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ISLAMIC SCIENCES INTEGRATION

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Abstract

This article tries to show that there is "a sciences dichotomy" interpreted by Muslim today. Many Muslims consider that sciences (secular knowledge) and Islamic studies are different not only in formal object-material and research method but also the role. They stand on their own area. This study focuses on how and what to integrate those two knowledges. The method of this research is library research by analyzing some literatures such as books and journal articles. The results of this study shows that first, the dichotomy between Islamic knowledge and secular sciences causes Muslim scholar try to islamize or integrate the two both since it affects positively to life. The second is the unity of between those two kinds of sciences tends to integrated interconnection and refers to ontologies perspectives, epistemology, and axiology. Third, Integrated-interconnection between those two has three domains: Integrative-Interdependence, Integrative-Complement, and Integrative-Qualificative.

Keyword: *Islamic Sciences, Integration, Interconnection.*

A. Introduction

Al-Qurán and Hadith obliges the people to explore sciences by thinking, observing, and researching the creation of earth or the universe. Al-Qurán also challenges men to research the universe in detail. It is stated in QS. al-Ghasiyah; "*Do they not look at the camels, how they are created? And the heaven, how it is raised? And the mountains, how they are rooted (and fixed firm). And at the earth, how it is outspread?* (Chapter: 17-20). If these chapters are observed deeply, it is really a command to dig the sciences widely then, moreover to research the universe. As a matter of fact, the scientists have not developed the sciences based on al-Qur'an meanwhile *Ulama* focusing on al-Qurán and Hadits are just stagnant on textual concentration. They have no courage to research the universe like being stated in al- Qurán.

It is so friendly to hear religious studies and sciences (secular) dichotomy. Islamic studies is the knowledge laid on a divine, prophetic tradition (Hadith), and *ijtihad* from ulama such as *Fiqh, Tauhid,* Islamic philosophy (*Tasawuf*), Islamic civilization history etc. On the other hand, sciences (secular knowledge) are the knowledge based on empirical proof through research such as mathematics, astronomy, biology, chemistry, medical, anthropology, economics, sociology, psychology etc. Both of them have own area, are separated not only in formal object-material and research method but also the role. So that, it is "*a sciences dichotomy"* interpreted by Muslim today. There are many Muslim considering that sciences and religion (Islam) stand on their own area. Sciences depend on empirical data and religions depend on invisible dogma *(ghaib)* called belief and faith. The appearing matter is how and what to integrate those two knowledges?

B. The Definition and characteristics of Sciences

The word "knowledge" means a number of information obtained by men through observation, experience, and thought. Whereas, "science" tends to theoretical aspects and verifications from a number of knowledges obtained by men. The

difference between those two words is that knowledge does not need theories and experiment. However, knowledge is the basis emergence of the science itself. Without being preceded by knowledge, science is never exist so that a study means a science can be differentiated from a study to knowledge. The Liang Gie defines that a study is activity series of observation to seek explanation or a method to get rational-empirical understanding about the universe in all aspects. It is also said as the whole systematical knowledge explaining some indications that the men want to get. Here, scientifical knowledge has 5 requirements:

1. Empiric (based on observation and experiment)
2. Systematic (having mutual-ordered connection)
3. Objective (no prejudices)
4. Analytic (making basic difference in detail)
5. Verificative (can be examined by everyone)

C. The source of Islamic Science

M. Amin Abdullah (2006: 191–192) views that a study planned, made from a concept, and written systematically then being communicated, taught, spread through oral or written is an Islamic science. Islamic science is a regular science of concept as it is planned and formulated by religious values, *ulama, fuqaha, mutakallimin, mutasawwifin, mufassirin, muhadditsin* in the past to respond the humanity and religion llike other sciences.

Islamic sciences has 4 sources. These are in detail as follows:

1. Al-Qur'an and Sunnah

Al-Qur'an and sunnah are the sources of Islamic sciences in where we can find elements in building diversities, concepts, and theories to solve problems faced by *ummah*. Considering their characteristics as the essential factors, al-Qur'an and sunnah for social science and natural science are the basic elements of either grand concept or grand theory. It means that both of them are the sources for teaching theologically and ethically. They contain basic concepts

through potential process in developing and benefiting Islamic science.

Indeed, Al-Qur'an really provide the sources in becoming the way of thinking or acquiring knowledge called Qur'anic paradigm. It aims to formulate theories in order to make religious-normative postulate for acquiring knowledge as well. It has been known that knowledge can be obtained systematically through daily constructive experience. Hence, religious norm as human experience logically can be constructed to be method in obtaining science. Developing experiments of science laid on Qur'anic paradigm actually enrich man's knowledge. This way possibly triggers the emergence of alternative sciences. So that, it is clear that normative premises of al-Qur'an can be formulated to be empirical and rational theories since the process, in this case, is the same as modern sciences that we know today.

