Al-Gazali, Descartes, and Their Sceptical Problems

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Abstract

This paper will offer a systematic reconstruction of al-Ġazālī's Sceptical Argument in his celebrated *Deliverer/Delivered from Going Astray* (*al-Munqiḏ/al-Munqaḏ min al-Ḍalāl*). Based on textual evidence, I will argue that the concept of certainty (*yaqīn*) in play in this argument is that of the philosophers—most notably Ibn Sīnā—and that it is firmly tied to demonstration (*burhān*) and hence to the materials of syllogism (*mawwād al-qiyās*). This will show that contrary to what many scholars believe, this Sceptical Argument is al-Ġazālī's discovery of a latent sceptical problem in Muslim philosophers' epistemological theories based on Aristotle's *Posterior Analytics* that escaped even the agile mind of *aš-šayḫ ar-raʾīs* Ibn Sīnā. This reconstruction will also shed some light on the widespread assumption that al-Ġazālī anticipates Descartes's sceptical considerations in the *First Meditation*. I will argue that not only do the two thinkers use incompatible strategies to reach their respective sceptical conclusions, but both their conclusions and their use of God in refuting them are also essentially non-identical. The conclusion is that the two sceptical arguments are essentially different.

Keywords

Al-Ġazzālī —— Descartes —— scepticism —— Islamic Philosophy —— epistemology —— syllogism

To the memory of the late Sarah Broadie

1. Introduction[1]

Sceptical arguments are rare in the Islamic tradition.[2] One celebrated exception is offered by the Iranian thinker Abū Ḥāmid al-Ġazālī (ca. 1058–1111) in his semi-autobiographical *Deliverer/Delivered from Going Astray* (*al-Munqiḏ/al-Munqaḏ min al-Ḍalāl*; henceforth *Deliverer*).[3] In the book, he describes two sceptical crises, one of an epistemological character

[2] What is meant by "scepticism" here is philosophical scepticism regarding knowledge or belief; other forms of scepticism, e.g., religious or moral scepticism, are not considered. For discussions about philosophical scepticism and other forms of scepticism in the Islamicate world, see, e.g., Josef van Ess, "Skepticism in Islamic Religious Thought," *Al-Abhath* 21 (1968): 1–18; Sarah Stroumsa, *Freethinkers of Medieval Islam: Ibn al-Rāwandī, Abū Bakr al-Rāzī, and Their Impact on Islamic Thought* (Leiden: Brill, 1999); and Paul L. Heck, *Skepticism in Classical Islam: Moments of Confusion* (New York: Routledge, 2014).

[3] For transliteration, I follow the DIN 31635 standard. As for the English title of the book, it is, following W. Montgomery Watt, normally translated as *Deliverance from Error*, though some readers translate it as *Deliverer from Error* to stress al-Ġazālī's aim of establishing his authority as the reviver of Islam and the deliverer of Muslims (Kenneth Garden, *The First Islamic Reviver: Abu Hamid al-Ghazali and His* Revival of the Religious Sciences [New York: Oxford University Press 2014], 4–5, 160). Depending on the vocalisation of the first word of the Arabic title, however, it can mean either the deliver*er* (*munqiḏ*) or the deliver*ed* (*munqaḏ*). In the former case, it would refer to either the book or al-Ġazālī himself as the deliverer of others, while in the latter case, it would refer to al-Ġazālī as the one who is delivered, which is consistent with the story of his deliverance that he narrates in the book. I would suggest that al-Ġazālī, a master of Arabic—and for that matter, Persian—prose, probably meant his readers to appreciate this ambiguity and that it is preferable to preserve it in translation. In addition, *ḍalāl* is normally translated as "error," which has strong epistemological connotations. It is, however, a Qurʾānic term that means going astray from the path of God, as, for example, 1:6–7 reads: "Guide us upon the straight path, the path of those whom Thou hast blessed, not of those who incur wrath, nor of those *who are astray*

concerning knowledge (ʿilm) and certainty (yaqīn)—or the lack thereof—and one of a practical nature regarding their usefulness in achieving felicity in the Hereafter.[4] The first crisis originates in what I shall call the Sceptical Argument that is presented in the first chapter of *Deliverer*, along with some preliminaries in the introduction. There is an abundance of scholarly works concerning this Sceptical Argument and its autobiographical, historical, and mystical aspects. What is less appreciated is that it also has a systematic and philosophical aspect and that it builds upon the epistemological theories developed by the *falāsifa* preceding al-Ġazālī.[5] It is this Sceptical Argument and its systematic aspect that is the topic of this paper.

In recent decades, there has been a wave of revisionary readings of al-Ġazālī in which scholars have begun to appreciate his debts to the *falāsifa* in general and Ibn Sīnā in particular.[6] This paper intends to add one more piece of evidence to this narrative and argues that the Sceptical Argument he puts forward in the first chapter of *Deliverer* fits this new

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(*ḍāllīn*)" (Seyyed Hossein Nasr et al., eds., *The Study Quran: A New Translation and Commentary* [New York: Harper Collins, 2015], 5, emphasis mine). Given the fact that the epistemological problems play only a preliminary role in the overall project of the book and the larger—and more important—part concerns felicity in the Hereafter, I would suggest that "going astray" is a better translation than "error," hence my translation as *Deliverer/Delivered from Going Astray*. For the sake of brevity, however, I shall stick to *Deliverer* throughout this article.

[4] For two examples of recent scholarly works that are particularly conscious of these two different crises, see Carol L. Bargeron, "Sufism's Role in al-Ghazali's First Crisis of Knowledge," *Medieval Encounters* 9 (2003): 32–78, and Taneli Kukkonen, "Meditating on the Meditations: Al-Ghazali, Teresa of Avila, Descartes," *Oxford Studies in Medieval Philosophy* 8 (2020): 113–45. Heck, *Skepticism in Medieval Islam*, also ascribes a kind of scepticism to al-Ġazālī that he calls "learned ignorance," in which one is aware of human beings' inability to know God in His total infiniteness.

[5] I use *falāsifa* or "the philosophers" in this paper in the technical sense to refer to the Peripatetic philosophers before al-Ġazālī, in particular al-Fārābi, Ibn Sīnā, and those who share their basic teachings. For the development of this particular usage, which was in fact due to al-Ġazālī's own attack on the *falāsifa*, see Frank Griffel, *The Formation of Post-Classical Philosophy in Islam* (Oxford: Oxford University Press, 2021).

[6] For short reviews of such works, see Alexander Treiger's introduction to *Inspired Knowledge in Islamic Thought: Al-Ghazali's Theory of Mystical Cognition and Its Avicennan Foundation.* (New York: Routledge, 2012), 1–4, and Kenneth Garden's introduction to his *First Islamic Reviver*, 1–7, two works that also serve as evidence in support of this new movement. Of particular importance here is the apologetic nature of *Deliverer*, as discussed by both Treiger (*Inspired Knowledge in Islamic Thought*, 96–101) and Garden (*First Islamic Reviver*, 143–68). In his last years in Nišāpūr, al-Ġazālī faced the charge of being influenced by the philosophers—and the Ismaʿilites, for that matter—and *Deliverer* is written in that vein in order to defend him against these charges. This in part explains why he writes the book in this way and does not acknowledge his real debts to the philosophers.

picture as well. Despite not having any field identical to what is known in contemporary philosophy as epistemology, the Peripatetic philosophers before al-Ġazālī developed highly sophisticated epistemological theories, following in the footsteps of *al-Faylasūf* in his *Posterior Analytics*, as part of their logical theorisations. In these theories, knowledge, certainty, and demonstration (*burhān*) are closely linked as they are considered to constitute the highest human epistemic achievement. These philosophers, however, did not pay much attention to a latent sceptical problem in their epistemology. It is to al-Ġazālī's credit that he discovered this problem—which escaped even the agile mind of *Šayḫ Ar-raʾīs* Ibn Sīnā—and reported it as what had led him to his sceptical crisis in the first chapter of *Deliverer*. I will argue that it is al-Ġazālī's logical works, such as the logical part of *Aims of the Philosophers* (*Maqāṣid al-Falāsifa*; henceforth *Aims*), *Criterion of Science in the Art of Logic* (*Miʿyār al-ʿilm fī fann al-Manṭiq*; henceforth *Criterion*), and *Touchstone of Reasoning in the Art of Logic* (*Miḥakk an-naẓẓar fī fann al-Manṭiq*; henceforth *Touchstone*), which build on Ibn Sīnā's logical works, to which one should look in order to recognise the systematic nature of his Sceptical Argument.[7]

Appreciating the nature of this argument also undermines a widespread assumption among al-Ġazālī scholars. It has been argued that the Sceptical Argument anticipates Descartes's sceptical considerations in the *First Meditation*.[8] The facts that both thinkers start

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[7] *Aims* does not necessarily represents al-Ġazālī's own views. However, I think it is safe to ascribe to him what he says in *Aims* as long as it is confirmed by his other writings. Thanks to Reza Hadisi for pressing me on this issue.

[8] Al-Ġazālī's alleged anticipation of Descartes's—and Hume's—sceptical arguments has been dicussed—as Kukkonen, "Meditation on the Meditations," 129, argues—since the publication of George Henry Lewes's *The Biographical History of Philosophy, from Its Origin in Greece Down to the Present Day* (New York, 1857), which was itself apparently based on Auguste Schmölders's *Essai sur les écoles philosophiques chez les arabes et notamment sur la doctrine d'Alghazzali* (Paris, 1842). Some scholars even go as far as to argue that Descartes had access to a translation of *Deliverer* and that there is a direct lineage between the two—as, for example, Mahmud H. Zakzuk (Kukkonen, "Meditation on the Meditations," 114 n. 4) and V.V. Naumkin (Catherine Wilson, "Modern Western Philosophy," in *History of Islamic Philosophy*, ed. Seyyed Hossein Nasr and Oliver Leaman [London: Routledge, 1996], 1805–36) claim. Other scholars, however, did not go that far and only claimed that whatever their sources may have been, they put forward the same sceptical argument and/or the same response thereto. Such claims can be found in M. Sheykh, "Al-Ghazali," in *A History of Muslim Philosophy, Volume 1*, ed. M.M. Sharif (Karachi: Royal Book Company, 1963), 581–641; Sami M. Najm, "The Place and Function of Doubt in the Philosophies of Descartes and al-Ghazali," *Philosophy East and West* 16 (1966): 133–41; M.M. Sharif, "Philosophical Influence from Descartes to Kant," in *History of Muslim Philosophy, Volume 2*, ed. M.M. Sharif

with a demanding notion of knowledge and certainty, that they both appeal to one version or another of the dream hypothesis to motivate their scepticism, and that they both allude to God in refuting it are cases in point offered in defence of this assumption. Building on the systematic reconstruction of the Sceptical Argument as found in *Deliverer*, I will argue that these two sceptical arguments belong to wholly different philosophical traditions and as such are essentially different, and therefore that these ostensible similarities do not withstand scrutiny.

