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The Correlation Of Islamic Civilization In Sciences With Western World (Eastern Impact Through Sciences On Western World)

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Abstract

The nature of scientific verification of knowledge distinguishes it from mystical knowledge in empirical sciences. Islam is a religion and a civilization, historically connecting various stages of human history for more than fourteen centuries. The Islamic ethics and law “Sharia’h” are coherent legal system to protect private property within a comprehensive and rational system. Capitalism and the industrial revolution of western world dramatically transformed resulting in a socio-economic schism consequently emerged as a domineer for existence and affected the Islamic world. The secular and rationalized legal framework needed capitalism, which is incompatible with the nature of Islamic law. The western science in this civilization is also separated from morality and noble values because it has adopted materialistic philosophies and ideologies, such as Pragmatism, Darwinism, Existentialism and any other philosophy that is against the Islamic religion.

Keywords: *Islamic civilization, western world, empirical sciences, Islamic ethics, Islamic law “Shari’ah”, materialistic, human History.*

Introduction

Human civilizations are a successively linked sequence. Each link leads to a link that follows. The more a civilization is based upon knowledge, justice and noble morality the more it is potential to prosper and flourish. If ignorance, injustice and vices were widespread and virtues killed the civilization would worsen and vanish.

If these three values (knowledge – justice – noble morality) are available and maintained in any society it will be nominated to be at the helm of a sustainable civilization.

The ancient human civilizations were swinging up and down, where they finally handed over the position of leadership to Greek civilization. When the star of this civilization, in its turn was set the sun of Islamic civilization that are based upon creed, knowledge, justice and noble values began to rise over humanity.

In Islam, science is immunized and controlled by *Iman* (faith). It is channeled to the direction of morality. This is the essential difference between Islamic civilization and the modern European civilization.

Islam is a humanitarian civilization, where religion and science are reconciled. Islamic civilization is also a morally orientated; in a sense that it uses the scientific findings it has reached in a manner that serves humanity.

As for the modern European civilization it tends to destroy humanity because religion in this civilization is separated from science and politics due to the historical animosity between clergymen and scientists since the mediaeval ages. Science in this civilization is also separated from morality and noble values because it has adopted materialistic philosophies and ideologies, such as Pragmatism, Darwinism, Existentialism and any other philosophy that is against the religion⁽¹⁾. The Islamic world was several centuries ahead of the West ⁽²⁾, all achievements of man fall humble into the history because of biological need. Civilizations rests upon the thing that is present and upon past insisting a respect for custom and usage; discouraging criticism and enquiry. It is more conservative due its ancientness. The impact of transformation operates on human development generating changes in cultural attitudes and reflecting in values imprinted in the religious legacies, historical experiences and brings systematic, predictable changes in gender

¹ Mohamed Mohamed Tolba Said (2015), Al-hadharah Al-islamiah Wal Ulum At-Tajribiah الحضارة الإسلامية والعلوم التجريبية / Islamic Civilization And Empirical Sciences (in Arabic), Jurnal Kolej Pengajian Islam Johor (MARSAH), Bil. 3, No. 3, December 2015, Pp. 138-140., Printed by KPIJ PRESS, Shah Alam, Selangor Darul Ehsan, Malaysia.

² Poto Cnik, 2005

roles⁽³⁾. Science is a process; regardless of any differences go through the same process to arrive at their scientific conclusions⁽⁴⁾.

Let us cast a glance on this Islamic civilization and the empirical sciences that associate in the following points:

Empirical Natural Sciences

Empirical sciences refer to experiment and observation-based sciences, such as medicine, pharmacy, chemistry, astronomy, and mathematics like algebra, trigonometry, analytic geometry, physics – sound and light- and the history of nature.

Quantitative and qualitative Interpret, understand and assert, is the scope of empirical science. The nature of scientific verification of knowledge distinguishes it from mystical knowledge. Scientists always remain open to alterations and improvements of their research, but, their always exist some phenomenon difficult to be understood by methods and process of verification. The empirical validation expects confirmation of specific hypothesis be tested with more observational values to support their existence. Empirical sciences conduct experiments and makes observation based rationalizations in medicine, pharmacy, chemistry, astronomy, and mathematics like algebra, trigonometry, analytic geometry, physics, and history of nature.

