

## The Integration of Islam and Science: Al-Ghazali on Causality Revisited<sup>1</sup>

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### *Abstract*

*In contemporary debate, the integration between Islam and science becomes one of the main concerns among Muslim thinkers. Some consider that there is no clear connection between science and religion (Islam) and others reject this claim. The non-integration of Islam and science as seen by many is a result of several fundamental problems. In this article I will endeavor to examine the root of problems from theological perspective with the focus on the concept of causality. Therefore, the article will examine the views of the Muslim theologians (mutakallimun) regarding the matter with special reference to Abu Hamid al-Ghazali in his renowned Tahafut al-Falasifa.*

*Keywords : integration, Islam, science, al-Ghazali, causality*

### INTRODUCTION

Historically the integration of knowledge was not alienated from Muslim epistemological framework. The unity of knowledge probably was a more familiar and well accepted term among scholars in the classical period. This is due to the epistemological background of Muslim world like other Islamic concepts is closely related with the ontological objective of human beings that is to worship Allah (al-Dhariyat: 56). Therefore, the aim of all knowledge in Islam is for the pleasure of Allah. Muslim scholars from every branch of knowledge such as religion, natural sciences or social sciences supposed to consider Allah as their ultimate aim.

However, for the last several decades some Muslim consider that science is a stranger to Islam. They believe that modern sciences that mainly based on the evaluation theory developed by Charles Darwin are contradicted with the teaching of Islam. This dichotomy has influenced the educational proses in Muslim countries. As a result we observed that there is a separate education system in Muslim world, the first is Islamic and the second is science stream (Rosnani Hashim, 2004, 15). Therefore, during the crisis families with religious inclination will send their children only to religious school, while those probably with lesser religious consciousness educate their children in science school.

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The origin of disintegration between religion and science could be traced probably in the western world during the Dark Age. The emerging of secularization in the west contributes significantly toward the disintegration between religion and science in Muslim world (Abdul Rahman Abdullah, 2002, 44). During the first half of twentieth century, when many parts of Muslim countries were occupied by foreign powers, western officers are imposing western educational system in the Muslim world. Hence, the main education system in Muslim world was based on western educational system. In Malaysia for instance, during early fifties, British officer such as R. O. Winstedt and A.J Sturrock played a major role in developing the curriculum for the national schools (Encyclopedia Malaysiana, 1996). During the early stage of the independent, Islamic education is not a major attention. The *madrasa*, *pondok*, (*pasentren*) and mosque are the main centres of religious education in the society. During this period science was taught only at the official schools that governed through western educational system. While in *pondok*, *madrasa* and mosque the focus of study is on religious knowledge (Rosnani Hashim, 2004: 9).

The separation between religious knowledge and science becomes the prevailed educational system for several decades. However, during the last quarter of 20<sup>th</sup> century some scholars appeared dealing with this issue. In 1977 the First World Conference on Muslim Education was held in Mecca (al-Faruqi, 1982: 14). From here the problem of the integration between science and religion become a major concern of some Muslim scholars such as al-Isma'il Faruqi (1982), Naquib al-Attas (1991) and S. H. Nasr (1987). My article however, is not an endeavor to examine their concepts of knowledge, or their philosophical approaches on this issue, but to study the theological foundation of the relation between Islam and science.

This article is an observation on the roots of the problem from theological perspective. First I will mention the fundamental problem for the integration between Islam and science by examining the concept of causality from both perspectives. I will briefly examine the disputes in classical theology regarding causality. Al-Ghazali (d. 505/1111)'s view on causality will become the focal point since the majority of Muslim accepted his views nowadays. In this article I will argue that al-Ghazali's concept of causality can be reformulate based on his argument in *Tahafut al-Falasifa*. This endeavor is important since if the reformulation is possible it will eliminate one of the biggest obstacles for the integration between Islam and science. His other view on natural causality seems to be consistent with the teaching of the Qur'an and in absolute harmony with science.

