

Epistemological Implication

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Epistemological Implication of al-Ghazzālī's Account of Causality

Hamid Fahmy Zarkasyi

Abstract: The problem that will be dealt with in this paper is al-Ghazālī's account of causality in the observed phenomenal world where he denies the necessity of that causation. This denial brought about Ibn Rushd's accusation on the denial of knowledge, arguing that knowledge is based on causality in the phenomenal words. However, detailed perusal of al-Ghazālī's works suggests that Ibn Rushd's accusation is not the case. al-Ghazālī differentiates between knowledge of the fact and knowledge of reasoned fact, or in other words he distinguished ontological causality from logical causality. In addition, al-Ghazālī's denial of causal necessity is supported by his own logic, where the knowledge attainment becomes possible when it is examined from demonstrative sciences, especially from empirically tested premises (*al-mujarrabāt*).

Key words: causality, God, demonstrative sciences, epistemology

Abstrak: Masalah yang akan dibincangkan dalam kajian ini adalah tentang al-Ghazālī sebagai penyebab kepada perhatian dunia yang mana beliau menolak keperluan penyebab itu. Penolakan tersebut telah membawa pertuduhan kepada Ibn Rushd' dalam penafian pengetahuan, dengan membincangkan bahawa pengetahuan adalah berlandaskan penyebab-penyebab kepada fenomena dunia. Walau bagaimanapun kerja-kerja al-Ghazālī yang amat terperinci ini mencadangkan bahawa penolakan Ibn Rushd' bukanlah satu kes yang tertentu. Al-Ghazālī turut membezakan antara pengetahuan tentang fakta dengan pengetahuan tentang penyebab. Dalam kata lain, dia membezakan penyebab ontologi daripada penyebab secara logik. Tambahan pula, penolakan al-Ghazālī tentang keperluan penyebab disokong oleh logiknya sendiri yang mana pencapaian pengetahuan mungkin menjadi. Hal ini dikaji daripada

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sains penerangan, terutamanya daripada premis yang diuji secara empirik (al-mujarrabat).

Kata Kunci: penyebab, Tuhan, sains demonstratif, epistemologi

Introduction

al-Ghazālī (1058-1111), one of the exponents of the Ash'arite school, rebutted against the theory of causality of the *falāsifah*. In his *Tahāfut al-Falāsifah* he states that “the connection between what is believed to be the cause and effect is not necessary” (Al-Ghazzali & Kamali, 1963, p. 170), (Dunyā, 1963, p. 134), (Marmura, 2000). This rebuttal was countered by Ibn Rushd saying that al-Ghazālī's denial of causality implied the denial of knowledge, because, he argues, causality is the source of knowledge, and there will be no knowledge without causality (Muhammad Ibn Rushd & Van den Berg, 1969, p. 317). However, detail perusal of al-Ghazālī's works suggest that he admits the existence of causality and believes that one can obtain knowledge from causality, yet knowledge as such, is not knowledge of what is necessary. From theological viewpoint he argues that causes are always contingent on God's will in producing their effects, meaning that God is the real source of necessity in the causal relationship. al-Ghazālī seems to be positing that knowledge about nature should not exclude supernatural causes. From epistemological perspectives, al-Ghazālī implicitly conveys that a causal proposition is contingent, and that whatever is contingent is not necessary by definition. From the way al-Ghazālī discern causality we may infer that behind this standpoint there must be epistemological implications that could be explicated further. This paper, therefore, delineate al-Ghazālī's concept of causality in relation to the possibility of knowledge, especially within the structure of demonstrative science and syllogism.

Causality and Its Reality

al-Ghazālī stand point on the relation between cause and effect in the phenomenal world has been the subject of a good deal of discussion amongst scholars (Harding, 1993, pp. 165–177), (Alon, 1980, pp. 397–405), (Abrahamov, 1988, pp. 75–78), (Shanab, 1974, pp. 140–150). The most widely held opinion (referring usually to the *Tahāfut*) is that he denies the notion of a necessary causal nexus in the phenomenal world

(Goodman, 1978, pp. 83–120), yet extensive perusal of his other works does not support such a conclusion. The details of this unique position will become clear after we examine in depth from different perspectives.

The most noticeable rebuttal against the necessity of causal nexus the phenomenal worlds is to be found in the course of the 17th discussion of *Tahāfut*. He speaks on behalf of all Muslims by using the first person plural as the following:

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The connection between what is habitually believed to be a cause and what is habitually believed to be an effect is not necessary, according to us. Their connection is due to the prior decree of God, who creates them side by side, not to its being necessary in itself, incapable of separation. On the contrary, it is within [divine] power to create satiety without eating, to create death without decapitation, to continue life after decapitation and so on to all connected things. The philosophers denied the possibility of [this] and claimed it to be impossible (Al-Ghazzali & Kamali, 1963, p. 170).

From the foregoing quotation we may dissect into two pivotal arguments on which al-Ghazālī founded his rebuttal. The two are theological and empirical argument. The theological argument could be referred to the crucial dispute between al-Ghazālī and the *falāsifah*, on the essential meaning given to the word “cause” and “agent”. The former concedes that the cause or the agent of the operational phenomenal world is God, while for the philosopher causality is inherent in it necessarily.

In his theological argument al-Ghazālī's asserts that the “acting cause of burning” is God, not the fire. The fire cannot be the agent (*fā'il*) because it is inanimate and therefore incapable of having any action. Agent according to al-Ghazālī has three criteria: it should necessarily “be voluntary (*mukhtār*), willing (*murīd*) and knowing (*'ālim*) of what he wills in order to be the agent of what he wills” (Muḥammad Ibn Rushd & Dunyā, 1964, p. 96). Certainly, the agent in this sense must be living being.

