IBN HALDUN UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF PHILOSOPHY

MASTER'S THESIS

THE PROBLEM OF INFINITE REGRESS IN THE COSMOLOGICAL ARGUMENT: AN ANALYSIS OF AL-ĪJĪ'S *MAWĀQIF* *(MAWQIF* II, *MARṢAD* V, *MAQṢAD* VIII*)*

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ISTANBUL, 2025

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by
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This thesis has been read by us, and it has been decided that it is sufficient in terms of scope and quality, as a thesis for the degree of Master of Arts in Philosophy.

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ÖZ

KOZMOLOJİK ARGÜMANDA SONSUZ GERİYE GİDİŞ PROBLEMİ: ÎCÎ'NİN *MEVÂKIF* ADLI ESERİNİN ANALİZİ (*MEVKIF* II, *MERSAD* V, *MAKSAT* VIII)

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Bu tez, Tanrı'nın varlığını savunan kozmolojik argümandan kaynaklanan sonsuz geriye gidiş (teselsül) problemini, İranlı kelamcı ve filozof Aḍudüddîn el-Îcî'nin (1281–1355) görüşleri ışığında ele almayı amaçlamaktadır. Çalışmada, el-Îcî'nin temel eseri olan *el-Mevâkıf fî ʿİlm el-Kelâm*'da (Kelam İlminin Pozisyonları), sebepler ve sonuçlar arasında sonsuz bir zincirin (*teselsül el-ʿilal ve el-maʿlûlât ilâ gayr el-nihâye*) imkânsızlığına dair ileri sürdüğü argümanlar incelenecektir. Araştırma, eleştirel bir analiz ve karşılaştırmalı bir yöntem benimsemektedir. Çalışma, kozmolojik argümanın genel bir taslağı ile bu argümandan doğan sonsuz geriye gidiş probleminin kısa bir sunumuyla başlamaktadır. Ardından, *Mevâkıf*'ın *Mevkıf* II, *Mersad* V, *Meksat* VIII bölümünde ele alınan, sebepler ve sonuçların sonsuz bir zincir oluşturmasının imkânsızlığına dair el-Îcî'nin beş temel argümanı analiz edilip yorumlanacak ve değerlendirilecektir. Bu bağlamda, el-Îcî'nin argümanlarının diğer sonsuz geriye gidiş lehine veya aleyhine olan argümanlarla kıyaslandığında güçlü ve zayıf yönleri tespit edilecek, ayrıca onun argümanlarına yönelik olası itirazlar da kapsamlı bir şekilde ele alınacaktır.

Anahtar Kelimeler: el-Îcî (Aḍudüddîn el-Îcî), Kozmolojik Argüman, *Mevâkıf*, Sonsuz Geriye Gidiş, Teselsül.

ABSTRACT

THE PROBLEM OF INFINITE REGRESS IN THE COSMOLOGICAL ARGUMENT: AN ANALYSIS OF AL-ĪJĪ'S *MAWĀQIF (MAWQIF* II, *MARṢAD* V, *MAQṢAD* VIII*)*

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This paper aims to discuss the problem of infinite regress that arises out of the cosmological argument for theism in light of the views of the Persian theologian and philosopher Aḍud al-Dīn al-Ījī (1281–1355). I shall explore al-Ījī's argument against an infinite series of causes and effects (*tasalsul al-'ilal wa al-ma'lūlāt ilā ghayr al-nihāya*) in his primary work *al-Mawāqif fī 'Ilm al-Kalām* ('Positions in Theology'). The sort of approach I am taking is a critical analysis and comparative approach of sorts. I begin by presenting a brief sketch of the cosmological argument and the problem of infinite regress that arises out of it. Consequently, I will analyze, interpret, and evaluate al-Ījī's five arguments against the possibility of an infinite series of causes and effects presented in his *Mawāqif* in the section *Mawqif* II, *Marsad* V, *Maqsad* VIII. Apart from identifying the strengths and limitations of al-Ījī's reasons in comparison to other arguments for and against an infinite regress, possible objections to his argument shall also be addressed adequately.

Keywords: Al-Ījī (Aḍud al-Dīn al-Ījī), Cosmological Argument, Infinite Regress, *Mawāqif, Tasalsul,*

DEDICATION

With love and appreciation, this thesis is dedicated to those who stood by me every step of the way.

To my beloved mother, Andi Inci, and my father, Syamsuddin Arif;
to my dearest siblings Abdussalam, Deniz, and Iffah;
to my cherished friends Dhilruba, Laila, Shakira, and Krystin;
and last but not least, to my thunder buddy for life—

This work is for you.

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الحمد لله ربّ العالمين حمدا كثيرا حمدا يوافي نعمه ويكافئ مزيده

All praises be to Allāh the Almighty who has allowed me the opportunity to embark on this academic pursuit, given me the strength to push through, and blessed me with the *rizq* of understanding.

I would like to express my deepest gratitude to my parents; thank you for your Du'ās. Thank you for consistently motivating me through the entire process. Thank you for not giving up on me. Thank you for picking me up when I wanted to quit because I thought I couldn't make it. Thank you for pushing me with everything you had just to make sure I didn't stop until I reached my finish line.

