

A Ghazalian Predicament: Epistemology and Metaphysics of Causation in the Works of Ghazali

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There is no question, which on account of its importance, as well as difficulty has caused more disputes both among ancient and modern philosophers, than this concerning the efficacy of the cause, or that the quality, which made them, be followed by their effects.

David Hume (1977, p.156)

Abstract:

The idea of causal efficacy, which can be found in Aristotle's works, has proved to be a very controversial character in the history of philosophy. This paper is a consideration of Ghazali's (1058-1111) views about the causal efficacy theory and his epistemological concern regarding this issue, arguing that the widely held view that Ghazali rejects causality can be modified through a careful re-examination of *Tahâfut al-Falâsifah* and his other works. The paper begins with a consideration of Ghazali's presentation and critique of Avicenna's view of causality in the *Tahâfut al-Falâsifah*. In particular, Ghazali's distinction between 'event causation' and 'agent causation' is given close attention. During this presentation Ghazali's views are contrasted with traditional Ash'arite beliefs on the issue. The paper then

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considers Ghazali's views on causation as presented in his other works. Finally, the author tries to resolve the apparent contradictions between these views by explaining Ghazali's theory of the best of all possible worlds.

Key Terms: Ghazali, 'event causation', 'agent causation', causal efficacy, causal necessity, best possible world

Introduction

Nowadays scientists seek causes; philosophers talk about causation. Scientists use causes to explain phenomena, whereas philosophers try to understand what it means to be a cause or an effect. Our contemporary philosophers appeal to causation to answer a wide range of questions in philosophy of science, epistemology, philosophy of language, etc. For instance, many philosophers understand scientific explanation as a causal account of why changes occur; they interpret laws as expressing causal relationships between things. The meaning of names, description, and even the possibility of knowledge may depend upon how the world is causally structured. What things can do causally is a basis for classifying them into natural kinds.

The idea of causal efficacy, which can be found in Aristotle's works, has proved to be a very controversial character in the history of philosophy. There is a wide spectrum of attitudes about this theory, from Aristotle's claim that all scientific knowledge is grounded in the capacity to identify the causes of the things (*Posterior Analytic* 1:2 71b9-12; *Physics* I: 1)¹, to Bertrand Russell's extreme claim that the word cause involves so many misleading associations that it should be abandoned by the philosophers (Russel 1977 p.132). The debate over this theory is still going on and many questions associated with earlier stages of the debate are still raised. Historical research about these questions may help to clarify the issue at stake and perhaps even help to re-orient the discussion itself.

Avicenna developed a general account of causality based on Aristotle's works. His account of causal efficacy has received much attention in philosophical research among Muslim philosophers. The debate about causal efficacy in medieval Islam is extremely rich, but unfortunately it has received little attention. While the motivations of the Muslim participants in the debate were basically theological, the debate itself involved serious philosophical investigations.

A complete historical survey of the causation debate in Islamic philosophy is beyond the scope of this essay. I have limited myself to Ghazali's (1058-1111) views about the causal efficacy theory and his epistemological concern regarding this issue. Without referring to Avicenna (980-1037), the philosopher who most influenced Ghazali,

and his account of causation, any attempt to formulate Ghazali's point of view is doomed to fail. I will argue that the widely held view that Ghazali rejects causality can be modified through a careful re-examination of *Al-Tahâfut* and his other works.

Finally, it is important to remember that causation in Islamic philosophy is related to other philosophical and theological topics like miracles, the relation between God as a First Cause and the world as its effect, the eternity of the world, the role of secondary causes in the world, human action and free will. How to divide up the causal network between God and God's creation is one of the most dominant discussions in debates about causation. For Islamic philosophers it makes sense to speak of God as the creator and at least a partial cause of everything. Since they also believe that created things can be causes, some determination of the relationship between God and these finite causes is needed.

It is almost impossible to formulate the arguments and debates about causality without mentioning these related questions. A fuller discussion would have to go deeper into the related theological issues, but here I will focus on related issues to the problem of causation, especially the problem of how we come to know about causal relations.

1. The Problem: Ghazali's attack on casual efficacy theory and his adherence to causal necessity of the world

Modern discussions of causation begin with David Hume's views on causality. Our concept of causation involves the idea of something following something else with a kind of necessity - in some sense; the cause necessitates its effect. Ghazali surprisingly anticipates Hume and thought the appearance of necessity is a product of the fact that our minds expect similar causes to have similar effects. This feeling of expectation we project on to the world. In other words, Ghazali seems to cast some doubts on causal necessity on epistemological grounds. However, these doubts do not lead him to reject causal relations from his ontology. How is this possible? This paper is an attempt to understand precisely this.

