

A CRITICAL ASSESSMENT OF HUME'S
AND
AL-GHAZĀLĪ'S VIEWS ON CRITIQUE OF CAUSATION

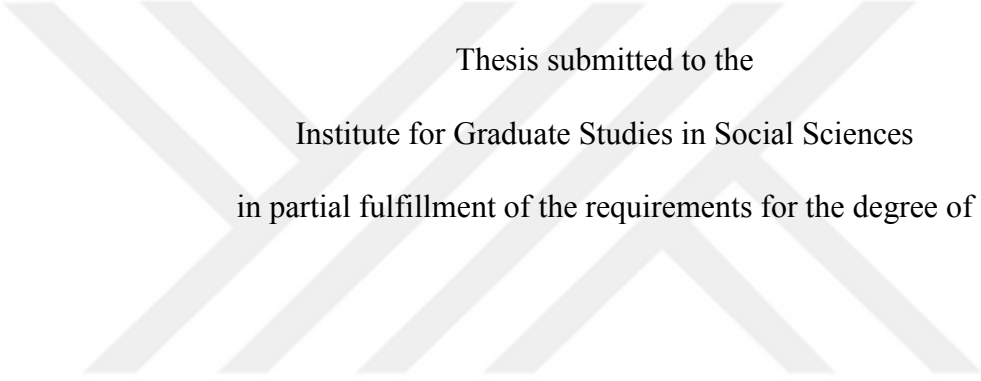


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BOĞAZIÇI UNIVERSITY

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AND
AL-GHAZĀLĪ'S VIEWS ON CRITIQUE OF CAUSATION



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A Critical Assessment of Hume's and
al-Ghazālī's Views on Critique of Causation

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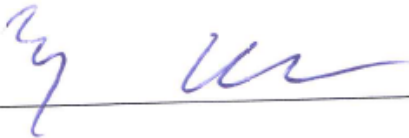
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November 2018

DECLARATION OF ORIGINALITY

I, Zahra Karandish, certify that

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ABSTRACT

A Critical Assessment of Hume's and al-Ghazālī's Views on Critique of Causation

This thesis shows the similarities and differences between the views of al-Ghazālī and David Hume on causation. Such a comparison is interesting because, long before Hume, the Islamic philosopher al-Ghazālī had taken up the issue of necessary causality. Although al-Ghazālī's and Hume's respective views on causation evince some striking parallels in their empirical contention, there are some notable differences as well.

Both philosophers reject the view that the connection between empirical events and objects is of logical necessity. They use the negative argument that the necessary connection between any two natural objects or events cannot be perceived and cannot be justified rationally.

However, to give an ultimate reason for the theory of causality, al-Ghazālī, unlike Hume, makes reference to God. In other words, he defends occasionalism, in order to establish God's omnipotence and the possibility of miracles. On the other hand, according to Hume, we cannot give an ultimate justification for the theory of causality.

Moreover, the thesis claims that al-Ghazālī's argument against the necessary connection is an ontological claim, i.e. his conclusion is that there are no real causal connections in nature. But Hume seems to suspend judgment on the ontological question of whether there really are causal connections in nature. In other words, Hume's argument is epistemological, insofar as reason cannot discover such causal relations between such events. All in all, this study focuses on both philosophers' arguments against the necessity of natural causation.

ÖZET

David Hume ve Al-Ghazālī'nin Nedensellik Görüşlerinin Kritik Bir Değerlendirmesi

Bu tez al-Ghazālī ve David Hume'un nedensellik üzerine görüşleri arasında benzerlikleri ve ayrıştıkları noktaları konu ediniyor. İslam felsefecisi Al-Ghazālī'nin nedenselliğin zorunlu olduğu görüşünü Hume'dan asırlar önce konu etmesi bu mukayeseyi daha ilginç kılmaktadır. Her ne kadar Al-Ghazālī ve Hume'un görüşleri benzerlik gösterecek olsa da bu görüşler arasında önemli farklar bulunmaktadır.

Her iki felsefeci de doğada olgular ve nesnelere arasında mantıksal bir zorunluluk olduğu görüşünü reddediyor, ve bu tür olgular ve nesnelere arasında herhangi bir zorunlu bağlantıyı gözlemleyebileceğimizi ya da böyle bir bağlantının varlığı hakkında çıkarım yapabileceğimizi reddeden argümanlar veriyorlar.

Bununla beraber, Al-Ghazālī ve Hume'un görüşleri arasında önemli bir fark var. Al-Ghazālī, tanrı kavramına nedensellik teorisinde önemli bir yer veriyor, ve tanrıyı doğada ki bütün olguların gerçek sebebi olarak görüyor. Tanrının gücünü ve mucizeleri kanıtlamak için *okazyonalizm* tezini savunuyor.

Tezim, al-Ghazālī'nin zorunlu bağlantılara karşı argümanları ontoloji düzeyinde olduğunu savunuyor; farklı bir ifade ile, al-Ghazālī'nin argümanının sonucu doğada nedenselliğin olmadığıdır. Fakat Hume argümanı doğada nedenselliğin olabileceği

görüŖüyle çelismemektedir. Bu argümanla Hume sadece zorunlu bağlantıların bilgisine sahip olabileceğimizi reddetmektedir.



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To my best friend,

Ali Reza

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CHAPTER 1

INTRODUCTION

David Hume (1711–76) was a Scottish Enlightenment philosopher, historian, economist, and essayist. He is best known today for his highly influential system of philosophical empiricism, skepticism, and naturalism.

For Hume, all the objects of human reason or enquiry are either the “relations of ideas” or “matters of fact”. Propositions concerning relations of ideas are intuitively or demonstratively certain. They are analytic a priori propositions. In other words, these propositions are based wholly on knowledge of meanings; they are discoverable independent of experience by the mere operation of thought. Hence their denial leads to a contradiction. In general, propositions indicating mathematical facts and propositions about logical truths are the best candidates for the propositions based on relations of ideas.

On the other hand, the truth of propositions about matters of fact depends on how the world is. That is, their truth is dependent on the experience and not on intuitive or demonstrative reasoning. Since they are not necessary truths, their denial does not lead to a contradiction, i.e. their denial is logically possible. For instance, it is logically possible for Russia to be in Africa. In other words, denying that Russia is in Eurasia does not lead to any logical impossibilities, in contrast to, say, denying that “two plus two is four.”

Hume tries to justify his claims on causation by discussing beliefs in unobserved matters of fact. In general, it can be said that “he is interested in the foundation of belief

in ‘matters of fact’ or of belief in ‘existences and objects we do not see or feel’, to seek an analysis of the nature of causation” (Noonan, 1999, p. 91).

So, Hume argues that the causal inferences—both the universal causal inference, that every beginning of existence is preceded by a cause, and the natural causal inferences, such as “fire causes the water to boil”—are not determined by reason or any other operation of the understanding. Rather, he justifies our engaging in causal inferences by way of some associative principles that serve as their basis.

According to Hume, since the effects are distinct events from their causes, conceiving of one to be not followed by the other does not involve any contradiction. And on this basis, he concludes that the connection between two distinct events cannot involve “relations of ideas.” However, the judgments are so familiar that we tend to overlook this fact; they seem immediate and intuitive. But, according to Hume: “Were a man such as Adam created in the full vigour of understanding, without experience, he would never be able to infer motion in the second ball from the motion and impulse of the first.” (Hume, 1978, p. 650). Therefore, he concludes that there is nothing that reason sees in the cause, which makes us infer the effect.

Even after the experience of the constant conjunction of two events—which is the driving force behind the causal inferences—and after we have had many experiences of a cause conjoined with its effect, our inferences are not determined by reason or any other operation of the understanding.

All in all, Hume has exhausted the ways in which reason might establish a connection between cause and effect to show that our causal inferences are based on

reason. As such, his skeptical doubts lead him to some skeptical solutions regarding our causal inferences.

Since the causal inferences we make are not determined by reason, there must be “some principle of equal weight and authority” that leads us to make them. Hume maintains that this principle is custom or habit:

For after we have observ'd the resemblance in a sufficient number of instances, we immediately feel a determination of the mind to pass from one object to its usual attendant, and to conceive it in a stronger light upon account of that relation. This determination is the only effect of the resemblance; and therefore must be the same with power or efficacy, whose idea is deriv'd from the resemblance. The several instances of resembling conjunctions lead us into the notion of power and necessity. Those instances are in themselves totally distinct from each other, and have no union but in the mind, which observes them, and collects their ideas. Necessity, then, is the effect of this observation, and is nothing but an internal impression of the mind, or a determination to carry our thoughts from one object to another. (Hume, 1978, p. 165)

It is, therefore, custom, not reason, which determines the mind to suppose the future conformable to the past.

Hume concludes that custom alone makes us expect for the future a similar train of events to that which appeared in the past. Custom thus turns out to be the source of the Uniformity Principle—the belief that the future will be like the past. Therefore, he concludes that “the necessary connection depends on the inference, instead of the inference depending on the necessary connection” (Hume, 1978. p. 88).

Hume's view on causation has some very striking similarities with that of al-Ghazālī. Abū Ḥāmid Muḥammad ibn Muḥammad al-Ghazālī (1058–1111) was a Muslim philosopher, theologian, and mystic. He was one of the principle representatives of Arabic occasionalism. By way of a general definition, occasionalism is

a theory that ascribes all causal powers to God on the one hand and treats cause-effect relations in the universe as occasions indicating the manner of divine creation on the other. In other words, according to this theory, the only genuine causal agent is God and everything else is causally inert. (Muhtaroglu, 2017, p. ix)

For al-Ghazālī, occasionalism was a doctrine through which he could convey his theological polemic against the non-believers of Islam. However, while the Ghazālian corpus is quite vast, in this thesis I will focus primarily on the texts in which al-Ghazālī conducted his attack on the philosophers and developed his occasionalist beliefs.

His book, *The incoherence of the Philosophers (Tahāfut al-Falāsifa)*, is renowned for its critique of Aristotelian philosophers. In particular, al-Ghazālī's main targets in this book are al-Fārābī and Ibn Sīnā who were the most prominent and talented representatives of Greek philosophy within Islam. The book is divided into twenty questions, which al-Ghazālī raises against philosophers. The 17th discussion concerns causality, and, as such, it will be the chief focal point of the present thesis. However, in the course of my treatment of al-Ghazālī's view on causation, I will draw on other discussions in the *Tahāfut* and his other book, *The Moderation in Belief (al-Iqtisād fi' al-I'tiqād)*, which relate to causality. In this way, my discussion will not be confined to the pages in which al-Ghazālī purports to be talking about causality, and instead will encompass the broader scope of the topic as it appears throughout the *Tahāfut* and *al-Iqtisād*.

In general terms, this thesis provides an analytical reconstruction of David Hume and al-Ghazālī's views on causation. My aim is to show how they reach different or even inconsistent conclusions with very similar or even identical premises. I will initiate a dialog between Hume and al-Ghazālī in respect of their positions on the universal

causal inferences, which leads to a further analysis of how al-Ghazālī's view that universal causal inferences are analytic a priori propositions can be reconciled with his critique of natural causation.

Moreover, delineating the views of both Hume and al-Ghazālī affords us with the opportunity to identify the key strengths and weaknesses of their views. In turn, this can prompt us to critically revisit Hume's objection against occasionalism.

In general, as Naify (1975) notes, it can be said that because of the centrality of the notion of God in the occasionalistic metaphysics, any tendency to undermine a belief in God simultaneously weakened the metaphysical basis for a belief in causality. And it seems that Hume was particularly keen in seeking to accomplish this goal.

Without God to support causal nexus, Hume was forced to reduce causality to a psychological propensity. In a sense Hume's analysis of causality can be seen as an occasionalism without God. As a matter of fact, there is strong evidence that Hume himself saw it this way. (Naify, 1975, p. 12)

In his discussion of causality in *A Treatise of Human Nature*, Hume considered Malebranche's occasionalism as a possible model of causality.¹ But he quickly refutes the soundness of occasionalism: "If every idea is derived from an impression and if we have no impression either of sensation or reflection... tis equally impossible to discover or even imagine any such active principle in the Deity." (Hume, 1978, p. 160)

The thesis is divided into two main parts. The first sets out Hume's view on causation, discussing the ramifications of and some important objections to his views, some of which might serve to debilitate his theory of causation. The second part

¹ There has been some research on the historical link between al-Ghazālī and Hume via Malebranche. See e.g. Muhtaroglu (2017); Naify (1975); and Arthur (2012).

explores al-Ghazālī's view on causation. After thoroughly analyzing his two views on causation as presented in the *Tahāfut*, I review and evaluate the various disagreements between scholars over how best to interpret al-Ghazālī's views. The thesis concludes by elucidating the most significant similarities and differences between the thought of Hume and al-Ghazālī in relation to causality.



CHAPTER 2

HUME'S VIEW ON CAUSATION

In part III of the *Treatise*, “Knowledge and Probability”, Hume introduces his discussion of causation by asking: “what assures us of existences and objects we do not see or feel?” (Hume, 1978, p. 74). According to him, the only relation “that can be trac’d beyond our senses, and informs us of existences and objects, which we do not see or feel, is causation” (ibid). So, by discussing beliefs in unobserved matters of fact—such as the belief that the sun will rise tomorrow—Hume tries to justify his claims on causation. In other words, according to Hume, the answer to the question of “what assures us of existences and objects we do not see or feel?” is “causal inference”.

In exploring Hume’s account of causation here, I will mainly focus on the following questions: what is the correct account of causation? What does it mean to say that one thing causes another? And what is the nature of the inference from observed facts to unobserved ones?

According to Hume, the philosophical relations are of two kinds. There are those relations that “depend entirely on the ideas, which we compare together, and such as may not be chang’d without any change in the ideas” (Hume, 1978, p. 69). However, the other class consists of relations that can be changed without any change in the ideas. In general, this is the distinction between propositions based on relations of ideas and propositions not so based (namely, propositions based on the relations that may be changed without any change in the ideas). As Hume mentions in his *Enquiry*, the latter

propositions concern “matters of fact and existence”. Therefore, it can be said that “he is interested in the foundation of belief in ‘matters of fact’ or of belief in ‘existences and objects we do not see or feel’, to seek an analysis of the nature of causation” (Noonan, 1999, p. 91).

The propositions of the first category—i.e. propositions based on the relations of ideas—are, according to Hume, “analytic propositions”. This is because, for him, ideas are meanings; as such, a proposition based on relations of ideas is one that can be seen to be true by reflecting on the meanings of the words used to express it—which is the main characteristic of the analytic propositions. Therefore, the propositions that are based on the relations of ideas are “analytic propositions”. All in all, these propositions are based wholly on knowledge of meanings; they are propositions about mathematical facts and propositions about logical truths (Noonan, 1999, pp. 92-93). All kinds of these propositions are either intuitively true—e.g. “all bachelors are unmarried man”—or demonstratively true—e.g. a complicated arithmetical identity requiring many pages of proof—that is, propositions that are true but not obviously so.

In general, according to Hume, a proposition “based on relations of ideas”, if true at all, will be true merely in virtue of “relations of ideas”; it will be analytic and discoverable as true by reflecting on its meaning².

In addition, these propositions have other features too:

² It is worth noting that Hume borrows Locke’s distinction between intuition and demonstration. See Locke, 1961, Essay IV, ii.1.

1) They are a priori knowable, i.e. they can be known to be true by thought alone, regardless of any experience;

2) They are necessary and not contingent truths. These propositions are irrefutable; because a proposition that is true in virtue of its meaning would change its meaning if it were false.

(Since the only way in which a sentence used to express it could be used to say something false would be to change its meaning).³

And lastly;

3) propositions based on relations of ideas are the only ones which are, strictly speaking, knowable. On the other hand, according to Hume, propositions concerning matters of fact and existence, are not knowable but only probable.

In sum:

All the objects of human reason and enquiry may be divided into two kinds, to wit, Relations of Ideas and Matters of Fact. Of the first kind are the sciences of Geometry, Algebra and Arithmetic; and, in short, every affirmation which is either intuitively or demonstratively certain.... Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is anywhere existent in the universe...Matters of fact...are not ascertained in the same manner; nor is our evidence of their truth, however great, of a like nature...The contrary of every matter of fact is still possible; because it can never imply a contradiction and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality...Were it demonstratively false, it would imply a contradiction and could never be distinctly perceived by the mind. (Hume, 1975, pp. 25-6)

³ If it can be shown that there are some necessary truths which are not analytic and not a priori, then Hume's argument that there is no necessary connection between distinct existences will fail. According to Hume, which I will discuss in detail-- there is no necessary connection between distinct existences and every distinct object can exist without requiring others. However; Kripke (1980) shows that there are some necessary a posteriori truths. Including ones stating origins of particular objects like that I originated from a particular sperm and ovum, or that my table was originally made from a particular piece of wood. According to Kripke although I and my father are certainly distinct existences, I could never have existed if my father had not. I will discuss this counter example in detail in the section of "inferences from the observed to the unobserved".

2.1 The idea of cause

Among the relations which do not depend on the ideas –which are identity, situations in time and place and causation--, only causation “can be trac'd beyond our senses, and informs us of the existences and objects, which we do not see or feel” (Hume, 1978, p.74).

Hume claims that, unlike causation, the other two relations; identity and situation in time and place, are not able to produce such “a connexion, as to give us assurance from the existence or action of one object, that 'twas followed or preceded by any other existence or action; nor can the other two relations ever be made use of in reasoning, except so far as they either affect or are affected by [causation]” (ibid). Neither spatio-temporal relations nor identity are able to assure us of existences and objects we do not see or feel. Spatio-temporal relations are not able to produce any connection between the observed and the unobserved events, because we cannot deduce anything about the spatio-temporal relations of objects from –even detailed-- descriptions of their non-relational properties. And the fact that an object I perceive now is exactly like one I saw earlier is not proof that it is numerically the same, excludes identity as a relation which can assure us of objects we do not see or feel:

There is nothing in any objects to persuade us that they are either always remote or always contiguous; and when from experience and observation we discover, that their relation in this particular is invariable, we always conclude that there is some secret cause, which separates or unites them. (Hume, 1978, p.74)

An illustration of Hume's point might be helpful. If, as I am walking down the street, I notice two people passing close to one another, one walking away from me and one towards me, say, I will not, just on that basis, form the expectation that these people will

be found always or frequently together in the future; but if I do subsequently see them together on many occasions, I will conclude that there is some cause to explain the fact that they are friends, or work at the same place, or catch the same bus every morning, or whatever. Conversely, if I observe two of my colleagues, say, standing at opposite ends of a seminar room and not talking I will not, just on that basis, infer that they will never be found together; but if I frequently observe their separation, in situations in which contiguity would be equally likely, I will conclude that there is some cause at work- perhaps they have quarreled, for example (Noonan, 1999, p.98).

Likewise, his point on identity runs as follows:

We readily suppose an object may continue individually the same, tho' several times absent from and present to the senses; and ascribe to it an identity, notwithstanding the interruption of the perception, whenever we conclude that if we had kept our eye or hand constantly upon it, it wou'd have conveyed an invariable and uninterrupted perception. But this conclusion beyond the impressions of our senses can be founded only on the connexion of cause and effect, nor can we otherwise have any security, that the object is not changed upon us, however much the new object may resemble that which was formerly present to the senses. Whenever we discover such a perfect resemblance, we consider, whether it be common in that species of objects; whether possibly or probably any cause could operate in producing the change and resemblance; and according as we determine concerning these causes and effects, we form our judgement concerning the identity of the object. (Hume, 1978, p. 74)

An example may help to understand Hume's point better: if I happen to see someone exactly like my neighbor in the street I will conclude that he is my neighbor because a perfect resemblance is not 'common in that species of objects'. On the other hand, there is "nothing so like as eggs" (Hume, 1975, p. 36), but based on this resemblance I do not conclude that the egg I see now is exactly the one I yesterday had on my breakfast plate (Noonan, 1999, p.98).

In sum, for Hume, causal inference is the only reasoning process which can lead us to existences and objects not seen or felt. Therefore, his next step is analyzing the idea of causation.