In relation to the problem agent, al-Ghazālī tries to connect it with reality of connection, in which he mentioned, “The connection observed in existence” (*al-iqtirān al-mushāhad fī al-wujūd*) (Marmura, 2000, p. 181). What he means by *al-wujūd* here is the true reality (*al-wujūd al-*

ḥaqīqī), that is immaterial reality from the Preserved Tablet (*al-Lauh al-mahfūz*) that comes into being in a physical form. It is the external reality in the phenomenal world and is related to and distinguished from the Absolute Existence (*al-wujūd al-Muṭlaq*). In his cosmology, this distinction resembles *ālam al-mulk* and *ālam al-malakūt*. What is the mode of the relationship between these two degrees of existence is subject to further interpretation.

In his other work al-Ghazālī explain such relationship in three stages: The *first* stage, God by his wise rule (*ḥukm*) established that causes (*asbāb*) are to be directed to effects (*musababāt*) (Ghazzālī, 1980, p. 12). God's wise rule denotes an absolute primary design (*al-tadbīr al-awwal al-kullī*) and eternal order (*amr azalī*) which emerge instantly (Ghazzālī, 1980, pp. 11–12). This structure determines the nature of cause-effect in the world in which God exercises His will and action. At the *second* stage, God establishes absolute, basic, fixed and stable causes (*al-asbāb al-kulliyah al-aṣliyyah al-thābitah al-mushtarikah*) which neither disappear nor change until the end of the days. Here al-Ghazālī refers to the Qur'ānic verse saying: "then He decreed them (*qadāhunna*) as seven heavens in two days and inspired into each heaven its order..." (*ṣūrah Fuṣṣilat*, 41:12). Al-Ghazālī calls this stage *al-wad' al-kullī li al-asbāb al-kulliyah al-dā'imah* (the absolute establishment of the absolute perpetual causes) (Ghazzālī & Abu al-'Ala, 1968, p. 10), (Burrell & Daher, 1992, p. 86), (Abrahamov, 1988, pp. 75–98). However, what he means by *al-dā'imah* here is simply unchangeable (Ghazzālī, 1980, p. 12). The *third* stage is called *qadar* (determination). This involves God's direction (*tawjīh*) of the above-mentioned causes through their proportion, measure motions to the effect, which are brought into being from these motion, moment after moment (*laḥẓah ba'da laḥẓah*) according to a known measure (*al-qadar al-ma'lūm*) which neither increases nor decreases. In this stage, al-Ghazālī employs the term *ḥadatha*, not in the sense of occurrence that is usually understood in natural events, but in the sense of God's act in bringing things into being. The motive is clear that he wants to attribute consistently the power of efficient cause to the Absolute cause. In his final explanation, therefore he brings his reader to arrive at the conclusion that all these are the reasons why nothing exists outside God's decree and determination. This explanation also appears in his *Iḥyā'*, especially in *Kitāb Qawā'id al-'Aqā'id* (Al-Ghazālī, 1999, p. 120).

Now from empirical argument we can discern three points that 1) every two things are separate, 2) ontologically affirmation or negation of one of these would imply neither affirmation nor negation of the other, and 3) ontologically also, the existence or the non-existence of one does not imply the existence or non-existence of the other. In other words, the conjunction of one thing “with” another is not the same as the production of one “by” the other (*‘indahū lā bihī*). As he puts it:

They [*falāsifah*] have no other proof than observation of the occurrence of burning when there is contact with fire. Observation, however, shows only the occurrence [of burning] at [the time of the contact with the fire], but does not show the occurrence [of burning] by [the fire] and [the fact] that there is no other cause for it. (Fakhry, 1958, p. 171), (Wolfson, 1976, p. 543)

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In addition, al-Ghazālī also argues that when two things invariably follow each other, nothing can prove or demonstrate that one is the cause of the other. In other words, a necessary causal connection is neither logically nor empirically demonstrable. The example given by al-Ghazālī to substantiate his viewpoint is quite clear that cotton burns when it is in contact with fire, but he admits that it is quite conceivable that the contact might occur without burning or that the cotton might be changed into ashes without its coming into contact with fire. From other example al-Ghazālī suggests that to determine a cause of a natural event is not an easy task, for it involves so many factors that lie beyond what we observe and ultimately should be credited to God (Marmura, 2000, p. 167), (Al-Ghazzali & Kamali, 1963, p. 186), (Muhammad Ibn Rushd & Van den Berg, 1969, p. 317). The motive is obvious that he wants to refute the extreme opinion that the agent of an event is only its “natural cause”.

Be that as it may, al-Ghazālī does not deny categorically causality in the phenomenal world. In his *Mihakk* he concedes that fire causes combustion, it rises upwards, eating causes satiety, the inebriating effects of wine, and the magnets’ attraction of iron etc (Al-Ghazzali, 2005, p. 232), (Al-Ghazālī, 1999, p. 17), (Ghazali. & Shams al-Din, 1990, p. 179), (Ghazzali & `Abd Allah, 1986, p. 87). All those causal effects relation can be said to constitute a valid basis for justified premises in demonstrative syllogisms. In *Ihyā’* al-Ghazālī speaks of the physician’s prediction of the cause of an illness based on his diagnosis

of the patient's symptoms. These inferences are founded on causes (*asbāb*) grounded in the knowledge of the usual course of God's custom and habit (*majāri sunnati-l-Lahī wa 'ādatihī*) (Al-Ghazālī, 1999, p. 52). In this case, he says that cause and effect ('illah and *ma'lūl, sabab* and *musabbab*) are concomitant (*yatalāzamān*), but not necessary (*ḍarūrī*). In response to the *mutakallimūn*'s denial of efficient causality (decapitation and death, eating and satiety, fire and burning), he calls it necessary concomitance whose alteration is impossible (*huzūm ḍarūrī laysa fī al-imbkān taghayyuruhu*) (Ghazali. & Shams al-Dīn, 1990, p. 180).

