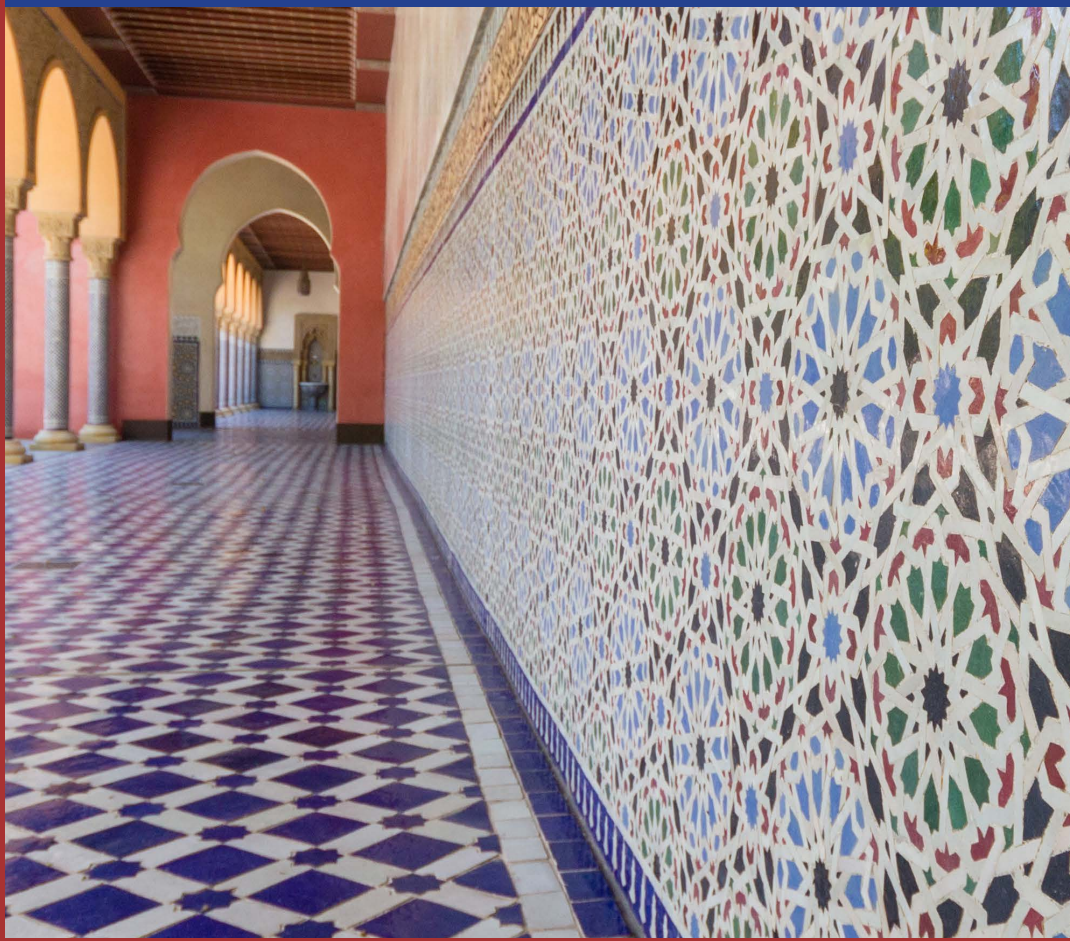
Discerning Religious Truth

A Didactic Exposition of the Logic and Epistemology of the Islamic Sciences



Hamza Karamali, Marwan Tayyan, and Justin Poe

ASIPT Series in Islamic Philosophy and Theology - 1

Discerning Religious Truth
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Discerning Religious Truth

A Didactic Exposition of the Logic and Epistemology of the Islamic Sciences

Based on al-Khabīṣī's Commentary on
al-Taftāzānī's *Tahdhīb al-manṭiq* and Its Glosses

by
Hamza Karamali,
Marwan Tayyan, and
Justin Poe

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SERIES INTRODUCTION

In the Name of Allah, the Compassionate, the Merciful.

All praise is due to Allah. May peace and blessings be upon the Prophet Muhammad, his family, companions, and those who follow him.

The purpose of the **American Society of Islamic Philosophy and Theology**'s series in **Islamic Philosophy and Theology** is to provide a publishing space that welcomes a range of disciplinary approaches to the broadly conceived categories of Islamic theology and philosophy. In particular, we aim to foster engagement between scholars of confessional, academic, and interdisciplinary backgrounds, allowing each to benefit from the approaches and methods of the other's discipline without the typical institutional divisions. This series strives to maintain a consistently high quality of academic excellence, and through an intentionally dialogical review process along with distribution to diverse markets, to spark new channels of rigorous and fruitful scholarly conversation.

Among the varied topical foci of the series is the subject of logic as taught in the classical Islamic seminary tradition. To this end, we bring the post-Avicennian Islamicate tradition into conversation with the Latin and analytical traditions of logic, observing and studying the common historical roots that these traditions share in Aristotle, al-Fārābī, and Ibn Sīnā as well as their divergences in method, focus, and terminology.

The book before you represents a unique effort to translate the Islamic logic tradition into the English language in a dialogical and familiar manner. The reader not only gets a deep look into a tradition that would normally require significant fluency in Arabic and training in the Islamic sciences but also experiences how this tradition engages in practice with logical arguments and relates to discussions in contemporary logic.

The primary author, Hamza Karamali, and his co-authors Marwan Tayyan and Justin Poe, who joined the project as it developed over the years, have produced a volume that we hope will benefit readers for years to come. I

thank the authors for their hard work and dedication and thank the anonymous reviewer for a careful and astute reading which has no doubt produced a stronger book. I would also like to thank the Templeton Foundation for providing generous funding to complete this volume, allowing us to devote ample attention to shepherding the manuscript from draft to published book.