According to his general methodological principle, every idea must be preceded by an impression. So he has to look for an impression or impressions from which the idea can be derived. Hume in the first place mentions that the origin of the idea of being cause or effect is not based on some quality in the things which we regard as causes or effects; because we cannot discover any single quality common to them all:

Indeed there is nothing existent, either externally or internally, which is not to be consider'd either as a cause or an effect; tho' 'tis plain there is no one quality, which universally belongs to all beings and gives them a title to that denomination. (Hume, 1978, p. 75)

Regarding his search for the origin of the idea of causation, Hume concentrates on an example of what we regard as a causal event and asks what impressions do we get when we perceive them. since no quality of the objects can be the origin of our idea of causation, this idea may be derived from some relations among objects. So he tries to discover those relations:

I find in the first place, that whatever objects are consider'd as causes or effects, are contiguous; and that nothing can operate in a time or place, which is ever so little remov'd from those of its existence. Tho' distant objects may sometimes seem productive of each other, they are commonly found upon examination to be link'd by a chain of causes, which are contiguous among themselves, and to the distant objects; and when in any particular instance we cannot discover this connexion, we still presume it to exist. (Hume, 1978, p. 75)

So according to him contiguity is essential to causality. However, he regards the possibility of acting in distance by allowing a chain of causes between what is known to be the effect and its remote cause.

It is worth mentioning that although it is widely believed that for Hume contiguity is a necessary condition for two things' being related as cause and effect, he can hardly be said to have established that (Stroud, 1977, p. 43). He is looking for the impressions from which the idea of causality is derived, however, in the cited passage above he admits that we do not get an impression of contiguity every time we observe an instance of causal connection. For instance, in the case of very distant objects which are considered as cause and effect relation, like the sun and melted butter, although we believe that the one is the cause of the other, we do not get an impression of the contiguity between them or of a chain of intermediate, contiguous objects. As Hume suggests in the above passage, in such cases 'we presume' that there is contiguity nevertheless. It might be that, once we have the idea of causality, and hence know that contiguity is 'essential' to it, we presume that there is a chain of intermediate objects, and that the cause and the effect are therefore contiguous, but we certainly do not get an impression of contiguity in every case of what we take to be a causal connection (Stroud, 1977, p. 43).

Moreover, he contends that "an object may exist and yet be nowhere: and, I assert, that this is not only possible, but that the greatest part of beings do and must exist after this manner" (Hume, 1978, p. 235). For him moral reflection and the contents of our thoughts (mind) are the examples of these kind of objects. He explains:

A moral reflection cannot be placed on the right or on the left hand of a passion; nor can a smell or sound be either of a circular or of a square figure. These objects and perceptions, so far from requiring any particular place are absolutely incompatible with it. (Hume, 1978, p. 236)

Besides the moral and aesthetic reflections, it is not clear how Hume can explain contiguity in the case of mental causality. It is difficult to see how one thought is

contiguous with another (Stroud, 1977, p. 44). Moreover, in the Enquiry and even at the end of Section VII, 'Of the Idea of Necessary Connexion' he never mentions contiguity as part of the notion of causality (Hume, 1975, pp. 76-7). Therefore, the relation of contiguity as an essential feature of causation is questionable.

Another relation which Hume regards essential to causality is the priority in time of the cause to the effect. Here too, it would seem that we do not always get an impression of the priority in time. We do not actually see the contact of two billiard balls to be slightly earlier than the beginning of the motion of the second ball. In other words, we regard the two motions be simultaneous. However, Hume has a general argument to prove his claim about the priority in time. There is a certain 'established maxim' for him that; "an object, which exists for any time in its full perfection without producing another, is not its sole cause; but is assisted by some other principle, which pushes it from its state of inactivity, and makes it exert that energy, of which it was secretly possest" (Hume, 1978, p. 76). Therefore, based on this maxim he claims that If there is one cause that is simultaneous with its effect, all causes must be simultaneous with their effects (for any one of them that holds back its operation for a single moment does not exert itself at the very time at which it might have operated, and so it is not the whole cause of the effect). And he concludes that, this implies the destruction of the succession of causes which we observe in the world; and indeed, the utter annihilation of time (for if one cause were simultaneous with its effect, and so on, there would plainly be no such thing as succession, and all objects would be coexistent). Therefore, no cause can be simultaneous with its effect, but must exist or occur prior to it.

However, his argument is extremely puzzling. According to Stroud (1977), what can be derived from his 'maxim' is that that no cause can exist 'in its full perfection' at

any time before its effect exists, which contradicts the desired conclusion. “It uses a certain ‘establish’d maxim’ to derive from the assumption that there is one cause that is simultaneous with its effect the consequence that all causes are simultaneous with their effects. That in turn is held to imply ‘no less than the destruction of that succession of causes, which we observe in the world; and indeed, the utter annihilation of time’. So no cause can be simultaneous with its effect, but must exist or occur prior to it. The difficulty is that the ‘maxim’ used to derive this strong conclusion is: ‘an object, which exists for any time in its full perfection without producing another, is not its sole cause; but is assisted by some other principle, which pushes it from its state of inactivity, and makes it exert that energy, of which it was secretly possess’. And that implies directly that no cause can exist ‘in its full perfection’ at any time before its effect exists, which contradicts the desired conclusion” (Stroud 1977, p. 254). So it seems that Hume is not justified in his claim.

Based on Hume’s endeavor to find the relations which can be the source of the idea of causation, can we say that Hume’s account on causation is a reductive one? In other words, can Hume’s view on causation be reduced to the Regularity View of Causation(RVC)?

According to RVC:

C causes E iff

- (a) C is spatiotemporally contiguous to E;
- (b) E succeeds C in time; and

(c) All events of type C (i.e. events that are like C) are regularly followed by (or are constantly conjoined with) events of type E (i.e. events like).⁴ (Psillos, 2002, p. 19).

On RVC causation reduces to spatiotemporal contiguity, succession and constant conjunction. In other words, it reduces to non-causal facts. Now the question is that can Hume's account on causation be reduced to the regularity view of causation?

the answer to this question is negative. There are many pairs of events which are contiguous, and one is prior to other and their pattern always repeats. But they are not causally related. For example, Nights and days are always contiguous and prior to each other, but it is not the case that the day is the cause of the night or vice versa. In general, according to Hume, there has to be a difference between merely coincidentally contiguous and prior objects, --like every time I look at the traffic light it becomes green-- and the genuine case of causality like the fire and the boiling water.

We cannot explain this difference by offering synonymous terms of causation. 'one event produces another' or 'one event is by another', is not an appropriate way to distinguish causal sequences. Because this way of expression is no more than the claim that they are causally connected. When we say that A happened because Y happened or A would not have happened unless Y had to, these are not really explaining anything they only represent different ways of expressing what we believe when we think that two contiguous events one of which is temporally prior to the other, are related causally and not just coincidentally.

Therefore, the necessary and sufficient element in the idea of causation is that there is a 'necessary connection' between cause and effect. In other words, the relation

⁴ I will discuss 'constant conjunction' in 'inference from observed to the unobserved'.

of 'necessary connection' is much more important than the other two elements in the idea of causation.

I have mentioned earlier that Hume's interest in causation derives from his desire to explain the nature of the inferences we make from observed facts to unobserved ones. Also it became clear that the relations of time and place cannot give us any reasoning beyond what is seen or felt: "we ought not to receive as reasoning any of the observations we may make concerning...the relations of time and place; since in none of them the mind can go beyond what is immediately present to the senses, either to discover the real existence or the relations of objects" (Hume, 1978, p. 73).

However, since causation can lead the mind to what is not present to the senses, it cannot do so in virtue of contiguity and priority in time --which are the relations of time and place--. So causation must do the inference from the observed to the unobserved by virtue of its third component namely 'necessary connection'. Therefore, 'necessary connection' is obviously at first sight a candidate for grounding such an inference.

Now Hume according to his basic methodological principle, has to find the impression of 'necessary connection'. However, he claims that in any particular example of causality, there is no impression of necessary connection between what is known as cause and its effect, from which the idea of necessary connection may be derived. We may have the impressions of contiguity or succession in time but we cannot have any impression of necessary connection. In other words, we might observe that heating happened before the water boils and their contiguity, but we cannot have an impression of 'water boils because of heating', or an impression of the fact that water would not have boiled unless it was heated. Of course, we use causal words in our ordinary

communications for instance we say ‘I saw the white ball knock the red ball into the pocket’, or ‘I saw the stone break the window’. ‘knock...into’ and ‘break...’ are causal verbs. But for Hume such sentences are not the reports of single impressions.

It is worth mentioning that if we can never get the impression of the necessary connection between cause and effect in any particular instance of causality, then Hume must abandon his main methodological principle. In that case, the idea of causality is a counter example to the principle that ‘every idea which arise in the mind must correspond to the earlier impressions’. Hume is aware of the threat this poses, and he himself admits, that the principle will have to be given up if the impressions from which the idea of causality is derived cannot be found (1978, p. 77).⁵

On the other hand, some of Hume’s opponents think that ‘necessary connection’ like the other two relations –contiguity and succession in time--, is discoverable in nature. They think that, when C causes E, there is something in virtue of which C produces, or brings about, or necessitates E. In other words, the cause has the power to produce the effect and the effect necessarily follows the cause.⁶ However, Hume refutes their position and claims that ‘necessary connection’ cannot be found in the objects i.e. it is not discoverable in nature. Therefore, many scholars read Hume as “the great denier of necessary connection” (Lewis, 1986, p. ix).

Hume does not take his failure to find an impression of necessary connection as a proof that his methodological principle --i.e. the priority of impressions to ideas--, is incorrect or has some exceptions. Rather, in order to find the impression of necessary

⁵ According to Stroud (1977) the fact that Hume accepts the possibility of some counter examples, gives us a further evidence that Hume regards that principle as contingent. See. Stroud, p. 45

⁶ For a debate on this issue see. Clatterbaugh, 1999.

connection, Hume gives up the direct search in perceptual experience for the impression of necessary connection and traverse a roundabout way to find the required impression and save his methodological principle. He focuses on the inferences we make from the cause to the effect and from the observed to the unobserved and asks what determines us to make such inferences. In other words, the questions Hume spends most time answering are not really about the impressions from which the idea of causality is derived at all, but rather about how and why we get beliefs about what is not currently being observed.

2.2 A further point regarding Hume's refutation of the wrong analysis of causation

Hume tries to refute his opponents' view as the wrong analysis of causation. His aim is to show that 'necessary connection'⁷ cannot do the work demanded of it by those who embody it in wrong analyses of the concept of cause. The proponents of the wrong analysis of causation besides their claim that 'necessary connection' is discoverable in nature, try to find some non-inductive basis for their predictions by appealing to the notion of 'necessary connection'. They think that since all As are necessarily connected with Bs, so if there is an A, a B will necessarily happen. In other words, they use the notion of 'necessary connection' to conclude on a non-inductive basis that a predicted event will happen. On the other hand, Hume's negative discussion of cause, can be described as a set of arguments for the conclusion that no prediction can have a stronger than inductive basis, that the element of guesswork about the future is ineliminable.

⁷ Hume focuses on the notion of 'necessary connection' because of its centrality in the issue of causation.

The wrong analysis of the causation can be manifested as what Bennett (1971) calls ‘the conjecture theory’⁸:

Observed regularities in the behavior of objects make it reasonable to suppose that empirical happenings are connected by some kind of power or necessary connexion. The surface fact that F events are regularly succeeded by G events is explained by the conjecture that F events produce or necessitate G events. (Bennett, p. 263)

Hume forcefully, rejects this theory. And there are some objections to this theory which, according to Bennett (1971), are essentially Humean (pp. 263-7). However, I only explain one of these criticisms which leads us to the next step of Hume’s argument.

According to the conjecture theory, observed order is either because of the underlying necessity or it is only a coincidence. On the one hand, it is very improbable that all events in the world and their detailed harmony be just a coincidence. The proponent of the conjecture theory, on the other hand, can explain coincidence only by appealing to the necessary connection and causality; a coincidence is the occurrence of one or more items which are both F and G, where there is no causal relation between their being F and their being G although one might have expected there to be one. In other words, ‘If something’s being F does not necessitate its being G, then the association is just a coincidence’. But this way of defining coincidence, assumes that if Fness does not necessitate Gness then it does not cause it which is just the point at issue (Bennett, 1971, p. 263).

Although this criticism is Humean and reflects the spirit of the middle part of the Treatise I. iii.6, the relevant parts of Hume’s text are difficult to handle because, as

⁸ See. (Bennett, 1971, pp. 263-267).

Bennett (1971) claims, they contain a trap, which is the source of exegetical and philosophical error.

The trouble is that Hume runs two questions in the same harness. The two questions which Hume focuses on in his roundabout way are:

First, for what reason we pronounce it necessary, that everything whose existence has a beginning, shou'd also have a cause? Secondly, why we conclude, that such particular causes must necessarily have such particular effects . . .?. (Hume, 1978, p. 78)

The two questions are quite different: one concerns the status of a claim about the scope of causal laws, while the other concerns the analysis of the concept of a causal law. Either question could arise without the other's doing so. Someone might think that every event must have a cause, while rejecting a necessitarian analysis of the concept of cause and seeking nothing stronger than an inductive basis for predictions. Conversely, someone who might perhaps be interested in miracles or freedom could deny that whatever happens is caused to happen by another finite event, while believing that when something is caused to happen, this causality involves its being 'necessitated' in some strong sense.

In other words, "one can see most easily by observing that it could be a necessary truth that every beginning of existence had a cause even if particular causes were not necessarily connected to particular effects, and particular causes could be necessarily connected to particular effects even if it were not a necessary truth that all beginnings of existence had a cause" (Noonan, 1999, p. 104).

Hume himself was aware that these two questions are distinct and his reason for gathering them together is that he "find it will be more convenient to sink this question

in the [latter one]. 'Twill, perhaps, be found in the end, that the same answer will serve for both questions'' (Hume, 1978, p.82).

However, Bennett (1971) by refuting Hume's positive theory of causation, -- which according to Hume's claim is the very same answer to both questions-- shows that if Hume's positive theory of causation is the only reason that Hume holds those two questions in the same harness, then the two questions are connected by a false theory. Therefore, appealing to the positive theory does not reveal any real link between them. Because, for Hume his positive theory of causation --if it were true--, explains both the belief that determinism is not merely true but somehow necessary, and the belief that causation involves 'necessity' in some strong sense (p. 264).

However, Bennett examines some other possible link between the two questions. He claims that there is in fact a real link between the two questions, a human link, -- which is not the one implied by Hume's positive theory--.

For 'rationalists' every claim about the way the world is and about different facts must be supported by the answers to why- questions. In other words, the rationalists cannot tolerate absolutely brute facts. For them every question about a logically contingent state of affairs, of the form of 'why is it so?', must have an answer. In short "the rationalist cast of mind generates the assumptions both that determinism must be true and that causal explanations and causally based predictions cannot have an inductive basis" (Bennett, 1971, p. 265). According to Bennett, Hume is aware of this connection between the two questions when he says:

The... most popular explication of this matter, is to say, that finding from experience, that there are several new productions in matter, such as the motions and variations of body, and concluding that there must somewhere be a power

capable of producing them, we arrive at last by this reasoning at the idea of power and efficacy. But . . . reason, as distinguish'd from experience, can never make us conclude, that a cause or productive quality is absolutely requisite to every beginning of existence. (Hume, 1978, p. 157)

However, the above cited passage is open to a further objection. That is, Hume does not have a clear idea of what he means by 'cause'. There is a dilemma in this passage regarding the word 'cause'. 'Cause' could be used either in favor of necessitarianism --which Hume is opposing to-- or it is referring to a theory neutral term whose analysis is at issue. On the first interpretation, the passage says only that we cannot prove that observed order reflects underlying necessities. That is, on this reading, the passage degrades to a mere counterclaim and not an argument. However, on the second interpretation, it says that much ('productive quality'), and also says ('cause') that we cannot prove that every happening has a cause. But this interpretation is even worse because it adds to the counterclaim an irrelevancy. It is just possible, though, that the passage involves an unconscious mixture of the two interpretations; a stumbling attempt to link necessitarianism with dogmatic determinism through the rationalist cast of mind which is often their common source (Bennett, 1971, p. 265).

2.3 The causal maxim

Hume's first question --why do we believe it necessary that every beginning of existence should have a cause? -- is the question of what he calls the "general maxim in philosophy, that whatever begins to exist, must have a cause of existence" (Hume, 1978, p. 78) -- for the sake of brevity 'the causal maxim' --. According to 'the causal maxim', it is a necessary truth that something which begins to exist, --i.e. every beginning of existence-- must have a cause.

It is noteworthy that, although Hume believes that all inferences from the observed to the unobserved are ‘founded on the relation of cause and effect’, and admits that every event must have a cause, he thinks that the traditional way of understanding the causal maxim is completely wrong. He argues that it is not a necessary truth that every beginning of existence has a cause and offers refutations of several purported demonstrations that it is a necessary truth.⁹

According to the traditional understanding of the maxim, it is ‘intuitively’ or ‘demonstratively’ certain that every event has a cause, in other words, understanding alone guarantees its acceptance and its truth. However, Hume believes that the truth of ‘the causal maxim’ cannot be proved by deductive reasoning. According to Hume intuitive or demonstrative certainty can only come from the comparison of ideas. On the other hand, whatever certainty we have of ‘the causal maxim’ and that every event has a cause, is not derived solely from our understanding the idea of an ‘event’ or of ‘something’s beginning to exist’. ‘Every event has a cause’ i.e. ‘the causal maxim’, is not intuitively certain because its negation does not lead to contradiction. In other words, it is not obviously contradictory to deny. Besides, it is not demonstrably certain either, because even with complicated chain of reasoning one cannot show that its negation is a statement of impossibility.

Hume tries to prove his point by an argument from the imagination:

“as all distinct ideas are separable from each other, and as the ideas of cause and effect are evidently distinct, 'twill be easy for us to conceive any object to be non-existent this moment, and existent the next, without conjoining to it the distinct idea of a cause or

⁹ However, in his discussion of ‘the causal maxim’ he does not even attempt to explain why we believe it.

productive principle. The separation, therefore, of the idea of a cause from that of a beginning of existence, is plainly possible for the imagination; and consequently the actual separation of these objects is so far possible, that it implies no contradiction nor absurdity; and is therefore incapable of being refuted by any reasoning from mere ideas; without which 'tis impossible to demonstrate the necessity of a cause" (Hume, 1978, pp. 79-80).

In general, he argues that the maxim could never be demonstrated to be true by any argument. It is not 'demonstratively true' that everything begins to exist must have a cause of its existence, because it is not absolutely impossible to imagine something to exist without any cause for its existence. According to Hume all distinct ideas are separable from each other. Therefore, the idea of A's beginning to exist is 'evidently distinct' from the idea of a cause of A's beginning to exist. As they are distinct they are also separable in the mind i.e. we can separate one idea from the other in the mind. Hence we can conceive of an object's coming into existence without having to conjoin to it the idea of a cause of its coming into existence. Moreover, based on Hume, whatever we can conceive is possible in the sense of not implying any contradiction. But nothing that is possible in that sense can be refuted "by any reasoning from mere ideas" (Hume, 1978, p.80). And since it is impossible to demonstrate the necessity of anything except by reasoning from mere ideas, the necessity of a cause for everything that begins to exist can never be demonstrated. So the traditional causal maxim is not demonstratively certain.

In sum, Hume's argument appeals to the combination of separability principle and conceivability principle. The argument is that a cause is distinct from its effect. So it is distinguishable and separable by the imagination. Consequently, the actual separation

of the objects is possible and that object which is, in fact, the effect (the 'beginning of existence') may exist without need of any cause.

2.3.1 Some objections to Hume's argument

In this section, I represent several objections to Hume's argument against 'the causal maxim', and his separability principle. Some scholars, claim that Hume's argument is fallacious. For instance, Noonan (1999) claims that although the separation of a particular effect from its particular cause is conceivable, the existence of some effect without any cause is not conceivable. According to him, it is conceivable that, water starts to boil without heat under it. So this case supports the claim that, 'there is no particular cause which must be the one that brings about the boiling of water'. However, this example does not support the claim that there is no cause at all for boiling the water. In other words, this example cannot support the claim that there is 'no' cause, and water starts to boil without 'any' cause.

Therefore, the claim that 'there is no particular cause for boiling water', does not entail this more far-reaching claim that 'water may boil without any cause at all'. The former proposition is consistent with its negation namely; 'in order for the water to boil some cause or other of its boiling must be present'. In other words, Noonan's claim is that Hume's argument is about the conceivability of the absence of particular causes and not about the absence of the sole notion of cause. (pp. 105-7).