However, what he means by concomitant above is not necessary as was meant by the *falāsifah*. Necessary applies only to the consistency of the connection (*wajh al-iqtirān*) between two events, and not to the way in which they are connected (*naḥs al-iqtirān*). The consistency of the connection is not subject to substitution and alteration (*lā taḥtamīlu al-tabdīl wa al-taghyīr*), for it follows the normal course of God's custom through the efficacy of His eternal will. To vindicate his thesis, in *Iljām* he cites verbatim *ṣūrah Fāṭir* (verse 43): "You shall never find any substitution in the custom of God." Indeed, he is not in the same position as the *falāsifah*'s, for he still maintains that this process is subject to God's eternal will, an idea unacceptable to the *falāsifah*. When he maintains the position of the *mutakallimūn*, especially in works other than the *Tahāfut*, he seems to be in favor of them (Abrahamov, 1988, pp. 75–98). When he employs the argument from the *falāsifah*, he is judged to be against the *mutakallimūn* (Goodman, 1978, pp. 83–120).

al-Ghazālī's rebuttal of *falāsifah*'s position on the necessary causal nexus was then accused by Ibn Rushd as negation of human knowledge. Ibn Rushd summed up the predominant position on the role of causality in the process of knowledge as follows:

Reason is nothing more than the perception (*idrāk*) of things through their causes and hence whoever denies causes must deny reason. For the science of logic posits as an axiom that there exist causes and effects and that the knowledge of the latter is impossible without the knowledge of their causes. The denial of these things imply the denial of knowledge... and it implies that nothing in this world can be really known with certainty but only conjecturally. Likewise, demonstration and definition as such would be impossible,

since the essential predicaments upon which demonstrations rest are negated (Muhammad Ibn Rushd & Van den Berg, 1969, p. 785), (Muhammad Ibn Rushd & Van den Berg, 1969, p. 317).

There are two theses around which Ibn Rushd's accusation revolves. The two theses are, first, the reality of causation is a datum of sense-experience, and second, knowledge and causality are necessarily concomitant (Fakhry, 1958, p. 84). Knowledge is bound with causality, which is based on the idea of the deterministic scheme of things, or a fixed property of things. From this thesis, he considers all natural processes to have the status of necessity.

This accusation, however, does not refer to the whole al-Ghazālī's standpoint. Al-Ghazālī admits the significance of the nature and status of logic. He states that logic is a science which investigates the method of proof, the kind of premises, and the form of syllogistic arguments (Al-Ghazālī & Dunya, 1961, p. 6). Logic is to rational proof what matter is to poetry, and grammar to language (Ghazali. & Shams al-Din, 1990, p. 26). Through logic, one distinguishes true and certain knowledge from belief and conjecture, sound proofs from fallacies (Al-Ghazālī & Dunya, 1961, p. 6). However, al-Ghazālī does not restrict logic to only Aristotelian logic. There is also logic in Islamic theology with different names, such as *fann al-kalām* (the science of discourse), *naẓār* (discursive reason), *jadāl* (dialectic), *madārik al-'uqūl* (rational sources) (Dunyā, 1963, p. 4), yet he grants that the logic of the *falāsifah* is more comprehensive and their classifications are more precise than those of the theologians (Al-Ghazālī, Saliba, & 'Ayyad, 1980, p. 22). Nevertheless, al-Ghazālī disagrees with the *falāsifah* on the notion that an empirical statement is true and certain based on their theory of necessary and efficient causation in nature. Now we shall examine the relationship of causation and the demonstrative sciences.

Causality and Knowledge

With reference to Ibn Rushd's accusation above we shall examine whether al-Ghazālī's denial of necessary causal nexus implies the denial of knowledge. The examination will be around the meaning of knowledge and its attainment. There are various fashions in which al-Ghazālī define the meaning of knowledge. However, the most relevant definition is to be found in Miḥakk and Mustafā and reiterates it in his

Mi'yār where al-Ghazālī states that “there is no meaning knowledge except that of its being an image (mithāl) that arrives in the soul, which conforms to that which is an image in sense perception, namely, the object known”. It is “an image that conforms to the object known, like a picture (ṣūrah) or sculpture (naqash), which is the image of a thing.” (Ghazali. & Shams al-Din, 1990, pp. 312-323), (Al-Ghazālī & Dunya, 1961, p. 17) Almost the same notion, in al-Risālah al-Laduniyyah he asserts that:

Knowledge (*al-'ilm*) is the presentation, by the rational, tranquilized soul (*al-nafs al-nāṭiqah al-muṭma'innah*), of the real meaning of things, their outward forms - when divested of matter in themselves - their modes, their quantities, their substance and their essences, if they are simple. So, the knower (*al-'ālim*) is the one who comprehends and perceives and apprehends, and that which is known (*al-ma'lūm*) is the essence of the thing, the knowledge of which is engraved upon the soul” (Ghazzali & Smith, 2010, p. 58), (Smith, 1938, p. 191).