In what follows, I will present a systematic reconstruction of al-Ġazālī's Sceptical Argument by first sketching out his own presentation of the problem and his solution to it (section I). I will then proceed to fill in the gaps of the argument (section II) and argue against any systematic affiliation between al-Ġazālī's and Descartes's sceptical arguments (section III). I will end the paper with some concluding points (section IV).

2. The Sceptical Argument

In the introduction to *Deliverer*, after describing how he has witnessed arguments among different schools of thought and has started to despair as to where the truth should be found, al-Ġazālī writes that his aim is to find the true nature of things, for the sake of which it is necessary to know what knowledge really is:

> Then it became clear to me that sure and certain knowledge (*ʿilm al-yaqīnī*) is that in which the thing known is made so manifest that *no doubt* clings to it, nor is it

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(Karachi: Royal Book Company, 1966), 1381–87; Tamara Albertini, "Crisis and Certainty of Knowledge in al-Ghazali (1058–1111) and Descartes (1596–1650)," *Philosophy East and West* 55 (2005): 1–14; Edward Omar Moad, "Comparing Phases of Skepticism in al-Ghazali and Descartes: Some First Meditations on *Deliverance from Error*," *Philosophy East and West* 59 (2009): 88–101; Syed Rizwan Zamir, "Descartes and al-Ghazali: Doubt, Certitude and Light," *Islamic Studies* 49 (2010): 219–51; Taneli Kukkonen, "Al-Ghazali's Skepticism Revisited: The Missing Medieval Background," in *Rethinking the History of Skepticism*, ed. Henrik Lagerlund (Leiden: Brill, 2010), 29–59; Kukkonen, "Meditating on the Meditations"; Ulrich Rudolph, "Auf der Suche nach Erkenntnis zwischen Asien und Europa: Al-Ġazālī, Descartes und die moderne Forschungswissenschaft," *Asiatische Studien—Études Asiatiques* 72 (2018): 1–29; and Saja Parvizian, "Al-Ghazālī and Descartes on Defeating Skepticism," *Journal of Philosophical Research* 45 (2020): 133–48. Reza Hadisi, "Ghazālī's Transformative Answer to Skepticism," *Theoria* 88 (2022): 109–42, also argues for a fundamental difference between both the sceptical problems and their responses, though with a different approach to mine.

accompanied by *the possibility of error* and deception, nor can the mind even suppose such a possibility. (*Deliverer*, 64; 20, emphasis mine)[9]

The criterion for certain knowledge with which he ends up, therefore, is that the claims to knowledge must be both *indubitable* and *infallible*.[10]

Al-Ġazālī then begins to inquire into what he has taken himself to know and to see whether this constitutes certain knowledge. He reports that he has examined his knowledge and that he has found all of it wanting except for sensible propositions (*ḥissiyyāt*; henceforth "sensibles" for short) and necessary propositions (*ḍarūriyyāt*; henceforth "necessities" for short), and thus takes these two as the *prima facie* candidates for knowledge.[11] He then examines even these two things to see whether it is possible to doubt them and finds that even sensibles are open to doubt:

Whence comes your reliance on sensibles (*maḥsūsāt*)?[12] The strongest of the senses is the sense of sight. Now this looks at shadow and sees it standing still and motionless

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[9] The first number refers to the page numbers in Abū Ḥāmid al-Ġazālī, *Al-Munqiḏ/Al-Munqaḏ min al-Ḍalāl wa al-muṣil ʾila ḏi-al-ʾizza wa al-ǧalāl*, ed. Jamīl Ṣalībā and Kāmil ʿAyyād (Beirut: Dār al-Āndulus, 1967) and the second to Richard J. McCarthy's translation in al-Ġazālī, *Al-Ghazali's Path to Sufism: His* Deliverance from Error *(al-Munqidh min al-Dalal)*, trans. Richard J. McCarthy (Louisville, KY: Fons Vitae, 2000). All translations of *Deliverer* are quoted from the latter, with occasional emendations with help from Watt's English (al-Ġazālī, *Deliverance from Error and the Beginning of Guidance*, trans. W. Montgomery Watt, rev. ed. [Kuala Lumpur: Islamic Book Trust, 2019]) and Elschazli's German (al-Ġazālī, *Der Erreter aus dem Irrtum*, trans. Abd-Elsamad Abd-Elhamid Elschazli [Hamburg: Felix Meiner Verlag, 1988]) translations.

[10] It is, however, not a definition of *ʿilm* in the philosophical sense of giving its genus (*ǧins*) and differentia (*faṣl*), as in *A Distillation of the Science of The Principles* (*al-Mustaṣfa min ʿilm al-ʾuṣul*), he considers it "difficult to define in the true sense [of definition], with an accurate formula including its genus and essential differentia" (Treiger, *Inspired Knowledge in Islamic Thought*, 29). For his purposes in *Deliverer*, however, giving the criteria seems to be enough. For a more detailed discussion of his concept of *ʿilm*, see ibid., 29–34.

[11] Regarding the translation of technical terms, see n. 26 below.

[12] Al-Ġazālī uses both *ḥissiyyāt* and *maḥsūsāt* interchangeably in this context and therefore it seems innocent to translate both as "sensibles," as Watt also translated both as "sense-perceptions." Elschazli, however, sometimes translates them as "sinnliche Wahrnehmungen" and other times as "Sinne," probably having in mind at times the power of sense-perceptions and at others the beliefs resulting from them. In McCarthy's translation, both are translated as "sense-data," therefore showing an appreciation of the fact that they are used interchangeably. However, as the term "sense-data" has strong connotations in analytic philosophy, I have translated both the Arabic terms as "sensible propositions" or "sensibles" throughout this essay.

and judges that motion must be denied. Then, due to experience and observation an hour later it knows that the shadow is moving […]. Sight also looks at a star and sees it as something small, the size of a dinar; then geometrical proofs demonstrate that it surpasses the earth in size. (*Deliverer*, 65–66; 21; translation amended)

Here, Al-Ġazālī gives two examples in which we take ourselves to know something based on our senses, but are proven wrong by a higher judge, the judge of the intelligence (ʿ*aql*).[13] Hence,

I can rely only on those rational data which belong to the category of primary propositions (*awwaliyyāt*), such as our asserting that "Ten is more than three," and "One and the same thing cannot be simultaneously affirmed and denied," and "One and the same thing cannot be incipient and eternal, existent and non-existent, necessary and impossible." (*Deliverer*, 66; 22; translation amended)

From the two remaining candidates, then, it is only necessities that are immune from doubt and that might therefore be worthy of the name "knowledge." However, al-Ġazālī continues his inquiry:

Then the sensibles (*maḥsūsāt*) spoke up: "What assurance have you that your reliance on rational data is not like your reliance on sensibles (*maḥsūsāt*)? Indeed, you used to have confidence in me (*sic*). Then the intelligence-judge (*ḥākim al-ʿaql*) came along and gave me the lie. But were it not for the intelligence-judge, you would still accept us as true. So there may be, beyond the perception of intelligence (ʿ*aql*), another judge. And if the latter revealed itself, it would give the lie to the judgements of intelligence, just as the intelligence-judge revealed itself and gave the lie to the judgments of sense. The mere fact of the nonappearance of that further perception does not prove the impossibility of its existence." (*Deliverer*, 66; 22; translation amended)

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[13] Throughout this essay, I follow Treiger in translating ʿ*aql* as "intelligence" rather than "intellect" or "reason." See Treiger, "Inspired Knowledge in Islamic Thought," 18–19.

Primary propositions (henceforth "primaries" for short) being the last arrow in our quiver, we are now left with nothing to know, and therefore al-Ġazālī concludes his Sceptical Argument. How was al-Ġazālī cured of this disease and malady—as he himself calls it—which lasted for two months? He writes:

> At length God Most High cured me of that sickness. My soul regained its health and equilibrium and once again I accepted the self-evident data of intelligence (ʿaql) and relied on them with safety and certainty. (*Deliverer*, 67–68; 23; translation amended)

From what he says, it seems that his illness was cured by direct help and intervention from God.

3. Filling in the Gaps of the Sceptical Argument

The Sceptical Argument can easily be summarised in a couple of sentences. Al-Ġazālī puts forward a concept of knowledge as infallible and indubitable. He then considers two *prima facie* candidates for such knowledge and proceeds to prove them lacking. Hence the sceptical result and his subsequent sceptical crisis. However, some stages of the argument are missing. Most importantly, the question is whence the two candidates for knowledge came and how exactly he proves both to be insufficient. The fact that in the introduction and first chapter of *Deliverer*, al-Ġazālī himself uses obvious philosophical terminology such as "certain knowledge" (*Deliverer*, 64; 20), "sensibles" and "primaries" (ibid., 65–68; 21–22), and "demonstration" (ibid., 67; 23), [14] which are technical terms used in the Peripatetics' epistemological theory as part of their logic, gives us the first clue as to where to search for an answer to these questions.