Once upon a time there was a consensus among commentators on Ghazali's view of causation, considering him as an Ash'arî who rejects causality altogether and appeals to occasionalism to explain regularities in the world. There were some commentators who were prepared to point out that Ghazali seems to incorporate in his thoughts principles which are hardly compatible with Ashrarism. Len Goodman and Michael Marmura have argued that if we examine Ghazali's arguments we find an approach to causality and scientific explanation which is far closer to the *philosophers*'² than to the Ash'arite's view (Goodman 1978, pp.83-120, Marmura 1988, pp. 85-112). Abrahamov, Frank and Nakamura have argued that there are significant divergences of view from Ash'arism in a whole range of Ghazali's works, and this should lead to a reassessment of the character of his thought as a whole (Abrahamov 1988, and Frank 1992). Frank has argued that Ghazali should not be seen as enemy of the philosophers since he frequently uses Avicenna's principles. When one looks at the comments which have been made on what Ghazali has to say about causality, one will find the same disagreement. Fakhry believes that Ghazali has rejected causality and has adhered to the Ash'arites' thesis that there is no real cause in the world except God (Fakhry 1946). Abrahamov has argued that Ghazali's view on causality is absolutely different from the Ash'arites' view. Frank has argued that Ghazali has deceived his readers and he has concealed his true opinion about causality, which is basically a theory of causal efficacy.

In what follows I will argue that none of these comments are true. I will show that those scholars who believe that Ghazali has rejected causality in *Al-Tahâfut* are wrong. First, because in *Al-Tahâfut* Ghazali twice explicitly reveals his aim which is to try to show the inconsistency of the philosophers, namely Avicenna and his followers, according to their premises. In other words, he is not concerned with the truth or falsity of the premises or conclusions of philosophers about causality but to show that the conclusions which philosophers make do not follow from their own premises. Second, the only notion which that he tries to refute is the notion of logical necessity in causal relations and this denial does not mean the repudiation of causality in general. I have found the positions of other scholars about Ghazali's

view on causality regarding the similarity of his view to that of Avicenna untenable as well.

In the following section, I examine Ghazali's criticism about the causal efficacy theory in *Al-Tahâfut*. After careful examination of *Al-Tahâfut*, one realizes that Ghazali neither rejects causality nor proposes the Ash'arites' occasionalism. I will point out that Ghazali tries to distinguish between two modes of causation, namely event causation and agent causation. He blames the philosophers, namely Avicenna and Farabi, for conflating these two notions of causality and generalizing their conceptions of natural causation to agent causation. I will argue that his aim in *Al-Tahâfut* is to show that both the causal efficacy theory and the Ash'arite occasionalism, which are offered as explanations of the observable ordered sequences of our world, have the same epistemic status. Both of them are not demonstrable.

In the third section, I will examine other works of Ghazali. While in *Al-Tahâfut* Ghazali blames philosophers for their emphasis on the role of secondary cause, in *Al-Arba'în* and his logical works, he seems to use a language very close to that of Avicenna's *Metaphysics* when describing that all sublunary events are caused by the operation of a host of secondary causes through the operation of the cosmic system, in accord with an unalterable program built into the system at its creation, and it is impossible that God acts save through the system (Frank 1992, p.83).

Another striking point is Ghazali's strong sympathy for the Aristotelian syllogism. I will show that Aristotelian logic is based on the causal efficacy theory and therefore either Ghazali contradicts himself by denying causal necessity on the one hand and affirming the possibility of demonstrative knowledge or he adheres to a different theory of causality.

2. Causal efficacy in *Al-Tahâfut*

In this section I first offer a brief exposition of Avicenna's analysis of causal efficacy. Second, I examine Ghazali's arguments against causal efficacy in *Al-Tahâfut*.

2.1- Theory of causal efficacy

The doctrine of causal efficacy is simple. It asserts that the connection between cause and effect is a logical connection. This means that if C is a cause and E is its effect, then the proposition P expressing that the event C has occurred must logically entail the proposition Q expressing that the event E has occurred and vice versa . Particular causes produce their effects. The occurrence and character of these effects can be explained in terms of their causes. The notion of production plays a crucial role in the causal efficacy account of causation. Causes do not merely precede or accompany their effects; they generate them and bring them about. They do so through their power or capacity. According to this theory, causes are to be understood as dynamic entities capable of expressing this dynamism externally to exert upon things subject to fulfilment of certain conditions. These conditions may be summarised as follows:

1) Proximity to the things or contingency of the cause to the things

(Avicenna *Demonstration*, pp.299)

2) The cause must be actual. (Avicenna *Metaphysics*, II, pp.276-278)

3) The cause must be natural, and for the effect to follow necessarily, the recipient of the action must exist. When the cause is not a natural cause, as for example, when it is a deliberative human faculty, the effect need not follow, even though the recipient of the action also exists. (*Demonstration*, p298)

4) The efficient cause must be a free cause; i.e. there must be no obstacle. (*Ibid*, p.96)

Although each of these conditions is necessary for the production of the effect, it is not sufficient. Once these conditions are obtained, the causes must produce their own effects. The conjunction of these conditions implies the occurrence of the effect. On the other hand, the non-occurrence of the set of these conditions implies the non-occurrence of the effect.

Firstly, it should be noted that “their own” means that only certain kinds of causes have certain kinds of effects, but not others. In other words, a cause may be able to produce a limited range of effects, due to the difference of circumstances in which it operates (Avicenna *Burhan*, p.322). The nature of the cause (*ḥabī'ah*) determines what it

can bring about. Thus, the produced effect must conform to the specific nature of the cause.

Secondly, to assert that the causes *must* produce their effects means that there is a necessary feature, which is involved in the cause and effect relations. Once an efficient cause exists, its characteristic effect must occur *ceteris paribus*. This means that not only does the effect come to exist as a matter of fact, but also it cannot fail to do so, since it is necessitated by the very nature of its cause. Conversely, if the predicted effect does not happen, it does not falsify the alleged necessary causal connection. It indicates that the *ceteris paribus* clause has been violated or all things were not equal as had been supposed.