Given the Separability and Conceivability Principles any object X, whose coming into existence is the effect of a particular cause C, might have come into existence in the absence of C. But it does not follow that X might have come into existence without any cause. For it is compatible with the argument that in order for X to exist some cause must bring it into existence even if there is no

particular cause which must bring X into existence if X is brought into existence. (Noonan, 1999, p. 106)

However, I do not think that Noonan is right. Based on the textual evidences, Hume is arguing for the conceivability of the separation of a cause and its effect in general, whether it is some particular cause or not. According to Hume “anything can cause anything”, therefore, anything can be the particular cause of anything so when he speaks about the conceivability of the separation of causes and effects he is talking about causes in general and not some particular causes of some particular effects. In other words, Hume is arguing for this claim that water can boil without any cause. Hence, he is exactly denying what Noonan claims to be inconceivable. Although Noonan claims that it is conceivable that the object X comes to existence without its particular cause Y, he denies the conceivability of ignoring causation in general. But this is the –latter-- concept of causation which Hume argues for its conceivability (of its separation from its effect). So according to Hume it is conceivable for any object to come into existence without any cause.

There are also other objections to Hume’s separability principle which are worth noting.

As I have shown, Hume thinks that the idea of A’s beginning to exist is ‘evidently distinct’ from the idea of a cause of A’s beginning to exist. Or else where he mentions that:

All ideas, which are different, are separable . . . It follows . . . that if the figure be different from the body, their ideas must be separable as well as distinguishable; if they be not different, their ideas can neither be separable nor distinguishable. (Hume, 1978, pp. 24-5)

So he affirms the biconditional ‘distinct –or different-- \leftrightarrow separable’. But there rises a question: ‘what is it for two ideas to be distinct?’ In other words, how can we tell whether the idea of X is distinct from the idea of Y or not?

For Hume an ‘idea’ may be (a) a concept or meaning, or (b) a mental event which is a vague form of impression. According to this two-sided definition of ‘idea’ Bennett (1971) says that if ideas are concepts or meanings, then the notion of the ‘difference’ or ‘distinctness’ of ideas is a purely logical one. Consider this passage of Hume’s:

Whatever is distinct, is distinguishable; and whatever is distinguishable, is separable by the thought or imagination. All perceptions are distinct. They are therefore, distinguishable, and separable, and may be conceiv'd as separately (Hume, 1978, p. 634).¹⁰

According to this passage Hume concludes logical possibility through distinctness and being separable, however; it has been shown that ‘distinct’ has to be explained through ‘logical possibility’, so in that case, the premise –which is distinctness—is identical with the conclusion –which is the logical possibility (Bennett, 1971, pp. 287-9).

Moreover, even if Hume were relying directly on the absence of contradiction as the test for possibility and as a possible way to understand the ‘distinctness of two ideas’, it would not be a help. Two ideas are distinct when they can be separated without contradiction. For instance, it is contradictory to say that there is a husband who does not have a wife, but apparently not contradictory to say of something that it began to exist but had no cause. However, if what Hume means by ‘contradiction’ is simply a

¹⁰ There are also several passages in which Hume concludes possibility from the premises of distinctness and separability, but he can explain distinct only in terms of possible. See Hume, 1978, pp. 86-87 and Hume, 1975, p. 27.

proposition which could not possibly be true, then his claim that ‘it is possible for something to begin to exist without the cause’ is only a mere assertion, which has no grounds. As Stroud (1977) mentions: “to say that ‘A began to exist without a cause’ is not contradictory on the grounds that it is possible for something to exist without a cause is to put a putative argument backwards” (p. 48).

Furthermore, ‘contradiction’ cannot be explained by appealing to the principle of logic and says that ‘contradictory is something which negates or violates some principle of logic’. According to this suggestion ‘there is a husband who lacks a wife’ is the negation of a logical truth and hence contradictory. However, this line of argument makes essential use of the notion of the ‘same’ or ‘distinct ideas’. “It says in effect that a statement is contradictory if it is the negation of a principle of logic either directly or when any terms in the statement are replaced by other terms which stand for the same idea” (Stroud, 1977, p. 48). But it becomes evident that the notion of sameness or distinctness of ideas is being used in the test for contradictoriness, whereas contradictoriness was originally invoked to explain the sameness or distinctness of ideas. Therefore, Hume really has no non-circular argument on this point at all. He thinks he can start from the ‘evident’ distinctness of two ideas, but he never says how he can recognize that distinctness (Stroud, 1977, pp. 47-50).

2.3.2 Objections to conceivability principle

As I have shown, Hume rejects the traditional understanding of ‘the causal maxim’ by appealing to the ‘separability principle’, and ‘conceivability principle’. I mentioned the objections to the separability principle now I show that Hume is not justified in holding

conceivability principle either. In other words, I discuss this question that if we can conceive of a thing's beginning to exist without conceiving of it as having a cause, does that prove everything Hume needs?

The conceivability principle is a very important one for Hume not only in refuting the traditional understanding of 'the causal maxim', but also in answering the second question: "why we conclude that such particular causes must necessarily have such particular effects?" (Hume, 1978, p. 78).

Hume's argument regarding this question runs as follows:

Given any pair of event types F and G which are thought to be causally linked, it is possible to 'conceive' an F's occurring not followed by a G; and if this is conceivable it is logically possible (Hume, 1978, p. 89). For him saying X is conceivable is another way of saying it is logically possible (Bennett, 1971, p. 272). But the test of conceivability for the conclusion of being possible is only "a certain mental act" (Stroud, 1977, p. 50). In other words, what Hume intends is what we can conceive psychologically (Bennett, 1971, p. 272). However, if Hume's point is about what is psychologically conceivable then logical possibility does not follow. Because logical impossibilities can sometimes be conceived. For instance, although, travelling into past or squaring a circle is psychologically conceivable, is not logically possible. However, Kneale (1949) by appealing to some mathematical problems shows that Hume is not justified in his claim. According to him, if psychological conceivability implied logical possibility, certain mathematical problems could be solved out of hand. For example, no one knows whether Goldbach's Conjecture¹¹ is true, but it is easy to conceive of

¹¹ Goldbach's conjecture is one of the oldest and best-known unsolved problems in number theory and all of mathematics. It states: Every even integer greater than 2 can be expressed as the sum of two primes.

Goldbach's conjecture to be proved and then become true, in other words, its truth is conceivable. If it is the case, then based on Hume's principle the conjecture is logically possible. On the other hand, since the conjecture is a mathematical statement its being possible means that it is true, conversely it is impossible if it is false. Therefore, according to the conceivability principle and the fact that the conjecture is a mathematical statement --which its possibility leads to its truth--, Goldbach's Conjecture is true. It is evident that one can have a similar argument for the conclusion that the theory is false, in this case what is impossible is conceivable. So, conceivability is not an adequate test of possibility.

However, there may be a way for Hume to bridge the gap between the psychological and logical notions of conceivability; a way of construing the conceivable/possible argument which is neither grossly circular nor invalid.

If we say that all logical impossibilities are displayable, then although someone may claim that can conceive travelling in time --only schematically--, there remain the dangerous details of such a conception. So if we consider any of what may be claimed conceivable but impossible situations in detail it will become evident that it is not conceivable. So "the view about detail would be better expressed in terms not of 'imagining' or 'conceiving' but of 'describing'" (Bennett, 1971, p. 273). According to this suggestion the impossibility may not be manifest but is displayable by describing it in enough details.

Therefore, Hume's argument can be reconstructed as:

Great many even numbers have been tested and each has been found to be the sum of two primes, but no general proof has never been found.

Let S be a statement to the effect that an F event occurs and is not followed by a G event (choose any F and G you like). Probe S as you will, subject it to questions as searchingly hostile as you can devise, you will never display a simple contradiction in it; so there is no impossibility in it; so it is not logically necessary that F events are followed by G events. (Bennett, 1971, p. 273)

In this version, Hume's argument bridges the gap between the psychological and logical notions of 'conceivability'; for now, the crucial premise says that the falsity of a causal law or prediction licensing statement can always be 'conceived' in as much detail as one likes; and this does imply that it is logically possible.

2.4 Inference from the observed to the unobserved

As I have mentioned earlier, Hume never denies the fact that every beginning of existence has a cause for its existence. However, he argues against the traditional understanding of 'the causal maxim'. In other words, he argues against the intuitive or demonstrative certainty of 'the causal maxim'. Rather he believes that the belief in causal maxim i.e. that every event must have a cause, can arise only from experience. For establishing his view, Hume does not only concentrate on 'the causal maxim', rather he focuses on the causal inferences in general. In other words, he does not just seek the origin of the 'opinion' that every event must have some cause or other, rather he tries to find an answer to this questions that what leads us to believe that this particular event was caused by that particular event and will itself have such and such particular effects. In general, he wants to investigate the particular inferences that we do from one event or

state of affairs to another. That is the question about causality that Hume spends most of his time answering to.

Hume's main concern is the question that: "what is the nature of the inference we draw from the one event to the other?" (Hume, 1978, p. 78). His main interest regarding this question is to examine whether this is a rational inference and hence whether it belongs to the realm of Reason. However, Hume opposes to the view that a cause-effect link must be something which can be understood. For him causation is never more than a brute fact and he believes that "anything may produce any thing" (Hume, 1978, p. 173). According to him, the only way to learn about the causes operating in the world, is through experience:

There are no objects which by the mere survey, without consulting experience, we can determine to be the causes of any other, and no objects which we can certainly determine in the same manner not to be the causes. (Hume, 1978, 173)

Likewise, in the Abstract he says:

Were a man such as Adam created in the full vigour of understanding, without experience, he would never be able to infer motion in the second ball from the motion and impulse of the first. It is not anything that reason sees in the cause, which makes us infer the effect. (Hume, 1978, p.650)

There is nothing in the present impression A which can lead us to the unobserved B. In other words, no impression alone can give rise to any belief about what is not present to the mind. If it were possible to prove by demonstrative reasoning alone that if A exists then B also exists, then the impression alone would be enough to make such an inference. However, Hume in the previous discussion –the causal maxim--, rejects this possibility. In his discussion on 'the causal maxim', he argues that based on the present existence of an object we cannot deduce the existence of its cause. Here --on the same grounds—he argues that the existence of a certain object does not give us any reason to

deduce anything about its particular cause or effect (Hume, 1978, pp. 86-7). All in all, his argument against the rationality of the causal inferences is based on the same principles in rejecting the rationality of 'the causal maxim'. That is, here again, the argument is based on his views on 'distinct ideas', the 'separability principle' and the 'conceivability principle'. He claims that if our mere understanding of something, A, which is now present to the mind, is not enough in itself to lead us to believe anything about the unobserved (i.e. if the inference from the observed to the unobserved is never a demonstrative one) then we can be led to make such an inference only by experience.

It is worth mentioning that Hume's argument would fail if he cannot prove that every event is distinct. Kripke (1980) discusses that there are some necessary *a posteriori* truths, and it is not the case that all necessary truths are analytic *a priori*. According to him, the examples of the necessary *a posteriori* truths are; the propositions stating the natural kind, like 'water is H₂O' or that 'gold is an element', and the propositions stating the origins of particular objects like 'I originated from a particular sperm and ovum' or that 'the table I am now writing on was originally made from a particular piece of wood'. Kripke's argument for their necessity turns on considerations of identity: if, for example, this table was originally made from a particular piece of wood, he claims, then we can see that no table, however alike, made from different wood, could have been this very table, and so it must be necessarily true of this table that it had the material origin it in fact had. So these cases of necessary *a posteriori* truths, provide a rich fund of counter-examples to Hume's denial of necessary connections between distinct existences. Indeed, Hume's claim that there are no necessary connections between distinct existences is precisely the claim that if X and Y are distinct existences then either could exist where the other was absent, i.e. they are separable,

which is flatly incompatible with Kripke's thesis of the essentiality of origin since I and my father, for example, are certainly distinct existences. But according to Kripke I could never have existed if my father had not. However, Hume's claim is that the very object which is the cause might have existed in a world in which the very object which is the effect did not exist, and conversely. This contention puts Hume at odds with proponents of Kripke's essentialism about the necessity of origin. In short, Kripke's argument does indeed pose a major challenge for Hume regarding his claim that 'the objects themselves which are causes and effects are not necessarily connected'.

Let's continue Hume's argument. Hume seeks an answer to the question that what it must contain in addition to the impression of A, to lead us to have a particular belief about some particular thing that is not present to our minds at that moment?

Tis...by experience only that we can infer the existence of one object from that of another. The nature of [the] experience is this. We remember to have had frequent instances of the existence of one species of objects; and also remember, that the individuals of another species of objects have always attended them, and have existed in a regular order of contiguity and succession with regard to them. Thus, we remember to have seen that species of object we call "flame" and to have felt that species of sensation we call "heat". We likewise call to mind their constant conjunction in all past instances. Without any further ceremony, we call the one cause and the other effect, and infer the existence of the one from that of the other. (Hume, 1978, p. 87)

Therefore, we infer the effects from their causes after we have had experience the constant conjunction:

We have insensibly discovered a new relation betwixt cause and effect, when we least expected it and were entirely employed upon another subject. This relation is their constant conjunction. (Hume, 1978, p. 87)

This is a basic psychological inferential procedure; the past constant conjunction of Cs and Es lead the mind to form the belief that E will happen when the impression of C is present.

It is important to point that according to Hume, causation is one of the three ‘philosophical relations’, a relation which obtains between objects in the world i.e. matters of fact.¹² And among the philosophical relations it is only causation which can take us beyond what is present to the sense. However, causation is not only a philosophical relation it is ‘natural relation’ as well. i.e. the relation with which the mind operates, and produces a union among our ideas. It would be wrong to think that Hume’s only aim is to explain causation as a ‘natural relation’, and the nature of causal reasoning; rather, he discusses causation as ‘philosophical relation’ as well. In general, analyzing causation as a ‘philosophical relation’ aims to unravel what can be legitimately said of causation as it is in the objects, whereas treating it as a ‘natural relation’ aims to unravel the feature of causation in virtue of which it is involved in reasoning (Psillos, 2002, 24). By discovering ‘constant conjunction’ --which is essential to causal inferences-- Hume shifts his attention from analyzing causation as ‘philosophical relation’ –and it was because of analyzing causation as philosophical relation that he discovers contiguity and priority in time--, in order to look at it as a ‘natural relation’ and the features of causal inferences. (In his analyzing causation as a natural relation, he finds the origin of the idea of necessary connection).

Although constant conjunction is crucial for the causal inferences and the move from causes to effects, Hume cannot identify the necessary connection with the constant conjunction. In other words, he believes that causation, as it is in the objects, does not amount to constant conjunction. For the observation of a constant conjunction generates no new impression in the objects perceived. Hence, Hume cannot, in a simple and

¹² The other two relations are ‘identity’ and ‘situations in time and place’.

straightforward manner, identify causal sequences with (instantiations of) regularities.

Hume makes it clear that if a single pair of events is unable to give us the impression of necessity then it cannot be discernable between any exactly resembling pairs:

From the mere repetition of any past impression, even to infinity, there never will arise any new original idea, such as that of necessary connexion. (Hume, 1978, p. 88)

However, the discovery of constant conjunction is very important for him—even though it cannot directly account for the idea of necessary connection—because, it is the source of the inference we make from causes to effects.

2.5 Inductive skepticism

The discovery of constant conjunction, leads Hume to his goal:

having found, that after the discovery of the constant conjunction of any objects we always draw an inference from one object to another, we shall now examine the nature of that inference, and of the transition from the impression to the idea. Perhaps 'twill appear in the end that the necessary connexion depends on the inference, instead of the inference's depending on the necessary connexion. (Hume, 1978, p. 88)

In discussing the nature of the inference from the observed to the unobserved, I focus on the traditional interpretation of Hume's view and discuss 'skeptical induction'.

According to 'skeptical induction', when we infer the existence of an unobserved effect from an observed cause, on the basis of experience of the constant conjunction of the resembling events, our conclusion is necessarily unwarranted, our belief unreasonable, our mode of inference unjustifiable.

For understanding the mechanism of the inference from the observed to the unobserved, Hume asks; 'how does an experienced constant conjunction work on us to give us a belief about the unobserved?' It has been discussed that 'reason' alone or

understanding is not the basis of such inference. So the inference from the observed to the unobserved cannot be justified a priori, because we can always conceive without contradiction the effect without the cause and vice versa:

There is no object, which implies the existence of any other if we consider these objects in themselves, and never look beyond the ideas which we form of them. Such an inference wou'd amount to knowledge, and wou'd imply the absolute contradiction and impossibility of conceiving anything different. But as all distinct ideas are separable, 'tis evident there can be no impossibility of that kind. (Hume, 1978, pp. 86-7)

However, after the discovery of the constant conjunction Hume considers this possibility that although reason alone might not be able to justify causal inference, reason aided by experience—experience of constant conjunction—might be able to underpin the necessity of causal inferences, in this case;

whether experience produces the idea by means of the understanding or of imagination; whether we are determin'd by reason to make the transition, or by a certain association and relation of perceptions. (Hume, 1978, pp. 88-9)

However, he rejects 'reason' or 'understanding' as the source of the inferences from the observed to the unobserved. He believes that such inferences are not reasonable or rationally justified. This is his most skeptical result. In other words, by showing that no inference from a past constant conjunction of Cs and Es and a present impression of C, to a belief that an E will occur is ever reasonable or justified, he rejects the traditional theory of belief. According to the traditional theory of belief, men as a rational being, come to believe something about which have the best evidence or the most adequate justification (Stroud, 1977, p. 53). In general, this destructive or negative task is the point of Hume's skeptical argument.

He says that past experience of constant conjunction of two events, and a present impression of one of them, gives us ‘no reason at all’ to believe that the other will occur.

In other words, from the two premises:

(a) All observed Cs have been followed by Es. And

(b) An observed C

the conclusion, c) An E will occur,

Never follows by the light of reason or understanding.

It is important to point that, men in fact from (a) and (b) always infer (c), but Hume’s point of argument is that they are not ‘determined by reason’ to do such an inference. No one does not and cannot have a reasonable belief about the occurrence of the unobserved event. In fact, Hume’s point is that the inductive arguments can never increase the probability of their conclusions, and all possible beliefs about the unobserved can be placed in the lowest rank of being reasonable i.e. they are tied for the last place.

Hume starts his argument for this conclusion as follows:

If reason determin’d us, it wou’d proceed upon that principle, that instances, of which we have had no experience, must resemble those, of which we have had experience, and that the course of nature continues always uniformly the same. (Hume, 1978, p. 89)

Hume’s point is that experience of the past constant conjunction is not enough to guide ‘reason’ in justifying the causal inference, rather the inference needs one more premise: (d) instances, of which we have had no experience, must resemble those, of which we have had experience; and that the course of nature continues always uniformly the same. Let’s –as Psillos (2002) did-- call this new required premise, ‘the Principle of Uniformity of Nature’ or (PUN).

Hume's claim is that all inferences from the observed to the unobserved proceed upon the supposition that PUN is true. So the rest of his argument is investigating of the PUN. He shows, since no one could ever reasonably believe 'the principle of uniformity of nature', therefore no one could ever reasonably believe anything about the unobserved based on the observed.

PUN cannot be proved by appealing to pure reason, because:

we can at least conceive a change in the course of nature; which sufficiently proves, that such a change is not absolutely impossible. To form a clear idea of anything, is an undeniable argument for its possibility, and is alone a refutation of any pretended demonstration against it. (Hume, 1978, p. 89)

Therefore, PUN cannot be demonstratively true.

Since, for Hume, the only ways the beliefs can be supported or justified are either by demonstrative arguments or by sense experience, and since he has shown that PUN cannot be justified a priori by pure reason, therefore, this principle has to be grounded in experience. However, since PUN is about future and unobserved facts, cannot be established by observation alone. It says that unobserved instances resemble observed ones. From the observation of past uniformities in nature, it cannot be inferred that nature is uniform, unless it is assumed what has supposed to be proved, namely that, the nature is uniform. Therefore, it follows that any inference from the observed to the truth of the uniformity principle is itself founded on the supposition that that principle is true. Consequently, no experiential justification can be given for the uniformity principle without already assuming that it is true, and that would be evidently a circular argument:

To endeavor, therefore the proof of this last supposition [that the future will be conformable to the past] by probable arguments, or arguments regarding existence, must evidently be going in a circle, and taking that for granted, which is the very point in question. (Hume, 1975, pp. 35-6)

In sum, Hume's conclusion is that neither reason alone, nor reason aided by experience, can justify causal inferences. And this is what is known as his 'inductive skepticism'.