³ Pippa Norris and Ronald Inglehart, 2002

⁴ Imad-ad-Dean Ahmad, 2002

Islamic Civilization

Islamic civilization refers to the civilization that was born in the time when Islam first existed and continued until the 9th century in the countries ruled by Muslims. This civilization is basically founded upon the Islamic religion and expanded to embrace both material and spiritual aspects.

Islamic civilization came to the top and Muslims were at helm of civilization, leading the world during 750 -1150 In this period, Arabic language was the language of science, not only among Muslims but also among those in the west and the Middle Asia.

Worthy of mention that Europe in this period was drowned in the ocean of ignorance, savageness and backwardness. Nevertheless, the west is attempting to omit the Islamic civilization from the map of world history when talking on civilization. It attributes the civilization to its soil. This is why it is of the opinion that the Roman civilization had lapsed in the 5th century and the era of civilization had firstly turned up during 15th century. They - western people – call the period between both times as the dark mediaeval ages. They thereby have ignored the full ten centuries during which the Islamic civilization was playing its role and greatly influenced the advancement of science to the extent that it was transferred to Europe through Sicily and Andalusia.

It became a basis of the advancement of science of which Europe is very proud today.

According to Max Meyerhof, moderate orientalist “ The Muslims and Arab have rendered great services to the researches and theories of light. If not for Muslim’s trigonometry it would not had been as it is now.

Avicenna (his full name Abu Ali al-Husain ibn Abdullah ibn Sina) was an Arabian physician and influential Islamic Philosopher. His interpretation of Aristotle influenced St. Thomas Aquina who is remembered for his attempt to reconcile faith and reason in a comprehensive theology. He also presented philosophical proofs of the existence of God. Ibnu Sina’s writings on medicine

were important for almost 500 years (980 – 1073). William Oslo, described his book “Qanum” as medical Bible for the longest period of time after it was translated into Latin.

As for al-Hasan ibn al-Haysam (11th century) he wrote 47 books on mathematics and 58 books on geometry that had been a reference material to European scientists, including Roger Bacon. According to Abdul Halim al Jundi “ Ibnu Haysam was recognized by Europe as a pioneer to the science of light. After the ancient theories introduced by Aristotle that “eye transmits visual radiations to the object” were proven wrong they have adopted the theory, which is the same theory of Ibnu al-Haysam that “it is the object which transmits its radiations to eye”.

Khwarizmi was another Muslim scientist who wrote compendious book on calculation by completion and balancing, *Algebra* that was concerned with the solution of equation. It was translated into several languages. In Latin translations Arabic *al-Jabr* became Algebra. These Latin books on Algebra were the basis of all study of the subject in Western Europe in the late middle ages. The historian, Driver was right when he attributed Algebra to the Islamic methodology of observation and experimentation. Khwarizmi was the first to make Algorithm.

Sir Isaac Newton was not the first to discover general gravity and gravity but his great services in this field are undeniable. Abu Bakr Basyrun of the 3rd century of Hijrah discovered it earlier. He learned from Ahmad ibn Musallamah al-Majriti. Ibn Basyrun was also the first to discover composition, decomposition and the technique how to process phosphates.

Al-Akkad was right when he said “we are taking from Europeans after they have become a modern developed world because they have learnt a lot of knowledge from the Arab and Muslims before they have known what they know today . So it was time for them to settle the debts to Muslims”.

According to Massey Oley, European revival would have been several centuries left behind if the Arab and Muslims had been removed from the history. Ibn Sina’s books have been a subject of discussion in the University Monboley in France until late the 8th century.

According to Gosteve Lobon no European until the 15th century could have written without quoting his knowledge from the Arab. They learned from the Arab or quoted from their books. The books translated from Arabic especially the books of science had long been the basis upon

which the educational system of European Universities was founded for five centuries. The Arab remained obviously influential until lately in some sciences.

Certified by Western scientists and scholars themselves apart from thousands of Arabic manuscripts available in European libraries the role of Islamic civilization in boosting sciences is undeniable⁽¹⁾.

