

**ISLAM AND SCIENCE:
ITS CONCEPTION AND INSTITUTIONAL MOVEMENT
IN INDONESIA**

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Abstract

Islam interacts and intersects with its culture either from Arab or outside of Arab. Islam revealed in Arab, in Shahrur view, as a liberation religion which is Arab didn't introduced as a part of any dominant imperial. It is considered as the strategic role which Islam didn't abounded which any imperial rule. Islam as a norm and values function considered to be able to interact with any culture and civilization around Arab, even in the world. Most Muslim beliefs that they able to alive in anyways they stay with difference culture. It can be seen in spread up of Muslim outside Arab moreover when they intersect with Persian and Byzantine which both of them more civilized in all of aspects. Islam as a religious value, then, intersect with science in the new culture. Thus how Islam interact with science? This paper tries to elaborate about early intersection of Islam and Hellenism till nowadays era.

Keywords: *Islam and science, knowledge, islamization, integrtion, interconnection*

A. The Spirit of Knowledge in Islam

Muslims believe that Islam is revealed from God into Muhammad PBUH as a prophet via Gabriel as an archangel. It is sought as Islam is not the engineer of Muhammad himself. As a religion Islam is composed of belief tools such as holy book, prophet, and some obligations or rites as well. When Muhammad was alive, he acquired the knowledge about obligations from God directly. Then, the companions gained from Him, and so on till the companions of companions (tâbi' al tâbi'în). Some problems arose afterwards. Muslims encountered some problems. Facing this, some scholars try to gain the knowledge especially about religions. It is the crucial thing in Islam about the transmission of knowledge.

The Muslim reads some verses of the holy Koran as a guidance which leads the reader to achieve knowledge so that he gets the sublime place, that is the place in the life here and hereafter. Besides, Muslims are obligated to achieve knowledge by order of their prophet Muhammad who says that to acquire the knowledge is an obligation for every Muslim, male or female. That is the root of the spirit of the Muslim to acquire the knowledge. It means that the obligation of knowledge acquired has a transcendent dimension among them. The characteristic of Islamic revelation permitted Islam to absorb ideas from many sources even though it came from other religions and nations. This was especially in regard to the sciences of nature. As is known that the spirit of science, which is explored from nature, merely developed by Persia as the extent of Greek, included Chaldean, Indian, and Chinese, therefore confirmed with the spirit of Islam. Coming from its contact Muslims adopted some elements from each. Nasr said that Muslims united some subjects which are originally from different regions; Greek, Chaldean, Indian, Persian, and Chinese. (Nasr, 1968, p. 30)

The most essential knowledge, which a Muslim should seek before everything else is a correct understanding of Reality and the precepts of Islam. However, what some people call as secular, is also of great importance and should not be neglected. These two branches of matters are believed by Muslims as the important things to be studied and mastered side by side. It is supposed to be no conflict between sacred and secular matters in the Islamic view. (Haneef, 1994, p. 173) Muslims consider that knowledge is to be sought both for its own sake and for its applications.

The most important thing to be questioned is what kind of knowledge is obligated to every Muslim, whether all kinds or certain kinds of knowledge to be obligated. And how is science present in Islamic society at some decades.

B. Early development of science

There are two main aspects of every religion that is absolute and relative. The absolute is about the truth to God, and the relative is about the practice of religious followers. That is why so many different practices among religion followers in the world. When Islam arose in Arab people, in that time lived pagan practices among them. Islam comes with the one God truth and from the illiterate society. To treat the explanation about one aspect is to complete the religion as the whole of the system. It means that the treatment give more attention in one aspect

of religion as a complex system serving numerous function including intellectual tradition as the root of science inquiring.(Daniels, 2009, p. 5) Sociologically, religion is a social reality, consisting of symbolic system that is culturally variable and which change historically(Tibi, 1990, p. 16). However, Muslim believes that science will not change the religion truth. The religion belief is about the truth in God and its elements.

Shepard divides the meaning of Islam into three levels. Basically Islam means submitting or committing oneself to God, essentially an inward mental action though with outward consequences. The second level is Islam as the religion, a system of beliefs and practices believed to be ordained by God. And the third level Islam as a culture and a civilization, created by Muslims societies in several place around the world. (Shepard, 2009, p. 2) This thesis tell us how to see Islam as unity of three system, namely as a submitting system, as a institution of belief, and as a culture. Muslim also believes that Islam is a perfect system which embraces all the aspects of life, whether individual or social. They are look at Islam as a solution of all the baffling problems which they face. The mankind problem, therefore cannot be studied separately or in isolation. (Muqim, Institute of Objective Studies (New Delhi, India), & Aligarh Muslim University, 1994, p. 39)