Al-Ġazālī inherited from his master teacher al-Ǧuwaynī a firm distinction between "real knowledge" as opposed to "knowledge in the broad sense," the former being the

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[14] Here, al-Ġazālī uses *dalīl* instead of *burhān*, which is the standard term for "demonstration." However, from the fact that he is explicit that *dalīl* can be formulated only by means of primaries, and that it is also not unprecedented in this logical context to use these two terms interchangeably, it seems plausible to assume that he is referring to demonstration here. This seems to be the reason why Watt also translated the term as "demonstration" and why McCarthy used "proof."

property of a small, privileged group of known facts.[15] Certain knowledge, the criteria for which he gives at the end of the introduction, is the former: real knowledge. When, at the beginning of the first chapter, he claims that he has investigated all his "knowledge" to see what part of it could be a candidate for real knowledge, it should be understood as knowledge in the broader sense. He therefore scrutinises all his knowledge in the broader sense of the term to see whether there is anything worthy of being considered real or certain knowledge.

But what, according to al-Ġazālī, is certainty? In *The Book of Knowledge* (*Kitāb al-ʿIlm*) in *Revivification of the Religious Sciences* (*ʾIḥyaʾ ʿUlūm ad-Dīn*; henceforth *Revivification*), he observes that the term *yaqīn* is homonymous in the usage of two different groups of people. The first group contains the theoreticians (*nuẓẓār*, sg. *nāẓir*), by which he means the *falāsifa*,[16] and the theologians (*mutakallimūn*, sg. *mutakallim*), to whom "the term *yaqīn* signifies lack of doubt" (*ʿadam aš-šakk*) (*Revivification*, 123; 185).[17] The second application is that of the jurists (*fuqahāʾ*, sg. *faqīh*), the Sufis, and most of the learned, which occurs when "the soul inclines to the acceptance of anything which prevails over the heart and takes hold of it, and as a result becomes the ruler and dispenser of the soul either by urging it to action or by forbidding therefrom, such a thing is called *yaqīn*" (*Revivification*, 125; 188). Thus stated, it seems that

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[15] Richard M. Frank, "Al-Ghazali on Taqlid: Scholars, Theologians, and Philosophers," *Zeitschrift für die Geschichte der arabisch-islamischen Wissenschaften* 7 (1991/92): 207–8.

[16] Garden, *First Islamic Reviver*, 49–52, forcefully argues that in *Scale of Action* (*Mīzān al-ʿAmal*), *nuẓẓār* refers to the philosophers. His first argument is that the source of the term *nāẓir*, the singular of *nuẓẓar*, seems to be related to *al-ʿilm an-naẓarī*, meaning theoretical science, as opposed to *ʿilm al-ʿamalī*, practical science. This is obviously philosophical terminology and shows that *nuẓẓār* has something to do with the philosophers. The second reason is that if *nuẓẓār* was meant to refer to a third group in addition to the philosophers and the Sufis, then there should have been a reference to it in *Scale*. The lack of any such reference shows that al-Ġazzālī does not take these two terms to refer to different groups. Lastly, he argues based on textual evidence that "'theoreticians' […] are those who seek knowledge of the true affairs of things through the theoretical science (*ʿilm an-naẓarī*), which, in this passage includes even the groups of philosophers with tenets al-Ġazzālī rejects" (ibid., 52). One can, I would suggest, plausibly make the same case for *Revivification*, in which, as quoted above, he contrasts theoreticians and theologians with jurists, Sufis, and other generally learned men. Another reason is that in this particular context in *Revivification*, the notion of *yaqīn* in question is similar enough to that of Ibn Sīnā to maintain that *nuẓẓār* refers to the philosophers. Nabih Amin Faris's translation of *The Book of Knowledge* translates *nuẓẓār* as "philosophers," and it seems quite fitting in the context.

[17] The first number refers to the original Arabic text in Abū Ḥāmid al-Ġazālī, *Iḥyaʾ al-ʿulūm al-dīn* (Beirut: Dār al-kutub al-ʿilmiyya, 2002), and the second to the English translation of *The Book of Knowledge*: al-Ġazālī, *The Book of Knowledge*, trans. Nabih Amin Faris (New Delhi: Islamic Book Service, 1962). The quoted passages are from Faris's translation.

the first meaning of the term is *yaqīn* in an epistemological sense and that the latter meaning is in a psychological sense. Remarkably, al-Ġazālī uses both of these meanings in one sentence when he writes "I have never seen a certainty with no doubt in it more resembling a doubt with no certainty in it than death" (*mā raʾaytu yaqīnan lā šakka fīhi ašbaha bi-šakk lā yaqīna fīhi min al-mawt*) (*Revivification*, 125). In this sentence, the first case (certainty with no doubt in it) refers to the former, epistemological sense of certainty, while the second (a doubt with no certainty in it) refers to the latter, psychological sense. That is, we know—in the epistemological sense—without any doubt that we will face death sooner or later, but psychologically speaking, we resist believing it, doubt it, and live in such a way as if there will be no death.[18] From the description that al-Ġazālī gives, it seems reasonable to translate the first use of the term as "certainty" and the second as "conviction."[19] It also seems plausible to assume that it is the first, philosophical meaning that is at play in *Deliverer*, since he himself makes it clear that by "certain knowledge," he means something "in which the thing known is made so manifest that no doubt clings to it, *nor is it accompanied by the possibility of error and deception*"[20] (*Deliverer*, 64; 20, emphasis mine). It is in the philosophical, epistemological sense of the term that one does not face the possibility of error.

In describing the first meaning of *yaqīn*, al-Ġazālī mentions four different levels of a person's readiness to accept a proposition: namely, doubt (*šakk*), opinion (*ẓann*), belief approaching certainty (*iʿtiqād muqarrab li-l yaqīn*),[21] and certainty (*yaqīn*). It is only the last, according to al-Ġazālī, that is the meaning of certainty in this context. He defines it as "real knowledge (*maʿrifa al-haqīqiyya*) resulting from demonstration (*burhān*) in which there is neither doubt nor the possibility of doubt. When doubt or any possibility of doubt are ruled

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[18] Thanks to an anonymous reviewer who suggested this distinction and brought this example to my attention.

[19] Faris translated the second meaning as "faith." This might lead to confusion with *ʾimān*, which is closer to faith than *yaqīn*, hence my translating it as "conviction."

[20] Cf. Kukkonen, "Al-Ghazali's Skepticism Revisited," 47, who argues that this characterisation of certainty has some precedence in *Bāqillanī*.

[21] Treiger argues that *iʿtiqād* should be translated as "opinion" and gives tempting reasons not to equate it with "belief." However, since I, following Black, will translate *ẓann* and its cognate terms such as *maẓnūnāt* as "opinion," and also because the details of difference between *iʿtiqād* and *ẓann* do not play an important role in my overall argument, I will stick to this translation.

out, they [i.e., philosophers and theologians] call it certainty (*yaqīn*)"[22] (*Revivification*, 186; 124; translation amended). This passage is of great importance for understanding the nature of knowledge and the Sceptical Argument. First, it shows once again that what al-Ġazālī has in mind is knowledge in the strict sense of the term. Second, when he writes that real knowledge is called "certainty" under certain circumstances, he shows that "knowledge" and "certainty" are identical. And third, he shows that this knowledge is achieved via demonstration. However, "demonstration" is a technical term used by the philosophers in the context of their logical theories based on Aristotle's *Posterior Analytics*. Since, as shown above, the concept of knowledge at work in *Deliverer* is exactly this concept of certainty, it is to this concept that one should look to understand the nature of the Sceptical Argument.[23]

The *Posterior Analytics*'s counterpart to *ʿilm* is *epistēmē*, and, it is argued, there is no concept analogous to *yaqīn* in the Philosopher's own text. However, as Deborah L. Black has shown,[24] in Abū Bišr Mattā's monumental translation of Aristotle's treatise, *ʿilm* and *yaqīn* are used interchangeably to render *epistēmē* into Arabic.[25] This led the Muslim philosophers to assume firm ties between *ʿilm* and *yaqīn*, to the extent that Ibn Sīnā took the two as identical,[26] and this seems to be what al-Ġazālī has in mind in the above-quoted passage. Moreover, this concept, again as al-Ġazālī mentions, is believed to be related to demonstration in such a way

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[22] Treiger, *Inspired Knowledge in Islamic Thought*, 33–34, notes that there is a "soft" difference between *ʿilm* and *maʿrifa* in some technical contexts and prefers to translate the latter as "cognition." He makes it clear, however, that in most contexts, they are "roughly the same." In the context of the Sceptical Argument and *The Book of Knowledge*, however, they seem to be used interchangeably, and therefore I will translate them both as "knowledge."

[23] Kukkonen, "Meditating on the Meditations," 131, quoting this passage from *Revivification*, argues that the first meaning of *yaqīn* is related to the first crisis of knowledge and that the second meaning maps to the second crisis of knowledge.

[24] Deborah L. Black, "Knowledge (*ʿilm*) and Certitude (*yaqin*) in al-Farabi's Epistemology," *Arabic Sciences and Philosophy* 16 (2006): 13–14.

[25] However, it is important to note, as Black makes clear, that Mattā "does not reserve either term for this technical usage, and he will use both terms to render a variety of non-technical epistemic expressions in the Greek text" (Black, "Knowledge [*ʿilm*] and Certitude [*yaqīn*]," 14). However, as she makes clear, the term *yaqīn* finds a technical usage in the following philosophers: "Abū Bišr's decision to introduce [*yaqīn*] into the definition of demonstration, the very subject matter of the *Posterior Analytics*, could easily have led Arabic audiences to assume that *yaqīn* was a pivotal concept within Aristotelian epistemology" (ibid., 14).

[26] Robert Pasnau, *After Certainty: A History of Our Epistemic Ideals and Illusions* (New York: Oxford University Press, 2017), 177.

that certainty can only be achieved via demonstration and demonstration is defined by way of certainty.[27] Al-Ġazālī's epistemological discussions in his logical works—namely, *Aims*, *Criterion*, and *Touchstone*—are based on this tradition. For al-Ġazālī, just like Ibn Sīnā before him, *ʿilm* and *yaqīn* are essentially the same concepts, and the only way one can achieve them is through demonstration. It is here, I would suggest, that one should look to find out whence the two *prima facie* candidates of knowledge come.

