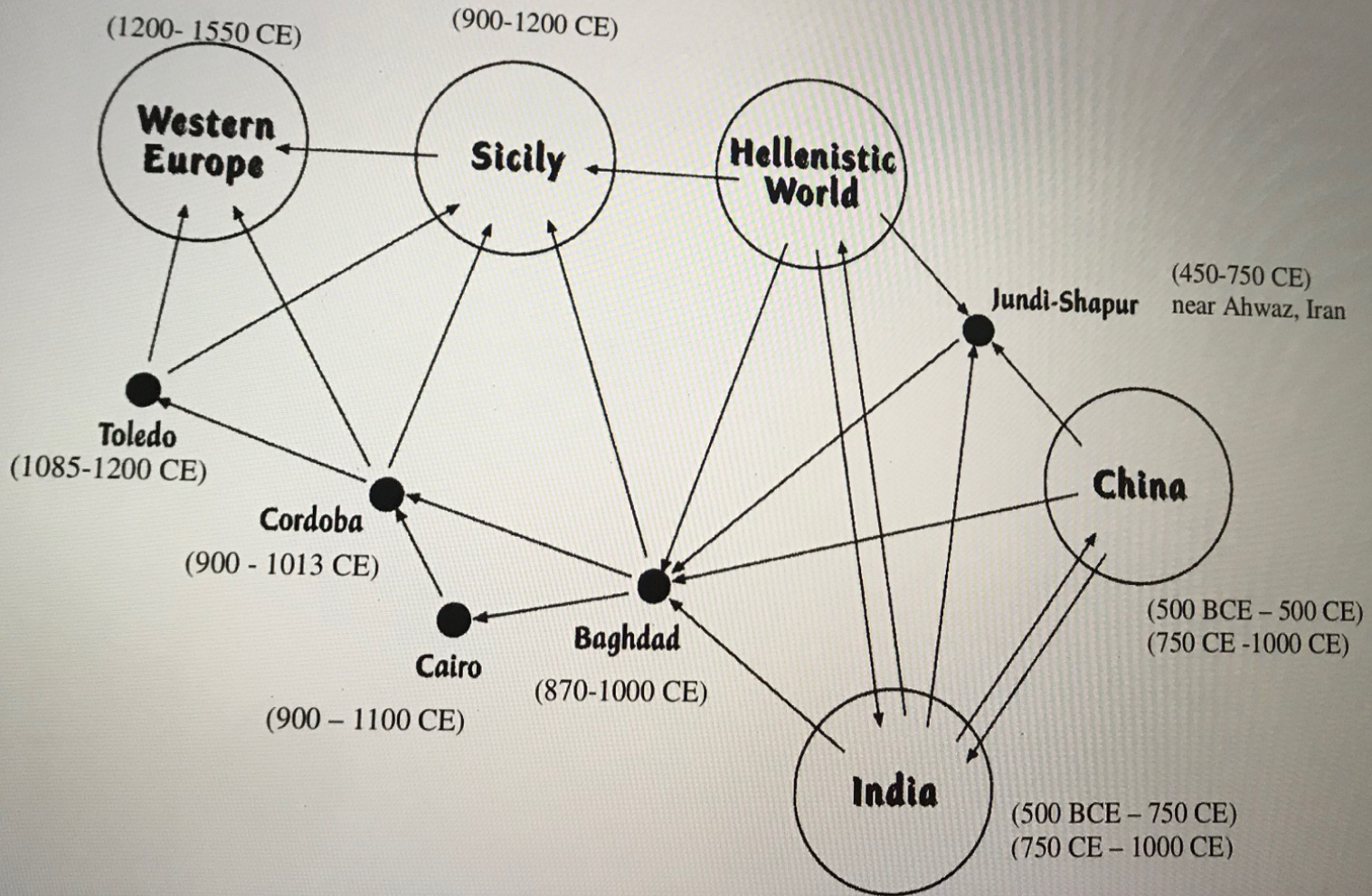
*(900 – 1100 CE) Cairo

*(900 - 1013 CE) Cordoba, Andalus (Spain)

(900-1200 CE) Sicily

*(1085-1200 CE) Toledo, Andalus (Spain)

(1200- 1550 CE) Western Europe



HOW HAD THE KNOWLEDGE
TRANSFERRED TO THE WESTERN
WORLD FROM THE ISLAMIC
CIVILIZATION?

INTRODUCTION

The latest scientific and technological excellence is inseparable from the spirit of a new research triggered by Islam. During the 8th century (92-897H) the Muslims became pioneers and pioneers of its own civilization in Andalus.