Thirdly, causation implies priority of the cause (Avicenna, *Shifa*, vol 4, chapter 1). The cause is thought to necessitate its effect, whereas effects are thought to necessitate the occurrence of their causes. The direction of necessity is from cause to effect and it presupposes the priority of the cause to its effect. Although, causes may either precede or coexist with their effects in time, effects are not supposed to precede their causes in time (Avicenna, *Ilahiyat*, 2:165-67).

Fourthly, we can appeal to a cause in order to explain its effect. By knowing the specific nature of the things and thus what they can do, we can state the kinds of changes they generate and the relevant conditions under which they occur. Observation of such changes in nature gives us the power to explain why they occurred. This explanatory power is based on the fact that the nature of any cause is the only factor in bringing its effect into existence. In this way, causal sequences are distinguishable from merely accidental ones in which the prior event has no explanatory power in explaining why the posterior happens.

Given that causation is a relation, what is it a relation between? In other words, what are the *relata* of the relation of causation? It may be possible to argue that the verb 'to cause' is not univocal and does not always signify the same relation on every occasion of its use. Assuming the fact that we can properly speak of the relation of causation, the argument seems flawed. In ordinary cases, it seems clear that the putative causal *relata* being referred to are particular events, for example, an explosion being said to be the cause or at least a cause,

an a bridge's collapse being said to be an effect. But not all philosophers of causation agree with this view. Some philosophers, like Ghazali, wish to draw a distinction between what we call 'event causation', which is a relation between particular events, and what they call 'agent causation', which they generally conceive to be a relation between an agent, such as a particular human being, and a particular event (Ghazali 1997, p.43).

For the time being, I will concentrate on statements of event causation, that is the statements of the form "Event C caused event E". I shall return to the issue of agent causation and Ghazali's view about that in the next section.

2.2 Causality in *Al-Tahâfut*

In this celebrated book, Ghazali's intention is not to deny that there is some connection between cause and effect, but to criticise the specific theory of causal efficacy. At the beginning of his discussion on causality and miracles he writes:

"The first point of inquiry is their thesis that the connection observed in existence between causes and effects is a connection of necessary entailment and that it is not compassable (*maqđîr*) or possible for a cause to exist without its effect or an effect to exist without its cause." (*Ibid*, p.170)

It should be noted here:

First, the term 'existence' refers to the observable world. Ghazali's intention here is to exclude the unobservable world from his critical discussion (Goodman 1978, p.88). In other words, his question is whether the philosophers are right in locating necessity in causal sequences within the observable world rather than whether the term causation is meaningful in general.

Second, the thesis which is subjected to refutation is the causal efficacy theory to the effect that the relation between cause and effect is a necessary entailment relation. The argument which Ghazali directs against the causal efficacy is aimed at disproving the logical necessity of causal relations.

“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.” (Ghazali 1997, p.170)

The issue at stake is not the question of whether there is any connection between cause and effect but rather the question of whether the connection between cause and its effect is a necessary connection in the logical sense.

After giving a clear definition of the issue and a general introduction to it, which separates him from the philosophers and leads to his denial of logical necessity in observable causal relations, Ghazali divides his discussion into three stages (*maqâmât*) (*Ibid*, p.171). The first is concerned with the necessity or lack of necessity which is involved in any causal relation, the second with the real efficacy of the causes in the observable world and the third with the concepts of possibility and impossibility, which are somehow related to the notion of omnipotent God (Alon 1987, p.399). Here, I am only concerned with the first two stages.

2.2.1 First Stage: necessity and causal relations

Ghazali’s description of the philosophers’ doctrine of causality is very brief and general; the connection between cause and effect is a necessary one and the two are inseparable (*talâzamâ bi'l-qarîrah*). Ghazali states the two objectives of this chapter of *Al-Tahâfut*. The first is to establish the possibility of miracles and the second is to establish God’s omnipotence. In the first paragraph of the discussion he gives us a brief refutation of the strong version of causal efficacy theory.

His argument against this theory has three steps. First, every two distinct things are separate. Second, on the epistemological level, the negation or affirmation of one of these things does not entail the affirmation or negation of the other. Third, on the ontological level, the existence or non-existence of one does not imply the existence or the non-existence of the other.

This conclusion weakens the causal efficacy theory that says causal necessity and logical necessity are essentially identical. What Ghazali does is to explode the notion that causal necessity, as the philosophers

understand it, and logical necessity are different sides of the same coin. Affirmation of the cause does not entail the affirmation of its effect. Exceptions are always logically and practically possible. There may always be impediments to the efficacy of particular causes.

It should be noted here that Ghazali does not deny the legitimacy of the notion of necessity in the sphere of mere logical relations. Necessity has to be confined to the logical categories of identity, entailment and disjunction (Ghazali 1997, p.179). Outside this sphere of purely logical relations necessity has no scope. The genesis of this notion in the world of contingent, natural relationships is of a purely psychological nature. It is the outcome of mere habit, in regard to which the philosophers confuse repetition with logical necessity. Yet this alleged necessity has no logical or empirical ground. It is not confirmed by experience since it proves only that the effect occurs with the cause (*Ibid*, p.174).