Next, I sincerely thank my supervisor, Prof. Enis Doko. Thank you for your positive support and guidance from the very beginning. Thank you for your help that has made several of my university matters easier, all the way until I completed this thesis, including the success of my defense. I give my heartfelt thanks to all my friends and teachers at the Philosophy Department of IHU. Additionally, I thank Prof. Alparslan Açıkgenç, Prof. Kelly James Clark, and Dr. Serdal Tümkaya, for teaching and guiding me in my academic journey from my bachelor's to my master's studies. Without all of their lessons, advice, and my experiences with them, I would not have acquired the intellectual growth needed to accomplish this work.

To my dear soul friends, my thunder buddy, and my flatmate Naila, thank you for having been my biggest support system in Istanbul. The way you have been there through my ups and downs in my writing process means more than you know. Thank you for the way you all kept me sane, and made my thesis journey less lonely and less stressful. Your presence has really been a gift, and your kindness will forever be remembered.

Jehan SALSABILA
ISTANBUL, 2025

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LIST OF SYMBOLS AND ABBREVIATIONS

IRA	Infinite Regress Argument
PSR	Principle of Sufficient Reason
N	Set of Natural Numbers
C	Cause
E	Effect

CHAPTER I

INTRODUCTION

Arguments for God's existence have been formulated over centuries to provide proof for a cause of the universe. These arguments range from analyses based on empirical observations to rational trains of thought. The three primary arguments for theism are the cosmological, teleological, and ontological arguments. The ontological argument is classified as *a priori* while the cosmological and teleological arguments qualify as *a posteriori*.[1] The cosmological argument is *a posteriori* in that it begins from premises about the world known from our experience to arrive at the existence of God.

According to William L. Craig, the cosmological argument constitutes at least two main parts; the first aims to establish the existence of a Necessary Being, a first efficient cause, or an infinite being who created the world. It seeks to establish a cause or reason, either as a First Cause of the universe in rank or time or as a sufficient reason for the world. The argument also seeks to answer why the universe exists at all and what factors account for its existence. Other versions aim to explain why the universe is the way it is with its particular laws and structures. The second part of the argument argues that such a being is God, along with the theistic concept of God and his properties of all-powerful, all-knowing, all-good, etc.[2] The focus of this paper is primarily the first part of the cosmological argument; where al-Ījī aims to establish the existence of God as an Uncaused Cause by proving the temporality of the universe (*ḥudūth al-'ālam*). This demonstrates that the universe is not eternal; it began to exist and that a First Cause is necessary. Hence al-Ījī's key argument lies in disproving an infinite regress of causes (i.e. the eternality of the universe) and establishing the temporal beginning of the universe.

[1] William L. Rowe, *The Cosmological Argument* (New York: Fordham University Press, 1998), 3-4.
[2] See William L. Craig, *The Cosmological Argument from Plato to Leibniz* (London: Macmillan Press, 1980), x-xi.

The cosmological argument against an infinite regress of causes may be presented as follows:

i. At least some things in the universe are caused to come into existence.
ii. Either the cause of something had itself been caused by another cause and so on, or there is a cause which had not itself been caused by another cause.
iii. But if the cause of something has itself been caused by another cause, and that cause has been caused by another, and so on, there is an infinite series of causes stretching back in time with no beginning.
iv. But such an infinite series of causes cannot exist.
v. Therefore, there is something that causes something into existence which has not itself been caused into existence by another. This Uncaused cause is God.

Now the most common source of dispute between the defenders and opponents of the cosmological argument is over whether an infinite temporal series of causes is possible (premise 4).[3] This problem known as the infinite regress of causes and effects is the most common source of dispute in this argument; the question of whether an infinite series of causes stretching back in time no First Cause is possible.

Though the earliest arguments for the existence of an Uncaused Cause were posited by Aristotle, it is the early Islamic scholars who developed the most prominent versions of the cosmological argument. A least popular yet eminent discussion on infinite regress was put forward by the Persian theologian and philosopher Aḍud al-Dīn al-Ījī (1281–1355). In this paper I shall analyze al-Ījī's argument on the impossibility of an infinite series of causes and effects (*imtinaʿ al-tasalsul al-ʿilal wa al-maʿlūlāt ilā ghayr al-nihāyah*) in his work *al-Mawāqif fī ʿIlm al-Kalām* ('Positions in Theology'). Abū al-Faḍl Aḍud al-Dīn 'Abd al-Raḥman b. Aḥmad b. Abd al-Ghaffār al-Ījī was a prominent Asḥʿarite theologian and Shafiʿite jurist born in Īj in the city of Shīrāz.[4] Al-Ījī was a scholar in the field of rational theology (*kalām*) as well as jurisprudence (*uṣūl al-fiqh*), marking him as an

[3] Julian Wolfe, "Infinite Regress and the Cosmological Argument," *International Journal for Philosophy of Religion* 2, 4 (1971): 246, https://www.jstor.org/stable/40019135.
[4] Josef van Ess, ''"Aẓod-al-Dīn Ījī,'' Encyclopaedia Iranica Foundation, August 18, 2011, https://www.iranicaonline.org/articles/azod-al-din-iji.

authority in the rational sciences. He was also an expert in the discipline of rhetoric, particularly in the science of word order (‘*ilm al-maʿānī*), grammar, as well as the science of literary embellishment (‘*ilm al-bayān*). Al-Ījī’s most influential work was in *Kalām*, the *Kitāb al-Mawāqif* which is built upon the synthesis of both *Kalām* and *falsafa* (Arabic philosophy).[5] His argument on the infinite chain of causes and effects (*tasalsul*) includes Five Reasons, each of which posits distinct arguments against an infinite regress yet are also interlinked to one another. Potential objections are also considered and addressed by al-Ījī within his arguments. The Five Reasons of *tasalsul* are written in the second division or ‘‘station’’ (*mawqif*) which is centered on the topic of ontology, under the fifth section preliminary or observation (*marṣad*), on the eighth ‘‘aim’’ (*maqṣad*).