Dear reader, we hope that this will be the first of many volumes from the **ASIPT** series on your shelf. We are honored to have your readership and support.

— Aaron Spevack, Series Editor

PREFACE

The spirit of my teachers runs through this book. They taught everyone that Islam is true. And they made that truth the basis of their scholarship in the traditional Islamic sciences.

I have tried to bring their scholarship into the modern academic world. That has been a struggle because the modern academic world believes that religious truth-claims are the fervently held assumptions of religious theologians who are not open-minded enough to entertain the possibility that they might be wrong.

But that's not what my teachers were like. They expected me to challenge them, and to try to prove them wrong. They expected me to realize for myself—based on evidence—that what they were teaching me—whether it be the understanding of a hadith or the exegesis of a Qur'ānic verse or a point of Arabic grammar or anything else—was, in fact, true.

They did this because they had all trained in logic and a sophisticated epistemology. And I found myself using that same logic and epistemology as I taught *kalām*, Qur'ānic exegesis, legal theory—even history—to my own students. Then, for three years, I worked as the Academic Programme Manager for Kalam Research and Media, where I had the opportunity to collaborate as a Muslim theologian with scientists and analytic philosophers. This forced me to express the logic and epistemology that I had learned from my teachers in the language of modern science and analytic philosophy.

It was during this time, about ten years ago, that I began working on this book. I carefully read, annotated, summarized, re-organized, and engaged with four glosses on one of the most influential textbooks of logic in the post-classical Muslim scholarly tradition. And I expressed all of those ideas in the language of modern analytic philosophy in order to bring the logic and epistemology of the Muslim scholarly tradition into conversation with modern philosophy. This wasn't a mere translation. It was a readable explanation that unlocked dozens of cryptic expressions, connected them to modern

logic and modern analytic philosophy, and gave a philosophical compass to students of the Islamic sciences.

I almost finished. I just needed two things. I needed to finish some very tedious logical proofs of obscure syllogistic figures and of how to manipulate propositions with complex modalities. And I needed someone who had trained in logic and the Islamic sciences and who was extremely intelligent to patiently and painstakingly review and critically examine everything that I had done, and to challenge me. That is the only way to confirm, correct, and improve any complex work of philosophy.

I left the book unfinished for almost ten years. But I was constantly using it. I spent these years using and applying this research to develop, teach, and disseminate rational arguments for the truth of Islam, first in a course, a textbook, a teacher-certification program, and an iman-protection program for parents called *Why Islam is True* (see: www.WhyIslamIsTrue.com), and then in a comprehensive manual of arguments called *Kalām 3.0: The Muslim Manual of Logical Arguments to Show the Truth of Islam in the 21st Century*.

Last year, Dr. Aaron Spevack took this almost-finished work under the wings of the *American Society of Islamic Philosophy and Theology* (ASIPT). He assigned his researchers Marwan Tayyan and Justin Poe to help me to finally take it to completion. It was a dream come true. Both of them had been traditionally trained in logic and the Islamic sciences and were extremely intelligent. Marwan already understood how I thought because he had formerly been one of my most talented students. They read the book with a fine-toothed comb, challenged my translations, edited its language and presentation, improved its style, and eagerly wrote the remaining tedious logical proofs. We had many exhilarating discussions along the way that have confirmed, corrected, and improved the book. I am grateful to them for their scholarly company. You will feel it as you read this book.

Hamza Karamali
Istanbul, Türkiye
Tuesday, April 30, 2024

INTRODUCTION

Logic as an Islamic Science

Logic today is a discipline that studies the forms of valid inference. An example of a form of valid inference is what logicians call *modus ponens*,[1] which looks like this:

First Premise:	If A, then B.
Second Premise:	A.
Conclusion:	Therefore, B.

Logicians call this a *form* of inference because it is an abstract representation of an unlimited number of particular inferences. We can, for example, replace *A* with the proposition, "It is daytime," and *B* with the proposition, "The sun has risen," which results in this particular inference:

First Premise:	If it is daytime, then the sun has risen.
Second Premise:	It is daytime.
Conclusion:	Therefore, the sun has risen.

This is a *valid* inference because the truth of the two premises entails the truth of the conclusion: the form of a valid inference is such that if its premises are true then the conclusion must also be true.

Validity is different from *soundness*. An inference might be *valid* but nevertheless *unsound*, such as this one:

First Premise:	If science is true, then religion is a myth.
Second Premise:	Science is true.
Conclusion:	Therefore, religion is a myth.

1. *Modus ponens* is Latin for "method of affirming," so called because it infers the truth of the consequent by *affirming* the antecedent. Its counterpart is *modus tollens*, which is Latin for "method of denying," so called because it infers the falsehood of the antecedent by denying the consequent.

This inference is valid because its form is such that if its premises are true then its conclusion must also be true. But the conclusion is not true because the first premise is false. Although this inference is valid, it is not sound. An inference is *sound* when it is both (a) valid and (b) all its premises are true.

Modern logic only studies the validity of inferences; it does not study their soundness. Discerning whether a particular inference is sound requires knowledge of the disciplines that study the kinds of premises that are being used (the example above would require some knowledge of the philosophy of science and the philosophy of religion). It also requires knowledge of certain universal kinds of questions that are indispensable in determining the truth of any particular premise. These include questions of *epistemology* (the study of the nature, origin, and limits of human knowledge), questions of *metaphysics* (the study of everything that exists insofar as it exists), questions of the *philosophy of language* (the study of the nature of language, meaning, and signification), and questions of the *philosophy of mind* (the study of the nature of mental phenomena and the relation of the mind not only to the body but also to the rest of the extramental world).

