

A NEW PARADIGM OF INTEGRATION BETWEEN SCIENCE AND ISLAM: An Epistemological Framework

Muhammad Saleh Tajuddin &
Mohamad Khadafi Hj. Rofie, M.A
Senior Lecturer, Centre for General Studies, CAS
Universiti Utara Malaysia (UUM
saleh@uum.edu.my
khadafi@uum.edu.my

Abstract: This writing discusses about integration between science and Islam. The main purpose of the writing is to introduce a new paradigm of integration between science and Islam through some models, namely Islamization of science who is introduced by Ismail al-Furuqi and construct a paradigm of Islamic science who is introduced by Ziauddin Sardar. This writing is done by doing research in library and running qualitative research based on philosophical approach. The data is collected from books, journals, and the internet. The study is analyzed through descriptive analysis to get accurate results from the objective of the study. The epistemological theory that is used in this study is “construct of paradigm” theory of Thomas Kuhn to analyze the dichotomy of science and Islam and how to integrate them. The results of the research are: there are two models of integration between science and Islam, viz. Islamization of science and establish of Islamic science paradigm. The paradigms are very important to anticipate the universal problem of science.

Keywords: Integration, science, Islam, paradigm, and epistemology.

Introduction

Since the Western countries entered modern era in the 17th century, the Western world faced new era of science and technology development. However, spirituality from science and technology had been removed, because of secularization. Secularization is a process of separation between spiritual or religion and science. The situation was started with Rene Descartes philosophy of Cartesian Dualism who separated between body and mind.

Rene Descartes and Newton are believe in God, but their ideas have characteristic as materialism. God for Descartes is an instrument to seek the validity of knowledge as a subject of external reality. Meanwhile, Newton states that God created anti-particle powers and natural law movement. Then the universe moves like a machine and is arranged by determinism laws, so the existance of God is not needed in the universe.¹

Nietzsche explains that “God is death.” This statement shows that God previously was alive and now is already die. In Nietzsche’s opinion, from the Greek to renaissance in the West, human was shadowed by the absolute of god. However, the process of the God died cannot be avoided. The situation was might called as the process of nihilism.²

Another philosopher who reject the existance of God is Karl Marx. In his ontological argument, Marx rejects religious and filosophers point of views who admitted the existance of God and His intervention to the reality of universe.³ Karl Marx’s philosophical school is categorized as radical naturalism. The philosophical school of naturalism is anti any idea of God or trancendent.⁴

It is clear that the characteristic of modern era is generally antropocentrist, means that human is the central for everything, and the modern man do not wish to depend on the power of God any more, so the science is being free of values. Science is like a knife which has two shapes. It can be

¹ Husein Heriyanto, *Paradigma Holistik: Dialog Filsafat, Sains, dan Kehidupan Menurut Shadra dan Whitehead* (Jakarta: Teraju, 2003), p. 52

² Nihilism is a philosophical doctrin that suggests the negation of one or more reputedly meaningful aspects of life. Nihilism is also defined as ”an extreme form of skiptism that denies all existance. ST. Sunardi, *Nietzsche* (Yogyakarta: LKiS, 1996), p. 26-27, Karsten Harries, *Between Nihilism and Faith: A Commentary on Either* (Walter de Gruyter Press, 2011).

³ Bertrand Russell, *History of Western Philosophy and its Connection with Political and Social Circumstances from the Earliest Times to Present Day* (London: George Alen and Unwin Ltd., 1974), p. 752

⁴ Louis O. Kattsoff, *Elements of Philosophy*. Translated by Soejono Soemargono which is entitled “Pengantar Filsafat” (Yogyakarta: Tiara Wacana Yoga, 1989), p. 116

useful if holded by person who has good integrity, but it can destroy if holded by bad person. Therefore, the integration between science and Islam is very important to anticipate the universal problem of science that is free of values.

Method and Theory

This writing is done by doing research in library and running qualitative research based on philosophical approach. The data is collected from books, journals, and the internet. The study is analyzed through descriptive analysis to get accurate results from the objective of the study. The epistemological theory that is used in this study is “construct of paradigm” theory of Thomas Kuhn to analyze the dichotomy of science and Islam and how to integrate them.