So knowledge, as he defines in his other work is the image of intelligible reality engraved in the rational soul (Al-Ghazali, 1947, p. 69). This definition is parallel to al-Jurjānī's definition summarized from the Islamic intellectual tradition. Knowledge for the latter is “the arrival of the soul at the meaning of things and the arrival of the meaning at the soul.” (Al-Jurjani al-Sayyid al-Sharif., 1991, p. 168)

The foregoing definitions of knowledge are not such a kind of knowledge within the rank of necessary knowledge or the highest paradigm of human knowledge. It is ordinary human knowledge and is divided into (1) Conceptual knowledge: *al-'ilm al-Taṣawwūrī* and (2) Judgmental knowledge: *al-'ilm al-Taṣdīqī*. The first kind is rational knowledge derived from universal concepts such as our knowledge of man, tree, sky etc (Al-Ghazzali, 2005, p. 5). This knowledge exists in the soul (i.e. mind), whose reality is due to the model (or image) of the known, is engraved in the mind and congruous with it” (Ghazali. & Shams al-Din, 1990, p. 183). The second kind is the knowledge of knowledge acquired through direct contact with concrete and particular things (Ghazali. & Shams al-Din, 1990, pp. 67-182). This kind of knowledge is like words, writing and speaking to oneself (Ghazali. & Shams al-Din, 1990, p. 183).

In this respect, we are concerned with the second category of knowledge (knowledge acquired through direct contact with concrete and particular things) within which the problem of causality rests. In this category, the process begins from human contact with particular things that leads subsequently to the occurrence of an objective meaning in the mind of that knowing subject. After sometime these objective meanings accumulate and become an ordered collection of concepts that represent extra-mental realities. Therefore, he confirms and does not suspect the veracity that fire does possess a certain quality that enable it to burn cotton on every normal occasion in which the two come into contact. This is because man spontaneously and concretely intuits the certainty of these objects of knowledge. This experiential knowledge, therefore, allows us to postulate a causal link between the two separate entities or events.

By using these ideas to justify certainty in the natural sciences, al-Ghazālī diverges from the ideas of Aristotle and the Muslim peripatetic in this respect, especially Ibn Sina (Marmura, 1965, pp. 185–186), in spite of his acceptance of demonstration, as set down by Aristotle and taught by Ibn Sina (Sīnā, Avicenne, Madkūr, & ‘Aḥfī, 1956). In fact, al-Ghazālī gave a new explanation of how some of the premises of demonstration derive their certainty (Marmura, 1965, p. 193). It is appropriate to begin with a brief summary of al-Ghazālī's theory of causality, of which the following quotation is enough for our purpose:

Nature proceeds in an orderly fashion and this fact enables us to obtain certain knowledge about it. But nature's uniformity is not due to any causal qualities inherent in natural things. The uniformity is decreed by the divine will 'that can undergo neither substitution nor change. (Marmura, 1965, p. 196)

This uniformity in the course of nature which al-Ghazali called: 'the regularity of habits' or 'the habitual practice of God' is the basis on which certainty in the empirical premises (*al-mujarrabāt*) rests. This regularity is a reflection of what happens in reality, and since certainty is the complete congruity between what is in mind and reality, therefore, the empirical premises, which express this uniformity or regularity in reality, should be regarded as certain premises.

The pivotal point in both cases is that the experience of regularities in the past is a precondition for acquiring the certainty of the continuous

regularity in the future. Nevertheless, he warns that the source of certainty is not merely from the repetition of the connection between the two objects that makes a vigorous impression upon our memory, or based on experience or psychological conviction. Certainty is not attained by observation alone or by positing a cause-effect relation. To attain certainty requires a more decisive and applicable test and this is the method of syllogism. He deems this method as having a “secret power” (*quwwah qiyāsiyyah khafiyyah*), and becomes an advance proof when it is mixed with our perceptions of visible objects and events (Ghazali. & Shams al-Din, 1990, p. 143).

With regard to the association of syllogistic power with the observation of natural regularity, al-Ghazālī clearly states that if the orderly course of nature had been “coincidental or accidental, it would not have continued always or for the most part without deviation” (Ghazali. & Shams al-Din, 1990, p. 180). Thus far, al-Ghazālī does not deviate from Ibn Sīnā and his source, i.e. Aristotle (Aristotle., Wicksteed, & Cornford, 1957, p. 196b), but he departs from them when he draws the conclusion. Ibn Sīnā assumes that natural uniformity is due to the inherent nature of things and events, and that in things there is an essential nature that connects them causally and necessarily to each other, which al-Ghazālī categorically denies. Al-Ghazālī admits that events are always conjoined with other events in the same way, and it is this fact that allows us to derive this class of empirical premises. However, this uniformity is not due to the existence of permanent natures inherent in things and a necessary causal connection between things, it is due to something else. In this point, he clearly argues that:

And if it is said: how do you firmly believe this to be certain, whereas the *mutakallim* have doubted it and have said: severance [of the neck] is not the cause of death, and [eating] food is not the cause of satiety, and fire is not the cause of combustion; but it is God the Most High, who created burning, death and satiety at (*inda*) the time of the occurrence their concomitant events, not through them (*lā bihā*)?.

We answer: ... When a *mutakallim* is informed of the fact that his son's neck has been severed, he does not doubt his death; there is no rational man who does doubt this. He admits the occurrence of death, but inquiries about the manner of the connection. ...this is an inquiry concerning the mode of the

connection, not into the connection itself (*fā huwa naẓar fī wajh al-iqtirān lā fī nafs al-iqtirān*). Let this be understood and let this be known that to doubt (*al-tashakkuk*) the death of someone whose neck has been severed is nothing but an insinuation [of the devil], and that belief (*i'tiqād*) in the death of such person cannot be doubted (Ghazali. & Shams al-Din, 1990, pp. 180–181).

