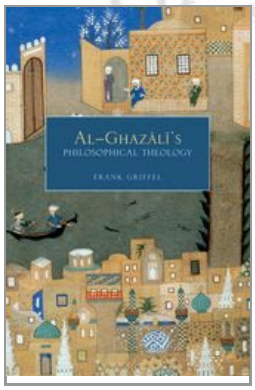
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Al-Ghazali's Philosophical Theology
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The Seventeenth Discussion of The Incoherence of the Philosophers

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[–] Abstract and Keywords

The seventeenth discussion in al-Ghazali *Incoherence of the Philosophers* (*Tahafut al-falasifa*) has often been regarded as the *locus classicus* for an occasionalist critique of the concept of causality. Most interpreters, however, disregarded the internal structure of this chapter and didn't realize that al-Ghazali offers more than one solution for the question of whether what we consider a cause truly has an effect on what we consider an effect. For al-Ghazali, occasionalism is one possible explanation of what we witness with our senses. Yet secondary causality is also considered a possible explanation as long as it does not assume that any cause could stand on its own. All causes depend on other causes, which all go back to one single cause, namely God. This scenario is acceptable for al-Ghazali as long as the particular connection between cause and effect that we witness is not considered necessary. For al-Ghazali, "necessary" means that there would be no conceivable alternative state of affairs. His understanding of "necessary" is different from that of Avicenna. This chapter discusses their differences and comes to the conclusion

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that secondary causality is acceptable for al-Ghazali as long at it doesn't imply that this particular world is a *necessary* creation of God. For al-Ghazali, this world with all its connections between causes and effects God's *contingent* creation. God has chosen this world among alternatives. For al-Ghazali these alternatives worlds are conceivable in our mind.

Keywords: causality, occasionalism, secondary causality, necessity, modalities, al-Juwayni, Julian Obermann

The seventeenth discussion of al-Ghazālī's *Incoherence of the Philosophers* has become famous for its criticism of causality. When Solomon Munk, the first Western analyst of the *Incoherence*, read the seventeenth discussion, he understood al-Ghazālī as saying that "the philosophers' theory of causality is false, and that they are not right when they deny that things can happen contrary to what they call the law of nature and contrary to what happens *habitually*."[1] For Munk, this was an expression of al-Ghazālī's skepticism, which simply denied the existence of causality in the outside world. For students of philosophy and theology, the seventeenth discussion of the *Incoherence* has become a *locus classicus* for pious and yet intelligent criticism of the existence of causal connection. The mistaken understanding that here al-Ghazālī denies the existence of causal connections still persists today. Michael E. Marmura, for instance, goes as far as saying that for al-Ghazālī, "the Aristotelian theory of natural efficient causation is false."[2]

A close reading of the seventeenth discussion shows, however, that on its two dozen or so pages, al-Ghazālī does not deny the existence of causal connections—and thus of causality—and he certainly does not argue that efficient causality as an explanation of physical change is false. Among the many things he does in this discussion is open ways to uphold causality as an epistemological principle of the natural sciences, while remaining uncommitted whether those things in this world that we regard as causes truly have efficacy on their assumed effects. More important, however, the seventeenth discussion is a criticism of Avicenna's necessarianism, that is, the position that events in this world are necessarily determined and could not be any different from what they are.

(p.148) Al-Ghazālī begins his analysis of the seventeenth discussion by stating a much more limited goal. In its preceding introduction, he says that he aims to convince the followers of the philosophical movement and those who are attracted to its teachings that the things they deem impossible—namely, some prophetical miracles like the changing of a staff into a serpent,[3] the revivication of the dead,[4] or the splitting of the moon (Q 54.1)—should be considered possible events. If they are possible, the Qur'anic accounts of these events are literally true and do not need to be interpreted as metaphors.[5] In our earlier discussion of al-Ghazālī's interpretation of the Qur'an, we saw that according to his rule of interpretation, one's understanding of the text of revelation depends on what one considers possible or impossible. This premise determines al-Ghazālī's perspective in this discussion of the *Incoherence*. It is less a discussion about whether causality is a fact than it is a dispute about modalities and the way we know them. In the seventeenth discussion, al-Ghazālī argues with the Muslim philosophers about what is possible for God to create.[6]

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Al-Ghazālī presents the subject of causality as a problem of Qur'an interpretation. Although the *falāsifa* acknowledge that prophets are capable of performing extraordinary feats and can influence their surroundings through the practical faculty (*al-quwwa al-ʿamaliyya*) of their souls by creating rains, storms, and earthquakes, they did not accept that the prophets could change an inanimate being such as a piece of wood or a corpse into a living being such as a serpent or a human or that they could transform celestial objects such as the moon.[7] In their theories, a substance (*jawhar*)—here understood in the Aristotelian sense of a clearly defined object with a number of essential and unchanging characteristics—such as a piece of wood cannot change into another substance such as a living serpent. Celestial bodies are uncomposed in the *falāsifa*'s opinion and thus are not divisible. Yet the Qur'an and the *ḥadīth* describe miracles such as these as confirming the prophecies of Moses and Muḥammad. "For this reason," al-Ghazālī says at the end of the introduction to the seventeenth discussion, "it becomes necessary to plunge into the question [of causality] in order to affirm the existence of miracles." This all happens, he adds, in the interest of upholding the Muslim religious tenet that God is omnipotent (*qādirʿalā kull shay'*).[8]

In the seventeenth discussion itself, the claim of upholding God's omnipotence is nowhere mentioned. Indeed, only a very limited part of that chapter can be seen as responding to this concern. Al-Ghazālī's goal in this discussion is rather limited. In the opening sentence, he formulates the position of which he wishes to convince his readers: the connection between the generally accepted ideas of "the cause" and "the effect" is not a necessary one. If the readers accept this position, so goes the implicit assumption, their acceptance of the reported miracles will follow. Behind this understanding lies the principle that one must fully accept the authority of revelation in places where its literal wording is deemed possible. If the readers acknowledge that God's reports of prophetical miracles in the Qur'an are possible in their outward sense (*ẓāhir*), they must accept the reports' truth.

(p.149) In accordance with the general strategy of the *Incoherence* to alert the followers of the philosophical movements to mistakes their teachers make in their reasoning, al-Ghazālī first presents an argument that aims to shake the reader's conviction as to the necessity of causal connections and then presents an alternative model for explaining these connections. Al-Ghazālī briefly introduces the counterargument as well as the alternative explanation in an opening statement that is a masterwork of philosophical literature:

> The connection (*iqtirān*) between what is habitually believed to be a cause and what is habitually believed to be an effect is not necessary (*ḍarūriy*^{an}) according to us. But [with] any two things that are not identical and which do not imply one another[9] it is not necessary that the existence or the nonexistence of one follows necessarily (*min ḍarūra*) out of the existence or the nonexistence of the other. (…) Their connection is due to the prior decree (*taqdīr*) of God who creates them side by side (*ʿalā l-tasāwuq*), not to its being necessary by itself, incapable of separation.[10]

Here, al-Ghazālī lays out four conditions for explaining physical processes. The requirements are: (1) that the connection between a cause and its effect is not

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necessary; (2) that the effect can exist without the cause ("they are not incapable of separation"); (3) that God creates two events concomitantly, side by side; and (4) that God's creation follows a prior decree. Earlier in the introduction to the discussion, al-Ghazālī had said that from a Muslim's point of view, a physical theory is acceptable only if it leaves space for unusual creations "that disrupt the habitual course [of events]."[11] This condition is no longer part of the four in this initial statement of the discussion. This omission is an important indicator. Additionally, upholding divine omnipotence, which is mentioned as a motive for this debate at the end of the introductory statement, does not appear in the seventeenth discussion itself. In the discussion, al-Ghazālī focuses purely on the *possibility* of the reported miracles, and he does not claim that we should consider God capable of doing all those things the philosophers deny that He can do. It is important to understand that al-Ghazālī does not deny the existence of a connection between a cause and its effect; rather he denies the *necessary character* of this connection.[12]

On first sight, it seems that only a consequent occasionalist explanation of physical processes would fulfill these four conditions. Ulrich Rudolph, however, pointed out that not only occasionalism but also other types of explanations fulfill these four criteria. Most misleading is the third requirement that God would need to create events "side by side." These words seem to point exclusively to an occasionalist understanding of creation. One should keep in mind, however, that this formula leaves open *how* God creates events. Even an Avicennan philosopher holds that God creates the cause concomitant to its effect through secondary causality. Rudolph convincingly argues that although the seventeenth discussion of the *Incoherence* points toward occasionalism as a possible solution, it also allows for other solutions.[13] Al-Ghazālī chooses **(p.150)** language that can be easily associated with occasionalist theories, which has led many interpreters of this discussion to believe that here he argues exclusively in favor of it. On at least two occasions, however, al-Ghazālī alerts his occasionalist readers to some very undesired consequences of their position. He implicitly cautions his readers against subscribing to consequent occasionalist explanations of physical processes.[14] Simultaneously, al-Ghazālī alerts his target readership—Muslim scholars attracted to philosophical explanations—to a fundamental mistake they make when they talk about necessity and possibility. From that place, he develops several alternative explanations likely to satisfy the requirements for physical explanations as described by Aristotelian natural sciences. These alternative explanations accept the possibility of the reported prophetical miracles.

Prior analyses of the seventeenth chapter of the *Incoherence* do not always note its division into three different "positions" (singl. *maqām*).[15] Each "position" cites a claim within the teachings of a group of *falāsifa* and points out why this claim is either untenable or must be modified. These different claims come from different groups among the *falāsifa*. The "position" (*maqām*) is that of an opponent, which is rebuffed by al-Ghazālī's objections to it.[16] In one case, this rebuff is divided into two "approaches" (singl. *maslak*). It should be noted that a "position" within this text consists of the citation of a philosophical position *plus* al-Ghazālī's answer to it.[17] The character of the *Incoherence* allows al-Ghazālī to cite all sorts of objections in his answers, whether he subscribes to them or not. In order to make his point most effectively, al-Ghazālī puts forward more

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than just one explanation as to how the reported miracles are possible. In the Second and the Third Positions, he presents in total three different interpretations of the relationship between what is called cause and effect. These explanations are *different* theories; each is consistent only within itself. The seventeenth discussion leaves open whether al-Ghazālī subscribes to any one of them. Although the first of his alternative explanations denies the existence of natures, meaning the unchanging character of the relation between cause and effect, the second alternative accepts that natures do exist.[18] Al-Ghazālī presents various theories that shake the convictions of his opponents on different levels, sometimes more and sometimes less radically.

The First Position: Observation Does Not Establish Causal Connections

The First Position (*al-maqām al-awwal*) cites the claim that in a given example in which fire comes into contact with a cotton ball, "the efficient cause of the [cotton's] combustion is the fire alone."[19] The fire is the agent or the efficient cause (*fāʿil*) igniting the cotton in accord with its nature (*fāʿil bi-ṭabʿ*), and it has no choice over its actions. According to this position, fire is the *only* efficient cause of the ignition; it is the only sufficient cause that by itself makes ignition necessary. This is not the position of Avicenna: he taught that in any given **(p.151)** chain of efficient causes, only the first element is the cause in the real sense of that word. That first element is the absolute cause (*ʿilla muṭlaqa*) of all that follows after it. Thus, with regard to efficient causality, there is only one absolute cause, and 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. At other places in his writing, al-Ghazālī ascribed this First Position somehow vaguely to a group of people he calls "eternalist" (*dahriyyūn*) for their belief in an eternal world without a cause or a maker. These people, he adds, are clandestine apostates (*zanādiqa*), meaning they could not be counted among the various groups of Muslims.[20] Later in this book, al-Ghazālī adds that this position is closely akin to the one held by Muʿtazilites with regard to the generation (*tawallud*) of human actions and their effects.[21]

From his later comment in the *Revival*, we know that al-Ghazālī condemned as unbelief (*kufr*) the view that stars would be by themselves efficient causes that are not governed by higher ones. The First Position in this discussion presents this view. It is not surprising that al-Ghazālī responds vigorously in response to this theory: this position must be denied. Rather, the efficient cause for the burning of the cotton, and it being reduced to ashes, is God. Again, these words seem to suggest that al-Ghazālī refers exclusively to occasionalism as the only acceptable alternative explanation. An Avicennan, however, could easily agree with the statement that God is the ultimate or absolute efficient cause of the cotton's combustion. This alternate explanation is taken into account in the statement in which al-Ghazālī rejects the initial position:

> This [position] is one of those that we deny. Rather we say that the efficient cause (*fāʿil*) 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.[22]

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The angels here are the celestial intellects. The correct position is either an occasionalist explanation *or* Avicenna's view of creation by means of secondary causality. In both theories, not the fire but God is the absolute efficient cause of the burning.