They are encouraged by the spirit of love of knowledge, so the Muslim scholars climb each intellectual height and overcome every physical barrier, so that the Muslims are able to give light and progress to the European community.

Traditionally studying freely in addition to appreciating human mind is the sweetest success in intellectual life of the Muslims. Therefore, the Andalus earth was filled with knowledge institutions that argued unobstructed ideas and sought knowledge as a worship. The Muslims are leaders and teachers in all the creativity and activity that Andalus has become the symbol of strength and Islamic attributes and is regarded as "The torch of Europe"

DEFINITIONS OF KNOWLEDGE

According to Gong Fu Xi (Confucius) knowledge is "When you know something, show that you do not know". This expression implies that knowledge is a matter of confidence.

Plato also defines knowledge as "a kind of conversion of the soul from darkness to light". This definition can be translated as a transfer of spirit or soul from darkness to brightness. In a more detailed form Plato's understanding of science has been translated as "the real ownership of something. This real nature is not available through the senses but through the idea or form that is eternal, universe and immutable. ". Every human being has a spirit and body. At that moment he can understand everything that is considered the peak of knowledge.

ISLAMIC CIVIL CONDITION WITH THE WORLD COUNCIL

The clash between Islamic civilization and other civilizations in the world has taken place since the early days of Islam. Before the birth of Prophet Muhammad SAW, there are several civilizations such as:

- the Babylonian civilization in Mesopotamia,
- Iraq
- Persian civilization
- Roman civilization
- Indian civilization
- Chinese civilization

The most widespread clash occurred between Islamic civilization and European civilization when an Islamic ruler ruled Andalusia and Sicily.

ISLAMIC CIVIL CONDITION WITH THE WORLD COUNCIL

The clash of Islamic civilization with European civilization, is through several channels such as **business, war, diplomacy, culture and center of study.**

Muslims of Arab descent are well known in business. Prophet Muhammad SAW is a prime example in business. He once went to Syrian (Syria), and he saw the civilization of the Christians there.

Similarly, other Islamic figures during the opening of Iraq, Syria and Egypt in the series of wars and subjugations in the area have seen various cultures and civilizations from various races living in the area.

In the meantime, there is interaction and analysis between Muslim and non-Muslim communities. In other words, world civilization has been exposed to the eyes of Muslims and vice versa. Both civilizations took one another and influence-affecting each other.

The relationship of Islamic civilization with European civilization became closer when the emergence of Islamic rule in the northern Africa region. The match between North Africa and Europe is just Mediterranean Sea. Through the Mediterranean Sea Muslims cross to Spain and Sicily and further to Portugal and southern France.

FACTORS ISLAMIC SCIENCE TRANSFER TO WESTERN

The mozarabs spread the knowledge of Islam to Europe

Establish a library to store Islamic religious works and writings

There is diplomatic ties between Europe and Andalus for wanting to advance Europe, they send students and envoys to Andalus to learn science

FACTORS ISLAMIC SCIENCE TRANSFER TO WESTERN

One of the factors in the dissemination of knowledge to Europe

There are schools and universities around Andalus

Its position is strategic amid the journey between Europe and Africa

Maintaining Islamic elements even in order by non-Islamic government

a) THE ROLE OF MOZARAB PEOPLE

Mozarab = Christian people.

It is derived to who are interested Christians and practice some of the Arabic culture and Islamic civilization. They also learn Arabic as well as Latin and Romani. The mozarabs play a very important role in the spread of Islamic knowledge to Europe. By learning the Arabic language they have the opportunity to read the works and the writings of the Muslims. They also spend a lot of money on setting up libraries to place Arabic-speaking collections.

This development has raised concerns and protests from Bishop Alvaro. This led them to translate the Bible into Arabic so that readers could be readily pronounced and fluent in Arabic as the language of speech beyond their own language as John of Seville did in 1049M. Indirectly they all propagate the Islamic sciences, especially philosophers, poems, and literature. The mozarabs spread the knowledge of Islam to Europe.

FACTORS ISLAMIC SCIENCE TRANSFER TO WESTERN

b) DIPLOMATIC RELATIONS

There has been diplomatic ties between European nations with Andalus because of their aspirations to advance Europe, including England, France, Germany, and the Netherlands.

They sent a delegation of students to Andalus to pursue knowledge such as science, craftsmanship and others. They also sent their principals and princes to further their studies in Andalus and meditate and study every aspect of the progress of the Muslims.