### THE CONCEPT OF CAUSALITY

From our observation one of the major problems in the integration between Islam and science is a difficulty in accommodating the foundation of both disciplines. Science is based on the concept of causality that accepts the effect of the natural causes. Rain for instance is caused by chain of natural

causes such as sea, cloud, steam and wind. Meanwhile the accepted view regarding the causality in Islamic studies is that God is the only cause of everything (al-Ghazali, 1985: 193). Accepting a cause other than God can get one into polytheism (*shirk*). This interpretation however, seems to be problematic for some Muslim scholars such as Ibn Rushd in his famous rebuttal to al-Ghazali's *Tahafut* (Ibn Rushd, 1968).

In classical Islamic theology the concept of causality can be considered as controversial. The problem of causality as viewed by Muslim theologians is related to the implication from accepting this concept. Muslim philosophers, when they accept the concept of causality end up with the eternity of the world (al-Ghazali, 1964). However, they have their own interpretation to differ the eternity of God from that of the world. They consider that the world is eternal in term of time but in term of essence it is temporal (Sulaiman Dunya, 1965: 12-15).

The Mu'tazilites reject the philosophers' view on the concept of causality. 'Abd al-Jabbar (d. 415/1025) for instance considers that, accepting that God is the cause of the universe will imply the eternity of the latter since the cause cannot be separated from the effect. However, he accepts that human beings are the real agents for their actions. In this case he uses the word agent (*fa'il*) and avoids using cause (*illa*). From here one can observe that 'Abd al-Jabbar, one of the prominent scholars from Bahshamiyya school rejects the usage of the word cause to God (Mankdim, 1965: 58).

However, 'Abd al-Jabbar's immediate student Abu al-Husayn al-Basri (d. 1044) disagrees with him on this matter but develops another interpretation of the concept of causality. The latter, based on the argument similar to philosophers considers that God is the cause of the world. He manages to avoid the implication that previously trapped the philosophers by arguing that God is a freely chosen agent (Madelung, 1991: 175). Therefore, if He is eternal His cause is not necessarily so since He can choose either to create the world or not. Al-Basri (2006: 35) considers that the omniscient and omnipotent God can freely choose when He want to create the universe.

Al-Ghazali in this dispute holds a closer view to al-Basri. He considers that God is the cause of the universe. However, al-Ghazali differs from al-Basri when the former considers that God is the only cause for everything. Therefore, al-Ghazali rejects the effect of natural cause; instead introduces the concept of *Ada*. His first view on causality is that there is no natural cause. It is God who causes the burning and not the fire. Therefore, he criticizes the view of philosophers rigorously in his work *Tahafut al-falasifa* (1964).

Al-Ghazali's critique here imputes a very strong notion of causality to the philosophers: namely that given the existence of a cause, the existence of its effect is necessary (Goodman, 1978: 84-85). Al-Ghazali holds that, on such a notion of causality, only God is the cause. This is because given the existence

of miracles, and accepting the proposition that God can do anything, no cause other than God can *necessitate* its effect. It is always possible that God might will the expected effect not to proceed, or will an entirely different effect to proceed. Al-Ghazali defends this view against both philosophers who claim that a natural cause, such as the fire which causes the burning of cotton, is the sole and sufficient cause for its effect, and against those who, like Ibn Sina (Avicenna), would say that there is a giver of forms in the celestial world which imposes form once a sublunar cause has prepared some matter for that form. Against the first view, al-Ghazali gives the famous argument which has been compared to Hume's: observation of simultaneity does not prove that causation has occurred. Against the latter view, al-Ghazali says that if effects are brought about by higher principles, they depend ultimately on God's will, and God can do anything except the absolutely impossible. Therefore, no effect proceeds necessarily from its cause, unless the cause in question is God Himself (Adamson, 2008: 7).