Other readers, however, seem to have thought that al-Ġazālī simply adopted these candidates from previous thinkers.[28] Yet this position does not tell the whole story, as is evident from the very first sentence of the first chapter, in which he explicitly says that "I then scrutinized all my cognitions and found myself devoid of any knowledge answering the previous description except in the case of sensibles (*ḥissiyyāt*) and the self-evident truths" (*Deliverer*, 65; 21; translation amended). This sentence clearly shows that choosing sensibles and necessities as the *prima facie* candidates for certain knowledge is the result of a process of argumentation on al-Ġazālī's part in which he investigates all his knowledge in the broadest sense. Given the above-mentioned ties between knowledge, certainty, and demonstration, it is here that one must look in order to reconstruct this process. In particular, I suggest, it is his discussion of syllogism (*qiyās*) and the materials of syllogism (*mawwād al-qiyās*) that is of importance here.

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[27] Black, "Knowledge (*ʿilm*) and Certitute (*yaqin*)," 13–14. See also Deborah L. Black, "Certitude, Justification, and the Principles of Knowledge in Avicenna's Epistemology," in *Interpreting Avicenna*, ed. Peter Adamson, 120–42 (Cambridge: Cambridge University Press, 2013), 13, and Pasnau, *After Certainty*, 26–30; 176–78.

[28] In one, Kokkunen understands the "two roads" to gain knowledge as "sense-perception and intellection" and views them as representing a "common division both among the philosophers and the theologians," claiming that al-Ġazālī "follows this kind of reasoning implicitly and as a matter of course." He mentions as an example the Neoplatonist al-ʿAmirī, who was faithful to both the Platonic and the Peripatetic positions in seeing these two stances as providing access to reality: see Kukkonen, "Al-Ghazali's Skepticism Revisited," 46. A similar stance is taken by Stephen Menn: "Scepticism arises not just from a critique of dogmatic theses, but from a critique of our *faculties*; Ghazali, like Galen (notably in *Errors of the Soul* c6 and *On the Best Kind of Teaching*, concerned with such sceptical critiques) presents sensation and reason as separate and analogous powers, each with its own domain of primitively intuited truths" (Menn, "The *Discourse on the Method* and the Tradition of Intellectual Autobiography," in *Hellenistic and Early Modern Philosophy*, ed. Jon Miller and Brad Inwood [Cambridge: Cambridge University Press, 2003], 161).

In this picture, there are five different forms of syllogism and more than a dozen materials of syllogism that are used in these different forms of argumentation.[29] The five different forms of syllogism are as follows:

1. Demonstration (*burhān*)
2. Dialectical Argument (*qiyās al-ǧadalī*)
3. Rhetorical Argument (*qiyās al-ḫiṭābī*)
4. Fallacious or Sophistical Argument (*qiyās al-muǧālaṭī/sūfasṭāʾī*)
5. Poetical Argument (*qiyās aš-šiʿrī*)

Among these five different forms of syllogism, it is only the first two that have a connection to certainty, the latter being "close to certainty" (*muqāriba li-l-yaqīn*) and the former being "certain, true and indubitable" (*yaqīnīyya ṣādiqatan bila-šakk*) (*Aims*, 45–46). In *Criterion*, al-Ġazālī also takes demonstration to be the only form of syllogism to deliver us certainty. There, in his discussion about the premises of syllogism (*muqaddamāt al-qiyās*), he differentiates them into highest (*aqṣā*) and lowest (*adnā*), taking the highest to be demonstration, which "gives us certain knowledge" (*al-muḥaṣṣalu lil-ʿilm al-yaqīnī*) (*Criterion*, 41). Since there is still a possibility of mistakes in the case of a dialectical argument, which makes it dubitable, it is only the first that is worthy of being called certain knowledge.

Whence comes the certainty of demonstration? Here is where the discussion of the materials of syllogism comes into the picture. One major difference between these types of syllogism is the different materials used in them; the more trustworthy these materials are,

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[29] Here, I follow al-Ġazālī's own presentation in his logical works, which is based on different descriptions that Ibn Sīnā offers in various works. Jules Janssens, "Le Miyār al-ʿilm fī fann al-Mantiq d'al-Ghazzālī. Sources avicenniennes et farabiennes," *Archives d'histoire doctrinale et littéraire du Moyen Âge* 69 (2002): 39–66, shows that al-Ġazālī also uses al-Fārābī's works in some of his texts (Thanks to an anonymous reviewer for the tip about this reference). Comparing them, however, goes beyond the scope of this paper. Ibn Sīnā presents his discussion about this matter in several places, e.g., Ibn Sīnā, *An-Naǧāt min al-Ġarq fī Baḥr aẓ-Ẓalalat* (Tehran: Dānišǧāhi Tehran, 1985), 113–23; Ibn Sīnā, *Al-Išārāt wa at-tanbīhāt*, vol. 1 (Qom: Matbūʿāt ad-Dīnī, 2004), 385–90; and Ibn Sīnā, *Al-Manṭiq Aš-šifa* (Qom: Golwerdī, 2012), 63–67. For some representative scholarly discussions of these matters, see G.C. Anawati, "Ishām Ibn Sīnā fī taqaddum al-ʿulūm," *At-Turāṯ al-ʿArabī* (1981): 16–42; Dimitri Gutas, "The Empiricism of Avicenna," *Oriens* 40 (2012): 391–436; Black, "Certitude, Justification, and the Principles of Knowledge"; and Seyed N. Mousavian and Mohammad Ardeshir, "Avicenna on the Primary Propositions," *History and Philosophy of Logic* 39 (2018): 201–31.

the more trustworthy the syllogism itself. And it is in fact the materials used in demonstration, having the highest degree of certainty, that make it worthy of the name "real knowledge." Of more than a dozen such materials, there are only four that al-Ġazālī believes can be used as premises in a demonstration:

1. Primaries (*awwaliyyāt*); e.g., two is bigger than one.

2. Sensible propositions (*ḥissiyyāt/maḥsūsāt*); e.g., the sun is shining.

3. Empirical propositions (*taġrubiyyāt/muǧǧarrabāt*); e.g., fire burns.

4. Testimonials (*mutavātirāt*); e.g., Mecca exists.[30]

It is these four, therefore, that are to be the candidates for certain knowledge in this picture. Yet how do they fit the two *prima facie* candidates that al-Ġazālī mentions at the beginning of the first chapter?

Before answering this question, however, I must make a quick detour to consider the matter in two other logical works by al-Ġazālī and show that in those works as well, it is these four candidates that are at work. In *Criterion*, al-Ġazālī enumerates four different such materials: (1) purely intellectual primary propositions (*awwaliyyāt al-ʿaqliyyata al-maḥḍa*), (2)

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[30] Abū Ḥāmid al-Ġazālī, *Maqāṣid al-Falāsifa* (*Aims of the Philosophers*) (Damascus: Miṭbaʿa aṣ-ṣabāḥ, 2000), 46–50. The other materials are as follows:

5. Propositions with innate syllogism (*qaḍāyā ʾallatī qiyāsātiha fiṭ-ṭabʿ maʿahā*)

6. Estimative premises (*wahmiyyāt*)

7. Widely accepted propositions (*mašhūrāt*)

8. Received propositions (*maqbūlāt)*

9. Common grounds (*mussalamāt*)

10. Comparative propositions (*mušabbahāt*)

11. Apparently acceptable propositions (*mašhūrāt fiẓ-ẓahir*)

12. Opined/supposed beliefs (*maẓnūnāt*)

13. Imaginative premises (*muḫayyalāt*) (ibid., 47–50)

I follow Black's translation of this list in Black, "Certitude, Justification, and the Principles of Knowledge," as far as possible, except for those on al-Ġazālī's list that are not included in her discussion. As for *mussallamāt*, although the term can be translated as "certain propositions" and in fact in some contexts its singular *mussalam* and *yaqīnī* are used interchangeably, based on al-Ġazālī's own explanation I prefer "common grounds": "It is what the opponent accepts or it is a common ground between the opponents" (*Aims*, 49). *Mašhūrāt fiẓ-ẓahir* are also those that seem acceptable in the first place but upon contemplation are found wanting, e.g., the proposition that one should help one's brother whether innocent or guilty (ibid., 49–50).

sensible propositions (*maḥsūsāt*), (3) empirical propositions (*muǧǧarrabāt*), and (4) propositions that are not known in themselves, but through a mediator, but the middle term does not shy away from the mind (*qaḍāya ʾallattī ʿurifat lā binafsiha bal bivasata wa lākin lā yaʿzaba ʿan iḏ-ḏihni ʾawsaṭahā*).[31] The first three are exactly the same as *Aims*, so the question would concern the fourth material. The reason that this does not appear on the list of materials that provide us with certain knowledge, I would suggest, is that they ultimately end with a tacit argument, and as such, by al-Ġazālī's own lights, they are dependent on primaries. Therefore, if primaries are out—as they will be in due course, as will be shown—this fourth group would also, *ipso facto*, be out.