2.5.1 A disagreement in interpreting Hume

However, there is a debate between the scholars which is worth mentioning. In general, some scholars by presenting different answers to the question that 'what does Hume mean by saying that every inference from the observed to the unobserved 'proceeds upon' or is 'founded on' the supposition that the uniformity principle is true?', express different interpretations of Hume's inductive skepticism.

Stove (1973) explains Hume's skeptic argument by presenting the equivalent sentences and as he mentions, he compiles a 'dictionary' of the propositional elements of the argument. As I mentioned, the debate is over the first step of Hume's argument, namely: "probable arguments all presupposes that unobserved instances resemble observed ones". The problem is over the word 'presuppose' and how Stove defines this word.

What does Hume mean by saying that 'probable arguments presuppose that unobserved instances of empirical predicates resemble observed ones?' In what sense is it true that predictive-inductive inferences, presuppose that unobserved instances resemble observed ones?¹³ Stove (1973), himself answers:

¹³ I have to mention that, the word 'presuppose' is Stove's translation of the variety of phrases which Hume uses to express his intention. Stove uses 'presuppose' instead of the italicized phrases below: "...all reasonings from experience are *founded on* the supposition that the course of nature will continue uniformly the same" (Hume, 1978, p. 293). "...all inferences from experience *suppose*, as their foundation, that the future will resemble the past" (Hume, 1975, p. 37).

Sometimes when we say of an argument from p to q, that it presupposes r, our meaning is as follows: that, as it stands, the argument from p to q is not valid, and that, in order to turn it into a valid argument, it would be necessary to add to its premises the proposition r. (p. 43)

Based on this interpretation, the first step of the argument can be translated as:

‘inductive arguments are all invalid as they stand, and it would be necessary, in order to turn them into valid arguments, to add to their premises a proposition which asserts that unobserved instances resemble observed ones’. So it seems that --based on Stove’s translation and interpretation-- what Hume has in mind is that, reason’s performances must all be deductively valid. Moreover, Stove in favor of his interpretation, makes a distinction, in Hume’s argument, between ‘inductive skepticism; and ‘inductive fallibilism’. In fact, he believes that Hume uses the ‘inductive fallibilism’ as a premise for the ‘inductive skepticism’ as the conclusion.

According to Stove, Hume’s argument is: “all predictive-inductive inferences are invalid as they stand; and in order to turn them into valid inferences, it is necessary to add to their premises a proposition --namely, PUN-- which cannot be validly inferred from necessarily true premises, and which cannot be validly inferred, either, from observational premises, without such an addition to them as would make the inference circular” (Stove, 1973, p. 47). In other words, according to his interpretation, all predictive-inductive inferences are invalid, and even adding a further observational premise, i.e. PUN, cannot make the inferences valid. However, the conclusion about the inferences being invalid is not the same as Hume’s skepticism, which is all inductive inferences are unreasonable. Rather the cited passage above is Hume’s view on --as what Stove calls— ‘inductive fallibilism’, for it is only a judgment of invalidity. The only thing that it says about the predictive inductive inferences, is that it is possible for

them to have true premises and false conclusions, which is a fallibilist conclusion and is distinct from the skeptical conclusion. However, it is evident that the ‘inductive fallibilism’ is not Hume’s aim. The most that follows from inductive fallibilism is that the inductive inferences are all invalid, but inductive skepticism –which is Hume’s main target-- does not follow from this. Meanwhile, Stove by introducing a suppressed premise in Hume’s argument, infers the skepticism from fallibilism. He named this suppressed premise the thesis of ‘deductivism’, according to which ‘all invalid arguments are unreasonable’. According to him, Hume needs the thesis of ‘deductivism’, otherwise his argument is only about being invalid and not about being unreasonable. Therefore, Hume’s skeptical conclusion cannot be justified unless he has this suppressed premise in mind.

In sum, regarding the question that ‘what does Hume mean by saying that every inference from the observed to the unobserved ‘proceeds upon’ or is ‘founded on’ the supposition that the uniformity principle is true?’, Stove interprets Hume as though, he believes that reason’s performances must all be deductively valid.¹⁴

So the obvious logical invalidity of the inferences from the observed to the unobserved leads most commentators, including Stove (1973) and Mackie (1974), to say that what Hume means by saying that the inference is founded on a certain supposition is that a certain supposition is needed for the argument to be deductively valid. According

¹⁴ However, Stroud (1977) believes that ‘an inference’s being ‘founded’ on a certain supposition’ must be understood ‘epistemically’ and not in purely logical terms. He believes that Stove’s cited passage –which I refer to in page 35 of my thesis-- is too weak to capture Hume’s meaning. According to Stroud, there are indefinitely many different ways of adding premises to make a previously invalid argument deductively valid, if that were our only goal. For instance, if we add the conclusion to the premises the argument becomes valid. To reply, that such ad hoc suggestions are irrelevant since they are not the sorts of premises on the basis of which one could know or have reason to believe the conclusion would show that one takes Hume to be really making an ‘epistemic’, and not a purely logical, point after all (pp. 255-56).

to Mackie; “Hume’s premise that ‘reason’ would have to rely on the principle of uniformity holds only if it is assumed that reason’s performances must all be deductively valid” (1974, p. 15).

All in all, according to this interpretation, the inferences are logically invalid because, according to Hume, a change in the course of nature is always at least possible, in the sense of not implying a contradiction. Therefore, no one is justified in believing the conclusion of an inference from the observed to the unobserved unless he is justified in believing the uniformity principle. In other words, PUN is needed because the original argument is not deductively valid, then when the PUN or any other premises added, the argument becomes deductively valid. Based on this interpretation, Hume must believe that all reasoning is deductive or that an inference is a good or reasonable one only if it is deductively valid.

Moreover, Stroud (1977) identifies another aspect of this interpretation. According to him, if Hume thinks that the constant conjunction and the present impression do not give anyone reason to believe in the unobserved event, and in order to have reason to believe in the unobserved event, one has to have reason to believe the uniformity principle as well, therefore he must be assuming that no one has reason to believe anything unless he has reason to believe something that logically implies it (Stroud, P. 56). On this interpretation Hume’s conclusion, would be perfectly correct. According to him, Hume demonstrates that no set of statements about what has been observed ever logically implies anything about what has not been observed, and on the assumption that no one is justified in believing a proposition unless he is justified in believing something that logically implies it, it follows immediately that no one is ever

justified in believing anything about the unobserved on the basis of what has been observed.

However, most defenders of this interpretation point out that this conclusion, although correct, does not really have any general skeptical force. According to them, the most that Hume can be said to have established, is a conditional statement that, if no one is ever justified in believing a proposition unless he is justified in believing something that logically implies it, then no one is ever justified in believing anything about the unobserved. That conditional statement is true: it is equivalent to the admitted truth that no set of statements about what has been observed logically implies anything about what has not been observed.

On the other hand, by rejecting the premise of the conditional as true, --namely, if no one is ever justified in believing a proposition unless he is justified in believing something that logically implies it--, we can conclude that Hume's general skeptical conclusion has not been established (Stroud, 1977, p. 57). According to the present interpretation, since no one ever has deductively sufficient reasons for believing anything about the unobserved, the conclusion that no one has any reason at all for such beliefs comes about. But, that is simply to assume without argument that all reasons for believing must be deductively sufficient. Hume's assumption is said to be false because an argument or inference does not need to be deductively valid in order to be a 'good' one, or to justify belief in its conclusion on the basis of its premises. In other words, all justifications or reasons need not be deductively sufficient. The past experiences of the constant conjunction and the present impression can justifiably lead a man to a belief about the unobserved. That is, his past and present experiences entitle him to believe something about the unobserved, or makes it reasonable for him to believe it, or makes it

more reasonable for him to believe it than to believe its negation. And he could be reasonable in believing it even though it turned out to be false. And that is simply to assume without argument that all reasons for believing must be deductively sufficient.

It is arbitrarily and quite unreasonably to lay down ridiculous and impossibly strict conditions for justified belief in matters of contingent fact. So the complaint against Hume is that to require that inferences from the observed to the unobserved be shown to be reasonable in the sense of being deductively valid is simply to require that one thing (non-demonstrative inference) be shown to be something else (demonstrative inference) which it is not. No wonder the demand can never be met. But it is a mistake to think it must be met if our beliefs about the unobserved are to be shown to be reasonable. (Stroud, 1977, p. 57)

So, according to this interpretation, Hume's general skeptical conclusion does not follow from what he actually establishes. He only shows that causal inferences are not (or, cannot be) demonstrative. On the other hand, it has been mentioned that an inference need not be demonstrative to be good (or rational). In conclusion, Hume's claim would be weak.

Is, then, Hume's point simply that a causal inference could never be demonstrative?

By no means. Psillos (2002), offers a further interesting interpretation of Hume¹⁵:

Hume bases his case on a dilemma he poses to the traditional conception of Reason. His point is that, by the very lights of the traditional conception of Reason, causal inference cannot be a rational inference either in the sense of offering demonstrative reasons or in a looser sense of offering good (but not conclusive) reasons to accept the causal conclusion. (p. 34)

Psillos, based on his interpretation, shows that Hume's skeptical conclusion survives. According to him, this interpretation exactly results in a skeptical conclusion which does not depend on the claim that all reasons must be deductive, a claim that Stove (1973)

¹⁵ However as Psillos himself mentions he, in his suggestion, is influenced by Stroud (1977). See (Psillos, 2002, p. 296).

and Mackie (1974) falsely attributes to Hume. Psillos believes that Hume's argument amounts to the claim that the traditional conception of reason undermines itself. In other words, what Hume tries to establish, based on this interpretation, is that "the traditional conception of Reason is hostage to the search for a hierarchy of reasons, which, however, is detrimental to the rationality of causal inference that it has sought to establish" (Psillos, 2002, p.34). It can be said that the traditional conception of Reason craves for reason and justification. Therefore, the causal inference cannot give us reasons to accept the conclusion unless it is itself reason, that is, it has to be justified. What this means is that one would have to offer a further reason R for the claim that the premises of the inference do give us reasons to rationally accept the conclusion. It is evident that this results in either an infinite regress or circularity. In other words, the observed constant conjunction between As and Bs and the present impression of A, may count as a good reason to believe that a B will occur, but that alone does not imply that the belief in B is a reasonable one that is, that alone does not imply that if one believes that a B will occur then he does so reasonably. Believing reasonably that a B will occur involves more than believing that a B will occur and also believing something else which is in fact good reason to believe that a B will occur. It would seem that reasonable belief also requires that one see or take that something else as good reason to believe what one does (Stroud, 1977, p. 61). This results in either an infinite regress or outright circularity.

Therefore, based on this analysis, Hume's argument is that on the traditional conception of Reason itself, causal inference remains unfounded. It cannot be justified in accordance with the demands of the traditional conception of Reason simply because the attempted justification would be question begging (Psillos, 2002, p. 35).

Hume perceived that on the traditional conception of Reason, we are faced with the following dilemma. If only demonstrative inferences are taken to be rational inferences, then the so-called causal inference cannot be rational at all. For rendering a causal inference demonstrative – and hence rational – would require a proof of the truth of PUN, which is not forthcoming. If, on the other hand, a looser sense of rational inference is allowed, where we can still non-deductively infer the conclusion from the premises, provided that the premises give us good reasons to rationally accept the conclusion, then causal inference cannot be taken to be rational either.

suppose one argues that the causal inference is invalid not because it is not deductive argument which is claimed that by adding PUN can become logically valid. But one can claim that –in order to justify the causal inference -- all we need is a non-demonstrative yet reasonable argument as:

- (A) All observed Cs have been followed by Es
- (B) A C is observed now
- (C) (A) and (B) are reasons to believe that E will occur
- (D) Probably, an E will occur.

Hume's general point is precisely that, by the very lights of the traditional conception of Reason, principle (C) cannot be a good reason for the conclusion (D). Not because (C) is not a deductively sufficient reason, but because any defense of (C) would be question begging. To say, as (C) in effect does, that a past constant conjunction between Cs and Es is reason enough to make the belief in their future constant conjunction reasonable is just to assume what needs to be defended by further reason and argument (Psillos, 2002, pp. 35-6).

As Stroud (1977) also mentions:

This 'self-conscious' and therefore potentially regressive aspect of the notion of reason or justification might well be what Hume is focusing on in the traditional conception. A fully rational agent is not one who proceeds rationally only at the last step, so to speak, and who does not bother to arrive at earlier steps by any reasonable or justified process. This conception is certainly one of the sources of the quest for the alleged foundations of knowledge, for an indubitable basis from which all reasoning can start. Once we try to see our beliefs as reasonable in this way, and realize that everything we appeal to must itself be shown to be reasonable, it is difficult to stop short of something we could not fail to be reasonable in believing, if there is such a thing. By concentrating on this aspect of reasonableness Hume could find support for his claim that a reasonable belief in something unobserved requires more than certain kinds of past and present experiences. It requires as well that one reasonably believe that what one has experienced is good reason to believe what one does about the unobserved. And then Hume's question, which he thinks leads to skepticism, is how one can ever get a reasonable belief to that effect. (P. 61)

2.6 The nature and causes of belief

The conclusion of the negative phase of Hume's discussion can be summarized as follows:

not only our reason fails us in the discovery of the ultimate connexion of causes and effects, but even after experience has inform'd us of their constant conjunction, 'tis impossible for us to satisfy ourselves by our reason, why we should extend that experience beyond these particular instances which have fallen under our observation. (Hume, 1978, p. 92)

Hume concludes that the inference from the observed to the unobserved is not the product of reason and is not an inference which 'reason determines us to make', so its source must be sought elsewhere:

When the mind, therefore, passes from the idea or impression of one object to the idea or belief of another, it is not determined by reason, but by certain principles, which associate together the ideas of these objects and unite them in the imagination. (Hume, 1978, P. 92)

In fact, according to Hume, we do make these inferences; the transition from the observed to the unobserved is actually made by us, however, we make these inferences only after the observation of the constant conjunction between two types of things, and

are presented with an impression of one of these sorts. We always make such transitions and infer the unobserved from the observed in the mentioned circumstances because there is operative in human mind a 'principle of union among ideas' to the effect that:

When ev'ry individual of any species of objects is found by experience to be constantly united with an individual of another species, the appearance of any new individual of either species naturally conveys the thought to its usual attendant. (Hume, 1978, p. 93)¹⁶

The experience of the constant conjunction, has the inevitable effect of creating a 'union in the imagination' between the idea of an A and the idea of a B. whenever the idea of an A –the impression of which is constantly conjoined with a B-- appears in the mind, the idea of its usual attendant, namely B, follows immediately without intervening of any reflection or reasoning. In other words, the fact that we expect a B after experiencing an A, is not because of some rational processes in the mind, and in general, when we make the transition to a B it is not the case that we are aware of and reflecting on the previous constant conjunction between As and Bs. As Noonan (1999) mentions:

The creation of this disposition is not a rational product of the mind and, in particular, Hume is anxious to stress, its creation will not be a result of the mind's noting or reflecting on the fact that all As have been conjoined with Bs. The brute fact of the constant conjunction of As and Bs in experience (that is, the bare fact of the occurrence of that pattern in experience), independently of its being known or reflected on, will suffice to create the disposition. (p. 132)

In other words, after experiencing the constant conjunction of As and Bs, the appearance of the idea of a B is inevitable; we just find the idea of a B. We cannot prevent that idea not to occur in such a situation. For instance, a person who comes close to a river, can predict that if he goes into the water he will suffocate. He can predict the suffocation due to his past experiences of the similar situations. However, it is not the case that in that

¹⁶ As Stroud (1977) notes, "his search for those dispositions or principles is a straightforward empirical or experimental investigation" (p. 68).

situation he reflects on every similar experiences he had and based on them rationally concludes that in this case he will suffocate. In other words, he come to his idea of suffocation without any reflection on any past experiences:

the idea of sinking is so closely connected with that of water, and the idea of suffocating with that of sinking, that the mind makes the transition without the assistance of the memory. (Hume, 1978, pp.103-4)

Therefore, it becomes clear that in every judgment of cause and effect the belief in the unobserved produces without appealing to the principle of the uniformity of the nature; that is ‘instances of which we have no experience, must necessarily resemble those of which we have’, and without reflecting on our past experiences:

Past experience is what makes us believe and behave as we do, but not by providing us with premises from which we reasonably infer our beliefs or our actions. It does so automatically in conjunction with certain principles or dispositions of the mind. (Stroud, 1977, P. 69)

So far Hume only explain how the idea of a B will occur to a man after the experience of the constant conjunction between As and Bs and when the idea/impression of an A is present to the mind. But there is more to explain, after being exposed to constant conjunction and getting an impression of an A, the mind does not only form the idea of a B, but also a belief that a B will actually occur. So Hume’s further explanation of how an actual belief arises is primarily an explanation of how believing something differs from merely having an idea of it.

That there is a difference between merely thinking about something and believing it is obvious. I can think of something without believing it. For example, I can think of dragon or unicorn without believing in their existences, or I can understand the one who claims that ‘Cesar died in his bed’ but I do not believe his claim. So there is a distinction between thinking about something or entertaining a propositional content and

on the other hand, believing that something is the case.¹⁷ In order to explain this distinction, Hume first explains what the difference cannot be and then he explains what the difference must be.

He argues that believing something cannot be the matter of adding to one's idea of it a further idea, --the idea of existence and reality--. In other words, according to Hume the thought that P and the belief that P do not differ in their content; the thought that 'Cesar died in his bed' and believing that 'Cesar died in his bed' does not differ in content. Even the idea of 'existence' cannot be that further element whose addition to others could make the difference between merely thinking about something and believing it. According to Hume we have no idea of reality or existence distinguishable and separable from the ideas we form of particular objects. To think of God and to think of God as existing are one and the same. There is no difference in idea between them. So there is no separate idea that we could add to the content of our thought which can change it into belief (Hume, 1978, p. 623).

Furthermore, Hume argues, the mind has control over all its ideas "and therefore if believing consisted in some idea, which we add to the simple conception, it would be in a man's power by adding this idea to it, to believe anything, which he can conceive" (Hume, 1978, p. 653).

¹⁷ According to Noonan (1999), there are three notions to consider, however, Hume conflates two of them. First, there is the mere thinking about something, or conception. Second, there is the entertaining in thought of a propositional content-that something is the case. And finally, there is belief. But since Hume cannot distinguish simple ideas from propositions, he denies any distinct idea of existence and therefore insist that we can form a proposition containing only one idea. So, he focuses on the distinction between thinking about something or entertaining a propositional content (not distinguished) and believing that something is the case. See, (Hume, 1978, p. 97) and (Noonan, p. 135).

With that wrong answer out of the way, Hume concludes that the difference between merely entertaining a thought and believing it cannot be a difference in content—a difference in what is before the mind of the thinker— rather it can only be a difference in the manner of conception.

He concludes that what distinguishes an idea or simple conception from a belief is therefore whatever it is that distinguishes an impression from an idea. An impression differs from an idea only in its degree of ‘force and vivacity’. So, Hume claims that a belief is “a more vivid and intense conception of an idea, proceeding from its relation to a present impression” (Hume, 1978, p. 103). In other words, belief is “a lively idea related to or associated with a present impression” (Hume, 1978, p. 96).

Once belief has been so characterized, there is an obvious principle or disposition of the mind that will explain why beliefs arise when they do:

I wou’d willingly establish it as a general maxim in the science of human nature, that when any impression becomes present to us, it not only transports the mind to such ideas as are related to it, but likewise communicates to them a share of its force and vivacity. (Hume, 1978, p. 98)

And according to him, this definition is entirely conformable to everyone’s feeling and experience:

If one person sits down to read a book as a romance and another as a true history, they plainly receive the same ideas, and in the same order, nor does the incredulity of the one, and the belief of the other, hinder them from putting the very same sense upon their author. His words produce the same ideas in both; tho’ his testimony has not the same influence on them. The latter has a more lively conception of all the incidents. He enters deeper into the concerns of the persons; represents to himself their actions and characters and friendships and enmities: he even goes so far as to form a notion of their features, and air and person. While the former, who gives no credit to the testimony of the author, has a more faint and languid conception of all these particulars, and except on account of the style and ingenuity of the composition can receive little entertainment from it. (Hume, 1978, pp.17-18)

2.6.1 Objections

There are some problems with his notion and definition of belief which I like to explain.