Al-Ījī’s Five Reasons introduces a systematic philosophical version of the cosmological argument; it deserves rightful consideration, particularly in Islamic philosophy and theology. His integration of the *Kalām* and philosophical thinking in the formulation of the Five Reasons warrants attention and study by both Muslim and Western readers. As such, it is significant in the modern defense of theism as well as the *Kalām* cosmological argument.

1.1. Research Questions

i. What are al-Ījī’s core arguments against an infinite series of causes and effects to prove the temporal beginning of the universe and establish the necessary existence of a First Cause?
ii. How are al-Ījī’s arguments structured to demonstrate the impossibility of infinite regress?
iii. What are the strengths and limitations of al-Ījī’s Five Reasons, and how does he address potential objections?

[5] Safaruk Z. Chowdhury, “A Short Commentary on the Doctrine of Resurrection from ʿAḍuḍ Al-Dīn Al-Ījī’s Al-Mawāqif Fī ʿIlm Al-Kalām,” n.d., 1.

The first research question centers around a careful examination of al-Ījī's entire argument about an infinite regress and his refutations against it, which is composed of Five Reasons. I shall explore the method of reasoning which al-Ījī's employed in his approach such as the argument from correspondence (*burhān al-taṭbīq*) and the specific analogies used to demonstrate the logical problems of an infinite causal chain.

In the second instance, I shall delve into a critical analysis of each of the Five Reasons as well as how al-Ījī addresses the argument systematically. This section seeks to break down al-Ījī's arguments into stages; from outlining the concept of an infinite series of causes and effects to disproving it by demonstrating the logical contradictions which arise out of it, and finally positing a First Uncaused Cause of the entire series, rendering it finite. The question seeks to examine al-Ījī's logical progression of the entire argument to arrive at its conclusion.

The third research question of consideration concerns the strength and persuasiveness of al-Ījī's approach. To identify the areas where al-Ījī's arguments are notably compelling, a critical comparison is made with other thinkers of the West and the Islamic world with a similar perspective to highlight the coherence. Conversely, this paper also discusses the potential limitations, gaps in reasoning, or potential criticisms that arise from alternative arguments.

1.2. Methodology

The sort of approach I am taking is a critical analysis and comparative approach of sorts. I begin with a historical-critical method of studying the life and works of al-Ījī based on historical sources. To assess the data, I take the philosophical method of critically reading al-Ījī's Five Reasons in the primary source; the *Kitāb al-Mawāqif*, the section *Mawqif* II, *Marṣad* V, *Maqṣad* VIII. I translated the primary source into English, including analyzing and studying the secondary source—the *Sharh al-Mawāqif* by al-Jurjānī—particularly the topic section in which this research is about, to support my study. In my hermeneutical method of analysis, I attempt to acquire an understanding (*verstehen*) and interpretation

(*auslegung*) of al-Ījī's Five Reasons on Infinite Regress. In the final analysis, I use the comparative method to study the parallels including somewhat differences between al-Iji's arguments with those of other philosophers. Lastly, I identify the strengths and limitations and ultimately highlight the possible objections to al-Ījī's arguments.

CHAPTER II

THE COSMOLOGICAL ARGUMENT

The cosmological argument as *a posteriori* argument is built upon principles or premises derived from the experience of the physical world. Such arguments begin by observing that things are caused into existence or motion by something else. In other cases, *a posteriori* arguments show that the existence of a large number of intricately arranged things in the universe suggests that everything in our world cooperates towards a certain end, an argument known particularly as the teleological argument. Conversely, *a priori* arguments rely on premises known through rational reflection and comprehension independent of our empirical experiences.[6]

In this chapter, I will discuss the cosmological argument for theism, which is, as it has been described earlier, an *a posteriori* argument for a cause of the universe. In contrast to the ontological argument, the cosmological argument begins with the assertion that something exists, the fact that the universe exists. It is crucial to note that the fundamental principles used in the cosmological and teleological arguments are necessary truths known *a priori* by deduction or directly. Such *a priori* principle is the Principle of Sufficient Reason and causality, the central point of the cosmological argument which I shall discuss in the upcoming sections. However, although *a priori* rules may be incorporated into the argument, the essence of it remains grounded in *a posteriori* principles. The cosmological argument is *a posteriori* in that it begins from premises about our world known from our experience. Although both the teleological and cosmological arguments are *a posteriori*, it is worth noting that there are at least three differences among them. The cosmological argument starts simply from the fact that there exist things in the world in which they are being caused, changed, or created by something else. However, the teleological argument

[6] Rowe, *The Cosmological Argument*, 3.