The case of the discussion in *Touchstone* is more complicated. There, al-Ġazālī enumerates seven materials that give us certainty: (1) primaries (*awwaliyyāt*), (2) introspective observations (*mušahadāt al-bāṭiniyyah*), (3) sensible propositions (*maḥsūsāt aẓ-ẓāhira*), (4) empirical propositions (*taǧrubiyyāt*), (5) propositions known by testimony (*maʿlūmāt bit-tawātur*), (6) estimative propositions (*wahmiyyāt*), and (7) widely accepted propositions (*mašhūrāt*).[32] Here, (1), (3), and (4) are what is to be found in the former two books. However, a justification as to why the other four are not found in the other sources, and why they are not among the *prima facie* candidates of certain knowledge, is in order. The reason is that in *Touchstone*, he discusses not the materials for demonstrative proof, as is his aim in *Aims* in particular, but certain knowledge in the broader sense, which includes both epistemological and psychological certainty, as discussed above. In this book, just before he enumerates these materials, he distinguishes three different meanings of certainty (*yaqīn*). First is a certainty in which there is no possibility of falsehood (*lā yumkinu ʾan yakūna fīhi sahwa wa lā ġalata wa lā iltibās*), which is epistemological certainty. Second is what he calls dogmatic belief (*iʿtiqāda ǧazma*), which is "most of the beliefs of the laity among Muslims, Jews, and Christians" that relate to their religious observance. This, I would suggest, is comparable to the psychological certainty he discusses in *Revivification*. And the third one, which should be taken as certainty in the loose sense, is opined belief, in which one believes in something, "but is aware of its negation, or is not aware of its negation, but if he comes to

[31] Abū Ḥāmid al-Ghazālī, *Miʿyār al-ʿilm fī fann al-Manṭiq* (*Criterion of Science in the Art of Logic*) (Beirut: Dar al-Kotob al-Ilmiyah, 1971), 178–83.

[32] Al-Ghazālī, *Criterion*, 116–29.

know it, his nature will not hate to believe it."[33] This shows that what this book counts as materials for certainty includes what al-Ġazālī takes to be materials for certainty in all three of these meanings, not just epistemological certainty, which is our concern here. Therefore, I would suggest that what is certain in the sense that is interesting in the context of the Sceptical Argument are just these four materials of syllogism enumerated above.

Now, back to the question I posed before this digression; namely, how to equate these four with the two *prima facie* candidates of certain knowledge. The most obvious case is to equate the primaries on the list of the materials of syllogism with the necessities or intellectual propositions that al-Ġazālī mentions in the first chapter. First, when continuing his discussion in the first chapter, al-Ġazālī uses "necessities" and "primaries" interchangeably, such as when he writes, after considering the counterexamples to sensibles, "My reliance on sensibles has become untenable. Perhaps, therefore, I can rely on those rational data which belong to *the category of primaries* (*min al-awwaliyyāt*)" (*Deliverer*, 66; 22, translation emended and emphasis mine), using "primaries" as the second candidate for real knowledge where he had previously used "necessities" or *ḍarūriyyāt*. Second, and more importantly, he gives similar examples of necessities and primaries in both *Deliverer* and *Aims*. The first example of necessities that he gives in *Deliverer* is the mathematical example that ten is a bigger number than three (*Deliverer*, 66; 9), and he gives the same example, only changing the numbers, in *Aims,* stating that two is bigger than one (*Aims*, 46). The other examples he gives in *Deliverer* are different variations of the law of non-contradiction, which is one of the principal examples of primaries in the standard texts.

This is also the case for sensibles. Not only does he use the technical terms *ḥissiyyāt* and *maḥsūsāt* interchangeably to refer to the first candidate,[34] but the examples of them that he gives in *Deliverer* are also similar enough to those given in *Aims* as to leave no doubt that his first candidate is the second material of syllogism on *Aims*'s list. His two examples of

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[33] Abū Ḥāmid al-Ghazālī, *Miḥakk an-naẓẓar fī fann al-Manṭiq (Touchstone of Reasoning in the Art of Logic)* (Beirut: Dar al-Minhaj, 2016), 112–15.

[34] As in the very first paragraph of the first chapter, when he writes: "I then scrutinized all my knowledge and found myself devoid of any knowledge answering the previous description except in the sense of **sensibles (ḥissiyyāt)** and the self-evident truths [...]. With great earnestness, therefore, I began to reflect on my **sensibles (maḥsūsāt)** to see if I can make myself doubt them. (*Deliverer*, 65; 21, emphasis mine)." Here, al-Ġazālī uses both *ḥissiyyāt* and *maḥsūsāt*—emphasised in bold—as the first candidate for knowledge, hence my translation of both as "sensibles."

sensibles in *Deliverer* are the observations that shadows stand still and that the sun is small (*Deliverer*, 66; 22), while in *Aims*, they are that the sun shines and that the light of the moon increases and decreases (*Aims*, 46), which are beliefs directly based on sense-perception.[35] Hence, his first candidate for real knowledge is the second source on the list of the materials of syllogism.

What about empirical propositions? Al-Ġazālī, following Ibn Sīnā, takes these propositions as the result of a combination of sense-perception and intelligence: "What results from the combination of sense and intelligence (*ḥiss val-ʿaql*) is our knowledge that fire burns or […] alcohol makes us drunk. So the sense perceives drunkenness after drinking alcohol several times, and the intellect infers that there must be some sort of causality at work here" (*Aims*, 47). This shows that unlike the case of sensibles, the mere presence of sense-perception is not enough to form empirical beliefs and the intelligence must contribute as well. This is, again, exactly like Ibn Sīnā's theory, in which, as Black explains, "the mind must implicitly reason that the repeated connection between the terms of the proposition represents an essential, and not merely an incidental, relation."[36] As such, the acceptability of empirical propositions as *prima facie* candidates for certain knowledge is based on the acceptability of sensibles—they are sensibles plus something more. However, because al-Ġazālī will show that sensibles are not to be trusted from early on in the Sceptical Argument, there is no reason to take empirical propositions as candidates in this way; hence his omission of the empirical propositions from the list of the candidates.[37]

This is also the case with testimonials. The term *mutawātirāt* (sg. *mutawātir*) is drawn from Islamic jurisprudence in discussions of the Prophet's traditions, in which a tradition is counted as *mutawātir* if it is narrated by enough trustworthy people as to remove the possibility of doubt. Ibn Sīnā generalised this notion and used it as a material of syllogism,[38] and al-Ġazālī followed him in taking it as one of the materials eligible to be used in demonstration. Although al-Ġazālī does not elaborate on this issue, as Black notes, these

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[35] Al-Ġazālī's examples are similar to those of Ibn Sīnā, and at least one of them, e.g., that the sun is shining, is quoted verbatim from him. See Black, "Certitude, Justification, and the Principles of Knowledge," 128.

[36] Black, "Certitude, Justification, and the Principles of Knowledge," 128. This is the second requirement that Black mentions, the first of which is that "the sensation must be repeated and preserved in memory" (ibid., 128).

[37] In addition, the reasoning of the intelligence is arguably based on primaries, which will be refuted in the next step of the Sceptical Argument.

[38] Black, "Certitude, Justification, and the Principles of Knowledge," 132.

propositions are "in some way empirical" (ibid). That is, they are sensible—or in some cases empirical—propositions and as such their trustworthiness rests on the trustworthiness of the sensible propositions.[39] But since sensibles are among the *prima facie* candidates and are to be proved wanting in due course, testimonials as well as empirical propositions are *ipso facto* doubtful, hence their absence among the *prima facie* candidates.

There seems to be another reason at work here in al-Ġazālī's reasoning for omitting testimonials from the list of candidates for knowledge. Since I do not have any textual evidence, however, I would rather put it forth as a conjecture. Al-Ġazālī, being influenced by the ʾAšʿarite school of thought, shares their aversion to *taqlīd*; namely, emulative acceptance of something based on the authority of others. As Frank Griffel argues, "earlier ʾAshʿarites saw a clear opposition between *taqlīd* and knowledge (*ʿilm*, *maʿrifa*) in the sense that the one excludes the other."[40] Al-Ġazālī embraces, generalises, and offers a more sophisticated version of this theory. Richard Frank writes in his seminal work on the issue:

> The earlier ʾAshʿarites had raised and treated the question of *taqlīd* almost exclusively within the context of religious assent and had conceived intrinsic and latent instability as one of the defining characteristics of belief founded on *taqlīd*. Al-Ġazzālī looks at the problem of the passive adoption of, or uncritical acquaintance to, the beliefs and teachings of the others in a broader and more general framework than had his predecessors and thereby extended the concept of *taqlīd* and its applicability.[41]

Al-Ġazālī, therefore, broadens the concept of *taqlīd* from mere religious beliefs to also encompass other, epistemological areas. In this generalised sense, he considers *taqlīd* and knowledge in the strict sense—that is, certain knowledge—to be exclusive, though he allows it to be consistent with knowledge in the broader sense.

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[39] See Black, 133. Although al-Ġazālī does not explicitly say anything about this, given that his theory on this matter is entirely based on Ibn Sīnā's, it seems reasonable to assume that he also shares this limitation, hence the elimination of testimonials from the list of *prima facie* candidates.

[40] Frank Griffel, "*Taqlīd* of the Philosophers: Al-Ghazālī's Initial Accusation in His *Tahāfut*," in *Ideas, Images, and Methods of Portrayal: Insights into Classical Arabic Literature and Islam*, ed. Sebastian Günther (Leiden: Brill, 2005), 273–96, 279.

[41] Frank, "Al-Ghazali on Taqlid: Scholars, Theologians, and Philosophers," 208.

Now, it is of course true that the two notions of testimonials and emulative beliefs (*muqalladāt*) are conceptually different, and even in *Aims*, al-Ġazālī goes as far as to claim that concerning what is based on the testimony of many, "when the possibility of doubt is removed it is called testimonial" (*Aims*, 47). However, there is a shared element in both kinds of belief; namely, that it is based on others' reports and does not reach the level of certainty of something one experiences oneself—one of them is dependent on the authority of a single person and the other on the authority of a group of people. It seems at least plausible to assume that in the context of the Sceptical Argument, where al-Ġazālī is seeking certain knowledge in the strictest possible sense, which is indubitable and infallible, he will rule out something that is based on the authority of others. Moreover, it is entirely consistent with what he says at the beginning of the introduction to *Deliverer*, where he says that he escaped from *taqlīd* and climbed "to the highland of independent investigation" (*Deliverer*, 61; 18). This is of course no more than a conjecture, and it would be an interesting topic of research to see the relationship between testimonials and *taqlīd* in al-Ġazālī's corpus. However, this would go beyond the limited space of this paper.