Hume's notion of vivacity is a metaphorical notion. He uses the same notion of vivacity to distinguish between idea and impression. Forasmuch as, belief is not impression, its degree of vivacity must fall somewhere in between but Hume never says exactly where. The question that 'What degree of vivacity marks the boundary between, an impression and a belief and what degree marks the boundary between a belief and an idea?' is unanswerable in Hume's paradigm and there is nothing in his system to provide any basis for decision. Moreover, since the only notion he has to appeal for explaining memories is that of vivacity, he has to find a place for memories also. Memories are less vivid than impressions but more vivid than beliefs which are in turn more vivid than mere ideas. However, the idea that all of these differ simply in respect of variations along a single dimension is absurd. Memories are essentially past directed, and beliefs are about future, about the unobserved events, but an increase in the vivacity of a belief about the future and the unobserved could never transform it from a belief about future to a memory of the past. So as Noonan (1999) mentions, this difference is, in fact, a difference in content, rather than in manner of conception, as Hume would have it. The fact that Hume refers the differences to the notion of vivacity, is simply a consequence of his viewing the phenomenon through the distorting spectacles of the theory of ideas, within which no adequate account of tense is possible. (p. 138).¹⁸

Despite the objections to Hume's theory about beliefs, it is an important part of his explanation of what is involved in causal inferences. The belief in the unobserved

¹⁸ For more objections see. (Stroud, 1977, pp. 71-76).

arises by custom as the result of the experience of the constant conjunction between pairs of events. The formation of belief is inevitable, that is; we do not decide to believe what we do and we are not free not to believe those things that are most fundamental for us¹⁹. His theory of belief enables him to explain the transition from the observation of a cause to the belief in the effect as a case of a more general phenomenon: vivacity communication via the association of ideas:

I wou'd willingly establish it as a general maxim in the science of human nature that when any impression becomes present to us, it not only transports the mind to such ideas as are related to it, but likewise a communicates to them share of its force and vivacity (Hume, 1978, p. 98).

In sum, our beliefs in matters of facts are not a product of reasoning, but of the imagination, and explicable by general principles of natural functioning. They are derived from nothing but custom, and belief “is more properly an act of the sensitive than of the cogitative part of our natures” (Hume, 1978, p.183).

2.7 The idea of necessary connection

The long discussion of the inference from the observed to the unobserved is supposed to be a detour on the road to discovering the idea of necessary connection. Since Hume cannot find the impression of necessary connection in any particular pair of events, the origin of the idea is still obscure. In explaining why he plans to concentrate on the inference from the observed to the unobserved, rather than searching directly for the source of the idea of necessary connection, Hume mentions that:

¹⁹ Because of the inevitability of beliefs, it is impossible to put into practice a ‘total skepticism’, or even a Cartesian ‘suspension of belief’. But such a state of mind is not Hume’s aim. The skepticism he defends is put forward for a particular positive purpose, and it is no objection to say that skepticism is impossible to live by. See. Stroud, 1977, p. 76.

Perhaps 'twill appear in the end, that the necessary connexion depends on the inference, instead of the inference depending on the necessary connexion. (Hume, 1978, p. 88)

And we will see that this is just how it turns out.

It has been shown that by the discovery of the constant conjunction, he explains the inference from the observed to the unobserved, in other words, constant conjunction is the driving force behind the customary transition from cause to effect. But the origin of the idea of necessary connection is still obscure.

The observation of the constant conjunction of phenomena leads us to infer from cause to effect. Without that we would never get the idea of causality or necessary connection. But in each instance of causality we simply observe one thing following another, and we get no impression of necessary connection. Only after repeated observation of Bs following As do we have the idea of necessary connection. But obviously mere repetition cannot reveal something in the instances that was not there to begin with, nor can it produce anything new in the objects or events in question. Each instance is independent of all the others, and would be what it is even though none of the others existed.

'tis evident, in the first place, that the repetition of like objects in like relations of succession and contiguity discovers nothing new in any one of them...Second, 'tis certain that this repetition of similar objects...produces nothing new either in these objects, or in any external body. For...the several instances we have of the conjunction of resembling causes and effects are in themselves entirely independent... They are entirely divided by time and place: and the one might have existed...tho' the other never had been in being. (Hume, 1978, p. 81)

But how can the observation of the repeated instances of cause-effect link explain the origin of the idea of necessary connection? Hume answers; although the observation of constant conjunction or the several resembling instances never produces any quality in the object of the experience which can be the origin of the idea of necessary connection,

the observation of the resembling instances produces a new impression in the mind, an impression of reflection. This new impression is the origin of the idea of necessary connection.

For after we have observ'd the resemblance in a sufficient number of instances, we immediately feel a determination of the mind to pass from one object to its usual attendant, and to conceive it in a stronger light upon account of that relation. This determination is the only effect of the resemblance; and therefore must be the same with power or efficacy, whose idea is deriv'd from the resemblance. The several instances of resembling conjunctions lead us into the notion of power and necessity. Those instances are in themselves totally distinct from each other, and have no union but in the mind, which observes them, and collects their ideas. Necessity, then, is the effect of this observation, and is nothing but an internal impression of the mind, or a determination to carry our thoughts from one object to another. (Hume, 1978, p.165)

There are some difficulties regarding this passage. Hume says that the only new thing that occurs in the mind after the repeated observation of Bs following As is 'a determination' of the mind to pass from one object to its usual attendant, and to conceive it in a stronger light upon account of that relation. This means that after observing the constant conjunction of two pair of events, and after observing one of them, the cause or the effect, we are led to—we are caused to-- get an idea and a belief in the other --the effect or the cause--. In other words, Hume retreats to causal talk to state this fundamental fact about human beings (Psillos, 2002, p.45). The first complex mental event (having an impression of an A after observing a constant conjunction between As and Bs) cause the second (believing that B will occur) (Stroud, 1977, p. 80). It seems that Hume by finding the new impression, that is 'determination' finds a way for explaining the origin of the idea of necessary connection. But the puzzling identification of the determination of the mind with an impression needs to be explained.

We can explain it in three ways:

It seems that Hume takes the fact that one mental event's causing another as an impression of the necessary connection because after this mental occurrence the idea of necessary connection appears. And since the cause and the source of any idea is an impression, so he takes "one event's causing the other" as an impression from which the idea of necessary connection is derived.

But it is incoherent. One event's causing another cannot be an impression, whether mental or physical events and we are aware of their occurrence. We might well have an impression of their occurrence, but the one event's causing the other could scarcely be that impression or any impression (Stroud, 1977, p. 80). In other words, "the determination of the mind is of the wrong logical category to be itself an impression that is, perception" (Noonan, 1999, p.142).

The second way of interpreting the cited paragraph is that, since Hume sometimes says that 'we immediately feel a determination of the mind', this suggests that we feel, or are aware of, the one mental event's causing the other. That feeling or awareness could be count as having the impression of the causal or necessary connection between two mental events. But this suggestion contradicts with Hume's general claim that necessary connection is never observable between distinct events whether they be mental or physical, since no two distinct events are necessarily connected. However, this line of suggestion of taking the feeling as an impression of necessary connection, implies that there is in fact a causal or necessary connection between two mental events, and that we get an impression of that connection by feeling it presumably by introspection. (Noonan, 1999, p. 142; Stroud, 1977, p. 80). And this is the very claim that Hume refutes.

The third way of interpretation –which is more plausible—is that when we get the idea of a B and a belief in a B –after experiencing the constant conjunction of As and Bs and the impression of an A—this idea and belief which appears in the mind accompanied by a certain feeling; a feeling of determination or inevitability. Therefore, the feeling of determination Hume refers to can only be an accompaniment to the transition from the idea of an A to the idea of a B. Of course, this impression arises only after repeated observations, and, from this fact Hume concludes that, it is not an impression of something which is present in every individual instance. It is an impression that arises from the repeated occurrences of certain kinds of ideas in the mind, so he regards it as impression of reflection.

However, it is a fact that we ascribe necessity to objects. For explanation of this mistake of us, he appeals to the general propensity of the mind “to spread itself on external objects, and to conjoin with them any internal impressions, which they occasion, and which always make their appearances at the same time that these objects discover themselves to the senses” (Hume, 1978, pp. 165-6).²⁰

After experiencing the constant conjunction, a certain impression of reflection is produced in the mind then the mind conjoins the internal impression with external object that occasions it. The propensity of the mind to project its internal impressions onto external objects, although is a very important one for Hume, is not easy to understand its process or to give uncontroversial examples of its application (Noonan, 1999, p. 146).

²⁰ This propensity is appealed to by Hume in other places also. Hume appeals to this propensity to explain our belief that sounds and smells, which have no spatial location, are located in the same place as certain visible and extended objects. See (Hume,1978, p. 237). Also, the propensity to spread our mind on the world is invoked by him to explain our ascriptions of moral and aesthetic qualities to things. He claims that these qualities cannot be found in the objects or situations to which we ascribe them. See. (Hume, 1978, pp. 248, 469; Hume,1948, pp. 340,343).

Let us consider an example from Basson (1958):

A clear case of projection occurred during the last war, when people wrote to the newspapers complaining of the gloomy and despondent note put forth by air raid sirens. Why, they asked, could not the authorities have arranged for these to play some cheerful and encouraging tune, like 'Britannia Rules the Waves'? The answer was, of course, that the note of the sirens was not despondent or alarming, but its acquired associations induced despondency in the listener. Even if they had played 'Britannia Rules the Waves' people would soon have complained of a hitherto unsuspected menace in that tune. The projection was, in fact, nearly complete for most people: the warning note was actually felt as menacing, and the note at the end of the raid really sounded cheerful. But it could have been the other way around, and so we are intellectually convinced that the warning note was not in itself menacing, although it became impossible to imagine or to feel it as otherwise. (pp. 66-7)

In this case the writers to the newspaper have the same mistake explained in the case of necessary connection. They thought the sound of the siren produced feelings of despondency in them, and it would do so regardless of the situations. That is, even if the siren were played in the happiest times it would produce fear and feeling of danger in human. Likewise, ascription of necessity to objects is as absurd as the ascription of spatial location to sounds and tastes:

Upon the whole, necessity is something, that exists in the mind, not in objects; nor is it possible for us ever to form the most distant idea of it, considered as a quality in bodies. (Hume, 1978, pp.165-6)

Hume's view about the mind's spreading itself on the world is, what as Shoemaker (1994) calls, 'literal projectivism'. (p. 295).

Either we have no idea of necessity, or necessity is nothing but the determination of the thought to pass from causes to effects and from effects to causes, according to their experienced union. (Hume, 1978, p. 166)

It is worth mentioning that, when he says that necessity is something that exists only in the mind, Hume does not mean that causality only operates in the 'inner' mental world, and that in the rest of nature there is no such thing as causality. Nor does he mean that things happen in inanimate nature only as a result of something happening in our

minds. Rather he means, in part, that we have the idea of necessity only because of the occurrence of certain events in our minds when our experience exhibits certain features (Stroud, 1977, p.81). However, Contiguity, priority and constant conjunctions between things of two kinds hold or fail to hold completely independently of thought or sensation. In other words, these relations are the only relations we can observe to hold among objects themselves. Although we ascribe to objects an additional property of power, efficacy or causal necessity, we get the idea of that power only from “what we feel internally in contemplating” the objects around us (Hume, 1978, p.169).

This way of interpreting Hume’s view that our idea of necessity is an idea of a determination of the mind, and ascribing necessity to the connections between things is simply something about our own minds and our predictions about future are only some phrases like our minds do, or would, expect a thing of one kind after having observed a thing of another kind, would commit Hume to the subjectivistic or psychologistic view that every causal statement we make is at least partly a statement about us. According to this interpretation, rather than expressing a belief that something is objectively true of the connection between two objects or events, we would merely be asserting that something is happening or will happen in our minds when we observe certain objects or events. (Stroud, 1978, p. 45).

However, this seems implausible as an account of the content of our ordinary causal beliefs about the world, and it is one that Hume should wish to avoid. His aim is to explain our belief in causally connected beliefs and the transition from the observed to the unobserved. It is a fact about human that, regardless of philosophical evaluations and the view that there is in fact nothing in reality which can be the basis of our belief in necessity, we believe that the connections between things are necessary in themselves.

They are necessary even if there were\will no observer in the world. Of course, according to Hume since there is no necessity residing in the objects, our belief that there is, is a false belief. But the point is that the psychologistic way of interpretation denies the very existence of that belief of us. If our idea of causation was limited to what occurs in our mind and if we can have no idea of necessity as something residing in objects, we cannot have the very false belief that events are necessarily connected and the necessary connections between events is objectively true. To have that false belief we need at least an idea of necessity as something true of the connections between events. But if we have no such idea then we do not, and cannot, have that belief (Stroud 1978, pp 44-5).

In sum, for Hume there is causation in the world, however the objective content of it is the regularities (constant conjunctions) in the nature. And the extra content of causation which is necessary connection, “is what we cannot observe in them, but must draw the idea of it from what we feel internally in contemplating them” (Hume, 1978, p. 169). Hume, then, can be seen as offering an objective theory of causation in the world, which is however accompanied by a mind-dependent view of necessity.

This dual aspect of Hume’s account of causation is reflected in his two definitions of causation.

2.8 Two definitions of causation

In the *Treatise* Hume tries to give a precise definition of causation, he offers two definitions which are only different in presenting different aspects of the same object.

The first definition focuses on causation as a ‘philosophical relation’:
We may define a cause to be ‘An object precedent and contiguous to another, and where all the objects resembling the former are plac’d in like relations of

precedency and contiguity to those objects, that resemble the latter. (Hume, 1978, p. 170)

This definition of causation, describes all the objective relations that hold between what we know as causes and effects.

the second definition, on the other hand, is a definition of causation as a ‘natural relation’:

A cause is an object precedent and contiguous to another, and so united with it, that the idea of the one determines the mind to form the idea of the other, and the impression of the one to form a more lively idea of the other. (Hume, 1978, p. 170)

According to Hume, things that resemble each other, contiguous with each other or are related causally, are naturally related. That is to say that the thought of one thing naturally leads the mind to the thought of something resembling it, contiguous with it, or causally related to it. So according to him, resemblance, contiguity and causality are both natural and philosophical relations. And they are the only relations that have this dual status.

It is evident that these two definitions are not equivalent, neither one implies the other, yet Hume puts them forward as giving two aspects of the same issue. Moreover, Hume himself was aware that these two definitions, strictly speaking, do not express the full and precise definition of x causing y. Both in the *Treatise* and in the *Enquiry*, he confesses to this inadequacy. In the *Enquiry* he says that: “it is impossible to give any just definition of cause, except what is drawn from something extraneous and foreign to it” (Hume, 1975, p. 76).

However, regardless of their being inadequate, it is worth explaining why Hume puts them forward, and why he offers two different accounts. It became clear that although they both aimed at one and the same concept, each of them offers only some

aspects of this concept. The first definition defines causation objectively. That is to say, all that can be said objectively and intrinsically about the objects, is captured by the first definition. But we cannot rely only on this definition because in this case the concept of causality reduces to the regularity, this account of causation would be the regularity view of causation (Psillos, 2002, p. 19). However, it became clear that for Hume causation is more than some regularities; it contains the notion of being necessarily connected. So his main aim was capturing the idea of necessary connection and its origin. Since this critical criterion is not present in the first definition, he goes on to complete it by introducing the second definition which captures the main character of causation and introduces the notion of necessary connection --which cannot be discovered objectively in the nature--.

He says that the first definition is drawn from objects foreign to the cause for there is no mention of necessity in it but he cannot say anything more about causation as it is in the world. While, the second definition focuses on the other aspect of causation and does make reference to the concept of necessitation (determination). But since it introduces mind in the definition, this definition also, is drawn from foreign elements to the cause (Psillos, 2002, p. 50).

In other words, an individual sequence of events is known to be causal because of something extrinsic to the sequence. In the first definition the extrinsic feature is the constant conjunction of similar events and in the second definitions the extrinsic feature is the customary transition of the mind from the appearance of the one, to the idea of the other. Yet, these two definitions supplement each other. Any events or objects observed to fulfil the conditions of the first definition are such that they will fulfil the conditions of the second definition also. That is to say that an observed constant conjunction

between As and Bs establishes a 'union in the imagination' such that the thought of an A naturally leads the mind to the thought of a B. That is just a fundamental, but contingent, principle of the human mind (Psillos, pp.50-51; Stroud, 1977, p. 90)

However, the second definition is open to an objection that it is circular because it defines causation in terms of itself (Noonan, 1999, p. 151). As I have mentioned before Hume's theory is itself causal; it is a causal explanation of how and why we come to think of things in our experience as causally connected. But, this may put Hume into trouble since he, based on his view that we have no reason to believe anything about the unobserved, claims that we have no reason to believe in the existence of any causal connections between things. If this is so, the critic can say that there is also no reason to believe Hume's causal theory about the origin of our beliefs in causality (Stroud, 1977, p. 92).

However, as Stroud says, Hume would not be bothered by this objection. As I mentioned before, Hume's theory about causal beliefs is a report of what he observes in human behavior, in other words it is a matter of empirical or experimental investigation. Hume's claim is only that we have observed a constant conjunction between two mental events: 'the occurrence of an idea of a cause A after being exposed to the constant conjunction between particular causes, As, and their particular effects, Bs', is constantly conjoined with 'getting the idea of a B and a belief that a B must occur'. We in fact observe that this process happens in our mind that is, it is a matter of observable facts. However, the point of objection is that based on this very observation Hume cannot, from the fact that these two phenomena are constantly conjoined, conclude that that the one causes the other. In other words, "on Hume's own skeptical grounds, those 'data'

give us no reason to believe Hume's theory to the effect that (C)²¹ causes E" (Stroud, 1977, p. 92). Hume is not justified in his claim because that inference is beyond the data that he observed and for him no inference from the observed to the unobserved is reasonable.

But if Hume's theory is true, then anyone who agrees that there is in fact a constant conjunction between phenomena (C) and (E) will come to believe Hume's theory. That theory says that when we have found a constant conjunction between two sorts of phenomena (C) and (E), we will inevitably believe that phenomena of the (C) sort are the causes of phenomena of the (E) sort. So the objection comes to nothing more than a kind of pedantic bad faith. The critic believes the theory while trying to condemn it as unjustified (Stroud, 1977, p. 92).

²¹ C: the occurrence of an impression of an A in the mind that has already observed a constant conjunction between As and Bs. E: that mind's getting a belief that a B must occur.

CHAPTER 3

AL-GHAZĀLĪ'S VIEW ON CAUSATION

In this chapter I will evaluate Abū Ḥāmid Muḥammad ibn Muḥammad al-Ghazālī's (c.1058–1111) view on causality as presented in the 17th discussion of the *Tahāfut al-Falāsifa* (*The Incoherence of the Philosophers*). In this discussion, he argues that philosophers are unjustified in their claim that miracles—such as changing the staff into a serpent or being untouched by the fire, etc.—are impossible. Al-Ghazālī traverses two different ways of demonstrating the possibility of those miracles that philosophers interpret merely metaphorically, thereby denying their literal occurrences. One way to show the possibility of miracles is to refute philosophers' claims about necessary connections; al-Ghazālī denies the necessary connection between those observable things habitually regarded as causes and effects. Hence, for instance, fire may not burn the body—because the relation between burning and fire is not necessary. In his second response, he reveals the possibility of miracles in the philosophers' own paradigm—namely, by appealing to physical processes that are unknown to us. Therefore, since there are two mutually exclusive views regarding natural causation in the 17th discussion, contemporary scholars do not agree on what constitutes al-Ghazālī's actual view on causation. Indeed, various interpretations of al-Ghazālī's view on causality have been proposed. Some scholars like Marmura (1981) argue that al-Ghazālī is a proponent of strict occasionalism. However, others like Goodman (1978) and Frank (1992) refute this kind of interpretation and argue that al-Ghazālī actually affirms philosophers' view on causality and believes in natural necessary causation.