But al-Ghazali (1964: 196) goes on to say, in essence, that natural causes can be regarded as causes if we invoke a weaker notion of causality. He admits that a natural cause has a nature which gives rise to certain effects: fire, for instance, has a nature such that it burns whatever is in contact with it. But this does not mean that fire is a necessary cause, in the sense that the existence of fire in contact with cotton logically entails the existence of burning cotton. The nature of fire itself, says al-Ghazali, derives from God, and God chooses whether or not this nature will give rise to its normal effect or not. On al-Ghazali's view, natural causes are only contingently causes -- their effects only proceed if the true Agent who gave them their natures wishes it. According to Adamson (2008: 5), Ibn Rushd was the first of many to see this position as an inconsistent concession to the philosophers on al-Ghazali's part, because al-Ghazali seems at first to say that God is the only cause, and then asserts that created things do have natures which lead them to cause their effects (Ibn Rushd, 1968: 75). But al-Ghazali's view I suggest is not inconsistent, it merely sees created natures as inherently contingent and provisional, relying on God's continued will for their efficacy and very existence.

From here we observe that al-Ghazali's discussion in *Tahafut al-Falasifa* refers not to the question whether the notion of causality is applicable in general but specifically to the question as to whether the philosophers are correct in locating causal necessity within the phenomenal or empirical world. Al-Ghazali's concern on this matter is to confirm the unity of action (*tawhid al-af'al*), that rejected by the Mutazilites. Unfortunately al-Ghazali's was accused of denying the natural causality. This misunderstanding occurs in either his followers or his opponents. As a result a general conclusion falsely derived that al-Ghazali denies the natural causality. This deceived

conclusion, I think contributes negatively to the development of later generation of Muslim scientists.

For some reasons al-Ghazali's view was accused by some as the cause of the backward of Muslim world in science and technology. In this regard I disagree with this view since it is very bizarre to blame a person for the backwardness of one entire nation. Also there is contradict views among scholars regarding the contribution of al-Ghazali to the development of Islamic sciences (Saliba, 2007). For I also argue above that what al-Ghazali rejects in his *tahafut* is not the concept of causality in general but specifically to the question as to whether the philosopher are correct in locating causal necessity within the phenomenal or empirical world.

### OUR PRESENT CONCERN

The problem that faced by later generation of Muslim scientists is that the laws of science, where the concept of causality is one of its foundations, seems to be inconsistency with the teaching of Islam (as derived from a misunderstanding of al-Ghazali's view). General view considers that Allah is the only cause of everything and whoever considers that water is the cause of slaking of thirst is wrong and probably will imply polytheism. The consequence of this view I suppose is the lack of theological support in Muslim scientific research. Any scientist can conduct his experiment without any proper theological background; therefore, a Muslim scientist still can perform his experiment even if he believes that the only cause is God. However, without a proper theological foundation, the link between science and Islam could not be established in a clear way. As a result the bridge that connects the two separate disciplines could not be established.

Muslims believe that God creates the world in a system. Every phenomenon occurs based on specific law from the beginning. This law is known by *sunnatullah*, (the law of God). The changing of day and night, the rain, the process of the creation of human beings, animals and plants, all of these are based on certain law that created by God. He also commands us to think, reflect and observe on the creation of the world, to understand the system that created by Him. Thus feel the greatness of its creator who is Allah swt. With the understanding of the system of this world, human beings will be able to perform their task as a caliph of this world (al-Qur'an al-Dhariyyat 51: 56; al-Baqarah 2: 30).

Basically science is a discovery of the system that created by God. Through scientific methods such as observation, experiment and reflection a believer will be able to know more about the uniqueness of the system of this world, therefore, strengthen the feel of greatness toward his creator. Every finding from one's experiment will strengthen one's belief (*iman*) towards God. From here we observe that scientific experiment is not only benefited the material aspect of human nature but also his theological and spiritual developments. This approach is consistent with the command from God who wants us to

ponder about His greatness through thinking on the world and us (al-Qur'an, Fussilat 41:53).