In this First Position, al-Ghazālī implies agreement with Avicenna and the Aristotelian philosophers when he says that events such as the birth of a baby are not simply caused by the parents but rather by "the First" (*al-awwal*), meaning God, "either without mediation or through the mediation of the angels who are entrusted with these temporal things."[23] Here again, the word "angels" (*malā 'ika*) refers to the celestial intellects, who in Avicenna's cosmology are causal intermediaries between God and the sublunar sphere. For events in the sublunar sphere, al-Ghazālī names the active intellect as one of their causes. The intellect is named as the "giver of forms" (*wāhib al-ṣuwar*) in the sphere of generation and corruption. Here in the First Position, al-Ghazālī accepts that the "giver of forms" is the angel (*malak*) from which the "events that occur when contacts between bodies take place" have their source (or emanate).[24] **(p.152)** This is the position of those who search diligently for truth among the philosophers (*muḥaqqiqūhum*), al-Ghazālī says.

After finding common ground with the Avicennans, al-Ghazālī attacks the adversary's position that fire can be the only efficient cause. His objection is based on epistemology: the simple observation of one thing following another does not justify denying the involvement of causes that are not visible. Earlier Ash'arites such as al-Bāqillānī had used the same line of reasoning with a more radical scope, arguing that sense perception does not establish any connection between cause and effect.[25] According to al-Bāqillānī, all we can know without doubt is that these two things usually follow each other in our observation or our sense perception (*mushāhada*). Such perceptions, however, are unable to inform us about a causal connection between these two events. Like earlier Ash'arites, al-Ghazālī uses this argument in a radical sense. The fact that we experience cotton as burning every time fire touches it informs us neither (1) about *any* causal connection between the fire and the burning of the cotton nor (2) whether fire is the only cause:

> Observation (*mushāhada*) points towards a concomitant occurrence (*al-ḥuṣūl 'indahu*) but not to a combined occurrence (*al-ḥuṣūl bihi*) and that there is no other cause ('*illa*) for it.[26]

In the context of the First Position, al-Ghazālī focuses on the latter point; we have no means to know whether fire is the only efficient cause, as these people claim. Nobody would say, for instance, that the parents (al-Ghazālī says elliptically: the father) are the only efficient causes of a child. There may be hidden causes everywhere, and it is next to impossible to say that any given cause is the only sufficient one for the effect it appears to trigger.

Al-Ghazālī's denial of the claim that an event may have a single immanent efficient cause is based on the wider-ranging epistemological objection that sense perception creates no knowledge of causal dependencies. When a thing exists together with ('*inda*) another, it

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does not mean that it exists through (*bi-*) it.[27] Concurrent events need not be connected with one another; and even if they are, the connection may be much more complex than what we witness.

By using this argument, al-Ghazālī introduces some confusion into this First Position. Apparently, al-Ghazālī intends to argue against the position that fire is the *absolute* efficient cause of the cotton's burning, a point at which he rightfully claims agreement with the Avicennan *falāsifa*. But by referring to the epistemological objection that observation can prove concomitance of two events but no connection between them, he has justifiably been understood as being more radical. He seems to object not only to those who teach there are (absolute) efficient causes other than God, but also to those who teach that causes have efficacy on their effects.

This is not where the confusion ends. While arguing that fire cannot be the only efficient cause for the cotton's combustion, al-Ghazālī brings a very brief side argument: "As for the fire, it is an inanimate being (*jamād*) and it has no action (*fiʿl*)."[28] Here al-Ghazālī refers back to an objection he made in the third discussion in the *Incoherence* about what can be called a *fāʿil*, or, an agent **(p.153)** or an efficient cause. Motivated by considerations that will become clear later during this study, al-Ghazālī simply rejects the terminology of the *falāsifa*—the Avicennans as well as any other group. For Avicenna, for instance, the word *fāʿil* merely describes the efficient cause: it is the thing that gives existence to another thing.[29] In the third discussion of the *Incoherence*, al-Ghazālī rejects that usage on the grounds that according to common understanding, the word *fāʿil* describes the originator of an act—al-Ghazālī uses a pronoun that refers to a person and not a thing—who has a will, has chosen the act freely, and has knowledge of what is willed.[30] This sense of *fāʿil* is totally alien to Avicenna, and al-Ghazālī's statement here shows a fundamental disagreement between him and Avicenna about the meaning of the word *fāʿil*. For al-Ghazālī, it means "voluntary agent"; for Avicenna, simply "efficient cause." In the seventeenth discussion, al-Ghazālī throws in this earlier argument without further pursuing the point. Although primarily directed against a nonsecondary understanding of causality, the sentence is ultimately also directed against Avicenna's particular understanding of secondary causality. In the context of the First Position here, which does not represent Avicenna's view on causality, the sentence is somewhat misleading and has, in fact, led to misunderstandings among al-Ghazālī's modern interpreters.[31]

The First Approach of the Second Position: How the Natural Sciences Are Possible Even in an Occasionalist Universe

The Second Position (*al-maqām al-thānī*) solves some of the confusion that remains from the First. It begins with the claim of a philosophical opponent who concedes that fire is not the true efficient cause of the cotton's ignition. This philosopher admits that events emanate from "the principles of temporary events" (*mabādīʾ al-ḥawādith*). He maintains that the connection between the cause and the effect is inseparable and necessary. Causal processes proceed with necessity and in accord with the natures of things, not by means of deliberation and choice by the efficient cause. The philosophical adversary

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argues that all things have a certain predisposition (*isti'dād*) that determines how they react to other things. This predisposition is part of the thing's nature (*ṭab'*).[32] Because these natures cannot change, the things react necessarily to given circumstances. Cotton, for instance, necessarily burns when it comes in contact with fire. Here, al-Ghazālī paraphrases the position of Avicenna and other Aristotelians. The philosopher of the Second Position teaches secondary causality; he believes in the necessity of causal connection and in the existence of natures (*ṭabā'i'*).

Al-Ghazālī divides his response to this position into two "approaches" (singl. *maslak*). The First Approach counters this philosophical position with that of a consistent occasionalist. Al-Ghazālī asks his philosopher-opponent to consider that nothing in this world follows its given natures. Everything can be changed if so willed by God.[33] Pointing to God's omnipotence prompts the opponent to bring his most forceful objection against al-Ghazālī's criticism of **(p.154)** causality. If there are no natures and no given predispositions, the philosopher-opponent says, how are we to know anything about the world? If we do not take our judgments from the nature of things, we may well take them from any random source, and then they simply become arbitrary:

> If one denies that the effects follow necessarily from their causes and relates them to the will of the 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 someone 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 [vision of them] for him. And if someone leaves a book in the house, let him allow as possible its change on his returning home into a beardless slave boy (…) or into an animal (…).[34]

Al-Ghazālī admits that this is a strong objection by saying that it brings up the vilifying or hideous impossibilities (*muḥālāt shanī'a*) of a consequent occasionalist position, impossibilities that one might not want to be associated with.[35] Much of what follows in the seventeenth discussion may be understood as al-Ghazālī's response to what he evidently considered a quite compelling point.

In his most immediate answer, al-Ghazālī brings two arguments that defend the occasionalist's position. In the first, he introduces a difference between two types of possibilities. This passage in the seventeenth discussion is very similar to one in al-Ghazālī's *Balanced Book on What-to-Believe*, yet here in the *Incoherence,* the language he uses is surprisingly untechnical. Al-Ghazālī says that although all of the possibilities the adversary mentions are possible, there is a difference between possibility and actuality. Admitting that something is possible involves no commitment that it is true. If God had created this world in such a way that we would make no distinction between what is possible and what exists in actuality, we would indeed be confused about the possibility of a book transforming into a horse. However, God created human knowledge in such a way that we *do* distinguish what is merely possible from what occurs in actuality. Granted that it is possible—and thus within God's power—to change books into horses at any moment, we know that in our world such an event never occurs, whether in our

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presence or in our absence. 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."[36] Al-Ghazālī makes his point again in an opaque passage with an example that he explicates fully in the *Balanced Book on What-to-Believe*. The philosophers agree, al-Ghazālī says, that prophets have been given the ability to look into the future. When they do, they have certain knowledge about which future contingencies will become actual and which will not be realized. The clairvoyance of the prophets shows that the distinctions between what possibilities will and will not occur in the future already exist today. In the *Balanced Book*, al-Ghazālī says that those future contingencies, which will remain unrealized, are **(p.155)** possible with regard to themselves but impossible with regard to something else.[37] In other words, an event such as a book changing into a horse is possible with regard to itself, but with regard to the "something else" of God's habit, such an event will not occur.

William Courtenay, who was unaware of the discussion in the *Balanced Book*, understood that here al-Ghazālī applies a distinction between God's absolute power-to-act and the exercised or ordained power of God.[38] This distinction can be also understood as analogous to al-Fārābī's distinction between what is possible or necessary "in itself" and "from something else." Regarded purely in itself, it is within God's power to change books into horses. But God operates consistently and does not alter his operations by whim or caprice. Regarded from the perspective of God's preknowledge and the consistency of His action, we do not think it possible for books to turn into animals. God will not interrupt the habitual operations of what appears to be cause and effect without good reason. The only reason why God would suspend the habitual relationship between causes and effects—so it seems in the seventeenth discussion—is the confirmation of one of His prophets. If God's preknowledge includes the enactment of a miracle, He suspends His habit.

Al-Ghazālī brings a second argument in defense of the occasionalist's position, one that focuses on the relationship between events in the created world and our knowledge of them. Usually we say their relationship is causal: outside events cause our knowledge of them. For the occasionalist, this translates into saying that this connection is not by itself determined. Given that there are no causes among creatures, the outside events cannot cause our knowledge, the occasionalist claims. Rather, God both creates the event in the outside world and creates our knowledge independently to accord with the event.[39] Here again, the relationship is habitual but not necessary. Although we have reason to trust in God and assume that our knowledge of the world corresponds to its actual function, there is no direct connection between the events and our knowledge of them.[40]

Michael E. Marmura and Ulrich Rudolph suggest that al-Ghazālī tried to rebuff the objection that occasionalism leads to ignorance by augmenting an occasionalist view of causality in the outside world with an occasionalist understanding of human knowledge. Since God has direct control over our knowledge as well as over our imaginations, and since we witness that nobody is seriously concerned about books changing into an animal

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zoo, God evidently prevents us from being confused by not creating in us absurd thoughts such as these.[41] The force of this line of argument seems to rest on the common observations (1) that nobody experiences the transformations of books into animals and also (2) that humans with a sound intellect do not draw false conclusions about what is likely to happen. The second experience is just as important as the first. God creates human knowledge to be neither discontinuous nor capricious. Agreeing with his philosopher-opponent, al-Ghazālī believes that true knowledge corresponds with its objects in the outside world. Here he aims to strengthen the notion that humans do have true knowledge. He argues that God creates our knowledge of the world habitually in accord with it; truth is **(p.156)** therefore a result of God's habit and not of causal connections between objects and their perception.