In this chapter, I aim to evaluate al-Ghazālī's view in the 17th discussion, that is, the two mutually exclusive views regarding natural causation. However, by concentrating on his other, less controversial book, *al-Iqtisād* (which, as he himself notes, represents his real doctrines), I will demonstrate that al-Ghazālī actually embraces the occasionalist conclusion. By arguing in favor of occasionalism as al-Ghazālī's real position on natural causality, at the end, I will show that in the 17th discussion of the *Tahāfut al-Falāsifa*, he not only refutes the necessity of natural causal relation, but also denies any causal relation in nature. In other words, he is an occasionalist in a strict sense.

3.1 Al-Ghazālī's critique of natural causation

In the 17th discussion of the *Tahāfut*, al-Ghazālī bases his views on the omnipotent God and argues for the possibility of miracles such as turning the staff into a serpent or being untouched by the fire. According to the philosophers, whom al-Ghazālī refutes, the connection between causal events in nature is necessary, in the logical sense; in other words, these philosophers believe in the logical necessity of natural causation. Therefore, for them, since the events are connected by necessity, breaking or withholding this connection is logically impossible. And since impossibilities are not within His power—i.e. God's power does not include impossibilities—they refute the possibility of those miracles because events such as the prophet being untouched by fire are examples of breaking the necessary link between fire and burning, which they regard as impossible; as such, those scenarios cannot happen. However, al-Ghazālī shows that philosophers are not justified in upholding this view. According to him, these miracles

are possible and God is omnipotent, so He can perform them. Al-Ghazālī pursues two different avenues in order to establish his view regarding the possibility of miracles and to reveal the inconsistency of the philosophers. Although these two ways are mutually exclusive, they are both internally consistent (Marmura, 1981).

In his first position, al-Ghazālī denies that there is a necessary link between events in nature. In other words, his problem regarding the issue of miracles is the alleged necessity of the causal nexus (Fakhry, 1958, pp. 56–83). From the beginning of the 17th discussion, where he posits his arguments regarding causation and the possibility of miracles, al-Ghazālī denies this necessary connection:

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. But [with] any two things, where “this” is not “that” and “that” is not “this” and where neither the affirmation of the one entails the affirmation of the other nor the negation of the one entails negation of the other, it is not the necessity of the existence of the one that the other should exist, and it is not a necessity of the nonexistence of the one that the other should not exist—for example, the quenching of the thirst and drinking, satiety and eating, burning and contact with fire, light and the appearance of the sun, death and decapitation, healing and the drinking of medicine, the purging of the bowels and the using of a purgative, and so on to [include] all [that is] observable among connected things in medicine, astronomy, arts, and crafts. (Al-Ghazālī, 1997, p. 166)

It is important to note that, although al-Ghazālī believes that the natural causal relations are not necessary, he does believe in some necessary relations that are not causal. Fakhry poses a question in order to illuminate al-Ghazālī’s view:

[W]hat, indeed, inheres in the notion of necessity, in its relation to the logical and the ontological realms? And what are the grounds of its predication of the ontological order, even were its legitimacy in the logical order to be conceded? (Fakhry, 1958, p. 60)

According to al-Ghazālī, causal relations among natural phenomena are not necessary, although he admits the logically necessary relations. As Rayan notes: “the necessary

relationship that necessitates a relationship between two things deals with constant essences and refers to formal logical knowledge” (2004, p. 259). So, outside the domain of logical relations, there is no necessity. The categories of identity, implication, and disjunction are the subject of the notion of the necessity. According to al-Ghazālī, only logical necessity is rationally admissible; however, causal necessity in the natural realm is not included within this category (Fakhry, 1958, p. 61).

Al-Ghazālī claims that the connection between what is believed to be cause and its effect which is not necessary, is due to the will of God.²² The connection between fire as the cause of the burning of the cotton “is due to the prior decree of God who creates them side by side, not due to its being necessary in itself” (Al-Ghazālī, 1997, p. 166). Since their relation is not necessary but is based on God’s will, He has the power to create one of these concomitants without the other. In other words, although fire is in contact with cotton, it is possible for the cotton to remain unburnt. Likewise, it is possible for cotton to become ashes without any contact with fire. Because the connection between fire and burning is not necessary, their separation—in the mind—is possible, i.e. we can conceive of fire without the burning of cotton, and vice versa.

Here, al-Ghazālī is objecting to those who claim that the fire is the agent or the efficient cause of the burning of the cotton by its nature. According to this view, fire is the only efficient cause of the ignition; it is the only sufficient cause that by itself makes ignition necessary. However, in his *Revival of Religious Sciences*, al-Ghazālī condemned

²² It is important to point out that al-Ghazālī’s view on causality and occasionalism has some premises, of which one is the “existence of God.” Although the existence of God is a crucial part of al-Ghazālī’s view on causation, it is a conclusion of his other arguments, i.e. arguments proving the existence of God such as the first proposition of the first treatise of the *al-Iqtīṣād*.

their position as unbelief (*Kufr*) and, in the *Tahāfut*, he clearly rejects them. As an alternative, al-Ghazālī believes that the efficient cause for the burning of the cotton, and its being reduced to ashes, is God.

This [position] is one of those that we deny. Rather we say that the efficient cause (*fā'il*) of the combustion through the creation of blackness in the cotton and through causing the separation of its parts and turning it into coal or ashes is God, either through the mediation of the angels or without mediation. (Al-Ghazālī, 1997, p. 167)

It is worth mentioning that scholars like Goodman (1978) and Frank (1992), who would like to show that the occasionalist interpretation of al-Ghazālī is wrong, often invoke al-Ghazālī's reference to angels in the above cited passage as proof that he, like the Aristotelians or the Avicennans, endorses the chain of causes even though he believes—as they do—that the primary cause is God. According to Goodman, “angel” is the Islamized terminology that refers to the non-material agents of change, which, according to Avicenna, are the very celestial intellects (Goodman, 1978, p. 90). In other words, as Frank (1992) claims, al-Ghazālī adopts Avicenna's angelic scheme for his cosmology. According to Avicenna, in any given chain of efficient causes, only the first element is the cause in the real sense of the word. Thus, in his view, there is only one absolute cause, and that is God. Although he believes in secondary causality, for him fire is only the middle element in the causal chain. In other words, fire is both cause and effect. So, the opponent of the occasionalist interpretation concludes that al-Ghazālī allows secondary causation:

The response he [al-Ghazālī] gives is by no means incompatible with causality, since the position might well be that God acts through definite “principles” (angels) in the natural world, as contrasted with the atomistic position of the *kalām* which is here represented by the notion that God is the immediate author of all effects. (Goodman, 1978, p. 90)

Therefore, based on this interpretation, al-Ghazālī's objection against philosophers in the 17th discussion is that "philosophers are inconsistent in assigning all causal efficacy to material objects while their cosmology refers all causal action to the non-material sphere" (Goodman, 1978, p. 90). In other words, according to them, al-Ghazālī accepts the philosophers' claim that fire is the agent of the burning; however, he refutes their claim that fire by its nature is the sole efficient cause. Rather, according to opponents of the occasionalist interpretation, al-Ghazālī believes that fire is a mediate cause of the burning and not the sole cause.

Overall, the discussion revolves around two possible positions: an occasionalist explanation, and Avicenna's view of creation by means of secondary causality. In both theories, God is the absolute efficient cause of the burning, not the fire.

It became clear that in Avicenna's scheme, the angels or celestial intellects have causal efficacy, and they necessitate the existence of their effects. And it is true that al-Ghazālī talks about the intermediacy of the angels, but does this mean that the angelic mediator in al-Ghazālī's view also has causal efficacy?

The task of answering this question is complicated by the fact that al-Ghazālī often uses examples and anecdotes in his statements on angelic mediation (Marmura, 1995). For instance, in *The Revival of Religious Sciences (Iḥyā' al-Ulūm al-Dīn)*, al-Ghazālī uses the example of puppets and a puppeteer in a lengthy chapter on what God loves and what God abhors (Al-Ghazālī, 1957, pp. 78–96). He says that those people who consider events in themselves without referring them to the unseen causes are like children at the puppet show who think that these puppets move by themselves, remaining unaware that

they are moved by unseen strings, manipulated by an unseen puppeteer. By contrast, those well-grounded in knowledge know that there are unseen causes of our acts. They know that every individual is attached to fine, unseen strings terminating in “the hands of the angels that move the spheres.” These angels in turn are directed to the “bearers of the Throne” who receive their command from God.

Although the model is Avicennan and the language is certainly suggestive of causal action on the part of these angels, the Ghazālian and Avicennan causal chains are different. Unlike Avicenna, God, for al-Ghazālī, is not bound to get “through” angelic mediation; He also acts directly (Marmura, 1995, pp. 90–98).

Moreover, both Griffel (2009) and Goodman (1978) draw attention to other clues in showing that al-Ghazālī is not an occasionalist.²³ There is a part in the 17th discussion that is referred to as the epistemological doctrine of al-Ghazālī; in other words, one aspect of al-Ghazālī’s critique of philosophers’ theory of causation is epistemological. He claims that by holding to observation, philosophers cannot justify their claims about natural causation. Because the only thing that the observation shows is that two events come together, but not that one comes by way of the other. For instance, the observation only shows that the cotton ignites when the flame is placed in contact with it. However, only invoking observation in order to establish their view on causality is a fallacy of *post*

²³ However, it is important to note that Griffel believes that al-Ghazālī spoke in a misleading manner in order to make his target readership easily adopt his doctrines and arguments: “Despite its openly occasionalist language, even in his [*al-Iqtisād*] al-Ghazālī shows no sign that he committed himself exclusively to an occasionalist cosmology. He stresses that the Mu‘tazilite explanation of physical events through ‘generation’ (*tawallud*) is wrong. Events in the created world do not simply ‘generate’ from other created beings and certainly not from human decisions. Yet here, as in most of his works, al-Ghazālī wishes to leave open whether these events are created directly by God or are results of secondary causes. Given that his target readership tends toward the former position, he has no problem stating his position in a language that they will find easy to adopt” (Griffel, 2009, p. 204). But this analysis makes it almost impossible to refute the interpretation of al-Ghazālī as allowing secondary causation. See Yaqub (2017).

hoc ergo propter hoc (Goodman, 1978, p. 91). “[O]bservation shows that the effect occurs at this time but not on this account or that there is no other cause.” (Al-Ghazālī, 1997, p. 196)

According to Goodman (1978), here again, al-Ghazālī leaves open the possibility that observed causes are actual causes, but not necessarily sole and sufficient causes. Griffel (2009) also mentions that Avicenna is not among those philosophers whom al-Ghazālī condemns. Because Avicenna believes that in any chain of efficient causes, only the first element is the cause in the real sense of the term. The first element is the absolute cause of all that follows after it. Thus, with regard to efficient causality, there is only one absolute cause that is God. For Avicenna, who believed in secondary causality, the fire would only be a middle element in a causal chain. The fire would be both a cause and an effect, and it could not be called “the only efficient cause of the ignition” (Griffel, 2009, p. 151). Therefore, they claim that the occasionalist interpretation is mistaken and al-Ghazālī once again suggests his attachment to the non- *kalām* view. However, according to the occasionalist interpretation, al-Ghazālī’s point here is that the observation cannot justify philosophers’ view on natural causal necessity. That is, the only thing that the observation shows is the simultaneity of two events; the necessary connection between what we take to be the cause and what we take to be an effect cannot be observed. The only thing that can be observed is the constant conjunction between two sorts of events. Moreover, universal inference cannot be made from a particular observation. Therefore, according to the proponents of the occasionalist interpretation, al-Ghazālī’s aim in invoking his epistemological doctrine—that is, “observation shows that the effect occurs at this time but not on this account or that there

is no other cause” (al-Ghazālī, 1997, p. 196)—is not to show the possibility of the existence of other causes, but rather to show that the observation only exhibits the simultaneity and not the necessity of the link. As Fakhry notes, the genesis of this notion of necessary causal relation in nature is of a purely psychological nature. And it is this psychological habit that philosophers have mistakenly read as logical necessity (Fakhry, 1958, p. 60).²⁴ Therefore, according to this view, al-Ghazālī’s passage is saying that philosophers are not epistemologically justified in their belief in causal necessity in nature.

However, the dispute between two sides of the debate can be resolved by considering the other aspect of al-Ghazālī’s argument in the 17th discussion, in other discussions of the *Tahāfut*, and in his other books.

The other aspect of al-Ghazālī’s critique is that he invokes the 3rd discussion of the *Tahāfut* where he posits some criteria for being a true agent (*fā’il*). As mentioned before, philosophers believe that the fire is an agent of burning by its very nature and not by choice, and it burns the cotton whenever there is contact between them. Thus, if it meets a receptive substratum, it is impossible for it not to act according to its nature. However, al-Ghazālī rejects this position because he believes that inanimate objects cannot be an agent and do not have any causal action. According to him, in order for something to be a genuine causal agent, it ought to meet some criteria. In particular, any

²⁴ Al-Ghazālī’s view here is exactly the same as Hume’s. For al-Ghazālī, the observation of the repeated—or, as Hume says, constant conjunction—creates in us knowledge of the effect upon observing the cause, or vice versa. However, it is important to note that it is real knowledge, because it is based on observing the constant conjunction between two events. As such, it becomes clear that al-Ghazālī’s epistemology has an unmistakable empiricist component. Repeated observation justifies a belief in regularity (Yaqub, 2017, p. 34).

causal agency should have comprehensive knowledge of its effect and its consequences, be able to act freely, and have power over its effect. In light of this classification, he concludes that fire cannot be an agent of burning and cannot cause the cotton to burn because, although it has the power to burn, it does not burn freely and out of knowledge (Yaqub, 2017).

The one who enacts the burning by creating blackness in the cotton, [causing] separation in its parts, and making it cinder or ashes is God, either through the mediation of His angels or without mediation. As for fire, which is inanimate it has no action. (Al-Ghazālī, 1997, p. 167)

It is worth mentioning that, although Goodman (1978) is correct to say that, here, al-Ghazālī intends to argue against the position that fire is the “absolute” efficient cause of the ignition, and endorses the Avicennan scheme, al-Ghazālī’s epistemological doctrine—namely, that observation can prove concomitance of two events but not any connection between them—has a wider domain than in Goodman’s account of it. Al-Ghazālī objects not only to those who teach that there are absolute causes other than God, but also to those who teach that causes have efficacy on their effects. From the second aspect of his argument, it is evident that al-Ghazālī believes that inanimate things have no causal efficacy (Griffel, 2009, p. 152).

The other philosophers’ claim, which is untenable for al-Ghazālī, is that they attribute the necessary causal action to celestial principles. According to them, although the preparation for the reception of the forms that derive from the celestial principles comes about through the observed mundane causes, these principles cause the events necessarily, and not by way of deliberation and choice (Marmura, 1981, p. 90).

However, these principles are conditioned and limited by the different receptive dispositions of the substrata upon which they act.

This being the case [they argue] then as long as we suppose a fire having the quality [proper to it] and we suppose two similar pieces of cotton that come into contact with it in the same way, how would it be conceivable that one should burn and not the other, when there is no choice [on the part of the agent]? (Al-Ghazālī, 1997, p. 169)

In other words, if the chain of events in nature is determined by the celestial principles on the one hand, and the necessary laws of nature on the other, the philosophers have one and only one recourse, that is, they have to admit the necessary mechanism of nature. Moreover, they have to admit the autonomy of cosmic life, which is to come face to face with the providence of the Almighty (Fakhry, 1958, p. 60). In sum, these were philosophers' arguments for denying the possibility of miracles such as the prophet remaining untouched by fire or the transformation of a staff into a snake.

Al-Ghazālī, however, rejects their denial in two ways. His first counterargument is that he denies the claim that the celestial principles act by necessity. He believes that the reason why one event follows another is that The Agent, based on His free will and voluntarily actions, creates the events concomitant to each other and there is nothing in the events/objects themselves that necessitates the existence of the other event/object. In other words, there is no necessary connection between them. As such, the free Agent, based on His power, can make it so that cotton does not burn even if it comes into contact with fire. Al-Ghazālī, in contrast with Neo-Platonists, believes that the mode of activity of the primary cause belongs to the voluntary activity (Marmura, 2005).

As previously mentioned, al-Ghazālī discusses in some detail the issue of voluntary or necessary activity in relation to God in the 3rd discussion of the *Tahāfut* and

here again he invokes those notions. According to him, there are some criteria that need to met in order for an agent or causal agent to be identified. And neither natural phenomena nor the celestial principle can be causal agents, for they lack the criteria of knowledge and free will.

Moreover, in his 1st discussion, al-Ghazālī abandons the word “emanation,” which is used by philosophers for the process of creation (Al-Ghazālī, 1997, pp. 55–57). In contrast with philosophers who argue for the eternity of the world, al-Ghazālī argues for the temporal origination of the world.

According to philosophers, whenever all the causal conditions are present, their effect would necessarily follow. So, in the case of the world, they believe that its cause, which is God with His Divine will, knowledge, and power, is eternally present; therefore, the effect, which is the world, should be present from eternity. In other words, the world is eternal because of the eternal presence of its complete and sufficient cause. Since the efficient cause is present, the world “emanates” necessarily from it. And since the complete and sufficient cause is present, the effect—the world—has no choice but to exist or “emanate.” For the philosophers, God’s activity is not volitional, and whatever emanates from him does so by necessity. On the other hand, al-Ghazālī claims that the universe is temporal because God “creates” the world through his voluntary will. He believes that God’s acts are voluntary. In this way, for al-Ghazālī, the correct definition of creation is one of creating out of nothing,²⁵ as Fakhry observes:

²⁵ Let us introduce an example to illustrate al-Ghazālī’s preference for the word “creation” instead of “emanation”: When in ordinary language we say that the light “emanates” from the sun, what we mean is that the sun has no choice but to let the light emanate. There is no way for the sun to prevent the emanation of light. Sun is the sun because the light emanates from it. In the same way, philosophers use the word “emanation” to show that God or any efficient cause has no choice but to make its effect happen,

To speak of God, therefore, in the manner of philosophers, as the necessary cause of the universe, or rather the logical ground without which the existence of the universe cannot be conceived is to miss the import of creation altogether. (1958, p. 66)

After criticizing philosophers, al-Ghazālī rehearses a possible objection to this claim, which deserves to be fully reproduced here because, as Marmura (2005) notes, in answering to this objection, al-Ghazālī appeals to his second remedy, which is the modification of the Aristotelian causal theory. Al-Ghazālī writes:

This leads to the commission of repugnant contradictions. For if one denies that the effects follow necessarily from their causes and relates them to the will of their Creator, the will having no specific designated course but [a course that] can vary and change in kind, then let each of us allow the possibility of there being in front of him ferocious beasts, raging fires, high mountains, or enemies ready with their weapons [to kill him], but [also the possibility] that he does not see them because God does not create for him [vision of them]. And if someone leaves a book in his house, let him allow as possible its change on his returning home into a beardless slave boy—intelligent, busy with his tasks—or into an animal; or if he leaves a boy in his house, let him allow the possibility of his changing into a dog, or [again] if he leaves ashes, [let him allow] the possibility of its change into musk; and let him allow the possibility of stone changing into gold and gold into stone. If asked about any of this, he ought to say: “I do not know what is at the house at present. All I know is that I have left a book in the house, which is perhaps now a horse that has defiled the library with its urine and its dung, and that I have left in the house a jar of water, which may well have turned into an apple tree. For God is capable of everything, and it is not necessary for the horse to be created from the sperm nor the tree to be created from the seed—indeed, it is not necessary for either of the two to be created from anything. Perhaps [God] has created things that did not exist previously. Indeed, if [such a person] looks at a human being he has seen only now and is asked whether such a human is a creature that was born, let him hesitate and let him say that it is not impossible that some fruit in the marketplace has changed into a human—namely, this human—for God has power over every possible thing, and this thing is possible; hence one must hesitate in [this matter]. This is a mode wide open in scope for [numerous] illustrations, but this much is sufficient. (Al-Ghazālī, 1997, p. 170)

and this is a characteristic of an efficient cause. When it is said that the efficient cause is present but its effect is not yet present, they say that the effect may have more than one cause so that the present cause is its incomplete or partial cause, which is why the effect is not present. But once the perfect or complete cause arrives, the effect will be present and there is no way for the complete cause not to cause its effect.

In sum, the objectors claim that if causes do not necessitate their effects, how are we to know anything about the world? If we do not get our judgments from the nature of things, our knowledge would be arbitrary and based on a random source.