Modern logic does not study any of these kinds of questions; today they are usually relegated to philosophy. But in traditional Islamic civilization logic *did* study these kinds of questions because they are universal questions that are required for the discovery of truth, particularly religious truth. Making sound (and not merely valid) inferences to discern truth, especially as it pertains to God and His religion, has always been at the very heart of Islamic scholarship, and it has always been the purpose of Islamic logic.

From Aristotle to Modern Logic

Aristotle, the founder of the science of logic, was also concerned about both validity and soundness. The six books of Aristotle that treated questions of logic were called the *"Organon"*. *Organon* means tool, and these books were the tools that Aristotelian philosophers used to prevent themselves from making mistakes as they used inference to discover truths about God, natural philosophy, and ethics. As they did that, they committed themselves to a particular epistemology, a particular metaphysics, a particular philosophy of language, and a particular philosophy of mind. And these philosophical commitments were scattered throughout the books of Aristotle.

Aristotelian logic was carried into antiquity by philosophers such as Galen, Alexander of Aphrodisias, and Porphyry. But after these philosophers, an

anti-philosophical Christianity became the official religion of the Roman empire, and the study of ancient Greek philosophy in Europe steadily declined, culminating in Justinian's closure of the School of Athens in 529 AD. Greek philosophy then moved from Europe into North Africa, the Levant, and Persia, which, soon afterwards, fell under the rule of Muslims, who made ancient Greek learning their own.

The translation of ancient Greek learning into Arabic began in Damascus less than a hundred years after the demise of the Prophet (God bless him and give him peace) and reached its peak at the House of Wisdom in Baghdad during the reign of the Abbasid caliph al-Ma'mūn (197/813–218/833). Most of these early translators were Christians who were translating their own heritage from Syriac into the language of their new rulers. But by the time of al-Fārābī (d. 339/950) and then Avicenna (d. 427/1037), Islamic civilization was critiquing and enhancing this once Greek and Christian heritage.

After al-Fārābī and Avicenna, there are two historical paths. The first historical path leads to modern logic; the second historical path leads to Islamic logic. I will describe each one in turn, beginning with the first.

The historical path to modern logic proceeds from al-Fārābī and Avicenna to the Spanish Muslim Averroes (d. 595/1198), the Spanish Jewish Maimonides (d. 1204), and the Italian Christian Aquinas (d. 1274), and then into the revival of Aristotelian philosophy in Christian Europe. At the hands of Aquinas and Bonaventure, Aristotelian philosophy merged with Christian theology in a synthesis that lasted for many centuries until it was famously challenged by Galileo (d. 1642) when he introduced a new and explicitly anti-Aristotelian scientific method into Christian Europe.[2] Galileo's scientific method was vindicated by Isaac Newton (d. 1726) and the Scientific Revolution. The Church was unable to defend Aristotelianism against the rise of the new anti-Aristotelian science. As a result, from the 17th through the 19th centuries, philosophy in the Christian world broke its links with Aristotelianism and fragmented into hundreds of pieces.

The link between sensation and knowledge broke with Descartes; the link between cause and effect broke with Hume; the link between reality and the mind broke with Kant; the link between premise and conclusion broke with Hegel; the link between language and logic broke with Frege; the link between author and reader broke with Derrida; and with these and dozens of other breakages, the notion of a philosophical or intellectual unity was

2. See Ian G. Barbour, *Religion and Science* (New York: HarperCollins, 1997), 9-17.

completely lost. Each philosopher proceeded to chart his own philosophical course, leading to further disagreement and fragmentation. The historical synthesis between Aristotelian philosophy and Christian theology broke into the separate philosophical disciplines of metaphysics, epistemology, philosophy of language, ethics, philosophy of religion, and numerous other modern branches of philosophy, each discipline starting from philosophical disagreements over a collection of questions. These disagreements in turn led to new questions, which led to the further fragmentation of these disciplines into sub-disciplines, and so on.

Modern logic has emerged as one of these philosophical fragments. Historically, it traces itself back to the Aristotelian logic of the scholastic period, which sought inferential soundness in addition to inferential validity and weaved questions of metaphysics, epistemology, and the philosophy of language into the analysis of philosophical truths, all within the unified (but tenuous) philosophical system of medieval Christian Aristotelianism. Now, those questions have become scattered among the various disciplines of modern philosophy, and modern logic has become an isolated discipline concerned merely with validity. Whether an inference tells us truths about the real world is no longer a question of logic, but of metaphysics. Whether it gives us real knowledge is no longer a question of logic, but of epistemology. Whether it has meaning in human language is no longer a question of logic, but of the philosophy of language. And so on.

Modern logic is so severely fragmented that it has even separated itself from natural human language. Instead of natural language, it uses a mathematical formal language composed of logical variables, constants, and functions. These logical variables, constants, and functions are meta-logical concepts, which means that their meanings can be arbitrarily defined, and what it means for an inference to be valid can also be arbitrarily defined. The resulting logical systems can be axiomatized by arbitrarily defining primitive truth statements; and these systems can then be studied for properties such as *completeness* (whether all expressible logical statements can be derived in the system) and *decidability* (whether arbitrary formal-language expressions are valid theorems in the logical system). Although modern philosophers do use modern logic, logic today finds its most sophisticated applications not in philosophy, but in mathematics and computer science, which generate inference-systems that can be used by scientists to study and manipulate the universe. One might

even say that Aristotelian logic was optimally designed for human thought and modern logic is optimally designed for machines.