The philosopher-opponent suggests that an omnipotent God may act arbitrarily. As in the first point, al-Ghazālī's rebuff is based on the strictly habitual character of God's actions. He responds that God's habit is manifest in two ways. First, books habitually do not change into animals. Second, our knowledge of the actual (and not possible) transformation of books habitually corresponds to what actually happens in the outside world. Stressing the strictly habitual character of God's operations aims at rejecting the ideas that this world could be chaotic or that we do not have true knowledge of it. It is indeed possible in principle for books to turn into horses while still giving us the impression that they had remained books. If God were to will that sort of thing, He could prevent us from ever finding out what had really happened to our books. Neither of these incidents would ever happen, al-Ghazālī says, because past experience shows that God habitually does not act this way. Humans are therefore not confused about books turning into horses, because it is part of God's habit to prevent our confusion. When God made His plan of creation, He chose not to enact these possibilities that the philosophers evoke, and He created human knowledge accordingly. God already knows in His divine foreknowledge that He would not do a certain act and thus break His habit.[42]

Miracles are naturally part of God's foreknowledge. When they occur, God adjusts the knowledge of those humans who witness it. The witnesses' habitual foregone conclusions about the expected course of events will be suspended in order for them to realize that they are, in fact, witnessing a miracle:

> If, then, God disrupts (*kharaqa*) the habitual [course of events] by making [the miracle] occur at a time when a disruption of the habitual events takes place, these cognitions [about the habitual course of events] have slipped away from people's minds since God didn't create them.[43]

The two points al-Ghazālī makes in the First Approach of the Second Position are those of a fully consistent occasionalist who stresses the reliability of God's habit. God directly creates all events in his creation, including the knowledge of humans. Yet the strictly habitual character of God's actions avoids epistemological solipsism and creates the possibility of natural science. Humans successfully master the world by knowing, for instance, that books will remain books. This fact is a clear indication about the strictly habitual character of God's actions.

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The Second Approach of the Second Position: An Immanent Explanation of Miracles

Al-Ghazālī presents to his readers a second consistent theory to explain miracles. This theory promises "deliverance from these vilifications," meaning the absurdities of having to reckon with books changing into horses and similar **(p.157)** things.[44] This Second Approach (*al-maslak al-thānī*) lacks the radical spirit of the first. In fact, it has often been regarded as a wide-ranging concession to al-Ghazālī's philosophical opponents that subscribe to the necessary character of the connection between cause and effect.[45] Al-Ghazālī proposes that physical processes, which are simply unknown to us, explain those prophetical miracles that the *falāsifa* deny. We are unaware of these processes because they occur so rarely that we may not have witnessed them. The Qu'ran depicts Abraham's being thrown into a blazing fire (Q 21:68, 29:24, 37:97) and surviving unharmed; his survival can be seen as similar to people who coat themselves with talc and sit 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.[46] Miracles are sometimes hard to distinguish from what may be called magic or sorcery. Talismanic art, for instance, has at times repelled snakes, scorpions, or bedbugs from towns and villages.[47]

The likely confusion of sorcery and prophetic miracles is an important motif in al-Ghazālī's later works, most prominently in his autobiography, *Deliverer from Error.* These later passages will be discussed further on. This explanation of prophetical "miracles" provided in the Second Approach is certainly the one most conducive to a philosophical reader. We also note that this approach does not uphold the initial stipulation of the discussion's introduction that physical theories must leave God space for "disrupting (*kharaqa*) the habitual course [of events]."[48] Indeed, at the beginning of the seventeenth discussion, this condition fails to be mentioned. In any case, the kinds of explanations proposed in this Second Approach are not disruptions of the physical course of events. Here prophetical "miracles" are merely understood as marvels, seemingly wondrous events that, if all factors are taken into consideration, can be explained as effects of natural causes. They are effects and permutations that may be witnessed rarely or may not have been witnessed at all. Still, al-Ghazālī says, the serious natural philosopher should consider them possible. He must acknowledge that the natural sciences cannot explain all phenomena that humans have witnessed in the past: "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?"[49] Such a denial of the reported "miracles" would be because of a lack of understanding the ways of God's creation: "Whoever studies the wonders of the sciences will not regard whatever has been reported of the prophetical miracles in any way remote from the power of God."[50]

Overcoming Occasionalism: The Third Position

Al-Ghazālī quotes another claim of an opposing philosopher in what we find as the third and last position (*maqām*).[51] This third philosopher-adversary **(p.158)** proposes a

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seemingly simple understanding: both parties must agree upon the fact that God can only create what is possible and that He cannot create what is impossible. This leads the philosopher to ask al-Ghazālī: what does he believe is impossible?[52] If he would say that impossibility is just the negation of two contradictory things existing together, he would simply render himself ridiculous, since according to the opponent, it is obvious that many other things are also impossible for God to create. God cannot move a dead man's hand, and He cannot create a will in a creature that has no knowledge. There can also be no knowledge in creatures that have no life.

The imaginary opponent puts his finger on a significant discrepancy between the two parties that explains much of their differences. The Aristotelian philosophers regard creation as a necessary process that flows from God's unchanging knowledge. God's knowledge and His power to create are together sufficient causes for the world to be as it is. God's knowledge is the determining factor that necessitates the world in its current state, and His knowledge is itself determined by His unchanging and eternal nature. Presuming that God's knowledge is eternal and unchanging makes the world's history determined and necessary. This necessity does not permit the creation of anything other than what actually is. Any actual creation is necessitated by the combination of long chains of causes that all have its starting point in God's nature. God cannot change the continuous realization of these chains of causes and effects, just as He cannot make water flow uphill. For the *falāsifa*, everything that does not exist in actuality is therefore impossible to be created. It is impossible for the world to be anything other than it is.

Modern Western interpreters of al-Ghazālī disagree about his answer to this challenge. The majority holds that al-Ghazālī's response makes a significant concession to the position of the *falāsifa*: he acknowledges that there are certain limits to God's creative power, boundaries much narrower than that which is logically impossible. Al-Ghazālī concedes that some assumptions imply others. A stone, for instance, can have no knowledge. The assumption of knowledge in a thing implies that this thing has life. The same is true for will and knowledge, as the former implies the latter. We cannot say that something has a will without also assuming that it has prior knowledge about the object of its will. In his interpretation of the Third Position, Ulrich Rudolph points to the fact that from the very beginning of the seventeenth discussion, relationships of identification and implication were exempt from al-Ghazālī's critique of causality. The initial statement of this discussion says that, "[with] any two things that are *not identical* and which do *not imply one another,* it is not necessary that the existence or the nonexistence of one follows necessarily out of the existence or the nonexistence of the other."[53] Here at the end of the discussion, al-Ghazālī clarifies what he meant when he had said that two things are identical or imply each other.

At the start of this Third Position, in his response to the philosopher's challenge al-Ghazali postulates three principles that God's creative power is subject to. In his creation, God is bound by three norms: First of all, God cannot violate the rule of excluded contradiction. He thus cannot affirm (meaning create) **(p.159)** and also deny (meaning not create) a specific thing at a given time. Second, God must accept relationships of implications. This is

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closely connected to the principle just mentioned: God cannot "affirm the special and at the same time deny the more general [when it includes the special]" (*ithbāt al-akhaṣṣ maʿanafī l-aʿamm*). Third, God cannot "affirm two things and at the same time deny one of them" (*ithbāt al-ithayn maʿa nafī l-wāḥid*). These three rules define what is impossible. Everything that is not limited by these three rules is, according to al-Ghazālī, possible for God to create.[54]

In the next step, al-Ghazālī explains how these three norms are to be applied. He gives some examples: God cannot create black and white in the same substrate or locus (*maḥall*), and he cannot create a person in two places at once since this would violate the principle of excluded contradiction. The second rule on the binding character of implications says that God can neither create a will without knowledge nor create knowledge without life.[55] Lenn E. Goodman suggests that acknowledging this principle introduces the Aristotelian schema of genera and differentia and of essences and accidental properties. Identifying a thing as X carries with it all further specification of X's definition.[56] If God wishes to create an animal, for instance, He must create it animated and cannot leave it lifeless.

The third rule brings with it an equally wide-raging consequence, since it disallows, in al-Ghazālī's view, "the changing of genera" (*qalb al-ajnās*). Goodman probably goes too far when he argues that with this principle, al-Ghazālī accepts the whole apparatus of Aristotelian hylemorphism.[57] More likely, al-Ghazālī means that transformations can only happen within the "genera" and not across their lines. Blood can change into sperm, and water can change into steam, but a color cannot be changed into a material object, for instance. In the permitted cases, the matter (*mādda*) of the initial substance assumes a different form (*ṣūra*). For al-Ghazālī, matter is generally receptive to change and may be transformed into another material being. A stick may therefore be transformed into a serpent, since the two share a "common matter" (*mādda mushtarika*). It is impossible, however, that an attribute such as "blackness" could change into a material being such as a cooking pot.[58] Thus the word "genera" (*ajnās*) describes for al-Ghazālī not the Aristotelian classes of beings but the two traditional classes of beings in the ontology of *kalām*: bodies that consist of atoms (*jawāhir*) and attributes, that is, accidents (*aʿrāḍ*) that subsist in bodies.[59] This is indeed how the word "genera" (*ajnās*) has been used by earlier Ashʿarites.[60] Transformation between bodies and accidents is impossible. All changes within the genera are possible, says al-Ghazālī, and it is, for instance, easy for God to move the body of a dead man. This would not require the creation of life in a corpse, for God could just move the limbs of the corpse without putting life into it. Not the man but God would be the mover.

Lenn E. Goodman's and Ulrich Rudolph's readings of the Third Position represent the majority opinion of modern interpreters.[61] They understand that in the concluding part of the seventeenth discussion, al-Ghazālī makes significant concessions to his philosophical opponents. He acknowledges that God is bound not only by certain rules of logic, such as the principle of excluded **(p.160)** contradiction, but also to a limited number of natural laws that we know to be true and binding from experience.[62] The impossibility of

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"changing the genera" (*qalb al-ajnās*) would be part of this second group of limitations on God's power.

Julian Obermann's "Subjectivist" Interpretation of the Seventeenth Discussion

There is also a minority interpretation whose understanding of the Third Position is probably just as consistent with the text as the one we have just discussed. In its scope, however, it is much more radical. Julian Obermann, who was the first Western scholar to critically analyze the seventeenth discussion of the *Incoherence*, presented the results of his 1915 dissertation in a long article and a considerably expanded book, both published in Vienna shortly before and after the First World War.[63] His interpretation, however, did not have much impact on later scholarship.[64]

Obermann connects al-Ghazālī's denial that anything in this world could be an absolute efficient cause to arguments presented in earlier discussions of the *Incoherence*. In the first discussion on the subject of the eternity of the world, al-Ghazālī argues that "will" (*irāda*) is something that is not determined by the things we find in this world. If a thirsty man is given two glasses of water that are identical to each other and equal in their position to him, the man is not at all paralyzed by the choice between these two identically beneficial options. His choice between the two glasses is not determined by his experience of the outside world. For al-Ghazālī, will is the capacity to distinguish one thing from another that is exactly similar to it.[65] The lack of difference between the two glasses has no effect on the thirsty man's choice to pick one. It is the human's will that distinguishes the two glasses and not the human's knowledge of them. This shows al-Ghazālī that the *falāsifa*'s causal determinism cannot explain why the thirsty man picks a glass. For them, his choice should be determined by the differences he perceives. Since there are no differences, a deterministic explanation of this situation would have the man die of thirst, unable to pick either of the two glasses.[66]

Obermann argued more generally that for al-Ghazālī, humans distinguish things by means of their will and not by what the things really are or by how they interact with our epistemological apparatus. The criteria of the human will are often random and arbitrary. They are certainly not determined by the outside world. The lack of distinction between the two glasses is not in any way causally connected to the choice of the man. More generally, our position toward causal connections in the outside world is independent of what we perceive there. Our senses do not perceive the agency of a cause on its effect: causality is the result of a choice within us. It is "solely due to the continuity of a habitual action that our memory and our imagination are imprinted with the validity of an action according to its repeated observation."[67]

(p.161) For Obermann, who wrote his analysis of al-Ghazālī's critique during the late 1910s, this is the position of "philosophical subjectivism." Obermann interpreted al-Ghazālī's criticism of causality from the point of view of the post-Kantian debate about "subjectivism" and "psychologism" in early twentieth-century Vienna.[68] Al-Ghazālī's thought, however, even if it is understood along Obermann's lines, can hardly be compared with modern subjectivism. There is not enough evidence that the Muslim theologian argued in favor of a relativist view of human knowledge, one in which

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knowledge is dependent on epistemological decisions by the perceiving subject. In fact, in the face of philosophical accusations of epistemological relativism, al-Ghazālī maintains that truth is the correspondence of human knowledge with the outside reality. He believes that humans do have true knowledge in this sense. Therefore, Hans Heinrich Schaeler, who criticized Obermann's choice of "subjectivism," suggested that if Obermann's interpretation is correct, al-Ghazālī's approach should rather be called "anthropocentric." It is not occupied with subjectivist concern but aims to gain further insight into the way God created humanity.[69]

Obermann welcomed al-Ghazālī's critique of Avicenna's epistemological realism and considered it a major philosophical achievement.[70] His analysis places al-Ghazālī as a predecessor of Immanuel Kant and proposes that, whereas for the Muslim theologian empirical observation stands on shaky grounds, human judgments remain the solid foundation of certain and firm knowledge. Obermann understood that in the Third Position of the seventeenth discussion, al-Ghazālī reconsiders his earlier suggestion that our knowledge is not necessarily connected to the world. But although there may not be a necessary connection between the world and our knowledge of it, just as there is no necessary connection between any two events within the world, our knowledge is bound to certain conditions of our judgments. The most important judgments are those about what is possible, what is impossible, and what is necessary.