Islam is a humanitarian civilization, where religion and science are reconciled. Islamic civilization is also a morally orientated; in a sense that it uses the scientific findings it has reached in a manner that serves humanity. Islamic civilization refers to the civilization that was born in the time when Islam first existed and continued until the 9th century in the countries ruled by Muslims. This civilization is basically founded upon the Islamic religion and expanded to embrace both material and spiritual aspects⁽²⁾.

Islam is a religion and a civilization, historically connecting various stages of human history for more than fourteen centuries. Covers Asia, African and European continents, Islam is a spiritual reality which imparts positively the life all over the world⁽³⁾. Islamic fundamentalism suggest that the underlying root causes lie in deep disparities between rich and poor within societies, buttressed by the pervasive inequalities.

The core actors exemplifying these civilizations, recognized that populations with cultural and religious identities spread well beyond the border of the nation-state⁽⁴⁾.

1) The Role Of Islamic Civilization In Enhancing Empirical Sciences

In Islamic civilization, science refers to any useful knowledge with which the Prophet Muhammad s.a.w. used to read in his prayer as saying: (**اللهم أني أسألك علماً نافعاً، وعملاً متقبلاً**) Oh my

¹ Mohamed Mohamed Tolba Said (2015), Al-hadharah Al-islamiah Wal Ulum At-Tajribiah الحضارة الإسلامية والعلوم التجريبية / Islamic Civilization And Empirical Sciences (in Arabic), Jurnal Kolej Pengajian Islam Johor (MARSAH), Bil. 3, No. 3, December 2015, Pp. 141-145, Printed by KPIJ PRESS, Shah Alam, Selangor Darul Ehsan, Malaysia.

¹ Poto Cnik, 2005

² M M Sharif, (2013), Muslim thought its origin and Achievements, Editing by Gul, Ateeb (M.A. Thesis, Boston University), <https://open.bu.edu/handle/2144/14101>, (18/11/2017).

³ Mustapha, Adejoro Raheem, and A. F. Ahmed, (2007).

⁴ Pippa Norris and Ronald Inglehart, (2002).

Lord! I am asking you for a useful knowledge and a well-received deed)⁽¹⁾, He was also taught by his Lord to use the following verse in his prayer: { وَقُلْ رَبِّ زِدْنِي عِلْمًا }⁽²⁾ “ And say! Oh my Lord! Make me more informed and more learned”.

This useful knowledge is expanded to embrace psychology, astronomy, geography and so on through experiment and observation or the so-called empirical sciences.

Early Muslims have earlier explored this experimental method that was later taken away by the west.

Briffault in his book “ Making of Humanity “ says in recognition of this precedence “ Our science is not only indebted to the Arabic civilization, which offered amazing findings and scientific theories. We even owe gratitude to them for its existence itself.

2: The Method of Scientific Research Among the Arab and Muslims

The Arab alone invented experiment and observation-based scientific research.

Briffault set apart in his book “ *Making Of Humanity* “ a space, where he expounded at length an important point of Muslim’s accomplishments in the field of science, the unprecedented approach of research they created.

According to him Roger Bacon learned from the Arab their scientific culture and the methods of scientific research. Bacon cannot claim that he is a pioneer of this experimental method, the unprecedented method that was created by the Arab alone. Bacon was only a sincere disciple to Muslims and learned their thoughts as well as he learned experimental method from them and passed it on to the Christian Europe. Bacon continued to recognize this. He used to confirm that Muslim’s sciences are the only road for him and those of his time to the true civilization. Questioning this issue and attributing the experimental method to non-Arab is only an attempt to mislead and twist the fact.

¹ HR Sunan Ibn Majah, Hadith No. 978 and Musnad Ahmad, Hadith No. 27174, 27245, 27342, 27373, www.thesaurus-islamicus.org.

² QS Taha [20]; 114.

Britfaut's statement was supported by Wale Durant's opinion in his book " *The Story of Civilization*" " It is Muslims who invented chemistry approximately as a branch of sciences because they brought in accurate observation, scientific experiment and careful monitor of its results in the field where Greek method is confined in mysterious hypotheses.

According to Bernard Louis Europe owes a doubled debt to Muslims and the Arab because they safeguarded and developed the heritage of science and philosophy they inherited from Greek. Only then did Europe learn from Muslims and the Arab a new method in research, which is an approach that is concerned with intellect, research and experimentation.