According to Petter, the entourage that arrived to Andalus was Elizabeth to Louis to France and Prince Dubant from England while German sent a message led by his minister named William.

And Prince Philip sent his students to study the techniques and methodology of learning of each discipline. Indirectly the Islamic sciences have spread so rapidly and rapidly. It is the only light to illuminate the Islamic world but also bring a new breath to Europe which is still in darkness.

There is diplomatic ties between Europe and Andalus for wanting to advance Europe
Send students and envoys to Andalus to learn science

FACTORS ISLAMIC SCIENCE TRANSFER TO WESTERN

c) PARTICIPATION ACTIVITIES

Along with the inclusion of students from all over the world, translation activities are intensifying. In fact, this activity is one of the important factors that helps in spreading the culture and knowledge of Muslims to Europe.

Among the centers of the translation movement is Toledo who has successfully produced famous translators like Michael Scott, Daniel Morley and Ibrahim Daud al Israili. Books often translated into fields of natural science, falak, mantiq, medicine, chemistry and botanicals. The translation applies either from Arabic to Latin or Latin, Greek, to Arabic. This clearly shows how great Andalus influenced the European world.

Many schools and universities are created in the Andalus region as in Cordova, Granada, Toledo and Seville. Approved subjects include law, medicine, chemistry, philosophy and astronomy.

In the community of Ibn Khaldun is the great sociologist who writes many disciplines such as natural science, analysis, engineering and comparison natural. His work also became a major study material in the West until the 16th century.

It was evident that Europe at that time admired the progress of Andalus to say whatever the Europe needed to be taken from Andalus. For example King John of Navarre has taken his son Sancho to Andalus solely to manage his body.