Islam grows extent out the Arab region such as to Persia and Shiria (Levant). Persia and Levant known as the extension of Byzantine before Islam came. They known as the civilized society and have developed knowledge and science in some subjects such as medical science, astronomy, physics, and so on. Islam faces, therefore, the educated and civilized society which required Islam to adapt and adopt it. In the early of Islamic growth, George Makdisi notes two linkage trends in developing of knowledge, namely humanities and scholastics as the intellectual movement. The humanities addressed to literature and philology, rather the main studies of scholastics is law and the science of law. He divides the period of Islamic civilization into two mains; pre and post-madrasa. (Boullata & McGill Indonesia IAIN Development Project, 1992, p. 313; Tibi, 1990, p. 17)

The early intersection of Islam with new thought is about the debate of God and its existence. It produces thought of theologies, Islamic jurisprudence, and literature. This three main thought became an actual issues at the time. Theologies produce and produced from philosophy debate. Philosophy firm with Persia before Islam came when Hellenism as the movement came into Persia via Alexandria. The deeply intersection of Greek philosophy, namely Hellenism, with Persia is the translation movement. A lot of book and thought translate into Persia within this era. (Russell, 2015, p. 414) Russell considered that Islam more interest after convert into Persia regarding at the interaction to its civilization. Islam and Persia is the ideal conversion rather than Christian and Persia. As known that Christian to be accepted as the Persian religion after six centuries of its conversion (Chaqoqo, 2015).

The Arabs considered as a complete capture in the Middle East after the conquest of Alexandria. Before it, Arabs were not among the civilization people; they were Bedouin and camelherds who make a living by raiding merchant caravan and by trading. Greek culture had flourished in Egypt, Syria, and Iraq since the time of Alexander the great. Its capture brought the Arabs into contact with the cultures of Greece and the Middle East. Alexandria was known

as the cultural centre of the ancient world. From Alexandria, centers of Greek linguistics, grammatical and theological studies flourished throughout Northern Syria and Upper Iraq well into the seventh and eighth centuries. (Fakhry, 1997, pp. 5–8) The years after its conquest, the student from around the world come into center of knowledge such as in Cordova, Granada, and Seville. They were impressed in a various subject and researches, included for the laboratories, systematic use of science, and scholarly literature. Muslim became the magnificent of the world knowledge, the thing which is impossible imagining in nowadays era.

Muslim gain the prestigious achievement involved the hard struggle and treatment. For the most influent for its achievement is religion spirits. It is different with former civilization, which Greek intersects with Catholics dogma, that in some cases prohibit philosophy thought. Some Muslim scholar adopted Greek knowledge and adapting it into Islam knowledge which is sometime raising high tension among them. Muslims scholar held intensive dialogue to gain a common thread between Greek knowledge and Islam doctrine.

C. The Movement of Islamization of Science

Islam is the third biggest of religion population in the world. Some scholar considers that Christianity, Judaism, and Islam are Abraham origin. From this point of view, apparently that Islam has its root in one god with them. In the other side, Islam has different experience in science acceptance. Even in nowadays era, Islam seems ignore to the science. Islam known to be leading in science only at the era of Abbasid period, that was in 7-13th century. Since the colonization era, Islam has no part in growing and developing science.

The civilization of Islam considered as stagnant after 6th century of Hijra due to the absence of science within development era especially at industrial revolution of France. Nowadays, after the colonization of the West into the East country, the importance of science raised some scholar by the project of science Islamization (Ahmad Fuad Al-Ahwani, 1985, p. 33). Islam gets its glorious at 7th C when Islam spread up into more extent rather than Arab area.

Islam consists of teaching and laws concerning religious rituals, morals, personal characters, daily habits, worship, family and social relationship, duties of citizenship, and the protection of environment. Some scholar collects it into the institution of sharia goals (maqashid al Sharia). Sharia is the corpus of three primary and secondary source for Muslim; al Qur'an as a holy books, al sunnah as the way and biography of prophet Muhammad, and the ush al fiqh as the Islamic legal science. The first two things known as revelation and the third is a thought among Muslims scholar called Ulema. The writer of this paper opinion, Maqashid al Sharia tends to bring in various social models even in modernity of Islam.

The following description will discuss some persons who concern in Islam and science issues, such as Ibrahim Kalin, Seyyed Hossein Nasr, Syed Naquib al Attas, and Osman Bakar. They are known well in Indonesia as the persons concern in it issues.