Excerpts From The Sayings And Writings Of Arab Scholars On Scientific Method:

1- Medicine

Al-Razi uses experimentation as a measure in separating between what is right and what is wrong. According to Al-Razi when one wants to draw a conclusion on the deceases of organs he needs to know what they are. Has they been seen through post-mortem for example. He needs to know where they are in the body. How do they function? He also needs to know bones and their contents and the waste liquid they produce. Because if they are not known they can't be cured properly.

Using experimentation once again he says " since many bad people may have lied in such matters while we only have experimentation as a measure to separate the right from the wrong in their claims we decided that these claims not be submitted they should be instead gathered and recorded.

Avicenna says " After taking care of my patients I discovered experimentation-based treatments that are beyond description."

2-Pharmacy

Ibn Sina suggests two methods in order to identify the effectiveness of medicines: experimentation and inference. Priority is given to experimentation. In experimentation the effectiveness of medicine is tested before dispensing it. Inference means that a conclusion on the effectiveness of medicines is to be drawn from it, such as taste, color, smell and quick and slow reaction.

2- Chemistry

Describing his empirical methodology Jabir ibn Hayyan said “ I used my hand to do it and I used earlier my intellect. I conducted a research until it became a fact after it was repeatedly tested. One would be a real scientist if he based his results upon experimentation. One will not be a real scientist without experimentation. No thing will be reached at all without action and experimentation”.

3- Astronomy

Ibn Shatir truly comprehended empirical methodology that is almost at par with the scientific methodology adopted by late researchers , like Bacon . Ibn Shatir practiced successfully the scientific methodology in a methodical manner, as he was aware of the role of inductive method that is based upon observation, experimentation and hypothesis. This helped him interpret a lot of phenomena and astronomy-related issues.

4- Physics and Optics

Ibn Haytham, an Egyptian polymath (born in Iraq) whose research in geometry and optics was very influential into the 17th century, established experiments as the norm of proof in physics. He was one who adopted the principle “The truth is for the sake of the truth or no thing is above the power of truth”. Neither scholar nor scientist is infallible. If not, scholars would not have differed about their knowledge or about what they have studied. If the fact was our aim we should not think evil about scholars. We only follow a proof and a strong argument in judging their opinions.

Based on the previous fact the Arab and Muslims have obviously practiced the rules of scientific methodology and adhered to its regulations and terms. But they were not occupied with the formulation of scientific methodology or guidelines in research as Bacon did in the 17th century.

The following are a List of names of Muslim Scientists who played a prominent Roll in Islamic Civilization and The Fields They were specialized in Medical Sciences:

A) Medicine:

1. Hunain ibn Ishak (809-873).
2. His son Ishak ibn Hunain (dead in 910).
3. Thabit ibn Qurrat (826-901).
4. Abu Bakr al-Razi (323H).
5. Ali ibn Abbas (994).
6. Al-Masu'udi (345H).
7. Ibn Sina (370-428H).
8. Ibn al-Nafis (687H).
9. Ibn al-Baitar al-Dimasqi –Veterinary Medicine- (646H).
10. Ya'acub ibn Akhi Hazam –Veterinary Medicine- (902).
11. Ibn Qasim al-Zahrawi al-Qurtubi –surgery- (1013).

B) Pharmacy:

1. Ali al-Tobari live (on 850).
2. Al-Beironi (973H-1048H).
3. Al-Alani Al-Maghribi.
4. Ibn al-Baitar al-Dimasqi.
5. Abu Bakr al-Razi.

C) Chemical Science:

1. Jabir ibn Hayyan (702-765).
2. Abu Musallamah al-Majriti (3th Century H).
3. His disciple, Abu Bakr ibn bashrun.
4. Abu Bakr al-Razi.

D) Physics:

1. Al-Hasan ibn Al-Haisam (Dead 430H).
2. His disciple, Kamaluddin al-Farisi.
3. Abu alfath abdul Rahman (the first half of the 12th Century).