Thus, according to Obermann, al-Ghazālī objects to what he believes is a naive empiricism of the *falāsifa* by saying that possibility and impossibility are not contained within the things themselves. They are predicates of human judgments:

> Science only accepts necessary connections where they have to be thought of as necessary and impossibilities where they have to be thought of as impossibilities. The standard for the value of scientific knowledge, for its dignity, its right, and its claims is created only within our minds.[71]

According to our mutual judgments, it is impossible that one object is at two places at the same time. This impossibility we know not from observation—as we cannot inspect all places of the world simultaneously—but rather we hold it as a principle of our judgment. When we say that an individual is within the house, as al-Ghazālī writes in the Third Position, it implies that we deny that he or she is outside of the house.[72] We deny the existence of the individual outside the house, not because we cannot find him or her outside, but because **(p.162)** we cannot think of a person as being at the same time in- and outside of the house.[73] The same applies to the other implications discussed above. When we say that we know that things without life cannot possess knowledge, we refer to a principle of our judgment, rather than the world as such. It is inconceivable that inanimate beings are knowledgeable, and thus it is impossible for us to assume the existence of a knowledgeable stone.[74]

All this leads to the acknowledgment of certain conditions for human knowledge, according to Obermann. If we talk about something having a will (*irāda*), we implicitly assume that this something also has knowledge because we cannot imagine will without

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knowledge.[75] The necessary connection between will and knowledge is not something that we find in the objects of the world; rather, it is generated by our judgments. In the outside world, there may or may not be a connection between will and knowledge.

In the First Position of the seventeenth discussion, al-Ghazālī had disputed that our sense perception (*mushāhada*) can detect necessity in the outside world. Thus, Obermann's implicit question: would he give up this position during the later course of the discussion in the Second and Third Positions? In the Third Position, which is for Obermann something like a summary conclusion to the whole seventeenth discussion, al-Ghazālī proposes that the principle of causality is valid not in an absolute sense but in a logical-intellectual one. It is valid as a law within the sciences, although its empirical verification transcends the boundaries of human knowledge and leads into the field of religion.

Al-Ghazālī's Critique of Avicenna's Conception of the Modalities

Obermann's use of the category "subjectivism" may not have been an auspicious one. It seems evident today that al-Ghazālī's approach has nothing to do with modern subjectivism. He does not say that human knowledge of what is possible is merely an impressed belief that has no connection to reality. It is true, says al-Ghazālī in the First Approach of the Second Position, that God could, in principle, disconnect our knowledge from the outside world. But that is only a thought experiment, similar to the possibility that books could change into animals, another possibility that God does not enact. We will see that trust in God (*tawakkul*) is a major condition for investigating the natural sciences. Such trust requires the certainty to know that God will not change books into horses or disconnect our knowledge from reality. Given that God habitually creates our knowledge to accord with reality, we can rely on our senses and our judgment and confidently pursue the natural sciences.

Yet there is a more moderate way to understand Obermann's interpretation of al-Ghazālī. Certain words and formulas used by al-Ghazālī support Obermann's suggestion that in the Third Position, al-Ghazālī is talking not about what God might possibly enact but rather what is possible for a human's judgments. The opponent in the Third Position starts the discussion by assuming that the modalities exist both within the power of God as well as in our knowledge.[76] Al-Ghazālī quotes the position of his Avicennan opponent who says that **(p.163)** the outside world is divided into two basic modalities, meaning it is divided into two categories of beings: (1) those that are necessary by themselves and (2) those that are by themselves possible (but not necessary).[77] The opponent implies that the mental existence of the modalities—meaning our judgments that something is necessary, possible, or impossible—is derived from their existence in reality. We will see that al-Ghazālī rejects such an understanding of the modalities. In his response, he does concede that God cannot *enact* the impossible. Yet he then immediately shifts the whole debate away from what God can do to what can be *affirmed* or *denied*, that is, to the level of human judgments.[78] Throughout the Third Position, al-Ghazālī combines language that refers to God's power to act—using such words as "power" (*qudra*) and "object of power" (*maqdūr*), words that refer to the outside world—with language that refers

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exclusively to human judgments, such as "affirmation" (*ithbāt*) and "negation" (*nafī*). The "impossible" is defined as the combination of an affirmation with its negation (*al-muḥāl ithbāt… maʿa nafī…*).[79] Impossibility seems to exist only in human judgments. If the interpreter of al-Ghazālī follows the hermeneutic strategy to replace the word "impossible" with its given definition, al-Ghazālī is saying: "God cannot enact an affirmation that is combined with its negation." This sentences, if it makes any sense at all, points to a nominalist interpretation of God's power to create and says: God cannot create judgments in our minds that combine an affirmation with its mutual negation.

Avicenna's position stands in opposition to this. He teaches that the mental existence of modalities derives from their existence in reality.[80] Avicenna taught that human knowledge is determined by the way God creates the world. Like most thinkers of his tradition, Avicenna was an epistemological realist; and like Plato and Aristotle, he believed in an eternal and invariant formal level of being that makes individual objects what they are and that makes the human soul a conscious copy of the formal basic structure of reality. Aristotle teaches that actual knowledge is identical with its object.[81] In being thought of, the formal basis of reality—the forms and ideas that are the backbones of reality—is actualized in the human mind. The human mind is thus directly acquainted with the formal underpinnings of reality. The knowledge it contains is "an inside view into the ultimate foundations of being and sees the visible world as its imitation or explication."[82] When we see a horse, for instance, we connect our sensual perception to the formal concept of "horseness," which is the universal essence or quiddity (*māhiyya*) of every individual horse. In Avicenna's opinion, knowledge can be achieved only by identifying a given individual object as a member of a class of being, a universal. Understanding means reducing any given multitude of sensual perceptions to a combination of universals. The horse may be white, male, and strong. Whiteness, maleness, and strength are universals that exist not only as categories of descriptions in our mind but also as entities that exist *in realiter* in the active intellect, from which humans receive them. The same applies to the modalities.

Al-Ghazālī questions the assumption of an ontological coherence between this world and our knowledge of it. Certain predications—which, for Avicenna, apply to things in the real world—apply, for al-Ghazālī, only to human **(p.164)** judgments. Al-Ghazālī's position can be clarified from the final sentences of the Third Position of the seventeenth discussion. Here al-Ghazālī makes the point that when we see a person acting orderly without a tremor or other freak movements, we cannot help assuming that the person has control over his or her movements. The orderly movements of a person lead to (*ḥaṣala*) the knowledge about his or her control. This connection, however, cannot be made solely from sensory perceptions. According to al-Ghazālī, our judgment that "the person is in control of the movements" is already understood from our observation of the orderly movements. This implication follows from how God has created the human mind:

> These are cognitions (*ʿulūm*) that God creates according to the habitual course [of events], by which we know the existence of one of the two alternatives [namely the person's control or non-control over his or her movements] but by which the

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> impossibility of the other alternative is not shown (…).[83]

Neither the sheer fact of the orderly movement nor our perception of it can create our judgment that the person is in control of his or her body. Even the fact that there are only two mutually exclusive alternatives ("in control" and "not in control") can be inferred neither from the world nor from our visual perception of the orderly movement. These predicates do not exist in the outside world; rather, they are names that we connect to certain sensual perceptions. Reality itself does not guaranty its own intelligibility.[84] Our understanding of the world relies on parameters that are not part of the world's formal structure. Saying that these parameters are—like all human cognitions (*ʿulūm*)—God's creations and that God produces our knowledge about the person's control by creating such categories in our mind only means that we cannot expect to understand the world by simply looking at it and studying its ontological structure.

Al-Ghazālī was particularly unsatisfied with the *falāsifa*'s use of the modalities, as he makes clear in the first discussion of the *Incoherence* on pre-eternity of the world. Here al-Ghazālī rebuffs two arguments that stem from the implications of saying that something is possible. In the third argument of the first discussion, the philosophical opponent claims that the existence of the world is and has always been possible because the world cannot change from a state of impossibility into a state of possibility. Since the world's possibility has no beginning, it is eternally possible.[85] In other parts of *Incoherence,* al-Ghazālī denies that the world *can* be eternal. Based on arguments first proposed by John Philoponus (d. *c.* 570 CE), he says elsewhere in this book that it is impossible for the world to be pre-eternal because an action (*fiʿl*) must have a temporal beginning.[86] What did the opponent mean, however, when he said that the world's existence has always been possible? Al-Ghazālī does not object to this particular statement. Considered just by itself, he says at the end of the discussion, the statement that the creation of the world was possible at any time before or after its actual creation is true. In that sense, the world is eternally possible.[87]

However, that is not how the opponent understands the sentence: "The world is always possible to exist" (*lam yazal al-ʿālam mumkin*^{an} *wujūduhu).* The **(p.165)** difference between the two readings of this sentence can be explained by using what became known in the Latin West as the *de re* and *de dicto* distinctions of modality. Later Arab logicians would refer to this distinction as the *dhātī* and the *waṣfī* readings of modal sentences. The distinction goes back to Aristotle's *Sophistic Refutations*.[88] When we say it is possible for the world to always exist, one way to understand the sentence is to attribute possible truth to the proposition "the world exists always" (*lam yazal wujūd al-ʿālam*).[89] This seems to be what the *falāsifa* are doing when they make their point that the existence of the world has always been possible. Here, a predication or proposition (*dictum/waṣf*) is considered possibly true. For al-Ghazālī, this *de dicto/waṣfī* interpretation of possibility is unacceptable in this context because, for him, that sentence can never be true. If it can never be true, the sentence cannot be seen as possibly true. However, we may mean to attribute to the world the possibility of having always existed, that is, at any given time before or after its actual creation. Here the predicate "exist" is attached in a possible

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predication to the thing (*res/dhāt*), that is, the world. This proposition does not require the world to be eternal; it is true as long as the world could have come into existence at any time other than it actually did. This is what al-Ghazālī stresses in his objection to the *falāsifa*'s third proof:

> The world is such that it is eternally possible for it to be temporally originated. No doubt then that there is no [single] moment of time but wherein its creation could not but be conceived. But if it is supposed to exist eternally, then it would not be temporally originated. The factual then would not be in conformity with possibility, but contrary to it.[90]