The theological polemic however, does not provide a clear ground for the development of science among Muslims. The concept of natural causality that preserved by the philosophers seem to be problematic for many. Contemporary Muslims are still facing the problem regarding the concept of causality. Probably, after al-Ghazali's explanation on the detail of causality and his recognition of the effect of natural causes, we should re-examine the concept of causality for the benefit of a new generation of Muslim scientists. For, they will be provided with an ample theological support that enables them to go beyond the conventional educational framework.

What important from this discussion for our present debate is that we need to re-formulate the concept of causality that derived from general perception towards it. Al-Ghazali's position on the concept of causality, need to be explained adequately to the new generation of Muslim scholars. The denial of natural causality should not become the only view represents al-Ghazali. His other view on causality which is more compatible with science should also be promoted.

This reformulation I believe consistent with the teaching of the Qur'an. The Qur'an considers that the sign of the existent, the greatness of God can be observed in both ways either the Qur'an itself and also through the world (Fussilat 41:53).

Also in the Qur'an there are some verses that indicate explicitly the role of natural causes in creation. For instance a verse that mentions about the process of creation of rain. The verse mentions that God creates the wind, and then it becomes cloud and fall as rain (al-Rum 30: 48 and al-Hajj 22: 5). This verses and some others indicate that the Qur'an recognizes the existence of natural causes beside God. What differentiates natural cause from God is that the former needs other cause to exist while God does not need anything to exist since He is necessary existent (*wajib al-wujud*).

The world system in general is based on the concept of causality. Understanding the system of the world gives human beings a chance to control the world and bring it to the way they want. Based on this concept of causality we see classical Muslim scientists such as Ibn Sina, al-Farabi and others manage to do researches that result in the production of many scientific finding that contribute to the human kinds in general. Based on similar foundation western scientists manage to explore the space and send their astronauts to the moon and beyond.

### THE PROCESS

The Process of integration of knowledge occurs in several levels. At the first level student of Islam need to integrate between Islamic knowledge itself.

There are many branches of Islamic knowledge such as *aqida*, *fiqh*, *tafsir* and *hadis* (*'ilm Naqli*). A good Muslim scholar will have the ability to integrate those knowledge in a proper way and also to harmonize any contradiction that appear. At the second level Muslim scholar need to integrate between Islamic knowledge with natural sciences such as physic, chemistry and biology (*'ilm al-'aqli*). The integration between both knowledge is consistence with the command from the Qur'an toward Muslim to observe and reflect on the universe (*al-Kawn*). This concept is also called integration between *naqli* and *aqli* knowledge.

When this level of integration is achieved by students they will be able to relate in their study on natural sciences with the existence and the greatness of Allah swt. Hence, in order to help the students to achieve this level of integration, curriculum developer for Islamic education at various levels need to include the concept of the interation between Islam and natural sciences in the Islamic education curriculum. This concept will become a bridge to relate between Islamic sciences and natural sciences.

The next level of integration is between knowledge and action. Every Muslim need to integrate between what they've learned and know about Islam theoretically and with their actions. For instance since Islamic *hadis* reveal that a person need to have a pure intention to Allah in every action, therefore, a good Muslim need to integrate the teaching of that *hadis* in their action by sincerely performing them for the sake of Allah swt. Similarly with all the teaching found in the Qur'an and authentic *hadis*.

From this overview we observe that from Islamic perspective the integration of knowledge is consistence with the teaching of Islam. Even it is actually represent a true and comprehensive framework that develop the background of the relationship between Allah swt and human beings.

### CONCLUSION

Based on previous explanations I suggest that the concept of knowledge by classical Muslim scholars need to be studied and reinterpret in the spirit of the development of Muslim Umma. Any misunderstanding and contradiction between Islam and science need to be explained and reevaluate. This is because, as we observe from the teaching of the Qur'an, the world is one of the ways for one to reflect on the greatness of God. Our hope is that while doing their experiment, the faith (*iman*) of our Muslim scientists will increase as well as the nearness to God.

In a nutshell what we can understand about integration of knowledge between Islam and science is the ability to see the existence, the oneness and the greatness of Allah swt through every research that conducted in natural sciences. Either it is done by Muslim of non-Muslim scientists.



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