Thomas Kuhn introduces a theory which is called “Construct of Paradigm. Kuhn states that in science, a paradigm provides all of necessary tools to conduct moral science to the scientists. This is because paradigm can be defined as philosophical and theoretical framework of a science school or discipline within theories, laws and generalization. Broadly, a philosophical or theoretical framework of any kind so when the paradigm exist or established, a scientist can get work, not having to worry about ontological assumption or how to establish a means of communication.⁵ So, “construct of paradigm” theory will be beneficial to analyze and to integrate science and Islam.

Islamic Science Paradigm: Integration Between Science and Islam

In establishing a new paradigm of Islamic science, as theory Thomas Khun ”construct of paradigm”, I will introduce two paradigms, namely Islamisation of science and the establishment of Islamic science paradigm.

Islamization of Science

⁵ Alexander, Thomas Kuhn. Retrieved From Stanford Encyclopedia of Philosophy: Plato.stanford.edu/entries/Thomas-Kuhn/, 2011.

As mentioned earlier, there was a transformation of philosophical thinking in the 17th century, a separation between science and religion. Mulyadhi Kartanegara states that the impact of separation between science and religion raises crucial theological problem, because gradually Western philosophers did not feel need the involvement of God in their scientific explanation.⁶

This phenomenon is not suitable with the attitude and personality of the Indonesian people who are religious and believe that the universe is a creation of God. Besides that, the source of science and its methods are not only limited by observation, but also sense, intuition, and revelation. We have seen many Western scientists reject God in the concept of epistemology, such as Charles R. Darwin (d. 1882) who is very famous with his theory of evolution. Besides Darwin, an astronomer whose name is Pierre de Laplace explains the natural phenomena and mechanisms of celestial objects without mentioned the involvement of God. As a result, the philosophy of science was decreased gradually. So, Islamic scientists are try to overcome the problems throughout Islamization of science. The idea of "Islamization" was introduced by Ismail Al-Furuqi at an international seminar in Islamab, 1982. The idea is received widely by Muslim intellectuals, including in Indonesia.⁷

Ismail Al-Furuqi

Ismail al-Faruqi, a Muslim philosopher, has tried to solve the problem of the philosophy of science through his concept which is called Islamization of science. According to Al-Faruqi, each discipline has to re-arrange by applying the principles of Islam in methodology, strategy, data, problems, objects as well

⁶ Mulyadhi Kartanegara, *Mengislamkan Nalar: Sebuah Respon Terhadap Modernitas* (Jakarta: Erlangga, 2007), p. 11

⁷ M. Dawam Rahardjo, "Melihat Kebelakang, Merancang Masa Depan: Pengantar," in *Islam Indonesia Menatap Masa Depan* (Jakarta: Perhimpunan Pengembangan Pesantren dan Masyarakat, 1989), p. 8

as any aspirations, in order suitable with the formation of tauhid. There are three levels in doing Islamization of science: *Firstly*, the unification of the sciences. Based on this level, all disciplines must be rational, objective, and critical in terms of truth. This attitude can eliminate the dichotomy between science as *aqli* and Islam as *naqli*. *Secondly*, the unification of the life. Based on this level, all disciplines must exist and based on the natural events. This attitude will minimize the dichotomy between assumption of science as free of values and science is not free of values. *Thirdly*, the unification of the history. Based on this level, each discipline will admit the concept of *ummah*.⁸

The first step of al-Furuqi in doing Islamization of science is integrating the concept of educational system. Islamic educational system in the higher and secondary education institutions should be integrated with secular system in schools and universities. This integration should create a new educational system which is unifying between secular educational system and Islamic educational system. The unification of the two systems is the best way to minimize the weakness of Islamic educational system.⁹ The second step that is carried out by Al-Furuqi is instilling a vision of Islam. It is realized that modernization has an impact on Islamic values, while the values of materialism is much more accentuated. Therefore, Al-Furuqi offers Islamic concept in two ways. The first way is an obligation to study Islamic culture. Through this way, Muslims are expected to find out the cultural heritage of Islam so that they have the spirit of Islam as well as familiarize themselves with civilization. Studying the civilization and culture of Islam is the only way to understand Islamic identity. The second way is Islamize modern science. The responsibility to Islamize science is a very hard duty. Muslim intellectuals' tasks are reviewing the whole heritage of human knowledge based on Islamic visions. In reviewing the link