In order to appreciate the force of Ghazali's criticism of the philosophers' doctrine of necessary connection, I will examine briefly how Avicenna presents his case for necessary connection.

The philosophers' aim was to defend the proposition that there are necessary connections in nature and thereby protect what they regarded as scientific knowledge (a deductively organised body of causal statements). They insisted that an entailment existed between cause and effect. For only such a relation could serve, in their view, as a proper foundation *in re* for the logical relations holding between propositions in a demonstrative syllogism.

Avicenna, when he speaks about the credibility of various ways by which we provide premises for use in demonstrative arguments, distinguishes between two ways of providing premises, namely induction (*al-istiqrâ'*) and confirmed experience (*al-tajribah*). I am only concerned with the latter here. Once an experience is repeated many times and it is confirmed that one event or entity is followed by another regularly, we are ready to accept that this association is not accidental for what is accidental does not occur always or for the most part (*Al-ittifâqî lâ yakîno da'imiyan wa lâ akthariyan*) (Avicenna, *Burhan*, p95). In other words, what these cases of regular association

do represent is a kind of demonstration that such uniformity is the result of a necessity inherent in specific natures.

Although the notion of necessary connection is derived from the observation of the regular conjunction of events or things, Avicenna does not say that we observe necessary connection in the nature. If this were the case, there would be no need to observe other instances of an alleged cause and effect. In other words, without observing many instances of a conjunction, it is impossible for us to form a judgement about the causal link of the observed successive events. Repetition, for Avicenna, is neither an arbitrary nor a merely psychological requirement in establishing the necessity of causal connections. While it may also add to one's confidence in causal statements, it is nonetheless a clear epistemic requirement. Repetition is a necessary condition for perception of necessity and perception of necessity is a necessary condition for our causal inferences.

In the introduction of seventeenth discussion of *Al-Tahâfut*, Ghazali mentions the philosophers' position about the existence of a necessary connection between cause and effect without any reference to their argument.

In order to deny the perception of causal connection in the phenomenal world, Ghazali confines himself to the example of fire burning a piece of cotton. According to the philosophers, we observe an agent, i.e. fire, which cannot fail to bring its action (burning), when the recipient substance (cotton) is brought into contact with it.

Ghazali holds that this alleged necessity is not observable. First, calling fire an agent is wrong, since it is an inanimate thing. Second, it is impossible to perceive the connection between fire and burning and changing cotton into ashes. Observation indicates that the one occurs with the other. It does not indicate that it occurs through it (*bihi*) (Ghazali 1997, p.171). What we perceive at any given moment of observation is simply the conjunction or association of two distinct events; but we do not observe any real relation, connection or ontological tie that binds the so-called cause to its so-called effect.

Ghazali's observation about the Ash'arites is also valuable, since their reply to the empirical argument for causal efficacy is to argue that the only genuine example of such efficacy is God. But God, like causal

necessity, is hidden from experience. If the philosophers deserve to be blamed for explaining events by reference to immediately unobservable causal links, the Ash'arites should also be blamed for their appealing to an unobservable factor, namely God, in explaining every observable event. In other words, Ghazali believes that both positions have the same epistemic status. They are not confirmable by experience.

2.2.2 Second stage: the real agency of natural causes

Ghazali presents the famous example of a piece of cotton in contact with a flame. He identifies four points in the causal theory of efficacy regarding to this example.

- 1) The agent of burning is the fire. (*Ibid*, p.171)
- 2) It acts naturally and it has no choice. The mode of causation is natural rather than voluntary.
- 3) It cannot stop burning once a piece of cotton is kept in contact with it. In Aristotelian words, the efficient cause cannot fail to bring its effect once the recipient of its action e.g. the cotton is ready to accept it.
- 4) This theory is confirmed by experience.

Ghazali maintains the possibility of the cotton not catching fire. He maintains further that the cotton can be reduced to ashes without contact with fire. He does not say that these events are probable or that they are familiar. However, since only self-contradictory events are impossible, non-self-contradictory events cannot be ruled out as impossible. He criticises this naturalistic version of causality on the following grounds:

- 5) The only real agent is God who acts either directly or indirectly. He does not deny the existence of intermediate factors but he shows that the philosophers in their belief that the intermediate factors are causes are contradicting themselves. His argument to show this contradiction is based strictly on Aristotelian axioms. Matter, according to Aristotle (*Metaphysics, Lambda 6, 1071b, 29*), is itself incapable of movement, it is passive until energized by some prime mover through appropriate intermediaries.
- 6) God does not act naturally or under any compulsion as causes do.

7) God can always manage to stop his action at will.

8) Observation confirms the correlation or chronological order between the habitual cause and its effect. It does neither confirm nor refute the causal link between ordered events.

Ghazali's argument against the sufficiency of observed causes to produce their effects exploits the philosopher's emanative view of nature and assumes the rejection of a reductionistic view regarding material objects as self sufficient in their causal action.