begins with the claim that the universe and all nature within it operate like a well-organized machine. The structure and activities of the plants, animals, and celestial beings work in such an orderly manner that they do so to achieve a certain end. Just as a machine is designed for specific purposes, the teleological argument suggests that the universe has been designed for a certain purpose by some form of Higher Intelligence. The second distinction is that the teleological argument is inductive; if the premises are true, its conclusion is likely probable while the truth is not necessarily established. In contrast, the cosmological argument is deductive; if the premises are true, it follows that the conclusion must be true. Furthermore, the teleological argument merely renders it probable that there is a Higher Power serving as the cause of the world. Unlike the cosmological argument, it does not necessarily prove the existence of an omnipotent, omniscient, omnibenevolent, infinite God who created the universe. It is both the ontological and cosmological argument that concludes the existence of a theistic God.[7]

The cosmological argument primarily rests on the principle of causality; that everything that began to exist must have a cause. Since we know from empirical evidence and scientific discovery that the universe began to exist at a certain point in time, the universe hence must have a cause. The following is a visual representation of the logical structure of the argument:

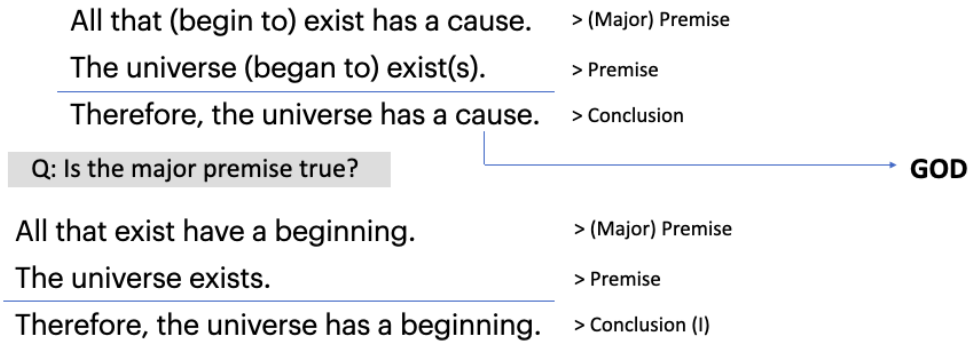

Figure 2.1. Logical Structure of the Cosmological Argument

[7] Ibid. 5.

As formulated in the figure above, the first argument begins with the major premise that anything that began to exist has a cause. Since the universe began to exist, it therefore must have a cause; which is a transcendent being identified as God. The second argument is a similar and reformulated version of the same argument; that all existing things must have a beginning. We know the universe exists and therefore it too must have a beginning. The corollary of these arguments boils down to the question of beginning; the question of whether something can have no beginning, or that everything must have a beginning. The issue is whether it is true that the universe had a beginning, or that it has existed eternally. If we accept that the universe is beginningless, we are undoubtedly led to an infinite series of causes and past events. Conversely, if we assume that the universe began to exist, then it is finite and the series of past events leads to an ultimate First Cause.

The cosmological proof constitutes at least two main parts; the first aims to establish the existence of a Necessary Being, a first efficient cause, or an infinite being that brought the world into existence. It attempts to establish a cause or reason, either as a First Cause of the universe in rank or time or as a sufficient reason for the world. The argument also seeks to answer why the universe exists at all and what factors account for its existence. Other versions aim to explain why the universe is the way it is with its particular laws and structures.[8] The second part argues that such a being is God, along with the theistic concept of God and his properties of all-powerful, all-knowing, all-good, etc. The cosmological argument shall not be directly regarded as equivalent to the Prime Mover argument as posited by Aristotle and Aquinas. While the Prime Mover argument focuses on proving a First Mover or cause to explain the order and motion within the universe, the cosmological argument seeks a cause for the existence of the universe as a whole.[9]

Historically, the beginning of the cosmological argument dates back to Plato and Aristotle. In Plato's *Timaeus,* there are arguments that can be categorized as a cosmological argument for God's existence. Plato's argument however is teleological in nature; he argues that the universe was created by a 'demiurge' (Greek: *dēmiourgos*), a divine

[8] Craig, *The Cosmological Argument from Plato to Leibniz*, x-xi.
[9] Ibid.

craftsman. The demiurge created the cosmos according to eternal Forms or Ideas in such an order that everything moves towards a purpose or end.[10] While his argument was not explicitly structured to prove the existence of a theistic God, it laid the groundwork for later *a posteriori* cosmological arguments. Aristotle in his ‘‘Physics’’ and ‘‘Metaphysics’’ posits the existence of an Uncaused Cause or Unmoved Mover (Prime Mover) from the existence of motion within the cosmos. In the Islamic world of medieval Arabic philosophy, due to the influence of the Greek thought *falsafa* (‘philosophy’), the contingency argument (*dalīl al-imkān*) and the temporality argument (*dalīl al-hudūth*) as a cosmological proof flourished addressing heavy skeptics of God.

The contingency argument (*dalīl al-imkān*) holds that the universe is contingent (*mumkin al-wujūd*); it neither is necessary nor impossible in existence. Since the universe is contingent, there must exist a Necessary Being; an external entity that caused the universe. The reasoning may be outlined as follows:

i. The existence of the universe is contingent.
ii. Anything that is contingent is not self-sufficient; it requires a creator.
iii. The universe requires a creator or cause for its existence.
iv. The universe must be caused by a Necessary Being (*wājib al-wujūd*), who is the ultimate creator of all contingent beings, namely the entire universe.
v. Therefore, the Necessary Being, which is God, exists and is the Uncaused Cause of the universe.