How, then, does al-Ġazālī proceed to reach his sceptical conclusion? The best way to understand his reasoning is by appreciating what I call the Hierarchical Account of Knowledge, in which the sources of knowledge are organised in order of superiority. This is, of course, a corollary of his accepted epistemological theory, as described above, in which there is such a hierarchy both in the different kinds of syllogism—with demonstration being the highest—and in its materials, with the first four occupying the highest position. Yet even among these four, we learn in the first chapter that sensibles stand in a lower position compared to necessities. It is by means of this hierarchy that he proceeds to argue for his sceptical conclusion, first by showing that necessities, as a higher judge, prove sensibles to be insufficient and then by showing that the possibility of a still higher judge undermines the acceptability of the necessities themselves.

The criterion for certain knowledge, as mentioned above, is that the knowledge claims be infallible and indubitable. As for the first candidate, the sensibles, al-Ġazālī gives two examples of actual mistakes; namely, perceiving the shadow to be standing still and then realising that it is moving very slowly, and taking the sun to be as small as a *dīnār* coin and then, by means of mathematical reasoning, finding out that it is larger than the Earth. In these examples, al-Ġazālī argues, it is the higher judge, the intelligence-judge, that proves the

sensibles wrong. These actual examples of mistakes show that sensibles do not satisfy the infallibility criterion, and hence they cannot be considered certain knowledge.

The case of the second *prima facie* candidate is more complicated, as al-Ġazālī gives no example of actual mistakes, and it is here that he alludes to his celebrated dream example. In arguing against the necessities, al-Ġazālī has the sensibles complain that he used to trust them until the necessities came along as a higher judge and proved them wrong. How can he be sure, they ask, that there is no higher judge to prove even the necessities wrong? He writes:

> For a brief space my soul hesitated about the answer to that objection, and sensibles (*ḥissiyyāt*) reinforced their difficulty by an appeal to dreaming, saying: "Don't you see that when you are asleep you believe certain things and imagine certain circumstances and believe they are fixed and lasting and entertain no doubts about their status? Then you wake up and know that all your imaginings and beliefs were groundless and unsubstantial. So while everything you believe through sensation or intelligence in your waking state may be true in relation to that state, what assurance have you that you may not suddenly experience a state which would have the same relation to your waking state as the latter has to your dreaming, and your waking state would be dreaming in relation to that new and further state? (*Deliverer*, 66–67; 22; translation amended)

Here, al-Ġazālī considers the possibility of a higher judge that can prove necessities to be insufficient, just as was proven for sensibles. The case of sensibles was easier, as we saw, because there is actually a higher judge and actual cases of mistakes. In the case of necessities, however, not only are there no actual cases of mistakes—or at least, al-Ġazālī does not report any—but there is no higher judge on the list of the materials of syllogism. It is because of this lack of an actual judge that al-Ġazālī alludes to the example of dreaming—just as when waking one realises that what one saw in one's dream was faulty, there might be a higher state in which one could see that one's waking observations are faulty. This shows that the criterion of indubitability is not satisfied—there is always a possibility of there being a higher judge that can prove me wrong. What higher state might that be? Al-Ġazālī gives two examples:

> It may be (*laʿalla*) that this state beyond reason is that which the Sufis claim is theirs (*ḥāl*). For they allege that, in states they experience when they concentrate inwardly and

suspend sensation, they see phenomena which are not in accord with the normal data of reason. Or it may be (*laʿalla*) that this state is death. For the Apostle of God—God's blessing and peace be upon him!—said: "Men are asleep: then after they die they awake." (*Deliverer* 67; 22–23; translation amended)

Sufis report cases of *ḥāl* in which they (claim to) see contradictions as true and false simultaneously. Death also, according to the tradition related from the Prophet Muhammad, can show one things that seem impossible to perceive in this world. These are the examples that al-Ġazālī gives regarding what a higher judge might be. What is important, however, is that these are just examples. First, his use of the term *laʿalla*—"maybe" or "may"—shows that he means them to be mere possibilities and nothing more. In addition, what he tries to do is to prove that there is space for doubt, that even necessities are dubitable, and that the mere possibility of there being such a higher state is enough. Even if someone denies these two— for example, if one is sceptical of there being such a thing as a Sufi *ḥāl*, or even of the existence of the Hereafter—one can still believe in the mere possibility of there being a higher judge and hence accept the dubitability of necessities. As one would say in Arabic, his examples are used merely to bring the case "closer to mind" (*taqrīb biḏ-ḏihn*) and are not committed to them *per se*.

Once one accepts this dubitability, one sees that there is no refuge, at least in the current state in which we find ourselves. As al-Ġazālī argues, in refuting such a possibility, one needs to formulate demonstrations. Since demonstrations need primaries in their formulation, and primaries are exactly what are under attack here, formulating demonstrations against the possibility of such a higher judge—to use a contemporary turn of phrase—begs the question against the sceptic. It is because of this, I suggest, that al-Ġazālī does not offer any treatment of the Sceptical Argument and writes that "that was *not achieved by constructing a proof or putting together an argument*. On the contrary, it was the effect of the light God Most High cast into my breast" (*Deliverer*, 67–68; 23, emphasis mine). In fact, from al-Ġazālī's point of view, there is no way for humans to prove the falsity of this sceptical argument by way of argumentation, but it is God who can directly intervene to make them regain their trust in primaries and continue in their normal epistemic affairs.

4. Comparison with Descartes

The general consensus among al-Ġazālī scholars—though not, I reckon, among Descartes scholars—is that the Sceptical Argument anticipates Descartes's sceptical considerations in the *First Meditation*, to the extent that in a recent contribution, Taneli Kukkonen calls it common "knowledge":

> Among professional historians of philosophy it is by now common knowledge that Abū Ḥāmid Muḥammad al-Ghazālī (1058–1111 CE) in his works anticipates both Descartes's and Hume's sceptical arguments with a closeness that at times borders on the eerie. Like Descartes in the Discourse on Method, Ghazālī in his autobiography expresses dissatisfaction with the teachings of the established schools of the time. Also like Descartes (this time in the Meditations), Ghazālī describes in remarkably personal terms a quest for certain knowledge that could act as a secure foundation in his search for truth. As in Descartes's case, Ghazālī's casting around for certitude leads him to a series of sceptical doubts ranging from the very trivial to the very grave. It results in an impasse from which only the recognition of God as the ultimate guarantor of all truth will deliver the inquiring mind.[42]

It is not obvious, however, what this anticipation amounts to, and most of the works seldom go beyond some superficial affinities and do not offer any systematic discussion about the similarities and dissimilarities between the two thinkers.[43] In fact, given the Sceptical Argument's dependence on the Aristotelian theories of the Muslim Peripatetics, as I argued above, and Descartes's famous aversion towards Aristotelianism, it seems highly doubtful that the two arguments could share anything philosophically interesting. What I want to do in this section is to make a case for this *prima facie* intuition. I will look at three ostensible similarities that often appear in the literature as the most obvious cases of their convergence; that is, their search for certain knowledge, their use of the dream hypothesis, and finally their allusion

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[42] Kukkonen, "Al-Ghazali's Skepticism Revisited," 29.

[43] See n. 7 above for reference to the literature in this area. In addition, in fairness to Kukkonen, he also makes it clear that the stories that attempt to find a lineage between al-Ġazālī and Descartes are "fanciful" and that "the philosophical rewards of precursorism are soon reaped and often prove thin" (Kukkonen, "Al-Ghazali's Skepticism Revisited," 30).

to God when refuting scepticism. Then, I will argue that in all three of these cases, there are systematic differences between al-Ġazālī and Descartes, hence the essential dissimilarity between their arguments.[44]

Before discussing these three ostensible similarities, however, one preliminary point is in order. This is in fact a point that was already made by Myles Burnyeat some four decades ago in his seminal 1982 paper "Idealism and Greek Philosophy: What Descartes Saw and Berkeley Missed,"[45] but its application to the particular case of al-Ġazālī's Sceptical Argument has escaped the attention of scholars. This point is based on the fact that Descartes's sceptical considerations are founded on his conviction that we have direct access only to our ideas, our very own mental episodes, and that our access to external objects is instead indirect, via an inference from these mental episodes—Descartes's so-called representationalism.[46] This theory, Burnyeat argues, is something to which the ancients—and arguably their medieval followers—had no access.[47]

This thesis finds support in Descartes's writings, such as when he writes in a letter to Guillaume Gibieuf dated 19 January 1642 that "I am certain that I have no knowledge of outside me except by means of the ideas I have within me" (AT, 3:474; CSM, 3:201).[48] He is quite clear that he takes his sceptical considerations to be based on this conviction, as becomes evident when he offers a summary of his sceptical argument at the beginning of the *Third Meditation*:

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[44] Like any other area in philosophy and its history, however, the matter of reading the *First Meditation* is highly controversial, and I do not wish to enter into such a big debate here. Instead, I will concentrate on some points about Descartes's sceptical considerations and his response thereto, for which there is powerful textual evidence, and—hopefully—with which many different readings, although not all of them, are consistent.

[45] Myles Burnyeat, "Idealism and Greek Philosophy: What Descartes Saw and Berkeley Missed," *The Philosophical Review* 13 (1982): 3–40.

[46] This is, of course, not uncontroversial, but I think that the textual evidence below shows that it is not unwarranted to ascribe this to Descartes.

[47] Burnyeat, "Idealism and Greek Philosophy," 32, 44.

[48] AT refers to volumes in René Descartes, *Oeuvres de Descartes*, ed. Charles Adam and Paul Tanerry, 13 vols. (Paris: Vrin, 1974–1983), while CSM refers to the English translation in Descartes, *The Philosophical Writings of Descartes*, trans. John G. Cottingham, Robert Stoothof, Dugald Murdoch, and Anthony Kenny, 3 vols. (Cambridge: Cambridge University Press, 1984–1991). All quoted passages are taken from the latter.