From Aristotle to Islamic Logic

There is another historical path from Aristotle that goes through al-Fārābī and Avicenna. But instead of going West to the Spanish Averroes, it goes East to the Persians Abū Ḥāmid al-Ghazālī (d. 505/1111) and Fakhr al-Dīn al-Rāzī (d. 606/1210).

Al-Ghazālī was the one who facilitated the critical integration of Aristotle into the Muslim scholarly tradition through his seminal *Tahāfut al-falāsifa* (Incoherence of the Falāsifa). The *Tahāfut* is popularly misrepresented as a non-rational religious condemnation of rational inquiry, but nothing could be further from the truth—it is a carefully argued *philosophical* work that develops *philosophical* arguments to demonstrate the rational incoherence of those conclusions of al-Fārābī and Avicenna that conflict with what the genuine revelation of the Prophet Muhammad (God bless him and give him peace). This philosophical critique is accompanied by an acknowledgment of those aspects of their *falsafa* that are correct and useful. Muslim scholars could now use his philosophical analysis as a guide to engage with Aristotelianism and to incorporate its useful aspects into their scholarly tradition.

One of these useful aspects was logic. Al-Ghazālī wrote several textbooks on logic, most notably his *Miʿyār al-ʿilm*, in which he retained Avicenna's formal logic, but instead of illustrating its application with philosophical inferences, he applied it to legal inferences that Muslim scholars were thoroughly familiar with. He employed this logic in his *al-Iqtiṣād fī al-iʿtiqād*, which went on to become a seminal reference-work in the science of rational theology (*kalām*), and in his *al-Mustaṣfā min ʿilm al-uṣūl*, which went on to become a seminal work in the science of legal theory (*uṣūl al-fiqh*). Through al-Ghazālī, logic became a part of the Muslim scholarly tradition.

Al-Ghazālī critiqued *falsafa* and incorporated its useful elements, especially logic, into the Islamic sciences. Al-Rāzī went further. He became a *faylasūf*.[3] But,

3. The most important works in which al-Rāzī gives a comprehensive analysis of *falsafa* are his *al-Mabāḥith al-mashriqiyya fī ʿilm al-ilāhiyyāt wa-l-ṭabīʿiyyāt* (*Eastern Studies in Metaphysics and Natural Philosophy*), his study of the metaphysics of *kalām* in his *al-Maṭālib al-ʿāliya* (*High Issues*), his summary and review of the positions of previous *falāsifa* in his *Muḥaṣṣal afkār al-mutaqaddimīn wa-l-muta'akhkhirīn* (*Summary of the Philosophical Positions of the Early and Late Falāsifa*), his commentary on Avicenna's *al-Ishārāt wa-l-tanbīhāt* (*Signs and Pointers*), and his *falsafa*-and-*kalām*-oriented exegesis *al-Tafsīr al-kabīr* (*The Great Commentary*).

unlike his predecessors al-Fārābī and Avicenna, he was also an accomplished scholar of the traditional Islamic sciences. Like al-Ghazālī, his philosophical acumen, combined with his religious learning, guided him through the alleyways of *falsafa*, protecting him from both philosophical and religious error. He seamlessly weaved a new Islamized *falsafa* first into *kalām* (the Islamic science of rational theology whose scholars are called *mutakallimūn*), and from there into legal theory, Qur'ānic exegesis, and a host of other religious disciplines. At the hands of al-Rāzī, *falsafa* was renewed, corrected, and elaborated, becoming a vibrant discipline whose foremost scholars were the religiously oriented graduates of the madrasa.

Philosophers used Aristotle's *Organon* to protect their minds from mistakes as they sought to discover *philosophical* truths. After al-Ghazālī and al-Rāzī, logic became a tool that religious Muslim scholars used to protect their minds from mistakes as they sought to discover *religious* truths. Al-Ghazālī famously remarked that "Whoever doesn't learn it thoroughly, all of his learning is completely unreliable."[4] The science of logic became an integral part of the madrasa curriculum. And every Islamic science was eventually structured by the science of logic.[5]

As the scholars of the madrasa used logic to discern religious truth, particularly in the science of *kalām*, they had to consider philosophical questions that today belong to the fields of epistemology, metaphysics, philosophy of language, philosophy of mind, etc.—

> Do the extramental objects of our knowledge exist?
>
> *Yes, they do.*
>
> Do they exist in our mind when we know them?
>
> *No, they don't.*
>
> Then what is the relation between mental concepts and extramental objects?
>
> *The concepts represent the objects.*
>
> How does this representation arise in our minds?

4. Abū Ḥāmid Muḥammad al-Ghazālī, *al-Mustaṣfā min ʿilm al-uṣūl* (Beirut: Dār al-Kutub al-ʿIlmiyya, 1993), 10.

5. This is illustrated in Chapter 11, the final chapter of this book, though to appreciate it requires familiarity with the content of the other chapters. To understand how logic structures the Islamic sciences might be one of the most worthwhile fruits of the study of logic, especially in the contemporary age, characterized as it is by the fragmentation of knowledge.

The mind abstracts the representation from the extramental object. This process, like all physical processes, is a contingent, regular association subject to God's creative agency.

But aren't the associations between natural causes and effects necessary?

No, they are contingent. That being said, they are also continuous, but continuity is a different kind of propositional modality than necessity.

Doesn't that mean that human knowledge is fallible?

Yes, it does.

Doesn't that make knowledge impossible?

No, it doesn't—hypothetical possibilities do not vitiate certainty.

What exactly is human knowledge anyway?

It is a property of the human soul.