Avicenna cannot regard observed causes as sufficient, i.e. capable of acting solely, either; to do so would be to reject the very holomorphism upon which his physics and naturalism are based. Even if matter had some innate properties, according to the anti-reductionistic standards of the Neo-Platonic, this would not suffice to account for higher properties like life and perception. "For there is no disagreement that the infusion of soul and perception faculty and motive power in animal sperm are not engendered by the nature confined in heat, cold, moistness and dryness." (Ghazali 1997, p.171)

Even if we regard the four Empedoclean qualities, hot, cold, dry and wet, as intrinsic properties of matter, they are still insufficient individually or in combination for the emergence of the higher properties such as life or perception.

Another version of causality, which Ghazali tries to refute, is what I call Causal Laws of events. According to this thesis, temporal events stem from the first principals of temporal events. These are the principles from which things proceed necessarily. From the modern reader's perspective these are the laws of nature. Ghazali's famous example is very helpful to illustrate this view (*Ibid*, p.173). Different effects proceed from the first principles of events in the way that light proceeding from the sun causes different colours according to the difference of dispositions of the recipients. Transparent bodies receive the sun's light and reflect it, whereas mud does not. On this view, the principle is one but the effects differ because of the difference of the dispositions in the recipients. What Ghazali is objecting to is the assumption of determination with respect to the effects of the principles of the temporal events, or natural laws. For if the forms are simple, he argues, and the Peripatetics claim they are, and if the mode

of the production of the effects from the principle is deterministic - the given philosophical rule that simple can only produce simple - it follows that the philosophers cannot account for the diversity observed in our world. In other words, if the principles of the temporal events are unique and the forms that issue from them are simple, then philosophers are unable to give a reasonable account of the plurality of the effects in the phenomenal world. Ghazali reminds his reader that this argument and other arguments in the discussion of creation have amply refuted the deterministic view of emanation.

2.3 Agent Causation

So far, our discussion of causality has focused chiefly on event causation. However, as I mentioned briefly before, some philosophers including Ghazali, consider another type of causation called agent causation. An agent is a persisting object possessing various properties including, most importantly, certain causal powers and liabilities. A paradigm case of an agent would be a human or God, conscious entities capable of performing intentional actions.

According to Ghazali, the philosophers hold that the world derived from God in the same way an effect is brought to existence by its cause. Given their causal efficacy theory, this means that the world has been issued from Him by a necessary process. The relation involved is similar to that which holds between the Sun and its light. Just as the Sun cannot stop producing its rays, it is impossible for God to refrain from bringing the world into existence. The entire world emanates or proceeds from Him necessarily. Given the eternity of God, it follows that God's effect, namely the world, is itself eternal. Both Avicenna and Farabi hold that the world is eternal. By this they mean it had always existed and will always exist, because it is the necessary effect of God. This implies God neither could nor did in fact miraculously and *voluntarily* create the world as it now out of nothing at some point in the past. This view is entirely inconsistent with the Ash'arite's view that creation was in fact a voluntary and miraculous action and it was also *ex nihilo*. Besides, Ghazali argues, the philosophers belief in the eternity of the world stems from conflating two kinds of causation, i.e. agent causation and event causation.

According to Ghazali, the philosophers are unclear when they are talking about the meaning of the term agent. An agent is not simply the cause of existence for something possible in itself. An agent is someone who wills or wants to perform an act. First, he wills the action by choice and second, he has the knowledge of the willed object or effect. On Ghazali's view, the agent has four characteristics (*Ibid*, p.136):

- 1) He has an act which proceeds from him or maybe attributed to him.
- 2) He wants the act.
- 3) He acts by choice and deliberation.
- 4) He has knowledge of his action and his action's effect.

Ghazali holds that the true agent wills his act, while efficient causes are said to operate by necessity of their nature. This will is an attribute whose character involves differentiating between things and actions and choosing one thing or action without any external factor determining the choice. Ghazali's account of will allows him to argue that God could have created the world at a specific time in the past, despite the fact that all points of the time are exactly similar, because He simply began to create at the time which He willed. It allows him to argue that God could have created a different world from our actual world. In other words, it leaves the door open for the notion of *possible worlds*. I will appeal to this notion later in order to give Ghazali's account of causation.

3. Causality in other works of Ghazali

3.1 Causation in *Al-'Arba'in*

The fifth section of *Al-'Arba'in* is relevant to causation. It begins with the assertion that God has willed everything and that everything happens in accordance with God's decree (*qaa'a*) and His determination. In order to explain how God's will operates in the world, Ghazali distinguishes three stages: At the first stage, God establishes the rule that causes issue their effects. This *wise* rule denotes an absolute primary design and order. This design determines which causes and motions are needed to bring about what should be brought about.

At the second stage, God establishes basic, stable and fixed causes, which neither perishes nor change until the judgement day. These are the earth, stars, seven heavens, the celestial spheres and their motions.

At the third stage, God determines the direction of the fixed causes and gives them the ability to bring about their effects.

Ghazali uses a parable about a water clock to illustrate his scheme (Ghazali 1970, p.12-13). The clock is composed of several components. There is a cylinder filled with a known quantity of water. There is a hollow vessel in the surface of the water. One end of this thread is tied to the vessel, while the other end is tied to a lower part of a little basin placed above the vessel. In the little basin there is a ball and also a bowl beneath the ball. The bottom of cylinder is perforated with a given size hole, and when this is done, the water begins to descend; the hollow vessel on the surface of the water descends as well. This causes the thread connecting the vessel to be pulled and to move the little basin with its ball, until the little basin turns over and the ball rolls into the bowl and rings.