Yet I previously accepted as wholly certain and evident many things which I afterwards realized were doubtful. […] But what was about them that I perceived clearly? Just that the ideas, or the thoughts, of such things appeared before my mind. Yet even now I am not denying that these ideas occur within me. But there was something else which I used to assert, and which through habitual belief I thought I perceived clearly, although I did not in fact do so. This was that *there were things outside me which were the source of my ideas* and which resembled them in all respects. This was my mistake. (AT, 7:35; CSM, 2:24–25; my emphasis)

Or when he writes in the *Sixth Meditation*:

Since the ideas perceived by the senses were much more lively and vivid and even, in their own way, more distinct than any of those which I deliberately formed through meditating or which I found impressed on my memory, it seemed impossible that they should have come from within me, so the only alternative was that they came from other things. Since *the sole source of my knowledge of these things was the ideas themselves*, the supposition that the things resembled the ideas was bound to occur to me. (AT, 7:75; CSM, 2:52; my emphasis)

This shows that as philosophers as early as Kant have recognised,[49] the force behind Descartes's sceptical argument is that we should infer the existence or qualities of external objects from our ideas, and such an inference is always doubtful. In other words, if we reject Cartesian representationalism, his sceptical argument is *ipso facto* blocked. The matter of the ancients and the medieval philosophers following them, however, is more controversial, and there are philosophers who reject Burnyeat's claim.[50] Whatever our stance towards this issue *überhaupt* may be, the reconstruction of the Sceptical Argument offered above shows that it

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[49] See Immanuel Kant, *Critique of Pure Reason*, trans. Paul Guyer and Allen W. Wood (Cambridge: Cambridge University Press, 1998), B 274.

[50] For some criticism of his point, see Stephen Everson, "The Objective Appearance of Pyrrhonism," in *Companions to Ancient Thought 2: Psychology*, ed. Stephen Everson (Cambridge: Cambridge University Press, 1991), 121–47, and Gail Fine, "Subjectivity, Ancient and Modern: The Cyreniacs, Sextus, and Descartes," in *Hellenistic and Early Modern Philosophy*, ed. Brad Inwood and Jon Miller (Cambridge: Cambridge University Press, 2003), 192–231. See also Pasnau, *After Certainty*, Lecture 4.

does not rely on this Cartesian theory. Contrary to the case of the Cartesian sceptical argument, which depends on Descartes's representationalism, it is completely consistent with our having direct access to external objects. In the case of sensibles, al-Ġazālī has no need to base his argumentation on a doubtful inference from our mental episodes to the existence of external objects, and the case of necessities' independence from this representationalism is even more obvious.

Scholars, nonetheless, normally point to some cases of actual similarities in formulation; that is, the three cases of similarities mentioned above. The first, as Kukkonen writes in the passage quoted above, is that both philosophers seek "certain knowledge that could act as a secure foundation in [their] search for truth." This is of course true, but it is not specific to these two thinkers. As I argued above, although there is no concept analogous to certainty in the *Posterior Analytics*, it becomes a recurring ideal throughout medieval Arabic and Latin traditions. Modern philosophers—most notably, for my present purpose, Descartes—also share this ideal with their scholastic predecessors.[51] This shows that this type of aspiration to the ideal of certainty was quite common in the traditions in which al-Ġazālī and Descartes were writing. That they both have such an ideal in mind, therefore, does not say anything specific about them, and thus cannot be accepted as evidence that al-Ġazālī anticipated Descartes.

The second point often mentioned in this regard is that both al-Ġazālī and Descartes appeal to the dream hypothesis as a motivation for their respective sceptical arguments. It is of course true that both talk about dreaming at some stage of their sceptical arguments, but it plays essentially different roles—in al-Ġazālī's case, it is based on his Hierarchical Account of Knowledge, whereas in Descartes's, it is within his representationalist framework. In al-Ġazālī's Sceptical Argument, as argued above, the dream example is introduced to illustrate the possibility of there being a higher state in which we have access to a judge higher than the necessities. This only makes sense if one assumes the hierarchy among the sources of knowledge. Quite to the contrary, in the case of Descartes, the dream example is introduced as an example of an alternative cause of our ideas. I argued above that Descartes's sceptical argument is based on the position that we should infer the existence of external objects from the fact that we have ideas of those objects. Since it is always possible that the ideas may have causes other than the actual external objects, the existence of the objects is always doubtful.

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[51] See Lecture 2 in Pasnau, *After Certainty*.

Now, Descartes's dream hypothesis is introduced as an alternative cause of our ideas; perhaps it is my dreaming that is the cause of the idea that I have a piece of paper in my hand and not an actual piece of paper. Therefore, the dream example not only plays different roles in the two thinkers' arguments, but also makes sense in two different epistemological frameworks. Hence, the mere appearance of the word "dream" will not suffice to connect the arguments in this way.[52]

The last point of similarity is that both al-Ġazālī and Descartes allude to God when refuting their respective sceptical arguments; for instance, Kukkonen writes that the Sceptical Argument "results in an impasse from which only the recognition of God as the ultimate guarantor of all truth will deliver the inquiring mind."[53] As mentioned, however, at the end of the first chapter, al-Ġazālī talks very briefly about how he overcame the sceptical crisis. Allow me to quote the passage again:

> At length God Most High cured me of that sickness. My soul regained its health and equilibrium and once again I accepted the self-evident data of reason and relied on them with safety and certainty. But *that was not achieved by constructing a proof or putting together an argument. On the contrary, it was the effect of a light which God Most High cast into my breast.* (*Deliverer* 67; 23; emphasis mine)

Al-Ġazālī is quite explicit that his "cure" for the sickness of scepticism was not by way of argumentation, but rather it was the light of God, most probably through some kind of (mystical or religious) experience, that showed him that necessities could be trusted. This is in total contrast to the way Descartes deals with the sceptical challenge, using God's existence and in particular His attribute of benevolence as a theoretical premise in his overall anti-

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[52] As mentioned, I am trying not to base my arguments here on my own reading of Descartes. However, it is worth mentioning that in my reading, there are two independent sceptical arguments in the First Meditation, one based on the dream hypothesis, which I elsewhere call the "Veil of Ideas" argument, and one (partly) based on the deceiving God hypothesis, which I call the "Author of my Origin" argument. What I have argued for above applies only to the "Veil of Ideas" argument, as it is only this one that is based on Descartes's representationalism. The "Author of my Origin" argument, which argues that there might be a God who deceives me, or that there might not be a God at all, is even more removed from al-Ġazālī's argument.

[53] In fairness to Kukkonen, however, he refers to this difference in "Meditating on the Meditations," but does not push it far enough.

sceptical manoeuver. Descartes mobilises his anti-sceptical argument in the *Second Meditation*, when he uses his *cogito* reasoning to show that there is at least one proposition that I cannot possibly doubt; namely, that as long as I think, I exist. Then, in the *Third Meditation*, he offers his arguments for the existence of God based on our having an idea of God and also the fact that we exist, and then argues that God, being benevolent, neither deceives us nor allows us to be deceived:

> I recognize that it is impossible that God should ever deceive me. For in every case of trickery and deception some imperfection is to be found; and although the ability to deceive appears to be an indication of cleverness or power, the will to deceive is undoubtedly evidence of malice or weakness, and so cannot apply to God. (AT, 7:53, CSM, 2:37)

Descartes argues based on the metaphysical conclusion that God exists and is benevolent, coming to the conclusion that we possess knowledge, and hence God plays a theoretical role in the anti-sceptical argument. This whole theoretical apparatus is absent in al-Ġazālī's account, which is merely a report from a firm believer that God helped him to rid himself of his ignorance, and neither God nor any of His attributes plays any *theoretical* role in his argumentation.[54] I conclude that the two thinkers' sceptical arguments and their responses thereto are essentially different.

5. Concluding Remarks

Having rejected the ideal of certainty in contemporary epistemology and leaving behind the project of *Posterior Analytics*, the Sceptical Argument hardly strikes us as a genuine worry. Contemporary epistemologists seldom tie knowledge and certainty together, and there are few who take knowledge to be infallible or indubitable. These facts, however, do not undermine the importance of al-Ġazālī's achievement in discovering such a serious *aporia* for the Peripatetic epistemic theory. If one shares his assumptions—namely, his criterion for certain knowledge and the place of demonstrative proof in achieving it—then his Sceptical Argument is a real threat.

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[54] For a different argument for the same conclusion, see Hadisi, "Ghazālī's Transformative Answer to Skepticism."

In fact, one can charge al-Ġazālī and the subsequent thinkers with not giving enough weight to the problem so pressing in their own system; that is, the problem that the mere possibility of there being a higher judge undermines the primaries' indubitability, and the only way to refute such scepticism is either to relax the indubitability criterion or to prove that there cannot be such a higher judge. Both options, however, are unavailable to al-Ġazālī. He never gives up on the ideal of indubitability and takes the rejection of the possibility of there being a higher judge as impossible and question-begging, since in doing so one unavoidably uses demonstration and hence primaries, which are themselves under attack. It is true that in the remaining parts of the book, al-Ġazālī goes on to show that there are cognitions—the Sufis' method and their prophetic power—over and above such knowledge, but he never undercuts demonstrative knowledge *tout court*.

It should be noted, however, that my arguments for the essential difference between al-Ġazālī's and Descartes's sceptical arguments are not meant to show that there is no relation whatsoever between them. One such relation can be found in Stephen Menn's seminal 2003 paper "The *Discourse on the Method* and the Tradition of Intellectual Autobiography."[55] In this work, he makes the case for a genre of intellectual autobiography beginning with Galen, most notably in *Errors of the Soul* and *The Best Kind of Teaching*, which continues in subsequent centuries in works by thinkers such as Ibn al-Hayṯam, al-Ġazālī, and Tommaso Campanella and culminates in Descartes. In this narrative, the similarities between al-Ġazālī's autobiographical considerations in *Deliverer* and Descartes's comparable points in *Discourse on the Method* go back to this common source. One can also add that the sceptical arguments they offer play only methodological roles for them, in the sense that they are presented only to be refuted in due course in order to achieve some other aims. The whole point of the arguments in section IV, however, is that these similarities, undeniable as they are, do not amount to any *systematic* matches. Their respective sceptical arguments belong to essentially different philosophical traditions—or systems, if one prefers—and have different and mutually exclusive presuppositions and premises.