2. The Universe (*afaq*)

Al-Qur'an recommends man to protect universe and all aspects inside in order to get the double benefits, they are 1) realizing that God is the greatest. It is for man to believe in Good stronger and have life principle to do all activities, 2) using all things to develop and preserve the world for God has chosen man as *khalifah* in this world. Having been granted from God with senses, mind, heart, al-Qur'an as a compass, and Sunnah as explanation of Qur'an, man observes natura phenomena to obtain varied sciences. Moreover, man with the grants is able to reveal the secrets of al-Qur'an in which alluded sciences, then is going to be present in the future for the shake of man's prosperity. In detail, there are some proofs of natural sciences that Al-Qur'an has signed but now it is present, they are:

a) Cosmology, al-Qur'an signs about the process of creating universe, planet compositions, and the world (QS. 41: 11–12), the orbit of sun and moon (QS. 21: 33 dan QS.

36: 40), signal for man to transgress the world (QS. 55: 33).

b) Astronomy, the chapters of al-Qur'an that allude about, are: sky and earth ahve no pillars (QS. 13: 2-3, QS. 79: 28), regularity and balance (QS. 14: 33, QS. 55: 5), the movement of the things of the sky in the cycle line QS. 36: 38-40, QS. 10: 5–6).
c) Physics, al-Qur'an discusses about the moon and the sun ray (QS. 25: 61, QS. 10: 5-6), the function of the ray in varied field (QS. 57: 13, QS. 66: 8, QS. 9: 32), hot energy or calory (heat) (QS. 18: 96, QS. 13: 17, QS. 55: 35), electricity (QS. 2: 19-20, QS. 13: 12-13).
d) Mathematics, al-Qur'an teaches man about numbers (QS. 18: 11-12, QS. 18: 9), multiplication and number calculation (QS. 19: 84, QS 19: 94 – 95).
e) Geography, al-Qur'an teaches man about the function of mountain that strengthen the movement of the earth and keep maintaining the earth's constant position (QS. 27: 61, QS. 16: 15), the function of forest and flora (QS. 27: 60, QS. 16: 10), the changing of climate (QS. 10: 5–6), the melting between freshwater and briny water but they can be still different in the sea (QS. 25: 53).
f) Zoology, al-Qur'an discusse about the process of animal proliferation (QS. 53: 45-46, QS. 43: 12, QS. 6: 142-144), animal gathering-society (QS. 6: 38), the behaviour of bee, spy, ant and bird (QS. 16: 68-69, QS. 29: 41, QS. 27: 18) (Baiquni, 1996: 29-40).

Hence, there are not chapters in al-Qur'an, even one, that oppose to the result of scientific invention. The achievement of science is not valued from what has been dedicated to society, but also the atmosphere to trigger the development of the science itself. Moreover, Al-Qur'an has created this kind of atmosphere through becoming the science as the term of central awareness to Muslim that intercedes between faith and charity (iman and amal). *Ulamas*, in this case, often state the command from Allah SWT

either implicitly or explicitly to man to think, get reasoning etc. In recent time, we have found people to interpret some chapters of al-Qur'an in modern sciences. The main purpose of this is to show *mu'jizat* in sciences for convincing non muslim about the greatness and uniqueness of al-Qur'an, then make Muslim are proud of having the greatest book namely al-Qur'an (Ghulsyani, 1986: 137-138). Still, it can be comprehended that the development of natural sciences is impossibly able to conducted only by studying texts of al-Qur'an or Hadith through metode "ijtihad" method, but through observation, research and experiment sustainably to the specific objects so that it can result what so-called the "law of nature".

3. The man himself (*Anfus*)

Man is created by Allah in order to find invention. There are many hardware and software equipments Allah has granted to man to reach the goal. In Islam, mind is the key to lead the world for man as *khalifah.* From the man himslef (*anfus*) as micro- nature, he will find either many kinds of social sciences or humanities sciences after having research, observation, and experiment physically and mentally such as medical, health, midwifery, economy, biology, psychology, sociology, history etc. Al-Qur'an has informed that the signs of the greatness of Allah SWT shown to human is the reconstuction of the universe (*afaq*) and the man himself (*anfus*). Allah says in surah Fusshilat, 53: "We will show them Our Signs in the universe, and in their own selves, until it becomes manifest to them that this (the Qur'an) is the truth. Is it not sufficient in regard to your Lord that He is a Witness over all things?"