It is important to say that modernization of Islam signed by its thought; Islam must be congenial in and with spaces and times. Islamic modernism, therefore, is different with Islamic Puritanism. Islamic modernism is an intellectual movement which didn't try to turn Islam toward an archaic doctrine. It is trying to adapt it to the modern age by enriching it with those findings of rational sciences. (Tibi, 1990, p. 23) Bassam Tibi perceive about Islamization of Science as it civilization. Science deals with ideals in an abstract way whereas the technology as a product in order to raise the standard of living.

Since the introduction of Western science into heartland of the Islamic world in the 19th century, the attitude of most of the modernists and educated Muslims which came to know something of the science was more or less what was stated by such figures as Jamaludin al Afghani. In this optimism on modern science of the West was nothing other than the further expansion and growth of the science which Muslims had developed from the 8th to the 14th centuries and which was transmitted to a large extent through Spain and Sicily to Europe. When the Muslims took this science back into their own fold, they would be able to expand and developed further without any of the negative effects which the spread of secular science and the industrial revolution have had upon the West socially, morally, and spiritually. This is the Seyyed Hossein Nasr's (1988) perspective in one paper about Islam and the problem of modern science. (Iqbal, 2012, p. 321)

Ibrahim Kalin (2002) said that Islam and science took debate field from two main footing, that are from perspective of Atatürk as the founder of modern Turkey and Afghani as a modern intellectual. The first said that modern science and traditional beliefs is incompatible. Meanwhile, the second against its main-set that there is no clash between religion and science, be it traditional or modern, and that modern Western science was nothing other than the original true of Islamic science shipped back via the Renaissance and Enlightenment, to the Islamic world. Kalin added that there are three classification of competing trends at the current discourse on science in the Islamic world; ethical, epistemological, and anthropological/metaphysical views of science. The ethical/ puritanical view of science considers modern science to be essentially neutral and objective. The second position, epistemological view, concerns primarily with the epistemic status of modern physical sciences, truth claim, methods of achieving sound knowledge, and function for the society at large. Taking a science as a social construction, the epistemic school puts special emphasis on the history and sociological science. Finally, the ontological/ metaphysical view of science marks an interesting shift from the philosophy to the metaphysics of science. (Iqbal, 2012, pp. 6-7)

Naquib al-attas attributes to the Western science as godless science. He saw from his perspective that the world seen from this perspective is an independent, eternal universe, a self system evolving according to its own laws. The denial of the reality and existence of God is already implied in this philosophy. Its methods are chiefly philosophic rationalism, which tends to depend on reason alone without the aid of sense perception or experience, secular rationalism, which is while accepting reason tends to rely more on experience, and denies authority, intuition, and rejects revelation and religion sources of true knowledge. If it is admitted that there are levels of reason and experience, there is no reason to suppose that there

are no higher levels of human experience and consciousness beyond the limits of normal reason and experience in which there are levels of intellectual and spiritual cognition and transcendental experience whose limits are known only to God. (Iqbal, 2012, p. 124) He emphasizes to the science that there is a God role in every phenomenon of science.

In contrast to modern philosophy and science with regard to the sources and methods of knowledge, Naquib al Attas maintain that knowledge comes from God and acquired through the channels of the sound senses, true report based on authority, sound reason, and intuition which is it also the direct and immediate apprehension of religious truths, of the reality and existence of God. According to him, in contrast position of modern science and philosophy with regard to the sources and methods of knowledge, he maintain that just as there are levels of reason and experience so are there levels of authority and intuition. Apart from the authority of men science and learning generally, the highest levels of authority in Islam view is the Holy Qur'an and the tradition from the sacred person of holy Prophet Muhammad. He considers that both of them not only communicate the truth but also constitute the truth. Both of them represent authority that is established upon the higher levels of intellectual and spiritual cognition and transcendental experience that cannot simply be reduced to the natural level of reason and experience (Iqbal, 2012, p. 13). It can be concluded that Naquib al Attas view of science based on spiritual experience that is the holy book and the prophet tradition (al Sunnah). He considers that everything must be sourced on the truth of Islamic as religion. Therefore, the science is not independent apart with religion.

Osman Bakar structurally divides science into four basic components according to Muslim philosophers. The first component is well-defined subject matter or subject of study pertaining to which is established an accumulative body of knowledge in the form of concepts, facts, theories and laws, and the logical relationships that exist among them. This body of knowledge constitutes the main content of a science. The second component is comprised of the basic premises and assumptions that serve as the immediate epistemological foundation of the science under consideration. The third component pertains to methods of study employed in science. Muslim scholars had generally been guided by the principle that methods of study vary with the nature of the objects being studied so that is no single methods. The fourth component concerns the goals sought to be achieved by that science. The main goal of a science is to discover that aspect of reality pertaining to its objects of study. (Iqbal, 2012, pp. 87–88)