The above quotation is not without any relation with his theological motive, for he also attributes the efficient nature of physical causes to the omnipotence of God. It is because God creates a particular attribute or nature, *khilqah*, within natural things by virtue of which they consistently produce their effects. al-Ghazālī derives this notion of ordained laws or measure (*qadar*) from the Qur'ān. He admits fire is created with an innate disposition; when it encounters two identical pieces of cotton it burns both of them and does not distinguish between them, as they are similar in every respect (Marmura, 2000, p. 171). This means fire has no will whatsoever and hence has no choice. The cause will operate invariably in the same manner, unless its operation is impeded. However, this causation does not impute any form of necessity to the cause-effect relationship ordained by God, since God may still intervene to bring circumstances under which the usual order of events will be disrupted. Here again al-Ghazālī refers to the notion of miracles in the Qur'an (Ali, 1994, p. 34:9).

From empirical viewpoint logical question that might be raised in this respect is whether “B” follows “A” because of some intrinsic quality in “A” or because God so ordains this sequential progression. Al-Ghazālī already anticipated this question and for him this question is, in fact, to “inquire about the mode of the connection, not into the connection itself” (*fā huwa naẓar fī wajh al-iqtirān lā fī nafs al-iqtirān*) (Ghazali. & Shams al-Din, 1990, p. 180). The empirical observation of constant succession or concomitance between any two specific events have disposed the mind to posit a connection between the two elements which is regarded as the “causal pair”. al-Ghazālī even regard “the continuity of the custom / habit (*‘ādah*) time after time, firmly establishes its course in accordance with the fixed impression of the past custom in our minds,” (Marmura, 2000, p. 170) as the source of certainty. Even though al-Ghazālī believes that causal premises arrived at through the observation of natural uniformity and through reason are certain, they

are not necessary. Interestingly, he draws a distinction between certainty and necessity. What he means by necessary in this matter is necessary with respect to the principle of being (*wujūd*). In his *Tahāfut*, he asserts that:

We did not claim that these things are necessary but rather they are possible. It is conceivable that they may happen and conceivable that they may not happen.” (Marmura, 2000, p. 170)

Therefore, according to al-Ghazālī, to consider any relation between what we call cause and effect through sensible observation as necessary is not relevant. It is because the causal connection itself – whether necessary or not – is extraneous to the empirical element observed in the phenomena, and that it would be a mistake to confuse or equate empirical and logical causality. Here al-Ghazālī’s interpretation of reality and knowledge supplement each other. He seems to be saying that scientific discourse is partial, because it cannot establish whether a given natural cause will be superseded by supernatural intervention. Thus, al-Ghazālī does not reject scientific or philosophical knowledge altogether, but he intends to bring together both scientific and philosophical knowledge within the ambit of revealed knowledge.

Looked from overall arguments for the denial of necessary causal nexus, al-Ghazālī’s standpoint is unique. From the structural, contextual and semantic examination of his arguments couched in Chapter 17 of *Tahāfut*, we may infer that al-Ghazālī seeks to reconcile the two opposing views on causality, that of the *mutakallimun* with that of the *falāsifah* (Alon, 1980, pp. 397–405), (Riker, 1996, pp. 397–405). The reconciled viewpoint is as follows: the only true agent is Allah; conceding the *falāsifah* view, he admits the existence of the intermediate factor; but unlike the *falāsifah* this factor is not intelligence, the factor is divine, and therefore Allah as an agent does not act naturally or under compulsion, and even can refrain from pursuing His action at will (Alon, 1980, pp. 397–405). In other words, God gave every cause its nature and every cause may produce its effect. God could change the relation between cause and effect by giving things additional properties. Hence, change too takes place through nature implanted in a thing not directly through God. (Courtenay, 1973, pp. 84–86)

Commenting on this reconciled standpoint, Goodman asserts that actually al-Ghazālī used Aristotle’s axiom, but expressed it in

“Islamized terminology” (Goodman, 1978, pp. 83–120). Van den Bergh asserts that al-Ghazālī, departing from the *mutakallimūn*, does not deny causality but “reverts to the rationalistic supernaturalism of the Muslim philosophers” (Muhammad Ibn Rushd & Van den Berg, 1969, p. 182; Marmura, 2000, p. 171). Those who regard al-Ghazālī as rejecting causality argue that al-Ghazālī disapproves of ontological causal necessity, but not that of logical causality (Fakhry, 1958, p. 60; Gyekye & von Grunebaum, 1973, pp. 31–39; Marmura, 1965, p. 185; Wolfson, 1976, pp. 548–551). The most flagrant interpretation could be that he denies the necessity of a causal nexus, but still admits the existence of causality which he views to be the result of God’s ordination. The argument is purely philosophical, yet the approach and the motive are theological (Abrahamov, 1988; Marmura, 1995, pp. 89–100).

The Attainment of Causal Knowledge

On the ground of the above meaning of knowledge we shall examine the issue whether causality in the phenomenal world which, according to al-Ghazālī, is not deemed necessary, can be attained as knowledge.