Regarded by itself, al-Ghazālī considers the statement "The world is always possible to exist" as true. Yet he reads it *de re* or *dhātī* and rejects the competing *de dicto/waṣfī* interpretation of the statement. The distinction of modal statements into these two readings is not prominently represented in Avicenna's logical works.[91] Some interpreters believe that Avicenna did not apply the distinction at all. The third argument that al-Ghazālī objects to in the first discussion about the world's pre-eternity is thus probably not from the works of Avicenna.[92] From a discussion in a later work, it becomes clear that al-Ghazālī understood the difference between the *de re/dhātī* and *de dicto/waṣfī* meaning of modal statements. In that later work, such as in this example, he was willing to understand modal statements *de re/dhātī* rather than *de dicto/waṣfī*.[93]

Al-Ghazālī's irritation with the *falāsifa*'s treatment of modalities becomes clearer in the next passage of the *Incoherence* in which al-Ghazālī's criticism is more radical. In two articles published in 2000 and 2001, Taneli Kukkonen and Blake D. Dutton examine al-Ghazālī's interpretation of modal terms in the *Incoherence*.[94] Both focus on al-Ghazālī's response to the philosophers' fourth proof for the eternity of the world, which is also debated in the first discussion of the *Incoherence*. Again, the *falāsifa* try to prove the pre-eternity of the world from the fact that it has always been possible. This time the argument that al-Ghazālī addresses comes from Avicenna. It is based on the premise that **(p.166)** possibility cannot be self-subsistent but requires a substrate (*maḥall*) in which to inhere.[95] Following Aristotle's argument, Avicenna says that this substrate is the *hylé*, the prime matter that exists eternally. Its receptivity to the forms makes it the substrate of the world's possibility. Thus, the fact that the world is eternally possible proves that the substrate of this possibility, which is prime matter, must exist eternally.[96]

In his response, al-Ghazālī denies the premise that possibility needs a substrate. Possibility does not exist in the outside world; rather, it is merely a judgment of the mind:

> The possibility which they mention reverts to a judgment of the mind (*qaḍā l-ʿaql*). Anything whose existence the mind supposes, [nothing] preventing its supposing it possible, we call "possible," and if it is prevented we call it "impossible." If [the mind] is unable to suppose its nonexistence, we name it "necessary." For these are rational propositions (*qaḍāyā ʿaqliyya*) that do not require an existent so as to be rendered a description thereof.[97]

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Al-Ghazālī repeats this argument in the nineteenth discussion, in which Avicenna claims that the possibility of perishing (*imkān al-ʿadam*) can only subsist in matter and that purely immaterial beings such as human souls are incorruptible. If that were true, al-Ghazālī says, it would imply that a thing could be simultaneously potential and actual with regard to a certain predicate. Affirming both the potentiality and the actuality of a given predicate is a contradiction, al-Ghazālī objects. As long as a thing is potentially something, it cannot be the same thing in actuality. At the root of the problem, al-Ghazālī says, is Avicenna's view that possibility (*imkān*) requires a material substrate in which to subsist. This substrate is not required, al-Ghazālī maintains, since when we talk about possibility we make no distinction whether it were to apply to a material substance or to an immaterial one such as the human soul.[98]

As Kukkonen puts it, al-Ghazālī shifts the locus of the presumption of a thing's actual existence from the plane of the actualized reality to the plane of mental conceivability.[99] The domain of possibility is not part of what actually exists in the outside world, al-Ghazālī argues. These modalities are like universal concepts, and like the universals such as color or like the judgment that all animals have a soul, for instance, their existence is in the mind only. The outside world consists of individual objects, and these individuals cannot be the objects of our universal knowledge. The universals are abstracted from the individual objects that we perceive. "What exists in the outside world (*fī l-aʿyān*) are individual particulars that are perceptible in our senses (*maḥsūsa*) and not in our mind (*maʿqūla*)."[100] Like the universal concept of "being a color" (*lawniyya*) that we cannot find anywhere in the outside world, the predicates "possible," "impossible," and "necessary" do not apply to objects outside of our mind. Al-Ghazālī takes a nominalist position with regard to the modalities and argues that modal judgments are abstract notions that our minds develop on the basis of sense perception.[101]

(p.167) In his objection to Avicenna's conception of the modalities, al-Ghazālī makes innovative use of Ashʿarite ontological principles.[102] When the Ashʿarites denied the existence of natures, they rejected the limitations that come with the Aristotelian theory of entelechy. Viewing things as the carriers of possibilities that are bound to be actualized restricts the way these things may exist in the future. These restrictions unduly limit God's omnipotence, the Ashʿarites say; and as long as things are regarded by themselves, the possibilities of how they exist are limited only by our mental conceivability. Additionally, when Ashʿarites talk about something that exists, they mean something that can be affirmed (*athbata*).[103] To claim that there presently exists in a thing an inactive capacity to be different from how it presently is—meaning that there exists such a possibility in that thing—is really to say that there presently exists something that does not exist.[104] This is a contradiction, and Ashʿarites subsequently denied the existence of nonactive capacities: existence is always actual existence.[105] This is why Ashʿarites refused to acknowledge the existence of natures that determine how things react to given situations. Natures are, in essence, such nonactive capacities. In the course of this study, it will become clear that the status of modalities marks an important crossroads between Avicenna and al-Ghazālī that determines their positions on ontology. Al-Ghazālī's philosophical shift stems from a background in *kalām* literature, a change that

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merits closer look.

The Different Conceptions of the Modalities in *falsafa* and *kalām*

Ancient Greek philosophy used and distinguished several different modal paradigms, but none included the view of synchronic alternatives. Our modern view of modalities is that of synchronic alternative states of affairs. In that model, "[t]he notion of logical necessity refers to what obtains in all alternatives, the notion of possibility refers to what obtains at least in one alternative, and that which is logically impossible does not obtain in any conceivable state of affairs."[106] In contrast, Aristotle's modal theory has been described as a statistical interpretation of modal concepts as applied to temporal indefinite sentences. To explain a temporally unqualified sentence of the form "S is P" contains an implicit or explicit reference to the time of utterance as part of its meaning. If this sentence is true whenever uttered, it is necessarily true. If its truth-value can change in the course of time, it is possible. If such a sentence is false whenever uttered, it is impossible.[107] Simo Knuuttila clarifies that in ancient Greek, modal terms were understood to refer to the one and only historical world of ours, and "it was commonly thought that all generic types of possibility had to prove their mettle through actualization."[108]

Avicenna's view of the modalities is not significantly different from the statistical model of Aristotle that connects the possibility of a thing to its temporal actuality.[109] Here he followed al-Fārābī, who teaches that the word "possible" or, to be more precise, "contingent" (*mumkin*)[110] is best applied to what is in a state of nonexistence in the present and stands ready either to exist or not to exist (*yatahayyi'u an yūjada wa an lā yūjada*) at any moment in the future.[111] **(p.168)** Avicenna shares this temporal attitude toward the modalities: the necessary is what holds always, and the contingent is what neither holds always nor holds never.[112] This position, which represents mainstream Aristotelianism, seems to imply that something has to exist at one point in time in order to be possible. For Avicenna, however, "what neither holds always nor holds never" refers to predications about things in the outside world as well as those that exist only in the mind. The "heptagonal house" (*al-bayt al-musabba'*), for instance, may never exist in the outside word but will at one point in time exist in a human mind and is therefore a possible being.[113] For Avicenna, the principle of plentitude is valid for existence in the mind (*fī l-dhihn*) but not for existence *in re* (*fī l-a'yān*), that is, in the outside world. It is contingent that some houses, or all houses, are heptagonal, since the combination of "house" and "heptagonal" is neither necessary nor impossible. Here Avicenna clearly divorces modality from time. The possibility of a thing is not understood in terms of its actual existence in the future but in terms of its mental conceivability.[114] By acknowledging that some beings such as the chiliagon—a polygon with so many sides that it cannot be distinguished from a circle—exist in the mind but will probably never exist in the outside world, Avicenna recognizes possibilities that are never actualized *in re*.[115] To say that "all animals are humans" is a contingent proposition because we can imagine a time in which there is no animal but man, in spite of the fact that such a time probably never existed *in re*.[116] The contingency of the proposition is not verified by the future or past existence of a certain state of affairs *in re* but rather through a mental process,

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namely, whether such a state can be imagined to exist without contradictions.[117] The phrase, "all white things," may have two different meanings according to the context in which it is uttered. It may refer to all beings that are white at the particular time when the statement is made or to those possible beings that are always described as being white every time they appear in the mind (*ʿinda l-ʿaql*).[118]

In principle, Avicenna does not part with the Aristotelian statistical understanding of the modalities. In order to be possible, something must exist for at least one moment in the past or future. Mental existence (*al-wujūd fī-l-dhihn*), however, is one of the two modes of existence in Avicenna's ontology. Whether something exists in our minds depends upon whether it is the subject of a predication. There is no ontological difference between whether a thing exists in reality or merely in the human mind.[119]

Avicenna's understanding of existence is significantly different from that of his predecessors. Al-Fārābī, for instance, followed Aristotle and taught that predication itself includes no statement of existence. When one states that "Socrates is just," it need not follow that Socrates is existent. Avicenna disagreed because the nonexistent cannot be the subject of a predication; any predication gives mental existence to Socrates.[120] Allowing two modes of existence and accepting mental existence as equal to existence *in re* leads Avicenna to develop an understanding of possibility as that which is actually conceived in the mind (*maʿqūl bi-l-fiʿl*).[121] Any possible subject of a true predication is a possible being. This dovetails with Avicenna's view that what is possible by itself (*mumkin bi-dhātihi*) is determined on the level of the quiddities (*māhiyyāt*). The quiddities **(p.169)** have three modes: in themselves, in individuals (*fī aʿyān al-ashyāʾ*), and as singular objects of thought (*fī l-taṣawwur*).[122] In themselves, the quiddities are in a state prior to existence and are pure possibility by themselves; the moment a quiddity is conceived in the human mind, it is given existence. When the mind proceeds to another thought, the thing just pondered or imagined falls from existence. This example highlights that for Avicenna, the concepts of possibility and existence are closely connected. Possibility is what can be existent at any moment in our mind, and existence is actualized possibility either *in re* or in the mind. The modalities can, therefore, also be expressed as simple modes of existence: necessary is what cannot but exist; possible (or rather: contingent) is what can exist but must not exist; impossible is what cannot exist. In each of the three modes, existence is understood as being either *in re* or in the mind, although in most contexts it is both. For Avicenna, the division between necessary and contingent is one of the prime divisions of being that is known as *a priori*.[123] Although strictly speaking, this is still a temporal understanding of the modalities, it puts the modalities on the plane of mental conceivability. For all practical matters, the modalities are not connected to existence in time but to existence in the mind (*fī l-dhihn*).[124]

Avicenna took an important step toward understanding possibility as a synchronic alternative state of affairs. He himself never achieved such an understanding, however, because in his ontology, there can be no alternatives to what actually exists. We have already said that Avicenna's metaphysics was necessitarian, meaning that whatever exists either in the outside world or in the human mind is the necessary result of God's

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essence.[125] In chapter nine of *De interpretatione,* Aristotle had already argued that what presently exists can be defined as necessary: what is, is by necessity. Avicenna applies the distinction—known to us from al-Fārābī's commentary on this section of *De interpretatione*—between the modal status a being has by itself and its modal status as coexisting with other things. By itself, there is only one being that is necessary by virtue of itself (*wājib al-wujūd bi-dhātihi*), and that is God. This being cannot but exist. Considered by themselves, all other beings are merely possible (*mumkin al-wujūd bi-dhātihi*); God's creative activity, however, makes the existence of these beings necessary. Once a thing that is only possible by virtue of itself comes into being, it is necessary by virtue of something else (*wājib al-wujūd bi-ghayrihi*). It is, first of all, the necessary effect of its proximate efficient cause. That cause, however, is itself the necessary effect of other efficient causes, which proceed in a chain of secondary efficient causes from God. Everything that we witness in creation is possible by virtue of itself and necessary by virtue of something else, ultimately necessitated by God.[126]

In the Western philosophical tradition, in which Avicenna became an influential contributor after the translation of his works into Latin during the thirteenth century, the introduction of the synchronic conception of modality is credited to John Duns Scotus (d. 1308). An avid reader of Avicenna, Duns Scotus claimed that the domain of the possible is an *a priori* area of what is intelligible and as such does not have any kind of existence in the outside world. Among his successors in Latin philosophy, this led to a view in which modality **(p.170)** lacks an essential connection with time. This disconnect allowed for alternative possibilities at any given time, as well as the development of a notion of possible words, some of them not actualized.