But al-Ghazālī believes that the aforementioned absurdities do not follow. The answer he proposes is based on his theistic occasionalism, and by appealing to this initial assumption, he frees himself from this skepticism. In this answer, he shows the difference between possibility and actuality. His point is that possibility does not imply actuality. So, turning a book into a slave boy, while possible, is not actual. God created human knowledge in such a way that we distinguish what is merely possible from what occurs in actuality:

If it is established that the possible is such that there cannot be created for man knowledge of its nonbeing, these impossibilities would necessarily follow. We are not, however, rendered skeptical by the illustrations you have given because God created for us the knowledge that He did not enact these possibilities. We did not claim that these things are necessary. On the contrary, they are possibilities that may occur or may not occur. But the continuous habit of their occurrence repeatedly, one time after another, fixes unshakably in our minds the belief in their occurrence according to past habit. (Al-Ghazālī, 1997, p. 170)

In order to clarify the problem, it is important to point out that, according to al-Ghazālī, all possibilities are subject to God's power, and if the possibilities have no limit, the divine power in enacting those possibilities is also limitless. On the other hand, he believes that impossibilities do not fall within the scope of God's power. According to al-Ghazālī, whatever involves any logical contradiction is impossible; hence, it is impossible in relation to God's power. So, his notion of possibility is coterminous with the notion of logical consistency. Moreover, God's past habits have given us some guidance about what we consider possible or impossible: "The continuous habit of their

occurrence repeatedly, one time after another, fixes unshakably in our minds the belief in their occurrence according to past habit” (al-Ghazālī, 1997, p. 170). However, God will not interrupt the habitual operations of what appears to be cause and effect without good reason, which is confirmations of one of His prophets.

In conclusion, Fakhry notes:

Whatever involves logical contradiction must be dismissed as being outside the sphere of possibility. Such as we have seen, is the whole class of entities whose correlation involves logical necessity or conditional correlation. The relationship between a natural agent and a natural patient falls outside these two categories. (Fakhry, 1958, p. 67)

Therefore, since every real entity is contingent, it falls within the scope of God’s power. Al-Ghazālī completes his explanation by giving his occasionalist view regarding knowledge. According to him, although these odd examples mentioned above are possible in themselves, and our intellect is incapable of making a necessary judgment about their non-occurrence, God has created in us knowledge that these do not happen. In other words, since our intellect is accustomed to the regular non-occurrence of these things, we have a strong reason to believe that these never happen, i.e. although they are possible in themselves, they are impossible regarding God’s will, because according to God’s will, these things do not happen.

Therefore, in the objective reality and in our intellect, the possible is something indeterminate, whose determinacy lies in the free activity of God (Fakhry, 1958, p. 67). When God wills the particular phenomenon to depart from its natural course, the willed object departs from its regular procedure and its natural course, without any violence being done to the contingent, ontological order, or to our knowledge of the phenomenon in question. This is because God can create in us knowledge of it simultaneously with

the event. It is important to recall that al-Ghazālī believes that humans do have true knowledge. God creates our knowledge of the world habitually in accord with it and this knowledge corresponds with its object in the outside world. As such, the subjectivist interpretation is prohibited (Griffel, 2009, p. 155).

3.2 Al-Ghazālī's second causal theory

After establishing the possibility of miracles through occasionalism, al-Ghazālī reveals the philosophers' inconsistency by adopting a modified Aristotelian theory of causation. He discloses the possibility of miracles both through occasionalism and Aristotelian philosophy. However, as mentioned before, the introduction of this second way has prompted some disagreement between scholars over how to interpret al-Ghazālī. Some scholars like Goodman (1978) and Frank (1992), argue against the occasionalist interpretation and believe that al-Ghazālī allows the secondary causation although he regards God as the prime cause. In other words, according to them, al-Ghazālī believes in second-order causation in the natural world, and for him, fire literally causes the ignition. I will discuss both of these interpretations of al-Ghazālī's view on natural causation—namely, the occasionalist interpretation, and the Aristotelian interpretation.

The disagreement between various scholars has been intensified on account of a number of mistranslations of ambiguous terms. As a result, this has led to different and sometimes inconsistent interpretations. In introducing his second approach, al-Ghazālī says:

The second approach, with which there is deliverance from these vilifications, is for us to admit that fire is created in such a way that, if two similar pieces of

cotton come into contact with it, it would burn both, making no distinction between them, if they are similar in all respects. (Al-Ghazālī, 1997, p. 171)

The ambiguity here pertains to the term “*al-tashniaat*,” which means both “sheer vilification” and “pure absurdity.” Thus, this ambiguity has caused some disagreement between scholars in respect of ascertaining al-Ghazālī’s real position. For example, Goodman writes:

It is noteworthy that he encompasses in his condemnation of it not only the extreme occasionalist gambit but also the highly qualified *Ash‘arite* retort by which he saves that gambit from some of its more outrageous implications. For al-Ghazālī concludes his comments on the first approach with these words: “there is nothing in this entire line of argument but pure absurdity.” (1978, p. 105)

However, based on others, here al-Ghazālī is not talking about what philosophers regard as absurd consequences of the denial of necessary causal connection. He does not regard those examples as “pure absurdity”; rather, he is saying that their position is nothing but “sheer vilification,” and, of course, their mentioned consequences do not follow (Marmura, 1981). Those who adopt “pure absurdity” see al-Ghazālī as admitting something when he, in fact, is trying to reject that position. It is important to note that Averroes, al-Ghazālī’s foremost critic, also supports this reading and reads “*al-tashnia*” wrongly as “*shanaa*”:

When al-Ghazālī saw that the doctrine that things have neither special qualities nor special forms which the acts proper to each existent necessarily proceed is exceedingly repugnant and contrary to what man rationally thinks, he conceded its falsity in this discourse. (Ibn Rusd [Averroes], 1954, p. 182)

Al-Ghazālī’s second argument is a modified Aristotelian theory of causation. He admits that fire by its nature is the cause of the heat and burning, and that the human body by its nature is subject to be burnt by its cause, i.e. fire. However, the causal connection is

subject to God's intervention, i.e. the relation between fire and the burning of the body can be overridden by God's voluntary interposition. Therefore, miracles happen by God's voluntary intervention. For instance, miracles happen by way of God preventing the power of fire from appearing, or creating a quality in the human to not be burnt.

Fire is created in such a way that, if two similar pieces of cotton come into contact with it, it would burn both, making no distinction between them, if they are similar in all respects. With all this, however, we allow as possible that a prophet may be cast into the fire without his being burned, either by changing the quality of the fire or by changing the quality of the prophet. Thus there would come about either from God or from the angels, a quality in the fire which restricts its heat to its own body so as not to transcend it (its heat would thus remain with it, and it would [still] have the form and true nature of fire, its heat and influence, however, not going beyond it), or else there will occur in the body of the prophet a quality which will not change him from being flesh and bone [but] which will resist the influence of the fire. (Al-Ghazālī, 1997, p. 171)

It is noteworthy that, in addition to the ambiguity of the terms used, some scholars have been led to think that al-Ghazālī allows secondary causation by ignoring his intention in writing the *Tahāfut*. As the name of the book suggests, al-Ghazālī wrote *Tahāfut al-falāsifa* (*The Incoherence of the Philosophers*) in order to exhibit the philosophers' inconsistencies in upholding different views, among them necessary natural causation. He himself in several parts of the *Tahāfut* and *al-Iqtisād* says that some of the positions he adopts in the *Tahāfut* do not represent his real doctrines. They are assumed for the sake of argument: he wants to show that philosophers' premises do not lead to their conclusions. For example, in *al-Iqtisād* he argues for the physical resurrection of people; however, in the *Tahāfut* he presented a position that presupposed the philosophers' doctrine of spiritual resurrection in order to show that such a doctrine was compatible with bodily resurrection (al-Ghazālī, 1997, pp. 282–306). But in *al-Iqtisād*, he explains that he did this solely for the sake of argument:

We have discussed this matter with elaboration in the book *Tahāfut*, and based our refutation of their doctrine on positing the persistence of the soul, which for them is not extended, and positing its return to govern a body, whether this body is the exact same body of the man or another body. This is a necessary consequence that is not in accordance with what we believe; for that book was composed to refute their doctrines, not to establish the true doctrines. (Al-Ghazālī, 2013, pp. 274–275)

In sum, al-Ghazālī’s purpose in the *Tahāfut* is not that of establishing the right view; rather, he is trying to refute philosophers, and he does so sometimes by establishing his own view and sometimes by conceding—not out of conviction—to them on different issues and then demonstrating, on the basis of their own premises, that they are wrong and unjustified. The issue of natural causation is no exception to this methodology in the *Tahāfut*.

In the second causal theory, by showing the possibility of impeding the natural acts of inanimate things, al-Ghazālī justifies the possibility of miracles. In this approach, he accepts three issues that he refuted in his first theory. Here, he concedes that fire produces heat by its nature, i.e. whenever fire touches two similar pieces of cotton, it will burn them indiscriminately. By this very admission, he also concedes that inanimate things can be causal agents and have some actions, and since they act by their natures, their actions are necessary. For instance, fire by its nature necessarily burns the cotton. However, his point is that this necessary natural causation is subject of God’s will and can be impeded by the voluntary action of God. The divine voluntary intervention, however, is not an action that changes the nature of the fire or the human; rather, God interposes some impediments that can causally prevent the causal process of fire producing heat and burning the body.

In addition, in the second argument, by showing the possibility of accelerating the process of the change in nature, al-Ghazālī justifies miracles. That is to say, he shows that it is possible for God to expedite the process of change in nature and that He can suddenly transform the inanimate into the animate:

Similarly, the raising of the dead and the changing of the staff into a snake are possible in this way—namely, that matter is receptive of all things. Thus, earth and the rest of the elements change into plants, plants—when eaten by animals—into blood, blood then changing into sperm. Sperm is then poured into the womb and develops in stages as an animal; this, in accordance with habit, takes place in a lengthy period of time. Why, then, should the opponent deem it impossible that it lies within God’s power to cycle matter through these stages in a time shorter than has been known? And if this is possible within a shorter time, there is no restriction to its being [yet] shorter. These powers would thus accelerate in their actions, and through [this] there would come about what is a miracle for the prophet. (Al-Ghazālī, 1997, p. 172)

He also explains the role of the prophet in miracles and the notion of preponderance. Al-Ghazālī claims that although the miracle is done in the hand of the prophet, it is more fitting to relate the miracle to God either directly or through the mediation of His angels. The miracle is possible, the principle endowing it is benevolent and generous, but it only emanates from the principle if the need for its occurrence becomes preponderant. The preponderant is the attention of the prophet toward the miracle and the need of the order of the good to it, and the order of the good is when the prophet needs a miracle to support his claim to prophecy.

In conclusion, in the second approach, al-Ghazālī proposes that physical processes, which are simply unknown to us, explain those prophetic miracles that the philosophers deny. The Qur’an depicts Abraham being thrown into a blazing fire and surviving unharmed; his survival can be seen as similar to people who coat themselves in talc before sitting in fiery furnaces, unaffected by the heat. Similarly, Moses’ stick

changing into a serpent can be seen as the rapid version of the natural recycling of a stick's wood into fertile earth, into new plants, into the flesh of herbivores, and from there into the flesh of carnivores such as snakes. There is no limitation to how fast these processes can unfold. However, these ways of explaining the miracles are not disruptions of the physical course of events. Rather, the miracles can be fully explained in a scientific way if all factors are taken into consideration. Therefore, al-Ghazālī shows that even the serious natural philosopher should consider miracles as being possible (Griffel, 2009, p. 157). "Among the objects lying within God's power there are strange and wondrous things, not all which we have seen. Why, then, should we deny their possibility and judge them impossible?" (al-Ghazālī, 1997, p. 172).

3.3 Al-Ghazālī's argument for causal necessity

Al-Ghazālī's view on causality has two different aspects. The first aspect, as I have discussed, concerns causality between finite phenomena, that is, natural causation, which is supposed to exist between natural phenomena. However, the second aspect pertains to the universal principle of causality, that is, the causal necessity, which is formulated in the following way: every cause necessitates its effect. In other words, based on some textual evidence, it becomes clear that al-Ghazālī accepted the soundness of Avicenna's argument for causal necessity.

According to Ibn Sīnā, an effect is contingent in virtue of its own essence and necessary in virtue of its efficient cause. And whatever exists contingently through its own essence cannot actually exist unless its existence is made necessary by its efficient cause. An effect cannot be necessary in virtue of its own essence. For if it were, it would

have necessary existence through its essence, which means that it requires no cause for its being; but this contradicts the fact that it is an effect. It follows that an effect contingently exists in virtue of itself. But to say that it is contingent is to say that its existence and non-existence are possible. Since this effect actually exists, there must be something that specified its existence over non-existence. This thing that specified the existence of the effect is its efficient cause (Avicenna, 2005, p. 39).

In the *Tahāfut al-Falāsifa*, in his discussion of the temporality of the world, al-Ghazālī shares with philosophers the view that the efficient cause necessitates its effect. However, he disagrees with them about the eternity of the world. In this discussion, philosophers believe that since the efficient cause of the world—divine will, power, and knowledge, which are not separate from God’s essence—is eternally present, the world—the effect—must therefore be present eternally. In other words, the world must be co-eternal with its cause. As such, the effect “emanates” from its cause, i.e. the world exists as an emanation from its cause. On the other hand, al-Ghazālī believes that God, in a given time, causes the world by His knowledge, will, and power.²⁶ However, what really causes the world is divine power. But the divine power acts in accordance with divine will and knowledge. That is to say, although the cause is eternal, it does not follow that the effect must be co-eternal with its cause, because the divine will is free to decide when to cause the world’s existence. Therefore, the world is temporal and not eternal.

Al-Ghazālī’s disagreement with philosophers is over the sufficient cause of the world. Divine will, knowledge, and power are the sufficient causes of the world, in the

²⁶ According to al-Ghazālī, these characteristics are neither the same nor different from the divine essence.

philosophers' view. And since the sufficient and efficient cause is eternally present, the effect cannot be delayed and must also be eternal. However, for al-Ghazālī, these eternal divine attributes are not sufficient causes of the world's existence. Rather, in order to be the sufficient cause of the world's existence, the divine will has to meet a certain condition, which is the arrival of a certain designated time for the creation of the world. So, as Yaqub (2017) rightly observes, this is the clear case of cause and effect. In other words, al-Ghazālī's disagreement with philosophers is not about the causal necessity; he agrees with philosophers that the sufficient cause necessitates its effect. Rather, the root of their disagreement is over what is the sufficient cause (Yaqub, 2017, pp. 34–35).

Moreover, in *al-Iqtisād*, in the first proposition, when he tries to define “cause” and “occurrent,” it becomes clear that al-Ghazālī believes in causation and the fact that the existence of an occurrent has to become necessary by its cause. For al-Ghazālī, “causality constitutes itself as constantly and necessarily one of the basic principles of intellect that need no proof” (Rayan, 2004, p. 264):

Any event has a cause, [if asked] how do you know that? You may say that this principle requires confirmation, as it is primary and necessary within the intellect. If he understands it his intellect then must necessarily believe that any event has a cause. (Al-Ghazālī, 2013, p. 20)

Al-Ghazālī confirms the principle of “causality” by elaborating on the critical elements of the concept, which are “cause” and “occurrent”: “[T]he occurrence of every occurrent has a cause; the world is an occurrent; it necessarily follows that it has a cause” (al-Ghazālī, 2013, p. 27). He believes that anyone skeptical about this principle would accept it if he understood the exact meaning of the words “occurrent” and “cause.” In other words, he would not be a skeptic were he not ignorant about the

meaning of those words, and he will acknowledge it if he understands the meaning of these essential terms.

This principle must be affirmed; for it is a priori and necessary according to reason. The one who is not moved by it is, perhaps, not moved because it is unclear to him what we intend by the term “occurrent” and the term “cause”. If he understood them, his mind would necessarily believe that every occurrent has a cause. (Al-Ghazālī, 2013, p. 28)

In his definition of these terms, it becomes clear that al-Ghazālī accepts the soundness of his pioneer’s causal necessity. “Occurrent” (*ḥādīth*) is that which was non-existent and then became existent. But its existence is contingent for its essence. In other words, an “occurrent,” such as the world—before its existence—in its essence, is equal to existence and non-existence. Existence is not impossible for it because if it were, it could never come into existence. However, we know that the world is existent now. Therefore, it is not the case that existence is impossible for it.²⁷ Also, the existence of an occurrent such as the world is not necessary in virtue of its essence. It is not necessary because—based on al-Ghazālī’s view and not that of the philosophers—if it were, it would always exist and there can be no time in which it was not. But al-Ghazālī shows that the world is temporal, which means that there was a time when it was not existent.²⁸ So, an occurrent is not necessary either. Rather, existence is contingent for an occurrent’s essence. And since its existence is not necessary for its essence and it is

²⁷ For instance, it can be said that the existence of a square that is circular is impossible. In other words, a square circle is impossible in virtue of its essence.

²⁸ Maybe the example of the world here is not wholly suitable because, as I showed, the world is temporal according to al-Ghazālī but eternal according to philosophers. Yet, while philosophers believe that the world is eternal, they do not believe that the world is not caused. In other words, according to them, an effect needs its cause for being existent because of its essential contingency. However, al-Ghazālī believes that an effect needs its cause because of its temporality. And that is one of the reasons why he struggles with philosophers about the eternality of the world. This is because, for him, if the world is eternal it is uncaused, which is contrary to his maxim. But philosophers think that the world is eternal but needs its cause because it is in essence and in itself contingent.

equal to being and non-being, it needs something to push it into existence. In other words, it needs its efficient cause in order to be. Contingent beings, in order to be and become existent, require preponderance. If their non-existences continue, it is because there is nothing that gives preponderance to existence over non-existence.

Moreover, by “cause” (*illa*), al-Ghazālī means “the giver of preponderance” (*murajjih*). Therefore, an occurrent (*hadith*) or an effect needs its cause to necessitate its existence.

The definition that al-Ghazālī introduces in *al-Iqtisād*, as I showed, can be applied to his view on the origination of the world, which all parties of the debate would accept as a genuine case of cause and effect: the cause is the divine will and power, and the effect (occurrent) is the world, which is brought into existence through the divine will (Yaqub, 2017, p. 35). Al-Ghazālī, in the first discussion, describes the world as necessary, impossible, and contingent. If the divine will is presupposed, the world is necessary, and not contingent. “It is impossible for the object of the will not to exist while the eternal will is present” (al-Ghazālī, 2013, p. 151). On the other hand, the occurrence of the world would be impossible, by presupposing the absence of the divine will—the cause—otherwise the world would be an occurrent without a cause. It is evident that this example of the world and its cause clearly fulfills the definitions that he sets out in *al-Iqtisād* regarding his illustrations of the words “cause” and “occurrent.”

All in all, the world considered in its own essence is contingent, but it is necessary by considering its efficient cause and it would be impossible without its efficient cause. It is clear that, in this example, al-Ghazālī takes the divine power as the efficient cause of the world. Therefore, it is clear that al-Ghazālī’s view on the effect’s

reliance on its cause for being existent is Avicenna's causal necessity, the soundness of which al-Ghazālī accepts.

3.4 Al-Ghazālī's position on causation in *al-Iqtisād*

To settle the debate between the two groups of scholars and to establish al-Ghazālī's positive view regarding causation and thereby ascertain whether he is occasionalist in the strict sense, it is incumbent on the reader to also attend to the *Moderation in Belief* (*al-Iqtisād fi' al-I'tiqād*). As noted earlier, this is the book in which al-Ghazālī intends to explicate his positive views about a range of issues raised previously in the *Tahāfut*. It becomes evident that in this book he clearly denies any natural causation. In other words, he not only refutes the necessary link between natural events, but also denies natural causation. He does not allow any secondary natural causation in the world and he clearly fortifies this belief in the *Moderation in Belief*.

Al-Iqtisād affirms that al-Ghazālī upholds the *Ash'arite* causal doctrine. His view of causation is most evident in two of his discussions: first, his discussion of the attribute of divine power, and second, his discussion of the predestined time of death (*al-ajal*) (Marmura, 2005).

Al-Ghazālī believes that divine power is universally pervasive and is the direct cause of everything. Likewise, it is the direct cause of humans' voluntary and involuntary actions. Both kinds of movements are created in us by God. However, they are different in certain respects. The involuntary action is created without any associated power in humans; however, the voluntary action is created with an associated power.