⁸ Ismail Al-Faruqi, *Islamization of Knowledge*. Translated by Andre Wahyu which is entitled "Islamisasi Ilmu Pengetahuan" (Jakarta: Lontar Utama, 2000), p. 17

between science and Islamic teachings, means a step of Islamization of science. Doing this step means for determining and composing facts, thinking about the causes, assessing the conclusions, and designing the objectives. All these must be done neatly in order to get the Islamic vision based on disciplines and suitable with the objectives of Islam.¹⁰

Mulyadhi Kartanegara

Mulyadhi Kartanegara is one of the Indonesian Muslim intellectuals who concerns on the problems of Islamic epistemology. In his opinion, it is probably not so urgent to do Islamization if secularization does not treat and attacked by the secular scientists to the pillars of the belief in God and the supernatural.

There are several strategies that have been undertaken by Mulyadhi in doing Islamization of science. First, the elements of Islam in the Islamization should not be understood strictly as a teaching that has to be found literally in the Quran, but should be viewed in terms of the spirit which must not contradict with the fundamental teachings of Islam, such as the belief in the supernatural, angels, God, the end of the day, and prophetic. The reference, beside the Quran and Hadith, is also derived from other sources, such as Classical Greece, Persia, India, and even the West in the contemporary era.

At this time, a religion is not only longer exclusively restricted to the original source, but also has to open with the sources of truth and wisdom from the outside as long as they do not contradict with the principles of religious teaching. Second, the Islamization of science is not only in the form of labeling science with verses of the Quran that is deemed suitable with the scientific discoveries, but also operates at the level of epistemology when is trying to hold a deconstruction of the Western epistemology, and then reconstructs an alternative epistemology by gathering critical materials that already exist in

⁹ Al-Furuqi, *op.cit.*, p. 18

Islamic intellectual tradition. The reconstruction of epistemology will cover the object of science ontology, classification, and science methodology. Third, Islamization of science is based on the assumption that science is never entirely free of value. The secularization of science as it happens in the modern age showed non-neutrality of science.¹¹

Constructing the Paradigm of Islamic Science

There is a difference paradigm between scientists who concerns on Islamization of science and paradigm of Islamic science in addressing the problems of science nowadays. The basic concept of Islamic epistemology paradigm is based on the Quran as the absolute framework, so it is based on tauhid or monotheism. Iqbal states that all this life is essentially based on spiritual. The attitude will revive the human creativity. The essence of tauhid or monotheism is the idea of work that should be promoted in equality, solidarity, and freedom.¹² Iqbal's expression implies that all activities are based on the belief to create harmony with a spiritual purpose.

Ziauddin Sardar as a central figure in the model of development Islamic science paradigm assumes that science is not only able to develop the social sciences, such as, Islamic economics, sociology of Islam, Islamic history, etc., but also has an important role in natural science disciplines, which is based on the concept of monotheism. On the basis of the basic concepts of science, namely ontology, epistemology, and axiology with the basic characteristics of Islamic epistemology, the epistemological paradigm can be constructed in reorganizing the existence of knowledge which is based on the Quran. In

¹⁰ *Ibid.*, pp. 25-29

¹¹ Mulyadhi Kartanegara, *Menyibak Tirai Kejabilan: Pengantar Epistemologi Islam*. Bandung: Mizan, 2003, p. 129-130.

¹² Muhammad Iqbal, *The Reconstruction Religious Thought in Islam* (London: Oxford University, 1934), p. 2

reconsidering the terminology of science is always connected with the Quran, while knowledge and science are always connected with human activities.¹³

The discourse the future of Muslim civilization started from the human felt the impact of advances in science and technology. The achievement of science and technology is the result of human engineering to the fulfillment their endless requirement. This gives rise to new discoveries and will continue in the future. As Muslims, the basic attitude to face the future is always be positive (Q.S. 93: 4), and (Q.S. 59: 18).