John Duns Scotus, however, was not "the first ever" to employ a synchronic conception of modality, as some Western historians of philosophy assume.[127] Such a view had already been developed in Ashʿarite *kalām*. The notion of God as a particularizing agent (*mukhaṣiṣ*), who determines, for instance, when the things come into existence, is an idea that appears in the writings of al-Bāqillānī and of other Ashʿarite authors.[128] The idea of particularization (*takhṣīṣ*) implicitly includes an understanding of possible worlds that are different from ours. The process of particularization actualizes a given one of several alternatives. Yet the alternatives to this world—which would be: "X comes into existence at a time different from when X actually comes into existence"—are not explicitly expressed or even imagined. The *kalām* concept of preponderance (*tarjīḤ*), however, explicitly discusses the assumption of possible worlds. The preponderator distinguishes the actual state of being from its possible alternative state of nonbeing. Whereas it is equally possible for a given future contingency to either exist or not exist, each time a future contingency becomes actual, the preponderator decides between an actual world and an alternative world in which that particular contingency is nonexistent. In *kalām,* the idea of preponderance (*tarjīḤ*) already appears in the work of the Muʿtazilite Abū l-Ḥusayn al-Baṣrī in the context of human actions.[129] Abū l-Ḥusayn was a younger contemporary of Avicenna, and he had received a philosophical education. He also developed a particularization argument for the existence of God.[130] Based on these developments within *kalām*, al-Juwaynī was the first Ashʿarite who developed a stringent

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argument for God's existence based on the principle of particularization.[131] In his *Balanced Book* in the *Letter for Jerusalem*, and in his *Scandals of the Esoterics*, al-Ghazālī reproduces versions of this proof. Al-Ghazālī's versions contain strong overtones of Avicenna's ontology: because everything in the world can be perceived as nonexisting, its nonexistence is by itself equally possible as its existence. Existing things necessarily need something that "tips the scales" (*yurajjiḥu*) or preponderates between the two equally possible alternatives of being and nonbeing. God is this "preponderator" (*murajjih.*), who in this sense determines the existence of everything that exists in the world.[132]

Avicenna's view of modalities does not break with Aristotle's statistical model, yet he postulates possibility as mental conceivability, thus taking a step toward an understanding of possibility as a synchronic alternative state of affairs. We see one element of such a synchronic alternative in Avicenna's describing God as the "preponderator" (*murajjih.*) between the existence of a thing and its alternative of nonexistence. Avicenna's ontology of quiddities, wherein existence depends on a separate act of coming-to-be, fosters the idea of God as a preponderator between being and nonbeing. In Avicenna's major work, *The Healing*, however, the word "preponderance" (*tarjīḤ*) and its derivates do not appear that often. It is much more prominent in one of Avicenna's early treatises on divine attributes. This small work, *Throne Philosophy* (*al-Ḥikma al-ʿarshiyya*), made a significant impression on al-Ghazālī. When he reports Avicenna's **(p.171)** teachings on this subject, for instance, he stresses the idea of preponderance and follows Avicenna's language from his *Throne Philosophy* more than the language of *The Healing*.[133]

Even though the Ashʿarites readily embraced the concept of preponderance, they rejected Avicenna's understanding of the modalities. For al-Ghazālī, Avicenna's lack of distinction between existence in mind (*fī l-dhihn*) and existence in the outside world (*fī l-aʿyān*) removes an important difference: whether possibility and necessity exist in things outside of our mind, or whether they are simply predicates of our judgment. Al-Ghazālī's critique of Avicenna's understanding of the modalities was anticipated by al-Juwaynī's notion of necessity and possibility in his proof of God's existence in the *Creed for Niẓām al-Mulk*. Al-Juwaynī begins his argument there with an explanation of the modalities. Every sound thinking person finds within himself "the knowledge about the possibility of what is possible, the necessity of what is necessary, and the impossibility of what is impossible."[134] We know this distinction without having to study or make further inquiry into the world; it is an impulse (*badīha*) of our rational judgment (*ʿaql*).

> The impulsive possibility that the intellect rushes to apprehend without [any] consideration, thinking, or inquiry is what becomes evident to the intelligent person when he sees a building. This [*scil.* the building] is [simply] a possibility that comes into being (*min jawāz ḥudūthihi*). He knows decisively and offhand that the actual state (*ḥudūth*) of that building is from among its possible states (*jā ʾizāt*) and that it is not impossible in the intellect that it had not been built.[135]

The intelligent person (*al-ʿāqil*, here meaning a person with full rational capacity) realizes

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that all of the features of the building—its height, its length, its form, and so forth—are actualized possibilities that could be different from what they are. The same possibilities apply to the time when the building is built. We immediately realize, al-Juwaynī says, that there is a synchronic alternative state to the actual building. This is what we call, contingency (*imkān*). Realizing that there is such an alternative is an important part of our understanding: "The intelligent person cannot realize in his mind anything about the states of the building other than through a comparison with what is contingent like it (*imkān mithlihi*) or what is different from it (*khilāfihi*)."[136]

Knowledge about the modalities is "on an impulsive rank" (*bi-l-martaba al-badīha*), meaning it is *a priori*: it cannot be derived from any other prior knowledge.[137] This statement is limited to the modalities when they are considered by themselves. Al-Juwaynī realizes that God's creative activity makes all the unrealized possibilities impossible. If considererd on its own, the actual movement of the celestial spheres (*aflāk*) from east to west could be imagined differently. The intellect can imagine that the spheres could move in the opposite direction. Studying the movements in heaven, however, leads to the realization that this possibility is not actualized.

Al-Juwaynī understands possibility as synchronic alternative states to what actually exists. This is different from Avicenna's understanding of possibility **(p.172)** and necessity as modes of actualized beings. It also shifts the perspective of the modalities away from what exists in actuality toward what is considered alternative states in the human mind. Al-Ghazālī's critique of Avicenna's modal theory is in no way haphazard but is an outcome of long-standing consideration of modalities developed in Ash'arite *kalām*.[138]

What Does al-Ghazālī Mean When He Claims That Causal Connections Are Not Necessary?

Once Avicenna's and al-Ghazālī's differing understandings of the modalities are applied to the initial statement of the seventeenth discussion, they change the established meaning of this passage. When al-Ghazālī says that "according to us (*'indanā*)," the connection between any given efficient cause and its effect is not necessary,[139] he aims to point out that the connection *could* be different, even if it never will be different from what it is today. For Avicenna, the fact that the connection never was different and never will be different implies that the connection is necessary. Not so for al-Ghazālī. His understanding of modal judgments does not require that any given causal connection was different or will be different in order to be considered possible and not necessary. The possible is that for which the human mind can perceive an alternative state of affairs. For al-Ghazālī, the connection between a cause and its effect is possible—or, to be more precise: contingent (*mumkin*)—because an alternative to it is conceivable in our minds. We can imagine a world in which fire does not cause cotton to combust. Or, to quote the second sentence of the initial statement of the seventeenth discussion:

> It is within divine power to create satiety without eating, to create death without a deep cut (*ḥazz*) in the neck, to continue life after having received a deep cut in the neck, and so on to all connected things. The *falāsifa* deny the possibility of [this] and claim it to be impossible.[140]

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Of course, a world in which fire does not cause combustion in cotton would be radically different from the one in which we live. A change in a single causal connection would likely imply that many others would also change. Still, such a world can be conceived in our minds, which means it is a possible world. God, however, did not choose to create such an alternative possible world. He chose to create this world among alternatives.

In the initial sentence of the seventeenth discussion, al-Ghazālī argues against two types of adversaries. First, he argues against those who hold that a causal connection is necessary by itself. This group includes people who claim that any given proximate efficient cause is an independent efficient cause (*fāʿil*) of its effect. This group also includes some natural philosophers who reject secondary causality as well as the Muʿtazilites, who argue that humans create their actions and the immediate effects of them. Al-Ghazālī, however, makes a clear **(p.173)** distinction between the teachings of the Muʿtazilite and those of the Avicennan *falāsifa*.[141] The Avicennan *falāsifa* are the second group of adversaries in the seventeenth discussion. Although al-Ghazālī does not argue against the idea of secondary causality in Avicenna, he does reject Avicenna's teaching that the connection cannot be any different from what it is. Being contingent by itself, according to Avicenna, the connection between cause and effect is necessary on account of something else, namely, God's nature. God's nature cannot be conceived any differently from what it is. For Avicenna, there can be no world alternative to the one that exists.

In the initial statement of the seventeenth discussion, al-Ghazālī also claims that "the connection [between cause and effect] is due to the prior decision (*taqdīr*) of God."[142] When he objects to Avicenna and states that these connections are not necessary, al-Ghazālī wishes to express that God could have chosen to create an alternative world in which the causal connections are different from those of this world. Al-Ghazālī upholds the contingency of the world against the necessitarianism of Avicenna. For al-Ghazālī, this world is the contingent effect of God's free will and His deliberate choice between alternative worlds.

While rejecting this necessitarian element in Avicenna's cosmology, al-Ghazālī does not object to the philosopher's concept of secondary causality. Of the two pillars in Avicenna's cosmology—secondary causality and necessitarianism—al-Ghazālī rejects only the latter. In the First Position of the seventeenth discussion, al-Ghazālī uses secondary causality to refute the view that proximate causes are independent efficient causes. In the Second Position, he offers two alternative explanations ("approaches") of prophetical miracles, the first based on occasionalism, the second, on secondary causality and the existence of natures (*ṭabāʾiʿ*). In all this discussion, al-Ghazālī says nothing about whether God actually breaks his habit, meaning the existent laws of nature, when creating the prophetical miracle. For al-Ghazālī, the connection between the cause and its effect is contingent even if God never changes His habits. The sole possibility of His breaking His habit—that we could conceive of God breaking His habit—or just the possibility that He could have arranged the laws of nature differently means that any individual connection between two of His creations is not necessary. Although it is conceivable and therefore possible that God would break his habit or intervene in the assigned function of the secondary causes,

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an actual break in God's habit is not required for the connections to be contingent. **(p.174)**

Notes:

(1) . Emphasis in the original. *Dictionaire des sciences philosophique*, 2:507–8. This passage was later incorporated in Munk, Mélanges de philosophie juive et arabe, 377–78.

(2) . Marmura, "Ghazali's Attitude to the Secular Sciences," 109. For similar views in recent publications, see, for instance, Moosa, *Ghazālī & the Poetics of Imagination*, 184; or Rayan, "Al-Ghazali's Use of the Terms 'Necessity' and 'Habit.'"

(3) . This is the prophetic miracle that Moses performed in front of Pharao; cf. *Qur'an* 7.107, 20.69, 26.32, and 45.

(4) . Performed by Jesus, see Q 3:49 and 5:111.

(5) . Al-Ghazālī, *Tahāfut al-falāsifa*, 272.1–5 / 163.18–21; 275.10–11 / 165.17–18.

(6) . The focus on modalities is prompted by Avicenna's work, yet it also has a predecessor in al-Juwaynī's *al-ʿAqīda al-Niẓāmiyya*, 14–29, with its three chapters, "On What Is Impossible for God" (*Kalām fī-mā yastaḥīlu ʿalā Llāh*), "On What Is Necessary for God" (*Kalām fī-mā yajibu li-Llāh*), and "On What Is Possible for God to Decide" (*Kalām fī-mā yajūzu min aḥkām Allāh*).