From the existence of contingent beings, the argument concludes the existence of a Necessary Cause. Advocates of the contingency argument in the early Islamic tradition include al-Farābi (d. 950), Ibn Sīna (d. 1037), and Ibn Rushd (d. 1198).
The temporality argument (*dalīl al-hudūth*) from *Kalām* scholars and the Ash’arites maintains that there is a temporal beginning for the universe. The world came into

[10] T. K. Johansen, *Plato’s Natural Philosophy : A Study of the Timaeus-Critias* (Cambridge: Cambridge University Press, 2004), 69.

existence at a certain point in time after a state of non-existence. The key argument is as follows:

i. If the universe were eternal, it would not require a creator (*muḥdith*) for its existence.
ii. The universe is not eternal; it is temporal (*ḥādith*) in that it began to exist.
iii. Therefore, the universe requires a creator, namely God.

The reasoning begins from the finitude of the universe to the existence of a First Cause; that an infinite series of past events with no beginning is impossible. [11] The Islamic philosophers who support the temporality argument include al-Kindi (d. 873) and al-Ghazāli (d. 1111), which would later be well-known as the *Kalām* cosmological argument made popular by William Lane Craig. Unlike the contingency argument, the *Kalām* cosmological argument focuses on the temporal origin of the universe rather than the contingency of beings to arrive at the existence of a transcendent cause.

In the thirteenth century, the cosmological argument thrived in the works of the medieval thinkers Thomas Aquinas (d. 1274) and John Duns Scotus (d. 1308), both demonstrating God's existence from the contingency of the universe. Later in the eighteenth century, Gottfried Wilhelm Leibniz (d. 1716) presented the cosmological argument using the Principle of Sufficient reason. The *Kalām* version of the cosmological argument, being prominently defended today by William L. Craig is also briefly discussed by John Locke (d. 1704).[12] Other modern defenders of the argument include Richard Taylor, Richard Gale and Alexander Pruss, Robert Koons, Richard Swinburne, and Samuel Clarke.[13] One of the famous fierce criticisms of the cosmological argument in general was commenced

[11] Craig, *The Cosmological Argument from Plato to Leibniz*, 52.
[12] See John Locke, *An Essay concerning Human Understanding* (Oxford: Oxford University Press, 1975), 620, chap. IV; 10.3.
[13] See Richard Taylor, *Metaphysics* (Englewood Cliffs, N.J.: Prentice-Hall, 1948), 103-4; Richard M. Gale, and Alexander R. Pruss. "A New Cosmological Argument", *Religious Studies* 35, no. 4 (1999): 461–76, http://www.jstor.org/stable/20008249; Robert C. Koons, "A New Look at the Cosmological Argument." *American Philosophical Quarterly* 34, no. 2 (1997): 193–211, http://www.jstor.org/stable/20009892; Richard Swinburne, *The Existence of God* (Oxford: Clarendon, 2004), 133-152; Samuel Clarke, *A Discourse Concerning the Being and Attributes of God* (Grand Rapids, MI: Christian Classics Ethereal Library, n.d.), 15-31.

by David Hume (d. 1776) and Immanuel Kant (d. 1804).[14] Opponents such as J. L. Mackie criticized various aspects of the cosmological argument; Bertrand Russel and Paul Edwards attacked the contingency and causation argument; Quentin Smith argued against the *Kalām* argument.[15]

The cosmological argument is not a single or unified argument; there is no such thing as *the* cosmological argument. Instead, it consists of a family of arguments, each stemming from observations about causation, motion, change, contingency, the finitude of the universe, or its limits and processes within it. It is from these observations and principles that we infer the existence of a cause of the universe (as distinct from a 'designer' or a 'source of value' of the world).[16] In this chapter, I shall introduce Philoponus as amongst the earliest thinkers formulating the cosmological argument. Consequently, I will discuss the arguments of Thomas Aquinas, John Duns Scotus, G. W. F. Leibniz, including the Islamic philosophers al-Fārābī, Ibn Sīnā, al-Ghazālī, and the modern thinker William L. Craig. The discussion of these particular versions of the cosmological argument will be crucial for the upcoming chapters in exploring the concept of the infinite regress argument.

2.1. Philoponus

The Christian philosopher John Philoponus (d. 570) formulated arguments that influenced the development of metaphysical thought in the medieval period across various knowledge traditions. His *Contra Aristotelem,* which disputes Aristotle's argument for the eternality of the universe, became the cornerstone for later cosmological arguments and

[14] See David Hume, *Dialogues Concerning Natural Religion,* chap. 10, ePub; Immanuel Kant, *Critique of Pure Reason,* eds. P. Guyer and A. W. Wood (Cambridge: Cambridge University Press, 2007), 569-74, A603/B631–A614/ B642.