4. History (*Qashash*)

History as a source of knowledge or science reveals the moments in the past with all aspects of life such as politics, social phenomena, and economy in a nation. That

moment is a note which is perpetuated in writing in the wide framework. For the outside aspect, history is just a record of moment in the past from individual and social reality with all aspects above. Whereas, the inside aspect, history is about a critical reasoning to seek the truth of all things with appropriate explanation. It is a deeply understanding knowledge about how and why something happens. History means the interpretation meaning from the moments after examining many proofs and observing the chronology of the proofs themself. Like the critics for *hadith* (its categorizing rank, and its methods of quotation), it is developed in order to examine the truth and the origin of *hadith* itself. So, the methods above are the same as the methods applied in research and evaluating the proofs in history as well (Rahman, 1992: 126).

Actually, there are two kinds of analysis model resulted by historical analysis. First, the conceptual use of periodic method. Second, reconstruction of process of genesis, changing and development. By this way, man can be seen historically. Through historical analysis, it can be known that one man as a figure of thinker is pressed by willingness which does not appear from themself. So, we can see how their acts are influenced by not only their internal factors such as ideas, belief and the beginning concept from theirs, but also external factors.

D. Islamic Sciences Integration

After Islam experienced a degradation in the 13rd-20th Century, the west tried to develop the sciences they got from Islam so that they achieved *renaissance*. Sciences developed rapidly in the west but Islamic studies degraded more and more that finally emerged dichotomy between sciences and Islamic studies. Furthermore, the west also faced secularism in sciences that the church was also against on it. Galileo (L.1564 M) was regarded as a pioneer of secularism

got capital punishment for having a statement against the church in 1633 M, Galileo strengthened Copernicus' view that the sun was a center for the universe based on the empirical proof through observation and experiment. On the contrary, the church stated that the earth was the center for the universe (*Geocentrism)* based on information from bible.

The historical moment above triggered the emergence of science which separated from religious doctrine. The credibility of church fell down so that this situation made achievement for scientific approach and secularism. Hence, Secularism in ontology point of view, tried to throw religious characteristics and mysticism away from sciences since it was considered that it was not relevant with it. Nature and social reality are demythologized, then purified from things with *ruh* and spiritual characteristics. Secularizing science from methodology by using rational and empirical epistemology. Rationalism argues that ratio is an objective knowledge tool because it can see reality constantly. Whereas, empiric views that a source of legal knowledge is experience. In addition, secularizing science in axiological aspect is that science is free or neutral and the values of science are just given for the user of the science itself. Inserting value to science, according secularist can cause the science takes side so that it can erase its objectivity.

This atmosphere motivates Muslim scholars to strive in reintegrating science and religion. The first effort proposed is to islamize science. It makes Muslim who missed modern civilization getting dilemma. It is whether to cover the science with label "islamizing" or just "Islam"? Or striving to transform religious normative referring the main source namely al-Qur'an and Hadith into the real-empirical history? Finally, it can be said that both of them are so hard to do if the efforts are not based on criticl epistemology.

Next, Muslim scholars who have ever debated

about islamizing science are: Ismail Raji Al-Faruqi, Syed Muhammad Naquib Al-Attas, Fazlur Rahman, and Ziauddin Sardar. The emergent idea of "Islamizing science" cannot be separated between science and religion. Secularism has made science going too far from possibility to be approached through religious studies. In addition, Ismaa'il Raaji Al-Faruuqi has attempted to return science to the center called *tauhid*. It is intended to have coherence between science and religion. And, another effort is illuminating Islam triggered by Kuntowijoyo. He proposes that conducting theoretical formula of science based on al-Qur'an can make al-Qur'an as a paradigm by implementing objectiveness. Here, Islam is made as objective science so that Islamic teaching where al-Qur'an as the compass can benefit to all things in the world (*rahmatan lil 'alamin*), not only to Muslim but also non-Muslim.

Furthermore, Amin Abdullah views that integrating science experiences difficulties in combining Islamic studies and science since they both want to be prioritized. Because of this, it needs to interconnect wisely. Still on Amin Abdullah's, It aims to understand the complexity of life phenomena being faced by man so that whatever the building of knowledges such as social, humanities, or natural sciences cannot stand by themself. So, it needs cooperation, mutual review among sciences. The approach of integrative-interconnection is a balancing approach between religion and sciences without having a tendency to lead each other. This approach is an effort to link between religion and science. It makes science experiencing objectiveness where it can benefit to non-Muslim just as a natural thing (common). But, Islam in this case can give benefit to all things and human in the world.