The water clock works when two conditions are obtained:

- 1) The clock is planned and the tools and also needed motions are determined.
- 2) The components of the clock are made (They have to be brought into existence).

Events of the world, Ghazali says, are just like the components of the water clock. They move by necessity and their motions are necessarily regulated and thus everything they produce is also regulated. All events are brought into existence necessarily and when a cause is present, its effect necessarily happens.

Ghazali here puts forth a theory of dual causality, divine as well as natural, co-operating in the generation of the same effect (*Ibid*, p.14). God is the First Cause of everything that happens in the world. He created a chain of cause and effect and He does not intervene in the world directly. Ghazali says nothing about continuous creation which is held by Ash'arites. Ghazali combines two kinds of causes, which consist of two kinds of action. God is the first cause and His actions derive from His spontaneous will. The other causes act through God

indirectly as well as through the necessity inhering in their essences (Abrahamov 1988, p.83).

What is Ghazali's aim in offering his dual theory of causation in *Al-'Arba'in*? Having established a cause-effect chain with God as its first cause and maintainer, it follows, Ghazali maintains:

- 1) God is omnipotent and One, since He himself alone at His will has created and also keeps the cause-effect chain working.
- 2) God acts through His wisdom.

From 1 and 2 it follows that it is possible to acquire knowledge about the world since every event or thing has a cause and things happen according to a fixed scheme. Remember the water clock. It is a rule-governed device so its motions are predictable.

3.2 Causality in *Maqḡad*

Maqḡad is a book about the interpretation of the most beautiful names and attributes of God. In the first chapter of this book, Ghazali outlines the theoretical framework of his theory of reference. He rejects the Ash'arite theses that the name is that which is named. According to this theory, affirmation of any given predicate implies that at the time it is asserted, it has to be the case. For instance, if I say God is Creator, the predicate creator implies there is a creation i.e., there exists an event of creation at the time of my assertion and this event is actual and its actuality is the truth maker of my assertion. Ghazali rejects this analysis. He argues that 'Creator', or in general every predicate can be understood either as potential or actual. Thus my assertion God is Creator can be understood in two ways namely, God potentially creating or actual creating. Potentially creating has two meanings. First, ability or disposition to create and second, knowledge that He will create or knows what He will create. According to Frank (1992, p.14) Ghazali in *Maqḡad* sets himself apart from the Ash'arite school and comes close to the philosophers' position.

In *sharp* contrast to occasionalism, Ghazali describes the world as an integrated system of entities and events linked together in an order of causes and intermediaries (*wasa'iḥ*). Causes are assigned to their effects in both human actions and purely physical events. Angels, men

and inanimate things are all secondary causes in Ghazali's view. To put it in his words, they are all intermediaries. (Ghazali 1998, p.98). God is the one who makes the causes work as causes. Surprisingly, he speaks of causes as producing or necessitating their effects.

3.3 Causation in Ghazali's logical writing

It is *clear* even from *Al-Tahâfut* that Ghazali showed a genuine interest in logic. He wrote a number of logical treatises. These consist of expositions of Avicenna's logic.

Ghazali endorses Avicenna's logic and wrote these works urging his students to accept it. In *Al-Qistâs*, one of his logical works, he tries to identify the Koran's criterion of the validity of arguments, which he calls the balance (*al-mizân*), with three Aristotelian figures of syllogism. Logic, for Ghazali is a mere tool of knowledge. It can be used in defence of religion although it is formalised by philosophers. Why is logic so important? Because it is a tool by which we can distinguish between true knowledge and false beliefs. What is true knowledge? It is, Ghazali answers, demonstrable knowledge, and logic gives us the condition of demonstrability. It sets down the correct rules of demonstration. Knowledge can only be demonstrative if its premises are true and certain.

True demonstration is that which yields something that cannot be conceived to be otherwise in accordance with the premises of demonstration, for these are certain and eternal, never altering nor changing. By this I mean that a thing does not change even when one is not aware of it, such for example, as our saying, "the whole is greater than the part," "things equal to the same things are equal to one another" and the like. The conclusion of such premises is also certain.

"Certain knowledge consists in knowledge that a thing is such and such a nature, together with the assent that it cannot but be of such a nature. Thus when you attempt to entertain in your mind the possibility of error or to see it otherwise, you are initially incapable of so doing. For if the possibility of error is attached to it, it is not certain." (Ghazali 1964, p.244)

In Avicenna's logic, there are two kinds of propositions which are considered as certain premises of every syllogism, namely confirmed

propositions (*al-mujârabât*) and intuited propositions (*al-hadsiyât*). As we shall see, these are the premises whose certainty derives from the efficacy theory of causality, from the very theory that Ghazali finds untenable. Can one accept Avicenna's logic without subscribing to his causal metaphysics? This question relates mostly to the class of tested and intuited propositions mentioned above.

In Avicenna's Aristotelian demonstrative logic, the class of accepted premises are based on a common sense causal theory of perception. For Avicenna, when the proper conditions obtains, man attains indubitable knowledge of particular external things through his senses. For instance, in visual cases, these conditions would include the proper function of the eyes, the presence of the light, and proximity of the object and the absence of the obstacles in the intervening medium. In every case of perceptual knowledge, a fundamental necessary condition is the casual power of the object to influence the sense organ (see *De Anima*, p.28).