But don't I see with my eyes, hear with my ears, and smell with my nose?

Your eyes, ears, and nose are physical means by which you, i.e., your soul, perceives. That is to say, they are regularly associated with your soul or mind knowing them. And physical perceptions aren't real knowledge, anyway, because real knowledge is conceptual knowledge that is abstracted from physical sensations. Everything that I've said here, for example, is conceptual knowledge, not physical sensation.

What exactly does it mean for you to say something?

It means that I use sounds to signify mental concepts.

But doesn't that mean that you only ever talk about mental concepts, never about extramental objects?

No, because the mental concepts refer to extramental objects.

—and so on.

Since, for the religiously oriented scholars of the madrasa, the goal of logic was not merely to analyze the *validity* of their religious inferences but also their *soundness*, these questions and hundreds of others like them were gradually incorporated into the madrasa textbooks of logic, critiqued, analyzed, and elaborated with exacting precision, always subjected to rational inquiry, never accepted on religious authority. Logic became the tool for discerning religious truth, and that is why the title of this book is *Discerning Religious Truth*. This conception of logic, insofar as it reflects the religious importance

and function of the science as studied in the madrasas of the Muslim heartlands by the 14th century CE, is what I am calling *Islamic logic*.

This Book

The historical path from Aristotle to modern logic leads to incoherence and fragmentation; the historical path from Aristotle to Islamic logic leads to coherence and unity. The goal of this book is to connect Islamic logic with modern philosophy in a way that suggests how Islamic logic and the traditional Islamic sciences might engage with modern philosophy to create a new synthesis that replaces the fragmentation of modern philosophy and logic with the religious and philosophical coherence and philosophical unity of the Muslim scholarly tradition.

This book is based on one of the most influential logic textbooks of the post-classical madrasa tradition, *Tahdhīb al-manṭiq wa-l-kalām* (*The Refinement of Islamic Logic and Rational Theology*, henceforth, *Tahdhīb*) by the brilliant Persian polymath, Saʿd al-Dīn al-Taftāzānī (d. 792/1390). Al-Taftāzānī was the author of influential madrasa mainstays in Islamic logic, *kalām*, Arabic eloquence (*balāgha*), legal theory, and Qurʾānic exegesis that are taught and regarded as authoritative reference works to this day. The *Tahdhīb* is a carefully organized and precisely worded manual (*matn*) of Islamic logic and *kalām*. Its influence, like the influence of any madrasa manual, can be measured by the dozens of commentaries (*shurūḥ*), glosses (*ḥawāshī*), and notes (*taʿlīqāt*) that madrasa scholars wrote as they taught, critiqued, and debated its questions.[6] This book re-presents the logic portion, with the commentary of the Persian logician ʿUbaydallāh al-Khabīṣī (d. 1050/1640), the glosses of the Egyptian polymaths Muḥammad al-Dasūqī (d. 1230/1815) and Ḥasan al-ʿAṭṭār (d. 1250/1835), and the notes of the recent Egyptian scholar ʿAbd al-Majīd al-Sharnūbī (d. 1348/1929).

The goal of this book is to comprehensively gather all the substantial questions and debates of Islamic logic that are mentioned in these books; to supplement them with a selection of important questions from other important madrasa manuals in Islamic logic, *kalām*, and *falsafa*; to unravel their layered organization into a more readable linear fomat;[7] and to then

6. The commentary and the gloss were the means of scholarly conversations in the madrasa community. For a description of how these conversations happened, see the beginning of Karamali, *Madrasa Curriculum*, as well as Asad Q. Ahmed, "Post-Classical Philosophical Commentaries/Glosses: Innovation in the Margins," *Oriens* 41, no. 3-4 (2013).

7. Discussions in the original manual (*matn*), commentary (*sharḥ*), and gloss (*ḥāshiya*) are

re-express them in an accessible English style and a convenient organization of chapters and sections. Students of the terse manuals of Islamic logic will find that this translation clarifies, explains, and contextualizes dozens of difficult-to-understand expressions. It is much more than a translation. It is also an explanation and a commentary.

But it is even more than that. The questions and debates of traditional Islamic logic have, to date, been translated using the vocabulary of medieval scholasticism. This kind of translation looks at Islamic logic from the perspective of its Aristotelian origins, forgetting that the purpose of Islamic logic was not to uncritically mimic Aristotle, but to use his vocabulary to protect religious scholars from mistakes in their inference of religious truths, and to use that vocabulary to delve into the heritage of the ancient Greeks with the critical eye of reason that was aided by the light of revelation in order to correct and improve the inference of old philosophical truths, and to discover new ones.

The reason why al-Ghazālī, al-Rāzī, and multitudes of religious scholars before and after integrated the learning of the ancient Greeks was that it was,

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layered and often interspersed with textual debates that are not substantial questions of Islamic logic. The following is an example taken from ʿUbaydallāh b. Faḍl al-Khabīṣī, Muḥammad b. Aḥmad al-Dasūqī, and Ḥasan b. Muḥammad al-ʿAṭṭār, *al-Tadhhīb sharḥ ʿalā Tahdhīb al-manṭiq wa-l-kalām wa-ʿalayhi ḥāshiyatān* (Cairo: Maṭbaʿat Muṣṭafā al-Bābī al-Ḥalabī, 1936) (*TB*), 287:

1. *Al-Taftāzānī* (author of the original manual) defines a *complex proposition* as a proposition in which "one simple predication is judged to be the case based on another simple predication hypothetically being the case."
2. *Al-Khabīṣī* (author of the commentary) then illustrates the definition with the example, "If the sun has risen then it is daytime," explaining that "the existence of daytime" is a simple predication that is judged to be the case based on another simple predication, "the rising of the sun."
3. *Al-Dasūqī* (author of the gloss) examines why, even though simple predications should be illustrated with sentential expressions—such as "Daytime exists"—al-Khabīṣī has yet chosen to illustrate them with phrasal expressions—such as "the existence of daytime." He explains that the reason why he does this is to subtly indicate that what is sought in the definition of the complex proposition is not the mental act of predication, but the occurrence of the predication *in reality*. Whereas the sentential expression does not explicitly indicate the real occurrence of the predication the phrasal expression does. The phrasal expression is hence used *figuratively* to refer to the occurrence of a predication in reality.
4. *Al-Sharnūbī* (author of the super-gloss) uses the science of Arabic eloquence (*balāgha*) to analytically unpack the exact rhetorical structure of the figurative use and illustrates al-Dasūqī's analysis by returning to al-Taftāzānī's original definition in the manual and rewording it to show how, when he says, "simple predication," he actually means "the occurrence of a simple predication."

at that time, the ubiquitous language of philosophy, science, medicine, ethics, politics, *kalām*, logic—everything, and it was not possible to demonstrate the truth of the message of the Prophet Muhammad (God bless him and give him peace) and effectively communicate the knowledge of religious scholarship in that time without using that vocabulary. But that vocabulary is now obsolete. Now, those questions are all expressed in the language of modern science and modern analytic philosophy. Islamic logic, and all the traditional Islamic sciences, now need to be expressed in this vocabulary. That is what this book does. And that is important because it gives a philosophical compass that is grounded in the Muslim scholarly tradition.

The translation-choices in this book carefully extrapolate the discussions of Islamic logic onto problems in modern analytic philosophy. This vividly illustrates the modern philosophical relevance of Islamic logic: it discusses whether the meanings of words are about things in the mind or things in the world (4.2, 6.1); how words that refer to the same object in the real world can have different meanings (4, 6.1); whether representations, objects, or meanings possess reference (2.1.3); internal language and universal grammar (almost the entire book, arguably, is about this); how the meaning of a sentence emerges out of its parts (2.2, 3.4.1); speech acts (i.e., non-propositional statements) (5.1); the truth of statements like, "The present king of France is bald" (5.2); whether definition descriptions are singular or universal terms (2.1.4); the various kinds of extramental reality (5.1, 1.5, 6.6); intension, extension, and the morning-star paradox (6.1 , 6.7.1.1, 6.7.2.1); justification and the production of knowledge (1.1.4, 4.2.1); whether justification necessitates truth (1.1.3.3); foundationalism and the regress problem (1.1.4); the nature of causation (6.7, 7.1.1, 10.2.1.4, 10.2.1.3, as well as 1.1.3.4, 1.1.2, 1.1.3); consciousness, mental events, the mind and soul, and their relation to the physical body (1.1.2, 1.1.4.2, 1.5, and 10.2.1.4); the relationship between the mind and reality (the mind-body problem) (1.1.3.4, 1.1.2, 1.1.3, 6.7); self-knowledge (10.2.1.2); philosophical skepticism (10.2.1.2); the different ways in which things can "exist" and their relation to truth and falsity (3.5, 5.2, 6.6); truth-bearers and truth-makers and the relation between them (5.1, 5.2); the realist correspondence theory of truth (1.1.3.2, 1.2.3, 5.1.1); paradoxes of self-reference and their solutions (5.1.2, 6.6.3); existential import (6.6); the meaning, epistemology, and metaphysics of propositional modality; (6.7); how the world and natural phenomena exist, and how this relates to the analysis of propositional truths (1.1.1, 5.3, 6.7, 7.1.1); the nature of reality (4.2,

5.1.1); abstract and concrete objects (4.2, 5.2, 6.6); the nature of objects and their properties (4.2.1, 6.6); the problem of universals (3.5); whether existence is a property of individuals (4.2.1, 6.6.3); rigid and non-rigid designators (2.1.3); the referents of empty names (6.6.3); nothingness, impossibility, and privation (6.5, 6.6.3); the kinds of necessity (6.7.1.1); possible (and impossible) worlds (6.6, 6.7.1); the difference between material and real conditionals (7.1.1); the problem of induction (10.2.1.3); and inference to the best explanation (10.2.1.4).

But, unlike with modern philosophy, all these discussions coalesce into a coherent, evidence-based, philosophical system embedded in reason, illuminated by divine revelation, and infused with a spirit of godfearingness, which, when grasped, enables a detailed extrapolation onto every important problem in modern analytic philosophy. Such an extrapolation would place modern analytic philosophy neatly into the traditional sciences of the Muslim scholarly tradition, and would give the questions and debates of modern analytic philosophy their most coherent, sensible, and, in fact, correct expression. Philosophical coherence, sensibility, and correctness are not found in the fragmented and argumentative philosophical debates of contemporary academic journals, but they will be found in the coherent, unified, and true scholarly tradition of Islamic logic and *kalām*.

These last sentences are a claim—that the questions and debates of modern metaphysics, epistemology, and philosophy of language find their most coherent, sensible, and, in fact, correct expression in the scholarly tradition of Islamic logic and *kalām*. This book is the first step towards proving it.

The outline of this book is as follows.

Part I: Preliminaries consists of introductory matters to the study of the science of logic. Chapter 1 explains what the science of Islamic logic is, as well as its purpose and subject. In order to do that, it also explains what knowledge is, how it is acquired, and the meaning of truth and falsity. Chapter 2 explains what language is and exactly how it is used to bring about meanings in the mind.