[15] See J. L. Mackie, *The Miracle of Theism: Arguments For and Against the Existence of God* (Oxford: Oxford University Press, 1982), 81-101; John Hick, ed., *Classical and Contemporary Readings in the Philosophy of Religion* (New Jersey: Prentice Hall, 1964), 466; Paul Edwards, ''The Cosmological Argument'' in *The Cosmological Arguments: A Spectrum of Opinion,* ed. Donald R. Burrill (Palatine, IL: Anchor Books, 1967), 103-6; William Lane Craig and Quentin Smith, ''A Defence of the Cosmological Argument for God's Non-existence'' in *Theism, Atheism, and Big Bang Cosmology* (Oxford: Oxford University Press, 1993), chap. 2, Essay VII.

[16] David S. Oderberg, ''The Cosmological Argument'' in *The Routledge Companion to Philosophy of Religion,* eds., Chad Meister and Paul Copan (London Routledge. Taylor & Francis Group, 2013), 401.

laid the foundation for Islamic, Jewish, and also Christian theology.[17] Philoponus sought to prove the idea of the beginning of the universe and its creation ex nihilo. He argued that if the universe exists eternally, the present moment could have never arrived; the same reasoning adopted later by al-Ghazāli. Philoponus maintained that an infinite series of past events is impossible since actual infinity in the world cannot be traversed.

The significant arguments by Philoponus against eternal motion and actual infinity may be outlined into three major arguments; the impossibility of an infinite chain of past events, the argument from the finitude of the universe, and the argument from the nature of motion.[18] The significance of Philoponus is that his arguments became transmitted to Islamic and Jewish thought and hence influenced the later Arabic-speaking scholars as well as the Jewish philosophers. In the tenth century, al-Kindī (d. 873) and Saadia Gaon (d. 942) employed arguments similar to Philoponus' ideas to justify creation.[19] His argument from creation became the foundation of the *Kalām* cosmological argument, which is evident in the major works of al-Ghazālī and al-Juwaynī. In Jewish philosophical works, the influence of Philoponus's argument is evident in Saadia Gaon's *Book of Beliefs and Opinions,* where Gaon argued against an infinite temporal past to prove divine creation.[20]

Al-Kindī reformulated Philoponus' ideas into an argument on the basis of the composition of matter. Al-Kindī asserted the necessity of a creator of the universe since the universe constitutes composite entities that are existents that must be created, therefore the universe has a creator.[21] In Jewish philosophy, Maimonides assimilated Philoponus' critique of Aristotle into his work *Dalālat al-ḥā'irīn* ('Guide for the Perplexed') to defend creationism against Aristotle's idea of eternity.[22]

[17] Davidson, Herbert A. "John Philoponus as a Source of Medieval Islamic and Jewish Proofs of Creation." *Journal of the American Oriental Society* 89, no. 2 (1969): 357-358. https://doi.org/10.2307/596519.
[18] Ibid, 367.
[19] Ibid, 358.
[20] Ibid, 362.
[21] Ibid, 370.
[22] Ibid, 380.

2.2. Thomas Aquinas

The medieval Christian theologian St. Thomas Aquinas (d. 1274) developed what was initially proposed by Plato and Aristotle; the contention that God's existence can be accepted as an empirical fact.[23] Aquinas' major arguments are found in his *Summa Theologica* (later shortened to ''*Summa''*), his most eminent works in Christian theology and Western philosophy. In the *Summa,* Aquinas puts forward the idea that the existence of God can be proved in Five Arguments.[24] Not embracing Anselm's ontological argument, Aquinas believes that the best arguments for the existence of God could be summarized in Five Ways; arguments that are heavily influenced by Aristotelian thought.[25]

Aquinas begins his proof from the Five Ways by observing the nature of motion. Some things in the world, as it is clear to our senses, are in a state of motion or change. Whatever is in motion must be put in motion by something else which is itself moving. Now motion or change as argued by Aquinas is simply the reduction of something from the state of potentiality into becoming its actuality.[26] However, it is impossible for something to be changed from potentiality into actuality unless by something that is already in the state of actuality.[27] In the case of the beings in the universe, it is impossible for anything to be in the same respect being both moved or changed while also being that which does the moving or changing of itself at the same time. Therefore, Aquinas concludes that whatever is in motion must be put in motion by something else.[28] But if whatever is in motion is moved by another, then that which caused the motion must also be put in motion by another, and so on. But the series of the moved and movers cannot go on to infinity because then there would be no First Mover. If there were no First Mover, there would not exist any other movers, since subsequent movers are only set in motion by the First

[23] Donald R. Burrill, ed., *The Cosmological Arguments: A Spectrum of Opinion* (Palatine, IL: Anchor Books, 1967), 51.
[24] Thomas Aquinas, *Summa Theologica*, trans. by Fathers of the English Dominican Province (Classic Christian Ethereal Library), Part I, Question 2, Article 3.
[25] Edward Feser, *Aquinas* (Oxford: Oneworld, 2009), 108.
[26] Ibid.
[27] Aquinas, *Summa Theologica*, I.2.3.
[28] Aquinas, *Summa*, I.2.3.

Mover; for instance, a thing moves only because it is being moved by the hand.[29] Therefore it follows that there must be, in fact, it is necessary, to conclude the existence of an ultimate First Mover.