(7) . Al-Ghazālī, *Tahāfut al-falāsifa*, 274.3–275.11 / 164.20–165.18. Kogan, "The Philosophers al-Ghazālī and Averroes on Necessary Connection," 116–20.

(8) . Al-Ghazālī, *Tahāfut*, 275–76 / 165–66. Kogan, "The Philosophers al-Ghazālī and Averroes," 121–22.

(9) . The original text expresses these two relations in many more words; cf. Marmura's translation on p. 166, and his comments in "Al-Ghazali on Bodily Resurrection and Causality," 60.

(10) . Al-Ghazālī, *Tahāfut*, 277.2–278.2 / 166.1–10.

(11) . Ibid., 270.10–11 / 163.15–16.

(12) . Lizzini, "Occasionalismo e causalità filosofica," 182.

(13) . Perler/Rudolph, *Occasionalismus*, 75–77.

(14) . Ibid., 85–86, 98, referring to al-Ghazālī, *Tahāfut*, 283.9–285.6 / 169.19–170.15 and 292.14–293.4 / 174.120–175.3.

(15) . Contributions that are based on Ibn Rushd's response to al-Ghazālī in his *Tahāfut al-tahāfut*, 517–542, and Simon van den Bergh's English translation thereof, often take little notice of al-Ghazālī's initial threefold division of his objections.

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(16) . The Third Position (*maqām*) is announced on p. 278.9 / 167.3 but not introduced as such. It starts with the objection on p. 292.2 / 174.9. A helpful analysis of the winding course of the arguments and the "positions" and "approaches" is given by Rudolph in Perler/Rudolph, *Occasionalismus*, 77–105.

(17) . It is certainly wrong to assume, as Alon, "Al-Ghazālī on Causality," 399, does, that the text is divided into two "philosophical approaches (…) called *maqām,* while the religious ones are called *maslak*."

(18) . Al-Ghazālī, *Tahāfut*, 290.1–7 / 173.6–10; Goodman, "Did al-Ghazâlî Deny Causality," 108.

(19) . *anna fāʿila l-ikhtirāqi huwa l-nāru faqaṭ*; al-Ghazālī, *Tahāfut*, 278.10 / 167.4.

(20) . Al-Ghazālī, *al-Munqidh*, 19.4–7; *Tahāfut*, 206.5–207.5 / 123.3–12.

(21) . Ibid., 377.1–2 / 226.13. On the Muʿtazilte teaching on the generation (*tawallud* or *tawlīd*) of human actions and their effects, see van Ess, *Theologie und Gesellschaft*, 3:115–21, 4:486–88; and Gimaret, *Theories de l'acte humain*, 25–47. Schöck, "Möglichkeit und Wirklichkeit menschlichem Handels," 109–16, discusses in what way the theory of *tawallud* is based on the assumption that natures (*ṭabāʾiʿ*) exist.

(22) . Al-Ghazālī, *Tahāfut*, 278.13–279.2 / 167.6–8.

(23) . Ibid., 279.5–11 / 167.12–18.

(24) . *al-aʿrāḍu wa-l-ḥawādithu allatī taḥiṣalu ʿinda wuqūʿi (…) l-ajsām (…) tufīḍu min ʿinda wāhibi l-ṣuwar*; ibid., 281.3 / 178.11–13. If this is intended as a paraphrase of Avicenna's position, it is not exactly correct. See Marmura's comment in the notes to his translation on p. 242.

(25) . Al-Bāqillānī, *al-Tamhīd*, 43.4–9; English translation in Marmura, "The Metaphysics of Efficient Causality," 184–85; see also idem, "Avicenna on Causal Priority," 68; and Saliba, "The Ashʿarites and the Science of the Stars," 82.

(26) . Al-Ghazālī, *Tahāfut*, 279.3–4 / 167.10–13.

(27) . Ibid., 280.1–2 / 167.19.

(28) . Ibid. 279.2 / 167.8–9.

(29) . Ibn Sīnā, *al-Najāt*, 211.21–22 / 519.7–8: "That from which a thing has its being—without being for that purpose—is the *fāʿil*." Cf. idem, *al-Shifāʾ, al-Ilāhiyyāt*, 194.9. See also Goichon, *Lexique de la langue philosophique d'Ibn Sīnā*, 238, 278–79.

(30) . Al-Ghazālī, *Tahāfut*, 96.11–12 / 56.1–2. Druart, "Al-Ghazālī's Conception of the Agent," 429–32.

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(31) . Among other things, this sentence prompted McGinnis, "Occasionalism, Natural Causation and Science," 449, to argue that al-Ghazālī requires a divine, or at least angelic, volitional act to activate passive dispositions in things. Only this activation allows the connection between cause and effect to materialize. No such act is, however, required.

(32) . Al-Ghazālī, *Tahāfut*, 281.11 / 167.20.

(33) . Ibid., 283.4–8 / 169.14–17.

(34) . Ibid., 283.9–284.6 / 169.19–170.3.

(35) . Ibid., 283.9 / 169.21.

(36) . Ibid., 285.12–13 / 170.21–22.

(37) . Ibid., 286.1–3 / 171.1–2, discusses the example how a prophet knows, through means of divinity, that a person in the future will arrive from a trip. Al-Ghazālī's *al-Iqtiṣād*, 83–86 (English translation in Marmura, "Ghazali's Chapter on Divine Power," 299–302), discusses the example of Zayd arriving tomorrow and asks whether future contingencies that are not contained in God's pre-knowledge are possible for God to create. For a discussion of this passage and its Farabian background, see pp. 139–40 and 218–19.

(38) . Courtenay, "The Critique on Natural Causality," 81. On the distinction between God's absolute and ordained power, which developed in thirteenth-century Latin philosophy, see Knuuttila, *Modalities in Medieval Philosophy*, 100.

(39) . Marmura, "Ghazali's Attitude to the Secular Sciences," 106, 108.

(40) . Al-Ghazālī, *Tahāfut*, 285.7–12 / 170.17–22.

(41) . Marmura, "Ghazali and Demonstrative Science," 202–4; Perler/Rudolph, *Occasionalismus*, 86–88; see also Marmura, "Al-Ghazālī's Second Causal Theory," 91, 105–6; and Ibn Rushd, *Tahāfut al-tahāfut*, 531.9–12. Marmura and Rudolph point out that this is nothing new in the Ashʿarite tradition. Already al-Ashʿarī assumed that God creates the human perception (*idrāk*; see Ibn Fūraq, *Mujarrad maqālāt al-Ashʿarī*, 263.7–8) and that our perception corresponds to the world (ibid. 263.5–6).

(42) . Al-Ghazālī, *Tahāfut*, 286.10–11 / 171.10–11.

(43) . Ibid., 286.6–7 / 171.7–8.

(44) . Ibid., 286.12 / 171.12.

(45) . Marmura, "Al-Ghazālī's Second Causal Theory," 92–95.

(46) . Al-Ghazālī, *Tahāfut*, 286.12–288.10 / 171.12–172.10; Kukkonen, "Possible Worlds," 497–98.

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(47) . Al-Ghazālī, *Tahāfut*, 291.5–6 / 171–72.

(48) . Ibid., 270.10–11 / 163.15–16.

(49) . Ibid., 288.1–3 / 172.2–4.

(50) . Ibid., 291–92 / 174.7–8.

(51) . Ibid., 292.2–296.6 / 171.12–177.5. Unlike the earlier two, the beginning of the Third Position is not announced in al-Ghazālī's text.

(52) . Al-Ghazālī, *Tahāfut*, 292.2–5 / 174.10–13.

(53) . Ibid. 277.3–4 / 166.2–3; Perler/Rudolph, *Occasionalismus*, 98.

(54) . Al-Ghazālī, *Tahāfut*, 293.5–7 / 175.5–7; Perler/Rudolph, *Occasionalismus*, 99. Rudolph's interpretation that the third *maqām* concerns what is possible for God to create in the outside world is, for instance, shared by Marmura, "Al-Ghazālī's Second Causal Theory," 103–6; and Goodman, "Did al-Ghazālī Deny Causality?"

(55) . Al-Ghazālī, *Tahāfut*, 293.8–294.4 / 175.8–19. That will (*irāda*) requires knowledge (*ʿulūm*) is an older Ashʿarite tenet; see al-Juwaynī, *al-Irshād*, 96.12.

(56) . Goodman, *Avicenna*, 186–87.

(57) . Goodman, "Did al-Ghazâlî Deny Causality," 118.

(58) . Al-Ghazālī, *Tahāfut*, 294.4–295.1 / 175.20–176.10.

(59) . Ibid., 295.1–2 / 176.11–12.

(60) . Frank, "The Aš'arite Ontology: I. Primary Entities," 206–8.

(61) . Goodman, "Did al-Ghazâlî Deny Causality," 105–7, does not make a distinction between the second *maslak* of the second *maqām* and the third *maqām*. He argues that what al-Ghazālī put forward in these two parts is his ultimate position on the issue of causality and that he rejected all others, particularly the occasionalist approach of the first approach in the second *maqām*.

(62) . Perler/Rudolph, *Occasionalismus*, 101–5. Rudolph (in ibid., 101–2) points to prior discussions within *kalām* literature about the limits of God's omnipotence.

(63) . Obermann, "Das Problem der Kausalität bei den Arabern," 332–39, and his later, more detailed monograph, *Der philosophische und religiöse Subjektivismus*, 68–85.

(64) . To my knowledge there is no English-language presentation of Obermann's research despite the fact that he taught in the U.S. (in New York and at Yale) between the time of his migration in 1923 and his death in 1956.

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(65) . Obermann, *Der philosophische und religiöse Subjektivismus*, 73, quoting al-Ghazālī, *Tahāfut*, 37.9–38.2 / 22.1–9. On this example, see also Marmura, "Ghazali and Demonstrative Science," 187.

(66) . Obermann, *Der philosophische und religiöse Subjektivismus*, 73–74; see al-Ghazālī, *Tahāfut*, 38–39 / 22–23.

(67) . Obermann, *Der philosophische und religiöse Subjektivismus*, 81, quoting al-Ghazālī, *Tahāfut*, 285.11–12 / 170.20–22.

(68) . In the early decades of the twentieth century, subjectivism was harshly criticized by philosophers such as Rudolph Carnap and the Vienna Circle. Carnap wanted to establish a purist empiricism, which acknowledges that truth and knowledge are guaranteed through empirical experience of the world and through logical deduction. Other influential thinkers of this time such as Franz Brentano and Edmund Husserl equally bemoaned the "subjectivism" and "anthropologism" of this time.

(69) . Schaeler, in his review of Obermann's book in *Der Islam* 13 (1923): 121–32, especially 130.

(70) . Obermann, "Das Problem der Kausalität bei den Arabern," 339; *Subjektivismus*, 85.

(71) . Obermann, *Der philosophische und religiöse Subjektivismus*, 83–84.

(72) . Al-Ghazālī, *Tahāfut*, 293.11–13 / 175.11–13.

(73) . Obermann, *Der philosophische und religiöse Subjektivismus*, 82–83.

(74) . Ibid., 83, quoting al-Ghazālī, *Tahāfut*, 294.1–4 / 175.16–18.

(75) . Al-Ghazālī, *Tahāfut*, 293.13–14 / 175.14–15.

(76) . Ibid., 292.2–5 / 174.10–12.

(77) . This is what we mean when we say something is contingent: that it is possible but not necessary.

(78) . Al-Ghazālī, *Tahāfut*, 293.5–6 / 175.5.

(79) . Ibid., 293.5–7 / 175.5–7. Cf. also al-Ghazālī's earlier definition of impossibility as "conjoining negation and affirmation" (*al-mumtaniʿu huwa l-jamʿu bayna l-nafī wa-l-ithbāt*); ibid. 64.11 / 38.17.

(80) . Bäck, "Avicenna's Conception of the Modalities," 217–18, 229–31.

(81) . Aristotle, *De anima*, 431a.1–2.

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(82) . Knuuttila, "Plentitude, Reason and Value," 147. Cf. Hintikka, *Time & Necessity*, 72–80.