According to al-Ghazālī varieties of knowledge can be attained through at least thirteen forms of propositions. The thirteen propositions appeared initially in *Maqāṣid al-Falāsifah*, but were then revised when he wrote *Mi’yār* (Ghazali. & Shams al-Din, 1990). The thirteen premises are divided into two 1) Certain-true premises which must be accepted. The premises of demonstration are of this kind. 2) Non-certain premises which cannot lead to certain knowledge. The certain-true premises are sub-divided into five kinds (Ghazali. & Shams al-Din, 1990, p. 186), but the most accurate premises applicable for demonstration are only four: a) *al-Awwaliyyāt* (logical necessities), like knowing the whole is greater than the part; b) *al-Maḥsūsāt* (arrived at immediately through the senses) e.g. the light of the moon increases and decrease; c) *al-Mujarrabāt or Tajrībiyyāt* (experimental), like knowledge resulting from sense and reason e.g. fire burns, and d) *al-Qadāyā al-latī ‘urifat lā binafsihā* (the case that includes their proofs within premises that were treated as logical necessities) (Abu-Sway, 1996, pp. 48–49; Al-Ghazālī & Dunya, 1961, pp. 102–106).

The Empirically-tested premises (*al-mujarrabāt*) or *al-tajribiyyāt*: are propositions which describe events that have been perceived innumerable times, and regularly associated with each other and are

directly experienced by us. They are also propositions on which the mind passes judgment that they are true, and this judgment is taken “after the repetition of perception and by means of a hidden Syllogism (Al-Ghazzali, 2005, pp. 50–51) of which the mind is not aware (Al-Ghazzali, 2005, p. 51; Ghazali. & Shams al-Din, 1990, pp. 188–189). Such propositions are like our judgment that fire burns, a magnet attracts iron, bread satisfies hunger, water quenches one’s thirst and decapitation produces death, the lunar eclipse occurs at the time of the earth’s intervention between it and the sun and the like (Ghazali. & Shams al-Din, 1990, p. 188). When such propositions and those which are derived from them, are used as premises in valid syllogisms, they are considered completely certain. al-Ghazzālī’s conviction on the certainty of that experiential knowledge is based on his comprehension that the repeated events, which occur continuously, can form subjects and predicates of the syllogism. In this case the visible or perceived things, *al-mushāhadāt* are the matter (*al-māddah*) of the syllogism (Ghazali. & Shams al-Din, 1990, pp. 173–183). This is because when our sense perception perceives those events continuously in unlimited numbers, the mind will tend to form a fixed impression.

This premise can be divided into two parts: (a) Empirically-tested premises (*al-mujarrabāt*) and (b) Propositions grounded on intuition (*al-ḥadsiyyāt*). Since, al-Ghazālī places the problem of causality within the empirically tested premises (*al-Mujarrabāt*), we shall examine the method of attaining the knowledge only from this premise (Ghazali. & Shams al-Din, 1990, p. 191). We are also not going to explain the non-certain premises which cannot lead to certain knowledge as well as propositions grounded on intuition, and instead will focus on the premises which are related to the problem of causality.

It is worth noting that that empirically tested premises (*al-mujarrabāt*) is achieved after three stages: (a) The repeated perception of the same events regularly associated with each other. (b) The hidden syllogism which can be expressed as follows: if this regular course of associated events had been co-incidental or accidental, it would not have continued always or for the most part without deviation. Thus if it happened that the associated event was absent, the mind would regard this as unusual (Ghazali. & Shams al-Din, 1990, p. 189). (c) Having the general judgment which describes or expresses the phenomenon which al-Ghazālī called ‘regularity of habits’ (*Ittirād al-’ādat*) (Al-

Ghazzali, 2005, p. 50), (al-Ghazzali & Dunya, 1955, pp. 225–237). The ‘regularity of habits’, according to al-Ghazālī differs from the theory of ‘the efficient cause (Marmura, 2000, pp. 184–185), which he criticized and denied in his *Tahāfut al-Falāsifa*.

Al-Ghazālī’s remark concerning “an investigation into the mode of the connection between related events rather than an inquiry into the connection itself” is the significant aspect of the demonstrability of his causal premises. In this regard, al-Ghazālī reconciles the Aristotelian distinction between knowledge of the reasoned fact and knowledge of the fact with the traditional jurists’ method. He calls the former *qiyās al-‘illah*, or *burhān lima* (demonstration of why) in terms of the logicians. It is a syllogism, in which the middle term is the cause of the major term. The latter is named *qiyās al-dilālah* or *burhān inna* (demonstration of “that”) in the logicians’ sense. It is a type of demonstration, where the middle term is not the cause of the major term, but it gives us the fact not the reason of it (Ghazali. & Shams al-Din, 1990, p. 232).

It seems al-Ghazālī proposes to use the *burhān lima* for it is related to his argument for the certainty of the class of the empirically tested premises or *al-mujarrabāt*. It is because he indicates plainly that this question involves an inquiry into the nature of the physical cause that occurs in a pattern that does not change in the great majority of instances. Al-Ghazālī distinguishes between two main kinds of *burhān lima*. First kind of *burhān lima* is that its middle term “is the cause of the conclusion and is not the cause of the existence of the major term itself”. This illustration given by al-Ghazālī is as follows:

Every man is an animal
Every animal is a body
Therefore, every man is a body

“In the above case”, says al-Ghazālī, ‘man’ is a body because of his being “‘animal’, then “‘animal’ is the cause of predicating ‘body’ of ‘man’, not for the existence of corporeality” (Ghazali. & Shams al-Din, 1990, p. 233). “It is not”, he adds, “a cause for the existence of the essence (*dhāt*) of the predicate (*al-maḥmūl*) of the conclusion (*natījah*)” (Ghazali. & Shams al-Din, 1990, p. 234) that is, corporeality.