The Second Way is the proof of the nature of efficient causes also known as the argument from causality. Aquinas begins this proof by observing that in the natural world, there is an order and series of efficient causes. Every contingent being in the world has an efficient cause which acts as the agent that brings it into existence or causes it to change. Now in a series of efficient causes, the First Cause acts as the cause for the intermediate cause, which is simultaneously the cause of another cause, and that of another, and so on until we arrive at a Final Cause. If there was no First Cause, there would be no intermediate cause or causes, nor would there be any final cause, or any causes at all. But as we know through our senses, there exists in the observable world a series of causes. Therefore, there must be a First Cause among all of the causes and effects. Moreover, a series of causes cannot go on to infinity because then there would be no First Cause nor any intermediate or final cause, all of which is false since we know that there is a series of causes. Therefore, it is necessary to conclude the existence of a First Efficient cause, one that he refers to as God.[30]

The Third Way is the argument from the contingency or the possibility of the world. We observe in the world that things are contingent, being possible either to be or not to be. The nature of these contingents is that they are found to be generated, began to exist at some point in time, and consequently could cease to exist. Therefore, it is impossible for such beings to have always existed. If the existence of everything is merely possible, that it is possible for them not to be, then at some point nothing had been in existence.[31] However, this is not true because from what we know, some things do exist here and now, rather than nothing existing at all. Moreover, if at one time nothing had existed, it would be impossible for anything to have begun to exist by itself. Therefore, there must be one being whose existence is necessary, had always existed, and that caused everything to

[29] Ibid.
[30] Ibid.
[31] Aquinas, *Summa*, I.2.3.

begin to exist. In other words, the contingent world could not exist at all without a Necessary Being.[32] This Necessary Being is itself Uncaused, the First Cause of all existing causes and effects. This being is what we call God. Aquinas' Fourth Way is the proof of gradation. He begins in the *Summa* by stating that among everything there are some things that are more while others are less good, as it is with the case of being more true or less true, or noble, and the like.[33] So some beings possess these qualities either to a lesser, greater, or maximum extent of quality. There must be a thing which is the maximum of perfection in existence which is the cause of all existing beings, the cause of all goodness and perfection. This ultimate cause is what we call God.[34]

The final proof is derived from the nature of the governance of the world. Aquinas calls it the proof from finality or as we may refer to it the teleological argument. The argument begins with the fact that things that lack intelligence such as natural bodies act towards a goal as an end. This is evident from the way they at least almost always act in this way in order to acquire the best result. Such an act must occur in a manner in which it was designed to be that way by something other than itself; it is impossible to occur purely by chance.[35] Everything that lacks intelligence requires something intelligent that directs it and acts as its cause, just as the arrow is shot toward the right target by the archer. Therefore, it is necessary to arrive at the existence of some intelligent being by whom all natural things are directed towards their end, and this being is God.[36]

2.3. John Duns Scotus

Apart from Aquinas of medieval scholasticism is John Duns Scotus (d. 1308), a Scottish philosopher who is known for his contributions, particularly in theology, metaphysics, epistemology, and ethics. In the case of proving the existence of God, Scotus' arguments consist of two parts; (1) from a posteriori proof that there exists a first efficient cause and

[32] Feser, *Aquinas*, 151.
[33] Aquinas, *Summa*, I.2.3.
[34] Feser, *Aquinas*, 164.
[35] Aquinas, *Summa*, I.2.3.
[36] Ibid.

a priori in which the existence of a first efficient cause is possible, (2) proof that if a first efficient cause can exist, then it must exist.[37] Scotus combined these two arguments to prove God's existence. The first part of the argument is a cosmological argument that rests upon the nature of causality; the second begins with the concept and nature of God himself to prove his existence, which is thus a form of an ontological argument. Scotus provided an extensive form of the cosmological argument, making Aquinas' Five Ways appear more simplistic in comparison to Scotus' arguments.[38] His proofs for God's existence may be found in his commentary *Opus Oxoniense* and his work *De primo principio.*

The fundamental argument in Scotus is that God is an infinite being. He attempts to prove that in the realm of beings, there exists a being that is actually infinite. However, in order to do so, he argues that we must assume a concept of 'being' that is univocal.[39] In other words, a unified understanding of 'being' such that the concept is consistent and clear within itself. According to Scotus, a concept is univocal if it cannot be both affirmed and denied without contradiction and can also be a middle term in a syllogism.[40] For instance, if asserting both ''X is a being'' and at the same time ''X is not a being'' leads to a contradiction, then that concept of 'being' is univocal. In the case of the concept 'to exist', if 'God exists' and 'Animals exist' do not possess the same meaning in terms of their existence, then the concept 'exists' is not univocal. We need a concept of being and existence that can equally be applied to God and other creatures. A univocal concept must also be applicable in a syllogism where the subject and predicate are connected by the concept in a meaningful manner. Such a univocal concept of being is what Scotus describes as 'that which is opposed to nothingness'. In the case of God, He is a being that is opposed to nothingness in an infinite way. This comes from Scotus' idea that beings exist either finitely or infinitely.[41]

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[37] Rega Wood, "Scotus' Argument for the Existence of God," *Franciscan Studies,* 47 (1987): pp. 257–77, http://www.jstor.org/stable/41975094.
[38] C. R. S. Harris, *Duns Scotus,* 2 vols. (Oxford: Clarendon Press, 1927), 1 : 267, cited in W. L. Craig, *The Cosmological Argument from Plato to Leibniz* (London: Macmillan Press, 1980), 205.
[39] F. C. Copleston, *A History of Medieval Philosophy* (London: Methuen & Co., 1972), 219.
[40] Craig, *The Cosmological Argument from Plato to Leibniz,* 205.
[41] Etienne Gilson, *History of Christian Philosophy in the Middle Ages* (Washington, D.C.: Catholic University of America Press, 2019), 457.