But it is important to note that this power is the created power, that is to say, it is not the cause of its associated action. Similarly, what is believed to be the effect of the created power is also created by God, but it is concomitant with this created power. This is the *Ash'arite* view on “acquisition” or “*kasb*.” All in all, what is thought to be the product of the power is created for us by God; the only thing we do is acquire the act by the created power in us. The doctrine of “acquisition” states that when God creates an act for a person, He also creates in the person, at the moment of creating the act, the specific power to perform this act. However, in reality, the human power is causally inert, since it does not actually produce the act; rather, God’s power does so.

Moreover, as mentioned earlier, a causal agent has to meet some requirements. Any causal agent should have a comprehensive knowledge, free will to act, and power over its effect. It becomes evident that natural phenomena cannot fulfill these criteria—for instance, fire cannot be causally agent because although it is assumed to have the power to burn, it does not act freely and does not have knowledge of its effect. In other words, all attributions of causal efficacy to things that have no volition are metaphorical. However, a human can fulfill two of these requirements—namely, he has the power to carry out his actions and acts freely. But, nevertheless, humans lack comprehensive knowledge of their effects, and as such, they cannot be causally agent either (al-Ghazālī, 1997, pp. 55–77; al-Ghazālī, 2013, pp. 83–103). Because of the pervasiveness of divine power, created power in animate beings does not have real efficacy. What is thought to be the effect of this created power is in actuality the direct creation of the divine power. So, if animate beings with created power have no efficacy, how could inanimate things such as fire possess it? (Marmura, 2005).

All temporal things, their substances and accidents, those occurring in the entities of the animate and the inanimate, come about through the power of God, exalted be He. He alone holds the sole prerogative of inventing them. It is not the case that some creatures come about through some others. Rather, all come about through [divine] power. (Al-Ghazālī, 2013, p. 222)

Moreover, in *al-Iqtisād* in his discussion on predestined time and with regard to the question of whether Zayd died in his predestined time if a sword severed his head, al-Ghazālī argues against this belief that the predestined time of death allows the termination of natural objects by some other natural occurrents. For example, if the predestined time for Zayd is sixty years, but he died at the age of twenty as a result of the sword severing his head, it could be said that Zayd died before his predestined time (Yaqub, 2017, p. 34). However, by confining necessity to three kinds of relations, al-Ghazālī refutes this claim.

On his account, there are three necessary modes of relationship between any two terms or entities. First, there is the relationship of reciprocity: if A is above B then B necessarily would be below A and the negation of one also negates the other. Second, there is the relation of antecedent and consequence: life is the condition for knowledge, that is, the negation of life assumes the negation of knowledge.²⁹ And third, there is the relation of cause and effect. That is, the lack of the cause leads to the lack of the effect, if the effect has a single cause. However, if there are other causes for the effect, that is, if one effect has several causes, then the negation of all the causes negates the effect (Fakhry, 1958, pp. 62–63; Rayan, 2004, pp. 259–260).

²⁹ These two modes of necessary relationship are logically valid; logical implication and conditional correlation.

Therefore, the opponent is justified in his claim that Zayd died because his head was severed by a sword, if no other cause of the death is known. That is to say, they are right if the death has a sole cause, which is the severance of the head by a sword. In this case, the opponent is right in his claim that Zayd died before his predestined time, and if it were not for the severance of the head by the sword, Zayd would still be alive. And here the sword, not God, is the cause. But al-Ghazālī refutes his opponents by appealing to a belief of the followers of the *Sunna*—namely, the belief that God is the exclusive originator and that no created thing can cause a created thing (al-Ghazālī, 2013, pp. 151–153).

... the answer to this question must be sought in the canon we mentioned regarding the omnipresence of God’s power and the annulment of generation. On the basis of this, it must be said about the one who is killed that he died at his predestined time, for this predestined time is the time at which God created his death, whether it was accompanied with the severing of the head, a lunar eclipse, the falling of the rain or not. All of these for us are co-occurents and not causes, but some co-occur repeatedly according to the habitual course of things and some do not. (Al-Ghazālī, 2013, p. 282)

3.5 Another clue for occasionalist interpretation

From what has been said in previous sections, “al-Ghazālī’s argument for causal necessity” and “Al-Ghazālī’s position on causation in *al-Iqtisād*,” we can better discern his critique of natural causation. As previously noted, there is some disagreement between scholars regarding al-Ghazālī’s critique of natural causation. Some argue that in the 17th discussion he does not deny the existence of a connection between cause and effect in nature, but he does deny that these connections are necessary and obligatory; as such, they argue, al-Ghazālī is not an occasionalist, but rather allows secondary causation but denies the necessitarian view of causation. However, I argue for an

occasionalist conclusion. I show that al-Ghazālī is an occasionalist in the strict sense. In addition to the previous arguments, by appealing to his belief in causal necessity and the fact that he actually affirms the soundness of Avicenna’s argument for causal necessity, it becomes evident that if al-Ghazālī denies any necessary relation between cause and effect, he also has to deny any causal relation. This is because, according to him, any causal relation contains a necessary connection (Yaqub, 2017).

Following my discussion of the aforementioned chapter, al-Ghazālī (like Avicenna) thinks that causation implies the necessary connection between the efficient cause and its effect. So, regarding natural causation, if he denies any necessary link between events, this means that he also denies any causal relation. Because whenever there is a cause, there is also the necessitation of its effect. Therefore, those who appeal to the second theory of causation in the 17th discussion, and who claim that al-Ghazālī does not believe in occasionalism and that he actually allows secondary causes—that is, a chain of causes and effects whose prime cause is God—are mistaken. Al-Ghazālī denies any necessary connection between, for instance, fire and ignition, and since there is no necessary connection in natural phenomena, what is habitually regarded as the cause and what is habitually regarded as its effect are not correct examples of the causation. This is because causation implies necessitation, i.e. the relation between any cause and its effect is necessary, but if there is no necessary connection, there is no causal relation at all. As Yaqub notes: “(C) if there is natural causality, then occurrents are made necessary by their natural causes. Anyone who affirms conditional (C) and denies that natural causality is necessary must further deny that natural causality can exist” (2017, p. 23).

In sum, based on his views on causal necessity and his less controversial book *al-Iqtisād*, I believe that al-Ghazālī indeed adopts the occasionalist conclusion. Likewise, on the basis of different textual and methodological evidence, it becomes clear that those who insist that al-Ghazālī is not an occasionalist are mistaken.



CHAPTER 4

CONCLUSION

To conclude, let us review what we have done, what we have achieved, and what we have left wanting. I have described both Hume's and al-Ghazālī's views of causation and discussed certain interpretative issues that are pertinent to this thesis. It became evident that both philosophers undermined the necessary connection between finite phenomena, hence causation. But besides their similarities, there are also some notable differences between the two.

Hume and al-Ghazālī both pursue the same objective, albeit with different motives. They want to undermine claims to discover real causal relations or powers in nature. They try to accomplish this goal by establishing the negative argument that the necessary connection between any two natural objects or events cannot be perceived and cannot be justified rationally. Despite the similar route that they traverse, it is worth recalling that they are not engaged in the same philosophical project. Al-Ghazālī is primarily an orthodox *mutakallim* whose goal in the *Tahāfut al-Falāsifa* is to critically undermine the dogmatism of Aristotelian philosophy. That said, he certainly engaged in philosophical activity. However, Hume's concern is primarily epistemological; he wants to demonstrate the lack of rigorous justification for our causal beliefs. Moreover, al-Ghazālī's argument employs some theological considerations that are lacking in Hume's argument.

But it is interesting and important that in their respective projects not only do they both employ the “no necessary connection” argument—i.e. the argument that aims

to undermine necessary causation between finite phenomena—so as to critique causal dogmatism and rebut those who find real causal relations in nature under the guise of logically necessary connections; they also both deploy this argument in the same manner and ground it in the same basic premises (Nadler, 2011, p. 167).

To start with Hume, his main objective regarding causation is the notion of the “necessary connection” between the objects or happenings, which are said to be causally related. He uses the “no necessary connection” argument to show that our knowledge of the casual connection is not based on our reason, which leads us to the discovery of any logically necessary connections. On Hume’s account, since any ideas of different objects and events are distinct and separable—because they have distinct and separate impressions—no distinct idea of any event can lead us to the idea of the other. For instance, since the ideas of burning and fire are distinct, the idea of one of them does not necessarily lead the mind to the idea of the other; as such, it is not logically absurd to say that there is a cotton burning without any connection with fire, or vice versa. In other words, if we suppose a pair of events—which are thought to be causally linked—say, F and G, it is possible to “conceive” of an F’s occurring that is not followed by a G; and if this is “conceivable,” it is “logically possible.” This is so because, according to Hume, “to form a clear idea of anything is an undeniable argument for its possibility, and is alone a refutation of any pretended demonstration against it” (1978, p. 89). Therefore, no prediction can be supported by or based on logically necessary propositions. As Nadler writes:

If the existence of A does not entail the existence of B, such that it is not logically absurd to assert A and not B, then there is no discoverable necessary connection between A and B. And if reason can find no necessary connection

between two things or events, then, given the centrality of the notion of “necessary connection” to the concept of causality, this way of justifying the assertion that there is a causal connection is foreclosed. (2011, p. 169)

Therefore, it can be said that the claim that there are strictly necessary connections in nature is refuted, because there is the logical possibility of an alternative sequence of events, and it is enough to rule out the demonstrative certainty, hence strictly necessary connections. In general, Hume moves from “distinctness” through “separability” to “possibility.”

All in all, Hume concludes that there is no discoverable necessary connection between any event, including burning and fire. And based on the centrality of the notion of “necessary connection” to the notion of causation, by refuting the necessary connections, he also refutes causation.

By contrast, al-Ghazālī—whose argument against the belief in real causal connections in nature is among the first systematic instances of this general line of argumentation before the 17th century (Nadler, 2011, p. 173)—finds a belief in strict natural necessity unacceptable because it makes God an amorphous first cause, remote from day-to-day reality and incapable of intervening in the natural order of events. In order to establish the possibility of miracles, al-Ghazālī defends occasionalism, that is, the view that God is the immediate cause of all events. And since he introduces the notion of God into his analysis, it can be said that theological considerations motivate and underpin his argument.

It is worth mentioning that al-Ghazālī derives his occasionalism from his proof for the existence of God. In other words, his argument has the “existence of God” as its premise. Although he does not establish his proof for the existence of God within his

argument for occasionalism, he proves the existence of God elsewhere, in his other discussions. One of the main proofs is given in the first proposition of the first treatise of *al-Iqtisād*, which is entitled “the existence of God.” In this proposition, after dividing the existents, al-Ghazālī claims that

an existent that is neither a body nor an extended substance, nor a mode, cannot be apprehended by perception. We claim that it exists and that the world exists by virtue of it and its power. This can be apprehended by proof, not by perception. (2013, p. 27)

And his proof is that “the occurrence of every occurrent has a cause; the world is an occurrent; it necessarily follows that it has a cause” (al-Ghazālī, 2013, p. 27). According to him, the first premise of this proof is a priori and hence must be affirmed because if the meanings of these terms are fixed in the mind, the intellect would have to accept this principle. As such, he believes that this premise is necessarily true without any need to provide a proof of its truth (al-Ghazālī, 2013, p. 29).

However, al-Ghazālī believes that the second premise is not a priori. Therefore, he establishes its truth by way of a proof, in which he mainly tries to refute the philosophers’ claims about the eternity of the world. To this end, by showing that the world is a temporal occurrent, al-Ghazālī justifies his claim that it needs some cause for its existence. Because for him the reason that an effect needs its cause is its temporality; hence, he believes that philosophers are wrong in their claim that the world is eternal, because this claim leads to the absurd claim that the world is uncaused.

All in all, he concludes that the world for its temporal existence needs a cause that is neither a body nor an extended substance, nor indeed a mode, and this cause is God.

Let us continue with al-Ghazālī's argument for occasionalism. In defense of his occasionalism, al-Ghazālī argues against real causal relations in nature by directing his attack toward the necessity alleged to obtain in the connections between causes and their effects. He begins his discussion with the explicit claim that "the connection between what are believed to be the cause and the effect is not necessary" (al-Ghazālī, 1997, p. 166). In other words, he rejects natural necessity, holding that our belief that objects and events are causes and effects is based on God's decision to

create them in a successive order, though not because this connection is necessary in itself and cannot be disjoined. On the contrary, it is in God's power to create satiety without eating and decapitation without death, and so on with respect to all connections. (Al-Ghazālī, 1997, p. 166)

Like Hume, al-Ghazālī bases his critique of cause on the distinctness of two events and the conceivability of two conjoined events that no longer follow one another. In other words, for any two non-identical things or events, there is no logically necessary connection between them such that the one implies either the existence or the non-existence of the other. We can take any sequence of events—no matter how regular and invariable—and at least conceive, without any contradiction or logical absurdity, that the usual consequence does not obtain.

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. But [with] any two things, where "this" is not "that" and "that" is not "this" and where neither the affirmation of the one entails the affirmation of the other nor the negation of the one entails negation of the other, it is not the necessity of the existence of the one that the other should exist, and it is not a necessity of the nonexistence of the one that the other should not exist—for example, the quenching of the thirst and drinking, satiety and eating, burning and contact with fire, light and the appearance of the sun, death and decapitation, healing and the drinking of medicine, the purging of the bowels and the using of a purgative, and so on to [include] all [that is] observable among connected things in medicine, astronomy, arts, and crafts. (Al-Ghazālī, 1997, p. 166)

It is important to note that, although these examples are only logically possible, they are enough to demonstrate the non-necessity of the connection, which is essential for real causality. And, as previously mentioned, this also forms part of Hume's doctrine, to wit: "[T]o form a clear idea of anything is an undeniable argument for its possibility, and is alone a refutation of any pretended demonstration against it" (1978, p. 89).

However, despite its appearance, al-Ghazālī's argument for the non-necessity of the connections is based not on theological premises, but rather on purely logical considerations (Groarke and Solomon, 1991, p. 660; Nadler, 2011, p. 176). As I have shown, like Hume, al-Ghazālī begins his discussion by focusing on the distinctness of any two events or things, and it is evident that this premise does not rest on any theological assumptions. In other words, as Groarke and Solomon observe, "the theological considerations motivate his argument though they do not play a crucial role in logically establishing his conclusion" (1991, p. 660). Or, as Nadler puts it:

while the occasionalism is certainly lurking in the background here—at least as a doctrine of divine omnipotence and God's ubiquitous causal agency—I suggest that the elimination of natural causal agency, with its inviolable, (logically) necessary connections, rests (at least in problem 17) on the purely logical character of the "no necessary connection" argument. (2011, p. 176)

Moreover, I have shown that, for al-Ghazālī, God's power is submissive to possibilities. That is, the scope of divine power is limited by the law of non-contradiction, by the boundaries of logical possibility. In other words, because of the logical possibility of two conjoined events not following each other—the logical possibility of fire not burning the cotton—God can bring about some sequence of events contrary to the usual course of nature, i.e. the sequence is possible in itself;

independently of God's power, it is logically possible, and not impossible. There is no necessary connection between any two distinct things or events; because of their ontological discreteness, there is a corresponding logical discreteness: we can always conceive of, without contradiction, the one without the other.

The other similarity between Hume's argument and that of al-Ghazālī consists in their empirical argument that causality cannot be observed. According to al-Ghazālī, our observations of causes and effects, and the habits they produce, only establish their past conjunction, and not a necessary connection. In attempting to prove that contact with fire causes a piece of cotton to burn, for example, "the philosophers have no other proof than the observation of the occurrence of the burning, when there is contact with fire, but observation proves only a simultaneity, not a causation, and, in reality, there is no other cause but God" (al-Ghazālī, 1997, p. 196).

However, al-Ghazālī's argument against the necessary connection is an ontological claim, i.e. his conclusion of this argument is that there are no real causal connections in nature. On the other hand, Hume's argument is epistemological; reason cannot discover such causal relations between such events; we cannot obtain the impression of a necessary connection between two events.

In spite of some critical similarities between Hume and al-Ghazālī, Hume is a rigorous critic of occasionalism. He protests that those philosophers for whom "everything is full of God" are carrying their arguments beyond the sphere of experience into a "fairy land" where "we have no reason to trust our common methods of argument" (Hume, 1975, p. 59). According to Hume:

We are ignorant of the manner in which bodies operate on each other ... But are we not equally ignorant of the manner or force by which a mind, even the Supreme Mind, operates, either on itself or on body? Whence, I beseech you, do we acquire any idea of it? We have no sentiment or consciousness of this power in ourselves. We have no idea of the Supreme Being but what we learn from reflection on our faculties. Were our ignorance, therefore, a good reason for rejecting anything, we should be led into that principle of denying all energy in the Supreme Being, as much as in the grossest matter. We surely comprehend as little the operations of the one as of the other. Is it more difficult to conceive that motion may arise from impulse, than that it may arise from volition? All we know is our profound ignorance in both cases. (1975, p. 60)

As Halevi (2002) points out, the gap between al-Ghazālī and Hume lies in the scope of their skepticism. According to Halevi, al-Ghazālī's skepticism is partial or selective, whereas Hume's skepticism is existential insofar as it envelops one's outlook and personality.

Al-Ghazālī does not at all model theology after the principles of the "experimental method". For him the very idea that philosophical knowledge of the external world rests on imperfect foundations proves that the order of this world may be quite different from what we observe and justifies belief in divine causation. Surely Hume would dismiss this "fanciful belief" and say that "a wise man ... proportions his belief to the evidence". (Halevi, 2002, p. 33)

One other key difference between al-Ghazālī and Hume is worth noting here. I have shown that al-Ghazālī believes in the universal principle of causation. In other words, he believes that the efficient cause necessitates its effect. For him, causation and the fact that the existence of an occurrent has to become necessary by its cause is an a priori principle that is among the basic principles of the intellect and needs no proof.

Any event has a cause, [if asked] how do you know that? You may say that this principle requires confirmation, as it is primary and necessary within the intellect. If he understands it his intellect then must necessarily believe that any event has a cause. (al-Ghazālī, 2013, p. 20)

On the other hand, I have shown that Hume does not allow this traditional way of understanding the universal principle of causation—or, as I mentioned before, the

“causal maxim.” He argues that it is not a necessary truth that every beginning of existence has a cause, and he refutes several arguments put forward by proponents of this principle (which were fully discussed in the chapter on “the causal maxim.”

Now, there is a possible answer available to al-Ghazālī in response to Hume on this point. Since al-Ghazālī believes that the fact that every efficient cause can necessitate its effect—hence, for instance, if there is a sufficient and efficient cause of the world, the world must come into existence without any delays—is an a priori truth, he says that those who are skeptical about this fact can become aware of their ignorance by simply elaborating for themselves the meanings of “cause” and “occurrent.”

Al-Ghazālī believes that any skeptic would accept this principle if he understood the exact meaning of the words “occurrent” and “cause.” In other words, Hume would not be a skeptic were he not ignorant about the meaning of those words. Hence, Hume will acknowledge this principle if he understands the meaning of its essential terms.

This principle must be affirmed; for it is a priori and necessary according to reason. The one who is not moved by it is, perhaps, not moved because it is unclear to him what we intend by the term “occurrent” and the term “cause”. If he understood them, his mind would necessarily believe that every occurrent has a cause. (Al-Ghazālī, 2013, p. 28)

According to al-Ghazālī, an “occurrent” (*ḥādīth*) is that which was non-existent and then became existent. But its existence is contingent upon its essence. In other words, an “occurrent,” in its essence, is equal to existence and non-existence. Existence is not impossible for it because if it were, it could never come into existence. However, we know that it is existent now. Therefore, it is not the case that existence is impossible for it. Moreover, the existence of an “occurrent” is not necessary in virtue of its essence. It is not necessary because if it were, it would always exist and there would be no time in

which it was not. But, based on this supposition, the “occurrent” has temporal existence, which means that there was a time when it did not exist. So, an “occurrent” is not necessary either. Rather, the existence is contingent for an occurrent’s essence. And since its existence is not necessary for its essence and it is equal to being and non-being, it needs something to push it into existence. In other words, it needs its efficient cause in order to be. Contingent beings, in order to be and become existent need preponderance. If their non-existences continue, it is because there is nothing that gives preponderance to existence over non-existence.

Therefore, al-Ghazālī tries to awaken Hume from his ignorance in respect of his denial of the rationality of the causal maxim by elaborating the meanings of “cause” and “occurrent.”

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