After having clarified the structure of both Islam and science, he relate then to the essential and significant way that is corresponding dimensions and elements in the two structures; Islam and knowledge. It is mean that here is interested in exploring Islam's inner resources that would enable Muslim to shape them into a universal vision of Islam as a way of knowledge rather than Islam as a way of actions. He cleared that iman as the epistemological foundation of universal science like metaphysics, theology, cosmology, psychology, and eschatology. According to Osman Bakar, the Islamic worldview in which science is to be cultivated and pursued is one that is fully informed by these universal sciences. The experience

of Muslims predecessors in using Islam's inner resources and developing theology, metaphysics, cosmology, psychology, and eschatology in conformity with the religion is invaluable to Muslims. (Iqbal, 2012, pp. 88–89)

D. Indonesian Issues of Integration and Interconnection; UIN Sunan Kalijaga Conception

UIN Sunan Kalijaga Yogyakarta, the oldest and established Islamic University in Indonesia, became a model of Islamization science through institutionalized campus. Here is developed the Islamic knowledge and the others; humanities and social science. Amin Abdullah, the former leader of the UIN Sunan Kalijaga, played the main role in developing what he call integration-interconnection project on science. He based his thought in constructing of integration-interconnection paradigm on his academic anxieties, that is the reality on addressing separated science and religion, precisely in Islamic issues. He took example that one subject of science separated and does not know with others subject. He borrowed Abid al Jabiry terminology on classifying science; bayani, burhani, irfani.

Bayani refers to text and its interpretation. It is supported by fiqh and kalam paradigm, the mindset which is dominant and hegemonic in Islamic institution school. In other side, the third, that is irfani, is separated one from bayani. Irfani addressed to tasawuf or intuitive sense. Irfani considered as a obscured science due to the mixed thought within tasawuf. The weakness of bayani appears when it face the texts of others; frequently be dogmatic, defensive, apologist, and polemics. (Abdullah, 2007, pp. 10–13)

Amin Abdullah divides three cluster of knowledge, namely humanities, socials, and natural science. For his project, he considers that burhani as a moderate epistemology. In burhani epistemology, the text emphasizes on examining and analyzing the conclusion heuristically through science syllogism. (Abdullah, 2007, p. 22) He said that untouched between the building on natural science and Islamic foundation is an accident for Muslims around the world.

Through this thought line, he argued to build a new roadmap of Islamic university in Indonesia and examined it in UIN Sunan Kalijaga Yogyakarta. In the same model of its are UIN Jakarta, UIN Malang (The trees of knowledge), and others UIN around Indonesia Islamic University. It will be the great experiment for Islamic studies in Indonesia as the part of Muslim world civilization.

Bibliography

- Abdullah, M. A. (2007). *Islamic studies dalam paradigma integrasi-interkoneksi: sebuah antologi* (Cet. 1). Yogyakarta: SUKA Press.
- Ahmad Fuad Al-Ahwani. (1985). *Filsafat islam*. Jakarta: Pustaka Firdaus.
- Boullata, I. J., & McGill Indonesia IAIN Development Project. (1992). *An Anthology of Islamic studies*. Montreal: McGill Indonesia IAIN Development Project.
- Chaqoqo, S. G. N. (2015). *Sejarah Nahwu Memotret Kodifikasi Nahwu Sibawaih*. Salatiga: LPPM Press IAIN Salatiga.

- Daniels, T. (2009). *Anthropology and Cultural History in Asia and the Indo-Pacific: Islamic Spectrum in Java*. Farnham, GB: Routledge. Retrieved from <http://site.ebrary.com/lib/alltitles/docDetail.action?docID=10325906>
- Fakhry, M. (1997). *A short introduction to Islamic philosophy, theology and mysticism*. Oxford, England; Rockport, MA, USA: Oneworld.
- Haneef, S. (1994). *What everyone should know about Islam and Muslims*. Delhi: Adam Publishers & Distributors.
- Iqbal, M. (Ed.). (2012). *Studies in the Islam and science nexus*. Burlington, VT: Ashgate.
- Muqim, M., Institute of Objective Studies (New Delhi, India), & Aligarh Muslim University (Eds.). (1994). *Research methodology in Islamic perspective* (1st ed). New Delhi: Institute of Objective Studies.
- Nasr, S. H. (1968). *Science and civilization in Islam*. Cambridge, Mass.: Harvard University Press.
- Russell, B. (2015). *A history of western philosophy, and its connection with political and social circumstances from the earliest times to the present day*.
- Shepard, W. E. (2009). *Introducing Islam*. London ; New York: Routledge.
- Tibi, B. (1990). *Islam and the cultural accommodation of social change*. Boulder, Colo: Westview Press.