Moreover, the difference between islamizing science and integrative- interconnection approach is in the relationship between religion and science. The earliest occurs process of sorting, melting between science and religion. The latest

tends to respect the existing science because science also has a basis of epistemology, ontology, and settled axiology. While seeking the sameness either approach and procedure among sciences and inserting Islamic values namely *tauhid, akhlakul karimah* and the principles of *rahmatan lil alamin*, it is intended to make sciences and religion living in harmony.

STAIN Kudus also has the concepts about integrated sciences that stresses on practical dimension in implementing Islamic teaching in daily life. STAIN Kudus also has a term "Pola Ilmiah Pokok" or the main scientific model (PIP STAIN Kudus) that is called "Islamic transformative". It is based on three model of diversities, they are:

1. Transformation from religious understanding with normative to historic characteristics.
2. Transformation from religious understanding with theoretical to practical characteristics.
3. Transformation from religious understanding with individual to social characteristics.

E. Analysis

Basically, Islamic sciences can be divided into three fields academically; the first is Islamic-normative science, the second is Islamic historical science, and the third is Islamic multidiscipline science. As to normative Islamic studies, the study refers to a sources of Texts such as *hadith, fiqh,* and so on. This study certainly makes texts of Islamic teaching as the target. Whereas Islamic historical study tends to the cases of society. Here, it consists of Islamic history, Islamic culture, anthropology, psychology, law, politics, and so on. These fields are related to the objects of Islamic studies that concerns to its normative dimension and historical normative. Then, the third is Islamic studies called "Islamic multidisciplinary science".

The basic philosophy of these fields is that the Islamic study uses many varied approach in social sciences,

humanities, and even natural sciences, so that it can be a study with Islamic color methods and being combined with other sciences. Then, Islamic normative science, for example, it is the targeted study and social discipline and humanities science become this methodology. Qur'an, Hadith, fiqh studies can use social approach (sociology, politics, psychology, anthropology) or humanities approach (history, philology, hermeneutics, philosophy).

On the other hand, the diversity in Islam has three dimensions, they are; *iman, Islam* and *ihsan*. In *iman*, everyone believes strongly the presence of God then comes to *Islam*, namely the obedience to do *syari'at* containing law, regulation, and the way to do *ibadah* and *mu'amalat*. By doing this, everyone is hoped to come into next dimension that is *ihsan.* The latest dimension here is a kind of actualization of man himself based on the intentional relationship with God individually, accept His *amanah* as His representative, then implementing *khalifah* in the world.

If we think deeply, the three religious dimensions can develop the scientific world. *Iman* dimension can develop divinity science and all basic-existed sciences so that it emerges philosophy science or *hikmah.* Islamic dimension (*syari'ah*) determining *ibadah* and *mu'amalat* principles can also develop social, cultural, technological sciences related to man and the universe. Whereas, *ihsan* dimension develops psychology or Islamic philosophy (tasawuf). Thereby, Islamic science is a unity among philosophy (*iman*), science and technology (*Islam*), and tasawuf (*ihsan*). It is a manifestation of religious unity to strengthen humanity and uphold morality and spirituality. So that, Islam never knows dichotomy between religious study and sciences.

Kuntowijoyo says that al-Qur'an actually provides massive possibilities to be used as the way of thinking that is Qur'anic paradigm. The development of scientific experiments based on Qur'anic paradigm absolutely enriches

the storage of sciences. This activities possibly encourage the emergence of alternative sciences. It is clear that the premises of Qur'anic normative can be formulated to be empirical theories and rationale. Qur'anic transcendental structure is a normative idea and philosophies where they can be formulated as theoretical paradigm. It provides frameworks for developing originally the rational and empirical sciences to meet the pragmatic needs of man as a caliph in the world. It means that the development of Islamic scientifical theories aims to give advantages to human kind.

The view of dichotomy here puts Islam as a strange discipline from other sciences. It has made Muslim scholars missing to develop their scientific concepts or even solve the problems by using multidimensional approach. So, it is very common that scientific dichotomy get claims from society including Muslim scientists through *islamizing the science.* Amin Abdullah states that it was a big problem for Islamic history when natural sciences *(al-ulum al-kauniyyah)* are separated from Islamic science in which its foundation is from "texts" or *nash* even many Muslim scholars had invention in sciences then increased the civilization. It can be seen from the work of Al-Biruni (w.1041), a Muslim encyclopedist, Ibn Sina as a philosophist and medical expert, or Ibn Haitsam (w.1039), a physic expert.