The Second kind of *burhān lima* is that its middle term is the cause of the major term and the cause of the conclusion. This illustration

is as follows: ³ “This piece of wood burned because it (*li-annah*) was touched by fire”; “this man is satisfied because he has eaten”. In fact, this second kind of *qiyās al-‘illah* is the appropriate term to be called *burhān lima*. If we arrange this in full syllogistic pattern it will be as the following:

³
A > B whenever fire touches wood, wood is burned
B This piece of wood is touched by fire
∴ B This piece of wood is burned

This syllogism is formally valid. However, al-Ghazālī leaves little doubt that we are confronted now with a positive affirmation and demonstration of the efficacy of secondary natural causes. Nevertheless, he explicitly admits that he is discussing a causal syllogism in which the premises are drawn from sensory perception (*qiyās al-‘illah min al-mahsūsāt*). The conclusion correctly results from the logical structure of the premises alone, without regard to the specific content of the premises. It appears to be true that al-Ghazālī affirms the logical efficacy of natural causes but denies the ontological causality (Ghazali. & Shams al-Din, 1990).

The second type of syllogism is *qiyās al-dilālah* or *burhān inna* (demonstration of “that”) which gives us the fact and not the reason for it. Like *burhān lima*, there are also two kinds of *burhān inna*. However, al-Ghazālī tells us that it is a kind of syllogism whereby its conclusion (*al-natījah*) is deduced from the evidence (*al-muntij*) and not from the cause of the fact (Ghazali. & Shams al-Din, 1990, p. 233). The *first* of *burhān inna* involves the inference of the cause from the effect. The illustration is this:

³
 Whenever wood is burned, it has been touched by fire
 This piece of wood is burned
 Therefore, it has been touched by fire.

Another example is as follows:

Everyone who writes systematically is knowledgeable in writing.
 This [man] wrote systematically.
 Therefore, he is knowledgeable in writing

Deduction (*istidlāl*) of the conclusion from the evidence (*muntij*) proves the existence of the fact only but not the cause of the fact. In the above case we deduce that the wood has been touched by fire from the fact that it is burned and that the knowledge of the writer from the existence of the systematic writing. Here the burned wood and writing systematically are the middle terms, respectively, while fire and knowledge are the major terms (Ghazali. & Shams al-Din, 1990).

The *second* kind of *burhān inna* involves no such inference. Indeed, there is no direct causal relation at all between the facts referred to by middle and major terms. These facts in relation to each other are merely concomitants, whose constant association allows us to infer the existence of the one from the other, due to another single, direct cause already established. In other words, these are the simultaneous effects of one cause already established, though not mentioned in this type of demonstration. For example, he writes, "we infer from the creation of the world to the existence of the creator". Here we reason from the effect the existence of its cause.

The two types of syllogism presented above are derived from al-Ghazālī's *Mi'yār*. A cursory perusal of the work will lead to the inference that al-Ghazālī subscribes to a causal theory where the relation between cause and effect is reciprocal. If this is the case then one may infer that this contradicts his denial of causal efficacy in nature presented in his *Tahāfut*. However, this inference is not yet conclusive, for there is the possibility that *Mi'yār* was composed as an explanatory writing to his fellow theologians, like his *Maqāṣid*, which was written for exposition of the position of the *falāsifah's* theory. It is because he tells us in *Mi'yār* and in the introduction of the *Tahāfut*, that he wants his fellow theologians to have a better understanding of the argument of the *Tahāfut* (Marmura, 2000, p. 9). In the same work where he explains the problem of definition, al-Ghazālī states explicitly that he is merely explaining these definitions, not asserting that they are true. However, further scrutiny of the *Mi'yār* does not show that he is merely explaining theory to which he does not commit himself. He even asserts that the objective of presenting the *Mi'yār* is to set down the correct rule of reasoning (Ghazali. & Shams al-Din, 1990, p. 26). In addition, he also states explicitly that demonstration gives us certain knowledge (Ghazali. & Shams al-Din, 1990, p. 235). In fact, his position in defending demonstration in the *Tahāfut* is not reversed

in the *Mi'yār*. These last three evidences suggest that al-Ghazālī really subscribes to the demonstrative theory he discussed.

The most apparent predicament is that, on the one hand, al-Ghazālī concedes the formal conditions for demonstration set down by Aristotle and his followers, though not its metaphysical foundation, and on the other hand, denies the efficacy of causal nexus in the nature. In order to do justice to our author, we shall scrutinize to what extent he agrees with and deviates from Aristotle's demonstrative method. Following the form of syllogistic demonstration al-Ghazālī's implicit argument can be arranged as follows:

Causal propositions are known to be true only empirically.
 Whatever propositions are known to be true only empirically are contingents.
 Hence causal propositions are contingent.
 And whatever is contingent is not necessary.
 Therefore, causal propositions are not necessary (Marmura, 2000, p. 185).

This interpretation is evident in the text of *Tahāfut* and *Mi'yār*, where he is quite aware of the seeming discrepancy between his denial of necessary causal nexus and his advocacy of the claim of demonstrative science. There is even a clear indication that he interprets the causal sequence on line of contingent causality. His account of world order is actually the basic element of his theory of causality. It is to say that in his *Mi'yār* al-Ghazālī upholds that the premises of a demonstration must be certain and its conclusion be valid, but in some way reject the Aristotelian explanation in deriving certainty from their premises and substitute with other explanation that accords with his worldview of the Qur'an. This means that al-Ghazālī modified demonstrative science in order to conform to his concept of causality without this affecting either the formal condition required by this science as well as its claim for attaining certainty (Marmura, 1965, p. 192).