In Avicenna's logic, the class of intuited premises relates to regularities in nature. For instance, by having repeatedly observed that cotton burns when it comes into contact with fire, we acquire the certain knowledge of the premises. As another example take the observation of the regular behaviour of the sun and the moon. We intuit the fact that the moon derives its light from the sun. We do not observe this derivation directly. In both case, the observation of regularity is only a necessary condition for acquiring the certainty that these statements are true. Avicenna, no less than Ghazali, insists that the mere observation only proves concomitance, not necessarily causal connection. He argues that along with observation, there is a hidden rational argument, a hidden syllogism, to the effect that if the regularity in the past had been coincidental or accidental it would not always have continued. From this he concludes that regularities are essential and derived from the inherent causal properties in natural things.

Ghazali discusses two types of demonstrative syllogism that convey the Aristotelian distinction between knowledge of the reasoned fact and knowledge of the fact (According to Aristotle, there are two types of demonstration used in scientific discourse, the one which

demonstrates the fact, or that the thing is (*oti*), and that which demonstrates the reason of the fact (*dioti*). The difference between the two, he goes on to explain, is that the first type, which imparts the knowledge of the fact that thing exists, rests on mediate premises whose causes are remote. By contrast, the second type, which imparts the knowledge of the reason of the fact, rests on premises whose causes are proximate and immediate. Thus we may infer the proximity of planets from the fact that they do not twinkle, and the reason why they do not twinkle from the fact that they are proximate (*Analytica Posteriora* I, 71b 26). The first of these, which is called *burhân-limmi* (*dioti*), explains why a thing has a certain property. In this type of demonstration, the middle term is the cause of the conclusion and also the cause of major term (Ghazali 1964, p.191). Ghazali illustrates this with the following example:

Whenever fire touches wood, the wood is burned.

This piece of wood is touched by fire

Hence, this piece of wood is burned.

The syllogism above is an instance of *dioti*. It is important to keep in mind that this is an inference from the cause to its alleged effect. However, there is another kind of demonstration which involves no inference. Take the following example:

Whenever wood is burned, it has been touched by fire.

This piece of wood is burned.

Hence, it has been touched by fire.

Ghazali believes that in the above example, the middle term is not the cause of the major term. These facts are mere concomitants whose constant conjunction allowing us to the inference of the existence of one from the other.

Having explained the difference between these two kinds of syllogism, Ghazali says that both of them are valid argument and their conclusions have to be counted as certain knowledge (*Ibid*, p.195).

The question has been raised as to how Ghazali can adhere to Aristotelian logic and consider the experience of the consistent sequential relationships between entities and events to be a valid basis

for justified premises in demonstrative syllogism, if he also following the Ash'arite doctrine reflected in *Al-Tahâfut*, according to which efficient causality is not attributed to things in virtue of their nature as such. His constant insistence on the importance of knowing the true nature or essence of things is conspicuous enough.

If Ghazali does not deny the claim that demonstration gives us certain knowledge about the world, then he must either deny that the theory of causal efficacy is a necessary condition for demonstrative science or contradict himself. In the following section I will try to save him from this dilemma.

4. An attempt to solve the problem: appealing to the best possible world

So far we have reached the following conclusions:

- 1) Ghazali in *Al-Tahâfut* rejects the causal efficacy theory.
- 2) He never rejects the principle of causality which says every event has a cause.
- 3) Although he agrees with Ash'arites that the necessary connection between cause and effect is not observable, he rejects the causal theory of efficacy in an entirely different style.
- 4) He never says that God is the only cause in the world, but he sometimes refers to God as the only true agent in the world. (Ash'arite believe that God is the only cause of everything.)
- 5) He blames philosophers for conflating two notions of causality, namely event causation and agent causation. He finds the causal theory of efficacy untenable since it excludes one mode of causation in which the choice of the cause in bringing its effect plays a crucial role. This mode of causation can be found in divine and human action.
- 6) Ghazali finds both the Ash'arites' and the philosophers' positions regarding causality non-demonstrable. Both of them appeal to unobservable factors in order to explain the observed regularities in our world.
- 7) Agent causation leads to the idea of possible worlds. If God is an agent and if the world is His act, He could easily have created other worlds instead of this world.

4.1 Possible worlds

“There is beside Him no existing thing which is not created by His act and which emanates from His justice in the best, most perfect, most complete and most just way. Indeed, He is wise and His acts are just in His determination.” (Ghazali 1970, p.19)³

Although it might be difficult to find out what the exact position of Ghazali is on causation, I appeal to one of his ideas that might seem irrelevant to the problem of causation but which in final analysis turns out to be so important as to give a consistent account of Ghazali's theory of causation. The clue is his idea of the best possible world. Ghazali believes that this actual world is the best possible world (Ghazali 1985, vol.4 , p.249). In order to answer the question why he believes so, I will look at his account of possible worlds.