Hence, Islamic science needs to be reconstructed through new paradigm namely Islamic integrated. It is an Islamic science representing the integration of all scientific systems in a framework. Then, Islamic science uses divine (*wahyu*), hilosophical, and empirical approaches in discussing either the substance of science or function, purpose of science itself. By this way, it can be eliminated about dichotomy between Islamic science (*syari'ah*) and natural science since they both are functional correlated. Moh. Natsir Mahmud porposes some possibilities in islamizing the sciences.

AzyumardiAzrastates that there are three typological

responses from intellectual Muslims in the relationship between science and religious science. They are; *first*, restorationist. It argues that beneficial and practical science means religious practice (*ibadah*). Intellectual Muslims, such as Ibrahim Musa from Andalusia (w.1398M) and Ibnu Taymiah states knowledge is just from the prophet. Then, the same as those two intellectual Muslims, Abu Al-A'la Maududi, a leader of *Jamaah al- Islam* Pakistan says that western knowledges (geography, physics, chemistry, biology, zoology, geology, and economy) are an astray source because it has no reference from Allah Swt and Nabi Muhammad Saw. *Second*, reconstructionist. It is religious interpretation to improve the relationship between modern civilization and Islam. They state that Islam in Muhammad era and *sohabat* (his friends) were revolution, progressiveness, and rationale. Next, Sayyid Ahmad Khan (w. 1898 M) argues that God's divine and scientific truth are true. Jamal al-Din al-Afgani says that Islam has a spirit to practice scientific knowledge. *Third*, integrationist. It is a scientific reconstruction based on *al-ayah al-Qur'aniyah* and *al-ayah al-kauniyah.*

Meanwhile, Kuntowijoyo states that the core of integrated science is an effort to unify God's divine (*wahyu*) and man' invention of thinking (*rationale*), not to isolate God (secularism) or isolate man (*other worldly asceticism*). This model of this integration makes al-Qur'an and Sunnah as *a grand theory of knowledge*. So that, *qauliyah* and *kauniyah* verses can be applied. Furthermore, it is an effort to integrate between sciences and Islamic science without ignoring the two both uniqueness. There are interesting critiques related to this integration, they are:

1. The integration having tendency to combine between Qur'anic verses with scientific inventions but it is shallow. Thereby, integrative-constructive has important role to create new contribution or, even if, it cannot be reached when it is separated. But the drawback of this integration

is about a dominance such as theology is conquered by anthropology.

2. Related to the shift of sciences, namely *kauniyah* (universe) dan *qauliyah* (commandment), he states that science is not only about *kauniyah* and *qauliyah,* but also *nafsiyah*. *Kauniyah* means the law of the nature, *qauliyah* refers to God's law, and *nafsiyah* refers to meaning, value, and man's awareness. So that, *nafsiyah* is so-called humanities science such as hermeneutics or civilization (Kuntowijoyo, 2005: 51).

Furthermore, the difference between islamizing science and integrative- interconnection approach is in the relationship between religion and science. The earliest occurs process of sorting, melting between science and religion. The latest tends to respect the existing science because science also has a basis of epistemology, ontology, and settled axiology. While seeking the sameness either approach or procedure among sciences and inserting Islamic values namely *tauhid, akhlakul karimah .* It is intended to make sciences and religion living in harmony.

F. Conclusion

1. Al-Qur'an has been sent to man as the different parameter between *haq* and *bathil.* And, it guides man to learn and develop sciences. The dichotomy between Islamic knowledge and secular sciences causes Muslim scholar try to islamize or integrate the two both since it affects positively to life.
2. The responses from Islamic scholars related to Islamic and secular science are 3 typologies, they are: Restorationism, Reconstructionisms, and Reintegration. The unity of between those two kinds of sciences tends to integrated interconnection and refers to ontologies perspectives, epistemology, and axiology.
3. Integrated-interconnection between those two has three

domains as follows: a). Integrative-Interdependence. It is a corelation between and religion ontologically, where the existence of two both are mutual dependence. Religion without science is not able to be understood and vise versa since they primordially are from a source, namely God. *Al-'Alim* is one of the God's characteristics so that the existence of science and religion is identical in the form of absolute of God. b).Integrative-Complement. It is a correlation between science and religion epistemologically, where the whole methods applied in them both is mutually complementing. The method in science does not only accept the truth of science empirically and rationally, but also intuitively or *kasyfi*. Then, the truth of science has characteristics not only correspondence and representation, but also acknowledges the direct truth from God in *huduri* characterization. c). Integrative-Qualificative. It is the corelation between science and religion axiologically, where the whole value between two both has mutual qualification. It means that sciences are justified by religious value so that sciences must be lightened by religious value. The implication of sciences' development is always consistent with moral-religious value. But, however, the truth of moral-religious value are justified by the scientifical proofs empirically, rationally, logically, and mystical-intuitively.

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