Therefore, the necessary of Muslim civilization is a civilization paradigm which is in principle rests on the spiritual strength. This power is characterized by the guidance of revelation which then creates a new awareness, servitude to God. The servitude is the main principle, and on the basis of servitude to Allah, it gives birth to human beings free and egalitarian.¹⁴

Islamic Society that creates a universal of Muslim civilization is not a utopia, but it was noted down in history as a very valuable for the Islamic world.¹⁵ At the time of the prophet Muhammad for example, a country had been established and governed by the four caliphs of guided and professional. The system that they produce is the basic paradigm of a Muslim civilization. In the present context, the open paradigm is the framework of minimum guidelines, which emphasizes on the reformation aspect and revitalization of Islamic epistemology.

Why epistemology is very important? Because according to Sardar, epistemology is a main operator to change the shadow of the world into reality.

¹³ Ziauddin Sardar, *The Future of Muslim Civilization* (Malaysia: Pulanduk Publications, 1988), p. 6.

¹⁴ *Ibid.*, p. 8

¹⁵ A.M. Saefuddin *et al.*, *Desekularisasi Pemikiran: Landasan Islamisasi*, (Bandung: Mizan, 1990), p. 175.

¹⁶ Epistemology or theory of knowledge discusses comprehensively to all processes that appear in the human effort to get knowledge. Meanwhile, Islamic epistemology is rooted in the framework of absolute guidelines in the Quran and hadith.

It has been widely recognized, including Western scholars, that the development of modern science was the contributions of the Muslims scholars. Among their most important contribution was the discovery of the experimental method, in which in turn spawned a revolution in science and technology to the level of the development of civilization today. Far from preoccupation adore of the past, these facts are put forward in order to get *ibrab* (lessons) to reform and to revitalize epistemology in Islam.

Disappointment over the paradigm of scientific truth recently, especially the paradigm of pragmatic scientific truth, there is a tendency to look for an alternative paradigm of a new truth. This alternative is oriented to absolute and deterministic truth compares with scientific paradigm today which is characterized as both pragmatic and probabilistic. The source of truth is a religion, especially Islam.¹⁷

The research movement of epistemology in Islam can be recorded as performed by figures such as Ziauddin Sardar, Munawar Ahmad Aness, Parves Mansoor and Mahdi Gulsani. In addition, we are also known other Islamic thinkers, such as Ali Shari'ati, Basyarat Ali, Murthada Mutahhari, Sheikh Jafar Idris and Osman Bakar. The thinkers are generally having the same opinions as can be described as follows. Firstly, Muslims needs a scientific methodology for their needs, both material and spiritual aspects. In fact, the methodology of science is now not able to meet those needs, because modern science contains Western values which are contradict with Islamic values. Secondly, sociologically

¹⁶ Ziauddin Sardar, *Islamic Future: The Shape of Ideas to Come*, (Malaysia: Pelanduk Publications, 1988), p. 73

Muslims are living in the geographical areas and have a different civilization with the West. Obviously require different scientific method, because Western science was created to meet the needs for their own community. Thirdly, Muslims have never had a Muslim civilization where science is evolving suitable with the values of the Muslims needs.¹⁸

Therefore, an effort to formulate a paradigm of Islamic science can be done by re-arrange the existing science. A review of the scientific terminology should be connoted with the spirit of the Quran. It is different from the term of science and knowledge that only connoted by human activity. Polarization empirical science with humanistic science avoided wherever possible, because Islam is wholeness. In addition, each product of science, process and practice are always looking for calmness of God.

Ziauddin Sardar explains that Islamic epistemology has at least nine basic characteristics as follows: 1) The framework is based on an absolute guideline: 2) In this framework, Islamic epistemology is active not passive: 3) Epistemology is looked objectivity as a general problem and not the personal problem: 4) Mostly are deductive: 5) He combines science with Islamic values: 6) He sees science as inclusive and not exclusive, which is considered a subjective human experience is equally legitimate with a subjective evaluation. 7) He tries to make a subjective experience and encourage the search for these experiences, which from here Muslims obtain commitments of their basic values: 8) He combines the concepts from level of consciousness or levels of subjective experience, so that concepts and figuratively is suitable with other levels. This is equivalent with an extension which is known as range of awareness process, including the creative imagination and critical experience as well as spiritual. 9) He does not conflict with a holistic, unified and humane of

¹⁷ A.M. Saifuddin et. al., *op.cit.*, p. 18.