Ghazali's invention of the notion of possible worlds has its roots in the idea of God freely choosing between alternatives equal to Him. God, Ghazali argues (Ghazali 1997, pp.21f), has genuine choice since He is true agent. No other external factors can affect God's choice. He can do whatever He wants and so possibilities for Him to initiate His creative act stretch ad infinitum into the past because of the fact that He is omnipotent (*Ibid*, p.40). This leads to an interesting observation. The world could have been created larger or smaller than this actual world. Contrary to the philosophers' belief about the necessity of this actual world, Ghazali mentions the possibility that God could perfectly have created the world another size or in a different arrangement.

If we follow the line of thinking sketched above, we presumably reach the conclusion that there is an infinity of unrealised possibilities, as for every actual state of affairs that God chooses to bring into existence there are countless alternatives (Frank 1992, pp.52-55). But Ghazali says nothing further in *Al-Tahâfut*. One possible explanation for this omission is that he wants to hold on to the primacy and the necessity of the current actual world.

4.2 The necessity of the best possible world

All states of affairs should be deemed radically contingent in themselves, the actuality of the world and its present state and history are made necessary by God. God's omnipotence and His unchanging

will be sufficient reason for the world to be as it is (Ghazali 1997, p.23). Presuming that God's will is unchanging and eternal, this means that world history is in fact determined and necessary. For the notion of God's providential plan to make sense, God must be understood as making a genuine decision and thus having a genuine choice, and for this to happen counterfactual possibilities have to be regarded as genuine. On the other hand, God's omnipotence requires that the world, which has been created by Him, be perfect, since it would hardly be fitting for a perfect God to create another world which is less perfect than our actual world. But this does not mean that He could not create the world in a different way. Things could be totally different from the way they are. God is free with respect to all possible worlds that might be created from the possible kinds of things that are available to Him as the constituents for a world. But there is a particular order of possibles that strictly speaking has to exist if the most perfect realization of the possible in their kinds is to be achieved. It only means that given the sort of decisions that He has made, the created world must be the most perfect that could have been created. This well-ordered world is a necessary contingent world.

It is important to remember that when Ghazali talks about the necessity of the order of our world and that causes necessitate their effects, he does not mean necessity in the logical sense. Rather he means by necessity what I call theological necessity.

What is this thing called theological necessity? In order to answer this question, we have to look at the distinction that Avicenna has made between two kinds of being, being which is necessary in itself since it cannot not be (i.e. God), and being which is contingent in itself and which is made necessary through the action of something else (i.e. everything other than God). If we assume for the sake of argument that God, Who is necessary in Himself, does not exist, then we are involved in a contradiction, since existence is so much a part of the definition or meaning of God that denying His existence is rather like questioning whether a rectangle has four sides. Another kind of being necessary through another I call *theological necessity*. This is an attribute of all contingent beings except God, and is an attributes of

types of being which rely upon something else to bring them into existence, but given that cause, exist necessarily.

When Ghazali talks about the necessity involved in this world, what he means by necessity is theological necessity. This does not mean that it is logically impossible for the effects not to occur. Given the fact that we live in this world which is the best possible world, it is not the case that causes in this world happen and their effects fail to happen. In other words, theological necessity is a relation between three objects, namely the best possible world, the cause and its effect. Every event is possible. So as long as every event is possible except impossible ones, there is nothing in existence which can move it from non-occurrence to occurrence. Whenever the cause -event is present and sets a series of events in train, the occurrence of the consequent event becomes inevitable. It necessarily happens in this world.

How do we know that the actual world is the best possible world? Although Ghazali never provides an answer to this question, I think the answer lies in his emphasis on the possibility of knowledge about the structure of the world (Ghazali 1964, p.120). We are not only able to understand this world but also we can acquire certain knowledge about observed regularities in this world which are certain and demonstrative. The best possible world is the one in which inductive knowledge is possible and since we can make induction in our world we know that we live in the best possible world. If we had lived in other possible worlds, we would not have known perfectly about the structure of those worlds.

In other words, since we are able to perceive external objects and we can even predict their behaviour, we can build a structural body of knowledge (demonstrative knowledge) about our world and we are able in principle to comprehend almost every aspect of our world, the world must be well ordered and the best organized one.

The next step is simple. The principle of causality and even the necessity of the causal relation must be realized in the best possible world in order to make knowledge about its structure possible. In other words, causality is the precondition for knowing the world and comprehensibility is the precondition of being the best possible world.

In this world, we find at the heart of our nature a motive that causes us to attempt to explain the things we encounter and to justify the existence of such things by disclosing their causes. That is why human beings are always confronted with the question: 'Why ...?' this question is raised concerning every existence and every phenomena of which we are aware, so that if we do not find a specific cause of such an existence or such a phenomenon, we believe that there is an unknown cause that produced the event in question.

Further Reading:

The best source to look at is <http://www.ghazali.org> on the internet which gives you all the information you need about Ghazali's life and his works. You can find almost all of his works on this site. It also contains major works of scholars on Ghazali. For those who want a systematic study of Ghazali's philosophy, I strongly recommend Frank 1992 and 1994.

NOTES

1. In this article, for reference I have referred to the name of the author and the date, but I have made two exceptions. In the cases of Aristotle and Avicenna's work, I have mentioned the name of the books since it is much easier to find the passage I was referring to by this method.
2. By 'philosophers' here I mean Avicenna and his followers.
3. The translation is Nakamura's.

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