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[55] Menn, "The *Discourse on the Method* and the Tradition of Intellectual Autobiography."

Bibliography

Al-Ġazālī, Abū Ḥāmid. *Al-Ghazali's Path to Sufism: His* Deliverance from Error *(al-Munqidh min al-Dalal)*. Translated by Richard J. McCarthy. Louisville, KY: Fons Vitae, 2000.

Al-Ġazālī, Abū Ḥāmid. *The Book of Knowledge*. Translated by Nabih Amin Faris. New Delhi: Islamic Book Service, 1962.

Al-Ġazālī, Abū Ḥāmid. (2019). *Deliverance from Error and the Beginning of Guidance*. Translated by W. Montgomery Watt. Rev. ed. Kuala Lumpur: Islamic Book Trust, 2019.

Al-Ġazālī, Abū Ḥāmid. *Der Erreter aus dem Irrtum*. Translated by Abd-Elsamad Abd-Elhamid Elschazli. Hamburg: Felix Meiner Verlag, 1988.

Al-Ġazālī, Abū Ḥāmid. *Iḥyāʾ al-ʿulūm al-dīn*. Beirut: Dār al-kutub al-ʿilmiyya, 2002.

Al-Ġazālī, Abū Ḥāmid. *Maqāṣid al-Falāsifa* (*Aims of the Philosophers*). Damascus: Miṭbaʿa aṣ-ṣabāḥ, 2000.

Al-Ġazālī, Abū Ḥāmid. *Miḥakk an-naẓẓar fī fann al-Manṭiq* (*Touchstone of Reasoning in the Art of Logic*). Beirut: Dar al-Minhaj, 2016.

Al-Ġazālī, Abū Ḥāmid. *Miʿyār al-ʿilm fī fann al-Manṭiq* (*Criterion of Science in the Art of Logic*). Beirut: Dar al-Kotob al-Ilmiyah, 1971.

Al-Ġazālī, Abū Ḥāmid. *Al-Munqiḏ/Al-Munqaḏ min al-Ḍalāl wa al-muṣil ʾila ḏi-al-ʿizza wa al-ǧalāl*. Edited by Jamīl Ṣalībā and Kāmil 'Ayyād. Beirut: Dār al-Āndulus, 1967.

Albertini, Tamara. "Crisis and Certainty of Knowledge in al-Ghazali (1058–1111) and Descartes (1596–1650)." *Philosophy East and West* 55 (2005): 1–14.

Anawati, G.C. "Ishām Ibn Sīnā fī taqaddum al-ʿulūm." *At-Turāt al-ʿArabī* (1981): 16–42.

Bargeron, Carol L. "Sufism's Role in al-Ghazali's First Crisis of Knowledge." *Medieval Encounters* 9 (2003): 32–78.

Black, Deborah L. "Certitude, Justification, and the Principles of Knowledge in Avicenna's Epistemology." In *Interpreting Avicenna*, edited by Peter Adamson, 120–42. Cambridge: Cambridge University Press, 2013.

Black, Deborah L. "Knowledge (*ʿilm*) and Certitute (*yaqin*) in al-Farabi's Epistemology." *Arabic Sciences and Philosophy* 16 (2006): 11–45.

Burnyeat, Myles. "Idealism and Greek Philosophy: What Descartes Saw and Berkeley Missed." *The Philosophical Review* 13 (1982): 3–40.

Descartes, René. *Oeuvres de Descartes.* Edited by Charles Adam and Paul Tanerry. 13 vols. Paris: Vrin, 1974–1983.

Descartes, René. *The Philosophical Writings of Descartes.* Translated by John G. Cottingham, Robert Stoothof, Dugald Murdoch, and Anthony Kenny. 3 vols. Cambridge: Cambridge University Press, 1984–1991.

Everson, Stephen. "The Objective Appearance of Pyrrhonism." In *Companions to Ancient Thought 2: Psychology*, edited by Stephen Everson, 121–47. Cambridge: Cambridge University Press, 1991.

Fine, Gail. "Subjectivity, Ancient and Modern: The Cyreniacs, Sextus, and Descartes." In *Hellenistic and Early Modern Philosophy*, edited by Brad Inwood and Jon Miller, 192–231. Cambridge: Cambridge University Press, 2003.

Frank, Richard M. "Al-Ghazali on Taqlid: Scholars, Theologians, and Philosophers." *Zeitschrift für die Geschichte der arabisch-islamischen Wissenschaften* 7 (1991/92): 207–52.

Garden, Kenneth. *The First Islamic Reviver: Abu Hamid al-Ghazali and His* Revival of the Religious Sciences*.* New York: Oxford University Press, 2014.

Griffel, Frank. *The Formation of Post-Classical Philosophy in Islam.* Oxford: Oxford University Press, 2021.

Griffel, Frank. "*Taqlīd* of the Philosophers: Al-Ghazālī's Initial Accusation in His *Tahāfut*." In *Ideas, Images, and Methods of Portrayal: Insights into Classical Arabic Literature and Islam*, edited by Sebastian Günther, 273–96. Leiden: Brill, 2005.

Gutas, Dimitri. "The Empiricism of Avicenna." *Oriens* 40 (2012): 391–436.

Hadisi, Reza. "Ghazālī's Transformative Answer to Skepticism." *Theoria* 88 (2022): 109–42.

Heck, Paul L. *Skepticism in Classical Islam: Moments of Confusion.* New York: Routledge, 2014.

Ibn Sīnā. *Al-Išārāt wa at-tanbīhāt.* Vol. 1. Qom: Matbūʿāt ad-Dīnī, 2004.

Ibn Sīnā. *Al-Manṭiq Aš-šifa.* Qom: Golwerdī, 2012.

Ibn Sīnā. *An-Naǧāt min al-Ġarq fī Baḥr aẓ-Ẓalalat.* Tehran: Dānišgāhi Tehran, 1985.

Janssens, Jules. "Le *Miyār al-ʿilm fī fann al-Mantiq* d'al-Ghazzālī*.* Sources avicennienes et farabiennes." *Archives d'histoire doctrinale et littéraire du Moyen Âge* 69 (2002): 39–66.

Kant, Immanuel. *Critique of Pure Reason.* Translated by Paul Guyer and Allen W. Wood. Cambridge: Cambridge University Press, 1998.

Kukkonen, Taneli. "Al-Ghazali's Skepticism Revisited: The Missing Medieval Background." In *Rethinking the History of Skepticism*, edited by Henrik Lagerlund, 29–59. Leiden: Brill, 2010.

Kukkonen, Taneli. "Meditating on the Meditations: Al-Ghazali, Teresa of Avila, Descartes." *Oxford Studies in Medieval Philosophy* 8 (2020): 113–45.

Lewes, George Henry. *The Biographical History of Philosophy, from Its Origin in Greece Down to the Present Day.* New York, 1857.

Menn, Stephen. "The *Discourse on the Method* and the Tradition of Intellectual Autobiography." In *Hellenistic and Early Modern Philosophy*, edited by Jon Miller and Brad Inwood, 141–91. Cambridge: Cambridge University Press, 2003.

Moad, Edward Omar. "Comparing Phases of Skepticism in al-Ghazali and Descartes: Some First Meditations on *Deliverance from Error*." *Philosophy East and West* 59 (2009): 88–101.

Mousavian, Seyed N., and Mohammad Ardeshir. "Avicenna on the Primary Propositions." *History and Philosophy of Logic* 39 (2018): 201–31.

Najm, Sami M. "The Place and Function of Doubt in the Philosophies of Descartes and al-Ghazali." *Philosophy East and West* 16 (1966): 133–41.

Nasr, Seyyed Hossein, Caner K. Dagli, Maria Massi Dakake, Joseph E.B. Lumbard, and Mohammed Rustom, eds. *The Study Quran: A New Translation and Commentary.* New York: Harper Collins, 2015.

Parvizian, Saja. "Al-Ghazālī and Descartes on Defeating Skepticism." *Journal of Philosophical Research* 45 (2020): 133–48.

Pasnau, Robert. *After Certainty: A History of Our Epistemic Ideals and Illusions.* New York: Oxford University Press, 2017.

Rudolph, Ulrich. "Auf der Suche nach Erkenntnis zwischen Asien und Europa: Al-Ġazālī, Descartes und die moderne Forschungswissenschaft." *Asiatische Studien—Études Asiatiques* 72 (2018): 1–29.

Schmölders, August. *Essai sur les écoles philosophiques chez les arabes et notamment sur la doctrine d'Alghazzali.* Paris, 1842.

Sharif, M.M. "Philosophical Influence from Descartes to Kant." In *History of Muslim Philosophy, Volume 2*, edited by M.M. Sharif, 1381–87. Karachi: Royal Book Company, 1966.

Sheykh, M. "Al-Ghazali." In *A History of Muslim Philosophy, Volume 1*, edited by M.M. Sharif, 581–641. Karachi: Royal Book Company, 1963.

Stroumsa, Sarah. *Freethinkers of Medieval Islam: Ibn al-Rāwandī, Abū Bakr al-Rāzī, and Their Impact on Islamic Thought.* Leiden: Brill, 1999.

Treiger, Alexander. *Inspired Knowledge in Islamic Thought: Al-Ghazali's Theory of Mystical Cognition and Its Avicennan Foundation.* New York: Routledge, 2012.

Van Ess, Josef. "Skepticism in Islamic Religious Thought." *Al-Abhath* 21 (1968): 1–18.

Wilson, Catherine. "Modern Western Philosophy." In *History of Islamic Philosophy*, edited by Seyyed

    Hossein Nasr and Oliver Leaman, 1805–36. London: Routledge, 1996.

Zamir, Syed Rizwan. "Descartes and al-Ghazali: Doubt, Certitude and Light." *Islamic Studies* 49 (2010):

    219–51.