Part II: Conceptual Knowledge, which contains Chapters 3 and 4, examines the various kinds of universals and how to correctly compose them to construct a definition. These chapters also include a number of important discussions about the difference between definitional propositions and the propositions in arguments and the relation between language, the mind, and reality.

Part III: Propositional Knowledge, which contains Chapters 5, 6, 7, 8, and 9, examines the various kinds of propositions, how they are constituted, their modalities, how to transform them, and how to use them to construct a valid argument. Along the way, these chapters discuss in detail what it means for a proposition to be true, the domains of reality that are relevant to the determination of propositional truth, the differences between mental existence and extramental existence, problems of self-reference, the epistemology of *kalām*, the precise meanings of propositional predications, existential import, and modal logic.

Part IV: Supplements, which contains Chapters 10 and 11, examines how to ensure that a valid argument is also sound, and how to use the science of logic to organize the traditional Islamic sciences. It includes discussions about the types of basic noninferential premises to which deductive arguments resolve.

The material of each chapter is logically layered into sections, sub-sections, and sub-sub-sections. Sometimes, however, it has not been possible to fit the complex text-commentary-gloss conversations of the *Tahdhīb* into the logical structure of the chapter, in which case the related discussions are relegated to footnotes. Footnotes are also used at times to point out how various discussions in this book are related to discussions in modern analytic philosophy. At the end is a glossary of technical terms, arranged alphabetically according to the transliterated Arabic, together with English translations and brief explanations of rationale in translation.

I

PRELIMINARIES

1

PROLEGOMENON TO THE SCIENCE OF LOGIC

Scholars of the traditional Islamic sciences[1] customarily begin their teaching manuals with a scholarly *prolegomenon to the science* (*muqaddimat al-ʿilm*)[2] that defines the science, explains why it needs to be studied, and defines the subject of its questions. This prolegomenon makes the student aware of what he is about to study, which makes it possible for him to direct himself toward learning it.

The content and form of this prolegomenon is motivated by the logicians' theory of human knowledge. They observe that we acquire knowledge by reflection and inference, which require that we direct our mind's attention to those definitions and arguments that will lead us to the knowledge that we seek. Before we can learn any science, therefore, we must *conceive* it in some approximate manner; without this approximate conception, the science would be an absolute unknown, and it is impossible for us to direct ourselves to an absolute unknown. The logical role of the scholarly prolegomenon is to provide this approximate conception to enable first-time students

1. For the definition of *science*, see 11.1. For a description of the traditional Islamic sciences, see Karamali, *Madrasa Curriculum.*

2. The Arabic word *muqaddima* literally means "introduction." The logicians (and, by extension, scholars of all the traditional Islamic sciences) distinguish between the *muqaddima* of a *book* (*muqaddimat al-kitāb*) and the *muqaddima* of a *science* (*muqaddimat al-ʿilm*). The *muqaddima* of a book refers to the text of the general introduction that precedes the main subject of the book. The *muqaddima* of a science, however, refers to the concepts at hand in the present chapter.

of logic to direct the attention of their minds to acquiring knowledge of the science's questions.

The logicians describe three levels of conception that a student might have before embarking on the study of a science. The first and lowest level is any conception at all, however vague, such as one's conception that what one is about to study is some unknown science. This vague conception is enough to bring the science out of the absolute unknown, enabling the student to direct his mind's attention to learning its questions, even though he does not clearly know what exactly the science is. In order to be motivated to acquire this conception, the student must also believe that there is some benefit to be gained by acquiring knowledge of the science.

The second level gives clear knowledge of what exactly the science is by *defining* it. This, together with the student's belief in some vague benefit in learning the science, enables him to direct his mind with greater focus and clarity toward its questions.

But the clarity that the student acquires through the science's definition is incomplete without the addition of two other clarifications: (1) the exact *need* that it is the *purpose* of the science to fulfill and (2) the exact *subject* of its *questions*. With the addition of these two clarifications, the conception rises to its third and highest level. At this level, the student understands exactly what he is directing his attention to and exactly why he is doing it (the logicians call this *complete clarity* (*baṣīra tāmma*)), which enables him to direct himself most effectively to learning its questions. It is these three things—the definition, the need, and the subject of the science's questions—that, according to the logicians, must comprise the scholarly prolegomenon to any science, whether logic, *kalām*, Arabic grammar, or any other science.

This chapter is a prolegomenon to the science of logic. It begins by examining human knowledge through a series of four divisions (1.1). The last two of these divisions—the division of knowledge into conception and judgment (1.1.3) and the division of each of these into inferential and noninferential (1.1.4)—are required to understand the need for the science of logic (1.2). Understanding this need allows us to devise a definition for the science (1.2.4). Finally, in light of all of the above, we can precisely determine the subject of the science's questions (1.3). Over time, scholars of the Islamic sciences added seven other elements to the three customarily mentioned in prolegomena to give even greater clarity to the students of a science. These are included for

the sake of completeness (1.4). The chapter then concludes with a supplement that describes the logicians' account of knowledge (1.5).

1.1 Knowledge

The Arabic word for knowledge, *ʿilm*, can mean:

1. Rules (*qawāʿid*) and criteria (*ḍawābiṭ*), such as the rule of logic that a positive universally quantified proposition converts to a positive particularly quantified proposition, or the criterion that a genus is a universal that is predicated of many things of different essences.
2. The skill (*malaka*) that comes from experience in the application of those rules, such as the skill of logical reasoning that comes from experience in the application of the rules of logic.
3. Perception (*idrāk*).[3]

The logicians use *knowledge* (*ʿilm*) in this last meaning, namely perception. The knowledge that they study is not perception in its widest sense, but a specific kind of perception. They define this kind of perception by analyzing knowledge (or perception) through a series of four divisions and then using these divisions to identify the kind of knowledge that is their subject of study. This series of four divisions is described below.