It shall be admitted here that al-Ghazālī shares the method of demonstration with Ibn Sina and fulfills the formal condition necessary for that, but when it comes to philosophical justification of induction, he makes a significant departure from him or draws from it a very different metaphysical conclusion. This indicates that al-Ghazālī is proving that his theory of causality is in line with demonstrative

science, but again he made significant alterations in order to conform it to his own demonstrative sciences. The point of departure from Ibn Sina appears to be his explication of the substance or matter of the syllogism, *mādat al-qiyās* (Ghazali. & Shams al-Din, 1990, p. 173). The substance of a syllogism is a judgmental knowledge (*al-‘ilm al-taṣdīqī*) and not conceptual knowledge (*al-‘ilm al-taṣawwūrī*) (Ghazali. & Shams al-Din, 1990, p. 35). With regard to the definition of judgmental knowledge, al-Ghazālī has a slightly similar idea with Ibn Sina and Ibn Rushd (Muhammad Ibn Rushd & Van den Berg, 1969), but in its application, he has his own concept.

Therefore, in order to achieve certain knowledge, we should be aware of two principal features: (a) the ‘form’ of demonstration which is the form of valid syllogisms, i.e. the conclusive moods of the three figures of the categorical syllogism, the hypothetical syllogism and the disjunctive syllogism, and their rules; (b) the ‘matter’ of demonstration (i.e. the kinds of premises that can be used in it), which should be certain propositions. The first of these two features is the important part of traditional logic which every student of logic should learn.

Now let us turn to examine how al-Ghazālī uses this judgmental knowledge as the substance of a syllogism. According to him, the substances of a syllogism are not premises, because premises are expressions of articulated speech, which are a composite of subject (*mauḍū‘*) and predicate (*maḥmūl*). They are fixed knowledge in the mind (*al-‘ulūm al-thābitah*). However, since knowledge in the mind is related to external existence, it cannot be conveyed except through the structure of language (*nuṣum al-alfāz*); conversely knowledge cannot be attained unless through the proficiency of linguistic structure. In this regard, al-Ghazālī breaks up the reality and the substance of the syllogism into four layers of realities. They are 1) literal existence (*al-ṣūrah al-marqūmah bi al-kitābah*), 2) oral existence (*al-nuṭq*), 3) mental existence of the structure of spoken and written words (*al-wujūd al-ẓihnī li al-tarkībāt*), and 4) mental existence of the thing known (*al-wujūd al-ẓihnī li al-ashyā‘*) or (*al-lubāb*). This last stage is knowledge about extra-mental reality, which is represented in the mind, and thus the meaning in the mind signifies the external existence. He calls this knowledge “The Real and Judgmental Knowledge⁵” (*al-ulūm al-ḥaqīqiyah al-taṣdīqiyyah*). When this knowledge is presented to the mind through a certain order, the soul becomes prepared for attaining

this knowledge and then the mind receive the conclusion from God, the Exalted. On this point, al-Ghazālī stressed that “even though we said that the substance of syllogism is certain premises, it cannot be understood unless in a way we have mentioned.” (Ghazali. & Shams al-Din, 1990, p. 174) This implies that al-Ghazālī does not take for granted that rational and empirical knowledge can provide certainty independently of God. Here he maintains his concept that God is the cause or the Creator of everything, including the conclusion of syllogisms.

Conclusion

As we have mentioned in the beginning that knowledge according to al-Ghazālī as the congruity of what is in mind with what is in the actual world. Here he also considered the senses as the sole supplier of the mind with the material. However, mind, with its different faculties, is able to deduce by using demonstration, some of the qualities of the actual world which cannot be perceived by the senses by using the syllogistic method in which the premises are certain (i.e. congruous with the sensible external world). So subject predicate relationship can connect with metaphysics by achieving certain proposition of the external sensible world. It seems that mind is an instrument designed only to comprehend the actual world, but at the same time, al-Ghazālī did not mean that mind is the efficient cause for knowledge, since God is the true efficient cause who makes knowledge happen in us when the mind practices its activities. It is clear that al-Ghazālī's theory of causality and knowledge are compatible with his theological views concerning God as the free agent, who has will and no restrictions on his power.

It may be said that al-Ghazālī's rejection of the principle of causality in nature should lead him, spontaneously, to reject certainty in the natural sciences. For the denial of causality implies the denial of the presence of a permanent order in nature, and so is the denial of having established laws, concerning natural phenomena, and also the denial of the possibility of predicting future events (in nature). However, this was not the case. In fact, he substituted for the principle of causality the principle, or the idea of the regularity of habits (*Ittrād al-'ādāt*) with which he explained order in nature, (which he called also: the habitual practice of God, (*sunnat Allah*)). Thus he accepted there were certain premises in the natural sciences, which are the empiricals (*al-*

mujarrabāt), from which we can derive new certain propositions i.e. theorems. Thus, according to this principle, we can predict future events in nature (Ghazali. & Shams al-Din, 1990, p. 191). Yet, al-Ghazālī did not consider 'the regularity of habits' as an absolute and independent principle, because this regularity can be interrupted by miracles, and because it is a manifestation of God's free will who is the real agent of whatever happens in the world.

By this theory of causality and knowledge al-Ghazālī is capable of explaining both order and miracles in nature, because both are due to the same efficient cause (i.e. God and His free will). It also opens up an opportunity for prediction and beside this it does not contradict God's absolute power and free will. While the principle of causality explains order and enables us to predict future events in nature, it cannot explain the occurrence of miracles. That is because miracles are disruptions of the natural order which is due, according to the principle of causality, to the inherent nature of things and events. In short, al-Ghazālī does not deny causality as well as knowledge as was accused by Ibn Rushd.

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