E) Biology:

1. Zakaria al-Qazweni (1283).

2. Muhammad al-Dumairi (1405).
3. Abu Hanifah al-Daniwari.
4. Othman ibn U'mar al-Jahizd (dead 769).

All the afore-said scholars and Scientists their Arabic Manuscripts are stored at separate places of the world, such as; Egypt, Syria, Iraq, Iran, Turkey, India, England, Germany and Holland.¹

Western World

Western Civilization is based on the cultural space of democracy, individualism, and liberalism. Partially unsighted is the typical ignorance of contradictory developments such as imperialism, colonial exploitation, totalitarianism, and genocide.

The western civilization separated the religious and secular, the rule of law and social diversity, the legislative establishments of government, and the guard of individual rights and civil liberties as the buffer between citizens and the power of the state⁽²⁾.

Capitalism and the industrial revolution dramatically transformed, a socio-economic schism emerged and consequently emerged as a domineer for existence. These values lost their universal claims, and became localized there.

Trading will improve economy and interaction among countries and continents with more of exports where the western cultural influences have a tremendous impact on the Islamic economy, leading to demand on Cars as a symbol of wealth among educated youth. The banks lure these people offering loans towards the luxury of life products than on to the basics such as housing, health and education, that would eventually drive them to sustainable comfort⁽³⁾. This is an incongruence with Islam, where the obligation to acquire knowledge of all fields is to actualize the human civilization on unity devoid of racial, ethnic and even religious discrimination⁽⁴⁾.

¹ Mohamed Mohamed Tolba Said (2015), Al-hadharah Al-islamiah Wal Ulum At-Tajribiah الحضارة الإسلامية والعلوم التجريبية / Islamic Civilization And Empirical Sciences (in Arabic), Jurnal Kolej Pengajian Islam Johor (MARSAH), Bil. 3, No. 3, December 2015, Pp. 151-155, Printed by KPIJ PRESS, Shah Alam, Selangor Darul Ehsan, Malaysia.

² Pippa Norris and Ronald Inglehart, (2002).

³ Krishnan Umachandran, (2017).

⁴ Adeleke, Rasheed Sanusi, (2014). <http://www.iiste.org/Journals/index.php/RHSS/article/view/16825>, (18/11/2017)

comparative between the Empirical Sciences in Islamic Civilization and Western World

Now Let us compare between the Empirical Sciences in Islamic Civilization and Empirical Sciences In Western World:

1) Empirical Sciences in Islamic Civilization

Islamic civilization was urban based, and the split nature did not allow development of corporate institutions, use of technology to bring about the social change towards a capitalist economy. The secular and rationalized legal framework needed for the emergence of capitalism, is incompatible with the nature of Islamic law, where ethics and religious belief are connected intertwined and deep rooted in clearly definable principles. The colonial powers spread the Western civilization, benefiting the uncivilized peoples in their territories to slowly and gradually overcome by a different perception of humanity. The superiority claim of civilization first resulted in alleged rights to civilize and exploit territories, moral change to assist and protect peoples who had not yet reached the same level of development⁽¹⁾.

Teaching religious knowledge and vocational skills, Islamic education is bound up with the Islamic identity. Western educational models are powerful and continuing legacies of the colonial era. Hence the Islamization of knowledge resonates so strongly in Malaysia, southern Thailand, Brunei and Indonesia, rejecting the influence of Western culture which expresses an exclusive identity through a strictly regulated code of behavior, dress and language⁽²⁾.

Muslim countries are considerably wealthier being the largest producers of oil, natural gas, jute, rubber, palm oil, food grain, cotton, and sugar cane. Trade prosperity had created an easiness free from mundane tasks for subsistence, empowering to follow tasks challenging a higher level of intellectual superiority.

¹ Nele Matz, (2005).

² Kamaruzzaman Bustamam – Ahamad, Patrick Jory, (2011).

Six conventional boundaries of competition

Six Paths Framework	Normal Strategy	Blue Ocean Strategy
• Industry	• Rivals within Industry	• Across alternative Industry
• Strategic Group	• Competitive Position	• Competition & Opportunity
• Customer Group	• Better Service	• Maximum Felt Services
• Scope of Product or Service Offering	• Maximise Product and Service Offerings	• Complementing Product and Service Offerings
• Functional-emotional Orientation	• Improving Price-Performance Linkage	• Customised Price-Performance Linkage
• Time	• Adaptation to time	• Exceeds expectations over time

Fig 1 – Competing Boundaries

Source – Krishnan Umachandran (2017)

Westerners tend to be superciliously credulous of their assumptions which are unreflective fitness of cultural issues affecting the engagement in globalization⁽¹⁾. The global economy is recovering from the onslaught of recession. Experienced (as per figure 1) with earlier recession cycles the Islamic business and entrepreneurs adopt discretionary fiscal and frugal monetary policies to co-exist with their customers and suppliers.