(83) . Al-Ghazālī, *Tahāfut*, 296.4–6 / 177.4–5.

(84) . Kukkonen, "Plentitude, Possibility, and the Limits of Reason," 555.

(85) . Al-Ghazālī, *Tahāfut*, 66.8–67.8 / 39.13–40.5; see Kukkonen, "Possible Worlds in the *Tahāfut*," 481.

(86) . Al-Ghazālī, *Tahāfut*, 80.9 / 47.14–15; 103.6–8 / 60.4–7. For the background to this argument, see Davidson, *Proofs*, 87–88, 352–53.

(87) . Al-Ghazālī, *Tahāfut*, 67.9–10 / 40.7–8.

(88) . Aristotle's *Sophistici elenchi*, 166a.22–30.

(89) . Al-Ghazālī, *Tahāfut*, 66.8–67.8 / 39.15–40.5.

(90) . Al-Ghazālī, *Tahāfut*, 70.10–71.1 / 42.2–5; Kukkonen, "Possible Worlds in the *Tahāfut*," 482.

(91) . Street, "Fahˇraddīn ar-Rāzī's Critique," 102–3.

(92) . Bäck, "Avicenna's Conception of the Modalities," 229–31; see also Wisnovsky, *Avicenna's Metaphysics*, 248.

(93) . Al-Ghazālī, *al-Maqṣad*. 31.15–32.3; Frank, *Creation*, 13.

(94) . Kukkonen, "Possible Worlds in the *Tahāfut*"; Dutton, "Al-Ghazālī on Possibility." Dutton's article appears to have been written contemporaneous to Kukkonen's article. Although he lists Kukkonen's article in his footnotes, Dutton does not refer to its parallel content. The fact that al-Ghazālī criticizes Ibn Sīnā's concept of the modalities had been pointed out in earlier literature such as Zedler, "Another Look at Avicenna," 517.

(95) . Al-Ghazālī, *Tahāfut*, 69.5–7 / 41.6–7.

(96) . Ibn Sīnā, *al-Najāt*, 220.2–5 / 536.4–6; idem, *al-Shifā', al-Ilāhiyyāt*, 137.8–9; cf. Aristotle, *Metaphysics*, 1032a.20.

(97) . Al-Ghazālī, *Tahāfut*, 70.10–71.1 / 42.2–5. See Kukkonen, "Possible Worlds in the *Tahāfut*," 488; Dutton, "Al-Ghazālī on Possibility," 27.

(98) . Al-Ghazālī, *Tahāfut*, 343.4–13 / 207.5–14. See Davidson, *Alfarabi, Avicenna, and Averroes, on Intellect*, 152–53.

(99) . Kukkonen, "Possible Worlds in the *Tahāfut*," 488–89; idem, "Plentitude, Possibility, and the Limits of Reason," 543.

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(100) . Al-Ghazālī, *Tahāfut*, 74.11–12 / 44.13–14.

(101) . Ibid., 74.6–75.10 / 44.8–45.3.

(102) . Dutton, "Al-Ghazālī on Possibility," 27–29, 40–5.

(103) . Gimaret, *La doctrine d'al-Ash*ʿ*arī*, 30.

(104) . McGinnis, "Occasionalism, Natural Causation and Science," 445.

(105) . Frank, "The Non-Existent and the Possible in Classical Ashʿarite Teaching," 1–4.

(106) . Knuuttila, "Plentitude, Reason, and Value," 145.

(107) . Hintikka, *Time & Necessity*, 63–72, 84–86, 103–5, 149–53; Knuuttila, *Modalities in Medieval Philosophy*, 1–38.

(108) . Knuuttila, "Plentitude, Reason, and Value," 145.

(109) . Street, "Fahˇraddīn al-Rāzī's Critique," 104–5.

(110) . While possibility is defined as the opposite of impossibility and might therefore include the necessary, contingency excludes both impossibility *and* necessity.

(111) . Al-Fārābī, *Kitāb Bārī armīniyās ay al-ʿIbāra*, 71.1–5; English translation in Zimmermann, *Al-Farabi's Commentary*, 247. Knuuttila, *Modalities in Medieval Philosophy*, 114.

(112) . Bäck, "Avicenna's Conception of the Modalities," 231; Rescher, *Temporal Modalities*, 8, 37–38.

(113) . Ibn Sīnā, *al-Shifāʾ, al-Ilāhiyyāt*, 148–49.

(114) . Bäck, "Avicenna's Conception of the Modalities," 232.

(115) . Ibn Sīnā, *al-Shifāʾ, al-Manṭiq, al-Qiyās*, 21.6–12.

(116) . Ibid., 30.10–12.

(117) . Bäck, "Avicenna's Conception of the Modalities," 232–36.

(118) . Ibn Sīnā, *al-Shifāʾ, al-Manṭiq, al-Qiyās*, 21.10–12.

(119) . Craemer-Ruegenberg, "Ens est quod primum cadit in intellectu," 136; Rescher, "Concept of Existence in Arabic Logic," 72–73. See also Black, "Avicenna on the Ontological and Epistemological Status of Fictional Beings."

(120) . Bäck, "Avicenna on Existence," 354, 359–61. On the principle that the nonexistent (*al-maʿdūm*) cannot be an object of predication, see Ibn Sīnā, *al-Shifāʾ, al-Ilāhiyyāt*,

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25.14–16.

(121) . Ibn Sīnā, *al-Shifāʾ, al-Manṭiq, al-Qiyās*, 21.9.

(122) . Ibn Sīnā, *al-Shifāʿ, al-Manṭiq, al-Madkhal*, 15.1–15.

(123) . Ibn Sīnā, *al-Shifāʾ, al-Ilāhiyyāt*, 22.11–13; 27.18–29.10. The same in al-Fārābī, *Sharḥ al-Fārābī li-Kitāb Arisṭutālīs fī l-ʿIbāra*, 84.3–5; English translation in Zimmermann, *Al-Farabi's Commentary*, 77–78.

(124) . Bäck, "Avicenna's Conception of the Modalities," 241.

(125) . See above pp. **141–43**.

(126) . Ibn Sīnā, *al-Shifāʾ, al-Ilāhiyyāt*, 29–34; idem, *al-Najāt*, 224–28 / 546–53. Davidson, *Proofs*, 290–93; idem, "Avicenna's Proof of the Existence of God as a Necessarily Existent Being"; Wisnovsky, "Avicenna and the Avicennian Tradition," 105–27; Hourani, "Ibn Sina on Necessary and Possible Existence."

(127) . Normore, "Duns Scotus's Modal Theory," 129. On Duns Scotus's modal theory, see also Knuuttila, *Modalities in Medieval Philosophy*, 138–49, 155–57.

(128) . Al-Bāqillānī, *al-Tamhīd*, 23.13–16; al-Baghdādī, *Uṣul al-dīn*, 69.2–7; al-Juwaynī, *al-Irshād*, 28.3–8; idem, *Lumaʾ fī qawāʿid*, 129.3–6; idem, *al-Shāmil* (ed. Alexandria), 262–65; Davidson, *Proofs*, 159–61, 176–80.

(129) . Abū l-Ḥusayn al-Baṣrī taught that each time a human considers an act, he or she is equally capable of performing and not performing it. The human's motive is the preponderator (*murajjiḥ*) between these two equally possible alternatives. See Madelung, "Late Muʿtazila and Determinism," 249–50.

(130) . See the excursus in Ibn al-Malāḥimī's *Kitāb al-Muʿtamad*, 169.9–172.18, in which he reports Abū l-Ḥusayn's argument in favor of God's existence. See also Madelung, "Abū l-Ḥusayn al-Baṣrī's Proof for the Existence of God," 279–80. On the particularization argument and on God as the preponderator (*murajjiḥ*), see Craig, *Kalām Cosmological Argument*, 10–15; repeated in idem, *The Cosmological Argument*, 54–59; and Davidson, "Arguments from the Concept of Particularization."

(131) . Al-Juwaynī, *al-ʿAqīda al-Niẓāmiyya*, 11.9–13.2. See also idem, *al-Shāmil* (ed. Alexandria), 263–65; and idem, *Lumaʿfī qawāʿid*, 129–31. Ibn Rushd, *al-Kashf ʿan manāhij*, 144–47, analyzes al-Juwaynī's *murajjiḥ* argument for God's existence and says it is based on similar premises as Ibn Sīnā's proof. On al-Juwaynī's proof and how it differs from Ibn Sīnā's, cf. Rudolph, "La preuve de l'existence de dieu," 344–46. See also Davidson, *Proofs*, 161–62, 187; Saflo, *Al-Juwaynī's Thought*, 202.

(132) . Al-Ghazālī, *Iqtiṣād*, 25–26, *Iḥyāʾ*, 1:144–45 / 183–84 (= Tibawi, "Al-Ghazālī's Sojourn," 80–81, 98–99); idem, *Faḍāʾiḥ al-Bāṭiniyya*, 81–82; cf. Ibn al-Walīd, *Dāmigh al-*

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bāṭil wa-ḥatf al-munādil, 1:284–86. On the arguments, see also the literature mentioned on p. **313, n. 140**.

(133) . On the various titles under which Ibn Sīnā's *al-Ḥikma al-ʿarshiyya* was known, see Mahdavī, *Fihrist-i nuskhat-hā-yi muṣannafāt-i Ibn Sīnā*, 75–76 (no. 61). I largely follow Gutas, *Avicenna and the Aristotelian Tradition*, with regard to the titles of works by Ibn Sīnā and the titles' English translations. Preponderance appears in Ibn Sīnā, *al-Shifāʾ, al-Ilāhiyyāt*, 233.4, 303.2, 303.9–11, 335–36. Al-Ghazālī, *Tahāfut*, 23.3–4 / 13.9–10, reports that the *falāsifa* say without a preponderator (*murajjiḥ*), there would be no existence. In the versions of the proof of God's existence in his *al-Shifāʾ, al-Ilāhiyyāt*, 31–32; and al-*Najāt*, 236–37 / 570–71; Ibn Sīnā uses the word *takhṣīṣ* but not *tarjīḥ* or *murajjiḥ*. The same argument in *al-Ḥikma al-ʿarshiyya*, 2–3, however, mentions *tarjīḥ*. Ibn Rushd, *al-Kashf ʿan manāhij*, 144–45, also reports this proof as involving a *murajjiḥ*, not a *mukhaṣiṣ*.

(134) . Al-Juwaynī, *al-ʿAqīda al-Niẓāmiyya*, 8.*peanult.*–9.1.

(135) . Ibid., 9.4–7.

(136) . Ibid., 9.9–10.

(137) . Ibid., 10.1–2.

(138) . At this point, the role of the Muʿtazilite Abū l-Ḥusayn al-Baṣrī and his views on *tarjīḥ* are unclear. He may have had a significant influence on al-Juwaynī's and on al-Ghazālī's understanding of the modalities. Soon after al-Ghazālī, Maḥmūd ibn Muḥammad al-Malāḥimī (d. 536/1141)—one of Abū l-Ḥusayn al-Baṣrī's followers who lived in Khwarezm—wrote a refutation of *falsafa*. This book, *Tuḥfat al-mutakallimīn fī-l-radd ʿalā l-falāsifa*, is currently being edited by Wilferd Madelung.

(139) . See the translation on p. 149.

(140) . Al-Ghazālī, *Tahāfut*, 278.2–5 / 167.10–12.

(141) . Based on a brief note in al-Ghazālī's *fatwā* at the end of the *Tahāfut*, 377.2–3 / 226.12–3; Marmura, "Al-Ghazali on Bodily Resurrection," 48; and "Ghazali's Chapter on Divine Power in the *Iqtiṣād*," 280 assumes that for al-Ghazālī, the causal theories of the Muʿtazila and the *falāsifa* are identical. In the seventeenth discussion, these two causal theories are clearly distinguished and treated differently.

(142) . Al-Ghazālī, *Tahāfut*, 278.1 / 167.8–9.

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