1.1.1 *Eternal and Created Knowledge*

The first of the four divisions of knowledge is its division into *eternal knowledge* (*ʿilm qadīm*) and *created knowledge* (*ʿilm ḥādith*).[4] Eternal knowledge belongs to God. It never began to exist, and has, in other words, "always" existed ("always" is figurative because God's eternality is timeless). It is not acquired or learned, nor does it change. Rather, it is perfect and complete since beginningless eternity, timelessly revealing all matters to God as they really are without ever being preceded by ignorance. The knowledge that human beings possess is created knowledge. Unlike divine knowledge, human knowledge comes into existence after its nonexistence. Like every other created thing in the universe, it owes its existence to God's creative act. Logic studies created human knowledge. Its rules and criteria therefore do not

3. It can also mean *science*. See 11.1.

4. For simplicity, the Arabic terms *qadīm* and *ḥādith* are here translated "eternal" and "created," respectively, to capture the intended distinction. One could more precisely translate *ʿilm qadīm* as *beginninglessly eternal knowledge* and *ʿilm ḥādith* as *knowledge that began to exist*.

apply to eternal divine knowledge. The study of eternal divine knowledge belongs to *kalām*, not to logic.

1.1.2 *Direct and Indirect Knowledge*

The second of the four divisions of knowledge is the division of *created knowledge* into *direct knowledge* (*ʿilm ḥuḍūrī*) and *indirect knowledge* (*ʿilm ḥuṣūlī*). The locus of each of these kinds of created knowledge is the human soul (*nafs*). All physiological phenomena that are associated with this knowledge (e.g., the firing of neurons in the brain) are not the knowledge-perception itself, but regular causes[5] that God regularly creates when He creates the knowledge-perception in the soul.

Direct knowledge comes from the presence of the object of knowledge in the knower. It refers to self-knowledge, meaning knowledge of one's own soul and its attributes, each of which is actually present in the knower. Indirect knowledge comes from the appearance of the object's *representation* (*ṣūra*) in the knower, either in his soul or in one of its faculties. For example, one's knowledge of a particular tree comes from the appearance of its representation within the soul's faculty of sight, and one's knowledge of the universal concept ‹tree› comes from the appearance of its representation within one's soul (see 1.5).

Direct knowledge is stronger than indirect knowledge because knowledge of something through its presence within oneself is obviously stronger than knowledge of it through the presence of its representation within one. But the scope of direct knowledge is confined to the knower himself whereas the scope of indirect knowledge extends to the external world. Knowledge of the external world requires indirect knowledge. Logic only studies indirect knowledge.

1.1.3 *Conceptual and Propositional Knowledge*

The third of the four divisions of knowledge is the division of indirect knowledge into *conception* (*taṣawwur*) and *judgment* (*taṣdīq*). (Conception is sometimes also called *conceptual knowledge* and judgment is sometimes also called *propositional knowledge*. This is a more accurate translation because it makes

5. A *regular cause* (*sabab ʿādī*) is a created event that God regularly associates with another created event. Our knowledge of the associations between regular causes and effects in the universe enables us to subject the causes to our purposes. The true cause of every event, however, is God's creative act. Ibrāhīm al-Bājūrī, *Ḥāshiyat Ibrāhīm al-Bājūrī ʿalā matn al-Sanūsiyya fī ʿilm al-tawḥīd* (Cairo: Maṭbaʿat Muṣṭafā al-Bābī al-Ḥalabī, 1955), 29-30.

explicit the fact that the conception and judgment are objective and involuntary perceptions rather than subjective and voluntary actions.) This division arises from an analysis of speech as the composition of basic concepts. For example, "God exists," is composed of: (1) the concept ‹God›, (2) the concept ‹existence›, and (3) the concept of the predication of existence to God. Knowledge that God exists comprises the perception of each of these three concepts along with the perception that the third perception corresponds to reality. The first three perceptions are termed *conception* (*taṣawwur*); the latter perception is termed *judgment* (*taṣdīq*).

Knowledge that God exists thus has four elements:

1. Conceiving the meaning denoted by the subject, "God."
2. Conceiving the meaning denoted by the predicate, "existence."
3. Conceiving the meaning of predicatively composing the predicate with the subject, i.e., the meaning of, "God exists."
4. Judging (i.e., perceiving) this latter *predicative composition* to be true.

It is important to note the difference between Element *3* and Element *4*. The difference can be illustrated by someone who understands the expression, "God exists," but is not yet sure whether it is true. This person conceives the meaning of "God," he conceives the meaning of "existence," and he conceives the meaning of the predication of existence to God, but he does not yet perceive whether the latter conception is true. Whenever we consider new propositions to evaluate their truth, we possess conception, but we do not possess judgment until we complete our evaluation by examining whether or not the conceptual predication corresponds to reality.

To put it more precisely, Element *3* is the perception of what it means for a particular predicate to be said of a particular subject without considering whether it is really the case, whereas Element *4* is the perception of whether or not it is really the case—whether or not it corresponds to an extra-propositional reality that is independent of our perception.

Judgment is hence defined as indirect knowledge that comprises perception of whether or not a predicative composition is true independently of our perceiving it, and *conception* is defined as indirect knowledge that does not comprise such perception. Judgment presupposes conception. The logicians disagree, however, whether the three conceptions (the first three elements above) are conditions (*shurūṭ*) of the ensuing judgment or its parts (*arkān*). The *falāsifa* held that they are conditions, not parts. As a result, they