2) Empirical Sciences In Western World

The innovative awareness was brought by revolutionary philosophers like Rene Descartes's Cartesian framework on absolute certainty entirely based on verifiable first principles. Descartes, Galileo or Newton, believed in the existence of God as a creator for both mind and matter. This is in line with the existence of matter, which must have had a beginning, its impulse been eternal, and transcendent⁽²⁾.

¹ Yang, R. (2003).

² Solveig Meling Kvamsoe, (2010).

Scientists can be free off religious beliefs, their secular character does not repudiate the existence of the supreme force, but requires to be validated for scientific existence through; observation, experimentation, and logical arbitration. Hence the scientific method is intact in its integrity and power. In western civilization the religion in civilization is separated from science and politics due to the historical animosity between clergymen and scientists. Science in this civilization is also separated from morality and noble values because it has adopted materialistic philosophies and ideologies, such as Pragmatism, Darwinism, Existentialism and any other philosophy that is against the religion.

Correlation

The Islamic rejection of modern learning is led from a combination of hurt, pride, defiance and conservatism is due to authoritative appreciation of the culture which is inextricably wedded to the past, and requires a deep understanding of its civilization.

The disagreement between western and Islamic societies are represented in attitudes towards the role of religious leaders is more favorable in Islamic nations⁽¹⁾.

Science flourished for five centuries in Islamic world, but in the 18th century mercantile imperialism tumbled and disoriented to be left unsure of themselves. The rapport then between both civilizations declined even more due to the crisis. The complex mercantile system was difficult, but precision managed, left the Islamic feel humble. The Islamic ethics and law are coherent legal system to protect private property within a comprehensive and rational system. The elite and leading Islamic countries showed no ability and desire to address the myriad problems and challenges of a modern world.

Unlike Islamic, the rules of the western society were free and flexible to be changed in the light of accumulated experience to alleviate excesses and mistakes; their reforms were not immediate and proceeded by notches. Pious behavior of Muslims Religion is based on the life of eternal, unassailable realities passed on by successive generations. The scientific views of Islamic scientists are necessarily connected with their religious belief, and derives inspiration for scientific work from faith.

¹ Pippa Norris and Ronald Inglehart (2002).

The concept of globalization is not a foreign concept to Muslim intellectuals, when we looked at the context of ummah (Unity of Muslim nation) we see many indications referred to the whole nation as One Ummah perspective⁽¹⁾. Entrepreneurs need polycentric attitudes to understand, and consider every opportunity to learn and develop and successfully deal the reality. In business, as diverse groups must be dealt, socially intelligent employees are required to quickly assess the emotions and adapt words, tone and gestures to collaborate, build trust relationships and cooperate with groups of people in different settings⁽²⁾.

Universal human intellect is meticulously linked with unique the most profound questions of modern times, where the wisdom is not amassed, but exists from the birth, therefore the increasing and conditional landscape of science differentiates it from other human establishments such as those of religion, philosophy and art.

Conclusion

The conclusion of this paper as follows:

1. Islam is a humanitarian civilization, where religion and science are reconciled.
2. The essential difference between Islamic civilization and the modern European civilization is sciences in islamic civilization is immunized and controlled by Iman (faith) and morality, in a sense that it uses the scientific findings it has reached in a manner that serves humanity.
3. Science is a process with the constraint of ban on intercalation is not an obstacle to science ⁽³⁾. Universal human intellect is meticulously linked with unique the most profound questions of modern times, where the wisdom is not amassed, exists from the birth. The increasing and conditional landscape of science differentiates it from other human establishments such as those of religion, philosophy and art. Science is common for all.

¹ Saim Kayabidi, and Ahmad Hidayat Buang, (2011).

² Krishnan Umachandran, (2017).

³ Imad-ad-Dean Ahmad, (2002).

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