FACTORS ISLAMIC SCIENCE TRANSFER TO WESTERN

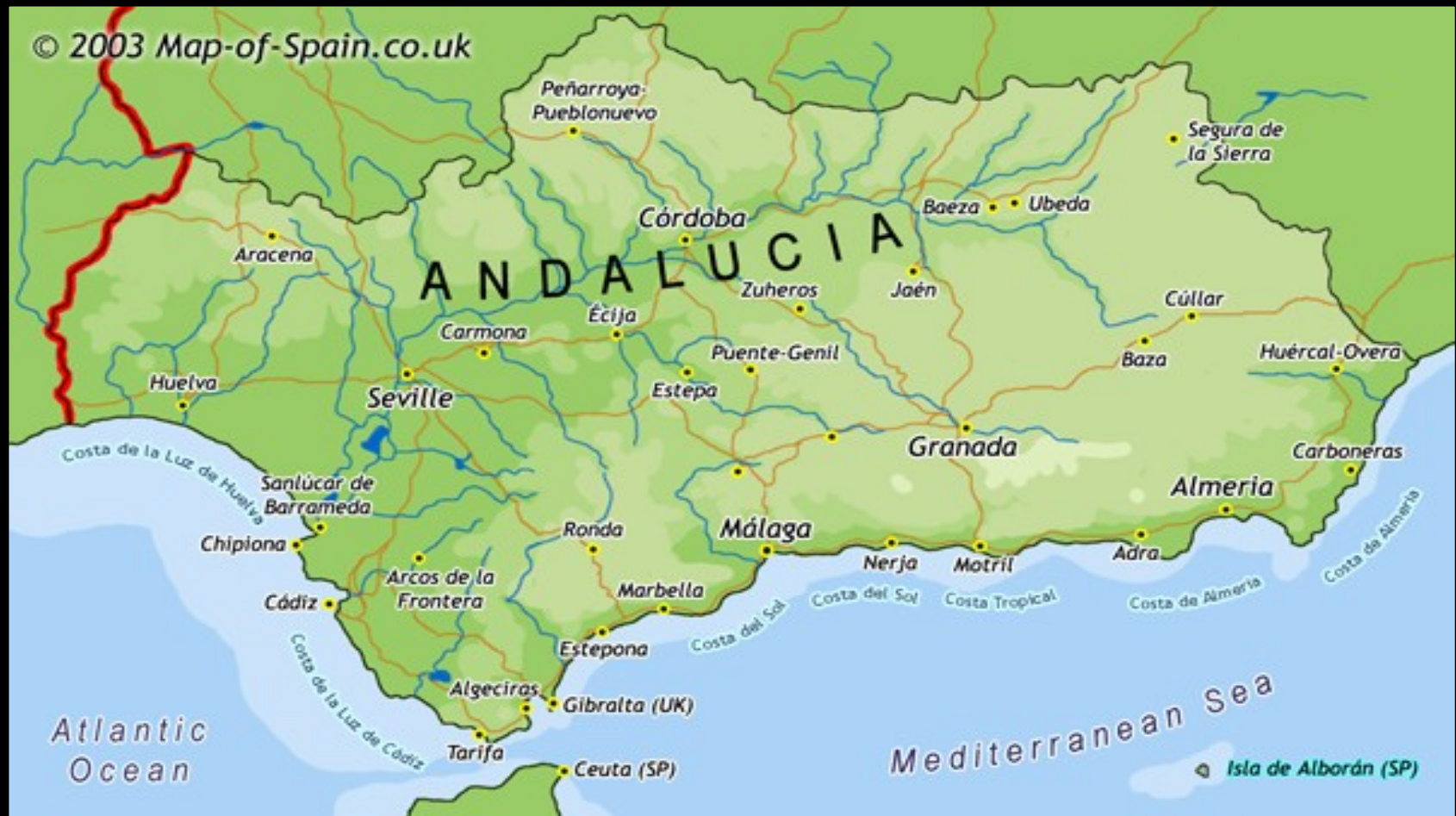
d) OPENING THE SICILY ISLAND

Among the factors that accelerate the scientific process are:

- ❑ Teachers who teach in schools and mosques are exempt from military service. This allows them to focus entirely on the areas of teaching.
- ❑ The role of the government who loves science and strives to develop it. In fact they are said to be active in the field of writing and patron saints of Sicily.
- ❑ Incidentally during the Islamic rule of Sicily in the 10M and 11M centuries, Qairawan has emerged as the center of intellectual activity in North Africa. This situation allows Sicily residents to acquire knowledge from the city as well as getting trained and skilled teachers to teach in Sicily.

Arabic is the official language of the country. Even though Christianity, Sicilian authorities continue to make way for the development of Islamic language, science, and cultural thought in Sicily and to maintain the Islamic administration system until some of them like King Roger are accused by his people as advocates and adherents of Islam. During his reign the Islamic religious officials continued to be held in office. That is why Sicily is approached by many Muslim traders until their number reaches almost 2 million.

FACTORS ISLAMIC SCIENCE TRANSFER TO WESTERN



HISTORY OF ENTERING ISLAM IN EUROPE



CONCLUSION

The transfer of Islamic sciences to the West has brought many changes and advances to the European community. This is evident in the early years of the Abbasid government, Baghdad favored the world, but was eventually destroyed by the Crusades.

Consequently, one by one of the Islamic countries in particular in West Asia and in the region is colonized by western powers. At that moment almost all Muslim countries were unable to be independent, they had to rely on western powers. This era is famous for the darkness of the Muslims. It lasted for about 600 years. At the same time, secular governments and large-scale western models were introduced to the ummah in Islamic countries, which resulted in the destruction of the traditions, cultures and the Islamic system in a gradual manner, as well as cultivating subtle colonial thinking.

However, Islam is the only religion of Allah SWT on this earth. It will not be eliminated just like that.

REFERENCE

- <http://www.muslimheritage.com/article/how-islamic-learning-transformed>, accessed on April 20, 2018.
- http://suhermanfx.multiply.com/journal/item/184/History_Islam_dan_Barat_Bentrok_an_atau_Dialog_-_bagian_1, accessed on April 20, 2018.
- <http://www.duniaesai.com/sejarah/sejarah4.html-16k->, accessed on April 20, 2018.
- <http://www.harunyahya.com/indo/artikel/067.htm-32k->, accessible date April 20, 2018.
- <http://faisalman.wordpress.com/2008/08/05/menyusuri-jejak-islam-di-andalusia/-90k->, accessed on April 20, 2018.
- <http://andaluciadedywsanusi.blogspot.com/2008/04/history-andalusia.html-56k->, accessed on April 20, 2018.
- http://swaramuslim.net/islam/more.php?id=A26_0_4_0_M-21k-, accessed on April 20, 2018.
- <http://www.duniaesai.com/sejarah/sejarah4.html-16k->, accessed on April 20, 2018.
- <http://taghrib.ir/melayu/?pgid=69&scid=153&dcid=42998>, accessed on April 20, 2018.
- <http://faisalman.wordpress.com/2008/08/05/menyusuri-jejak-islam-di-andalusia/>, accessed on April 20, 2018.
- <http://id.wikipedia.org/wiki/Balkan>, accessible April 20, 2018.