¹⁸ Ziauddin Sardar, *The Future of Muslim Civilization*, *op.cit.*, p. 134.

understanding and human experience. By doing so, science would appropriate to a more unified view of the development of personal and intellectual growth.

Conclusion

Based on the explanation above we can understand that the position of Muslim countries today are very backward in science and technology compared with developed countries, such as Europe and America. According to the report of the Standing Committee of the Organization of Islamic Conference (OIC), developed countries spend their budgets around 97 percent for science and technology needs, so that they can achieve what they want. Meanwhile, Muslim countries are only spending two percent of their budgets for the same requirements. In addition, many Muslim scholars who do emigration to developed countries with expertise from various fields with very high salaries and sufficient facilities. This phenomenon is even more advantageous developed countries, rather than Muslim countries.

Various attempts have been undertaken by Muslim intellectuals to address this issue, particularly in pursuing in the field of science and technology. Most Muslim scholars attempted Islamization of science, such as that carried out by Ismail al-Furuqi, and Mulyadi Karta Negara. Some of Muslim scholars are concerned with the development of Islamic science paradigm as practiced by Ziauddin Sardar.

References

- Al-Faruqi, Ismail. *Islamization of Knowledge*. Translated by Andre Wahyu which is entitled "Islamisasi Ilmu Pengetahuan." Jakarta: Lontar Utama, 2000
- Alexander, Thomas khun. Retrived From Stanford Encyclopedia of philosophy: Plato.stanford.edu/entries/Thomas-khun/, 2011.
- Heriyanto, Husein. *Paradigma Holistik: Dialog Filsafat, Sains, dan Kehidupan Menurut Shadra dan Whitehead*. Jakarta: Teraju, 2003.
- Harries, Karsten. *Between Nihilism and Faith: A Commentary on Either*. Walter de Gruyter Press, 2011.
- Iqbal, Muhammad. *The Reconstruction Religious Thought in Islam*. London: Oxford University, 1934.
- Kartanegara, Mulyadhi. *Mengislamkan Nalar: Sebuah Respon Terhadap Modernitas*. Jakarta: Erlangga, 2007.
- Kartanegara, Mulyadhi. *Menyibak Tirai Kejabilan: Pengantar Epistemologi Islam*. Bandung: Mizan, 2003.
- Kattsoff, Louis O. *Elements of Philosophy*. Translated by Soejono Soemargono which is entitled "Pengantar Filsafat." Yogyakarta: Tiara Wacana Yogya, 1989.
- Nasr, Seyyed Hossein. "Tentang Tradisi," Dalam *Perennialisme: Melacak Jejak Filsafat Abadi* (ed. Ahmad Norma Pratama). Yogyakarta: Tiara Wacana Yogya, 1996.
- Rahardjo, M. Dawam. "Melihat Kebelakang, Merancang Masa Depan: Pengantar," in *Islam Indonesia Menatap Masa Depan*. Jakarta: Perhimpunan Pengembangan Pesantren dan Masyarakat, 1989.
- Russell, Bertrand. *History of Western Philosophy and its Connection with Political and Social Circumstances from the Earliest Times to Present Day*. London: George Alen and Unwin Ltd., 1974.
- Sardar, Ziauddin. *The Future of Muslim Civilization*. Malaysia: Pulanduk Publications, 1988.
- Sardar, Ziauddin. *Islamic Future: The Shape of Ideas to Come*, Malaysia: Pelanduk Publications, 1988.
- Saefuddin, A.M. *et al., Desekularisasi Pemikiran: Landasan Islamisasi*, Bandung: Mizan, 1990.
- ST. Sunardi, *Nietzsche*. Yogyakarta: LKiS, 1996.