2.4. Leibniz

Gottfried Wilhelm Freiherr von Leibniz (d. 1716) was one of the most prominent German thinkers who attempted to prove the existence of traditional theism. His various arguments for theism are dependent upon the ontological argument, a form of the teleological argument based on his *Monadology*, the cosmological argument, and the eternal truths argument.[42] My primary focus in this section will be on his formulation of the cosmological argument in proving the existence of God.

Leibniz's version of the cosmological argument rests upon the Principle of Sufficient Reason (PSR). For Leibniz, 'reason' often means 'efficient cause' and thus the PSR may be regarded as the principle of causality.[43] In another sense, a sufficient reason also means 'Final Cause' or 'purpose', as he asserts, ''The term cause is also taken to mean 'final' cause or motive.''.[44] In another chapter about reason, he writes: ''A cause is indeed a reason, which is why causes themselves—especially final ones—are often called reason.''[45]

Leibniz's PSR, which lies at the foundation of his cosmological argument, states that everything, every truth or fact has an explanation or a sufficient reason for its existence. There are at least three formulations of this same principle which Leibniz asserts; ''There is nothing that exists without reason; there is always *a reason why*'', ''Nothing happens without a reason why it should happen this way rather than otherwise'', ''For every truth, a reason can be given''. These various formulations were made to demonstrate the applicability of this principle across not only things, but also events, and truths.

[42] William L. Craig, *The Cosmological Argument from Plato to Leibniz* (London: Macmillan Press, 1980), 257.
[43] Ibid. 260.
[44] G. W. F. Leibniz, Peter Remnant, and Jonathan Bennett, *New Essays on Human Understanding* (Cambridge: Cambridge University Press, 1996), 216.
[45] Ibid. 476.

In the case of events, the PSR is understood causally, which may also be known as the Principle of Causation; that every event must have a cause.[46] In a causal relationship of things and events, this principle is meant to be applied to contingent beings which require an external explanation or cause for their existence. He does not deny the existence of a necessary and self-explanatory being. For Leibniz, God is the ultimate self-explanatory being; existence is necessary within his nature.[47] The argument may be displayed in this way:

i. Every existing being has a sufficient explanation of its existence, either necessarily by its own nature or by an external explanation.
ii. If there is an explanation of the universe's existence, then that explanation is a Necessary Being which is God.
iii. The universe exists.
iv. (Hence), there is an explanation of the universe's existence (from i-iii).
v. (Hence), the explanation of the universe's existence is a Necessary Being (from ii-iv).
vi. Therefore, God, which is a Necessary Being, exists.

2.5. Al-Fārābī

Abū Naṣr al-Fārābī (d. 950), influenced by Aristotelian and Neoplatonic thought, developed a significant argument for God's existence that includes both ontological and cosmological elements. His argument is primarily built upon the hierarchical levels of existence (*wujūd*) and the necessity of God as the First Cause. In al-Fārābī, existence encompasses a chain of emanation consisting of lower beings that derive their existence from the higher beings. The entire hierarchy of existence ultimately leads to the highest being as a First Principle, namely God.[48] While this framework echoes Aristotle's concept

[46] Lloyd Strickland, *Leibniz's Monadology : A New Translation and Guide* (Edinburgh: Edinburgh University Press, 2014), 87–88.
[47] Kelly James Clark, *Readings in the Philosophy of Religion* (Peterborough, Ont. ; Buffalo, N.Y.: Broadview Press, 2008), 6.
[48] Al-Fārābī, *Al-Madīnah al-Fāḍilah*, (Beirut: 1959), 39.

of the Unmoved Mover as the Uncaused Cause, al-Fārābī's argument emphasizes the necessity of the First Cause as a single, all-perfect, and self-sufficient being. The Perfect Being in which all beings must culminate is a being in that none other existing beings are more perfect than it; it is the eternal God, necessary, and the source of all entities.[49] He is the most ancient and best being of all beings; there is no better or more ancient existing being other than Him.[50]

The distinctive feature of al-Fārābī's argument for God's existence lies in the Neoplatonic doctrine of emanation. The hierarchy of beings begins with the First Cause which emanates a hierarchy of intellects. This emanation generates the lower and further chain of beings; the celestial spheres and finally the material world. Unlike Aristotle's notion of the Unmoved Mover, the First Cause is not merely the final cause of motion; it is the being that actively generates all things into existence through the process of emanation. Al-Fārābī's argument hence aims to establish the necessity of an ultimate cause.[51] The existence of every contingent being, in which its existence depends on something else, is derived from another being, and that being to another, all the way up the hierarchical chain. However, this series of beings must terminate in God as a necessary and self-existent being; the chain cannot regress infinitely with every being deriving its existence from another *ad infinitum.* In this way, although al-Fārābī appears to begin with an ontological approach, he likewise adopts the cosmological procedure by arguing the series of possible beings must end in an Uncaused Being.[52]

2.6. Ibn Sīnā

The cosmological argument of Ibn Sīnā (d. 1037) for God's existence is rooted in the ontological distinction between the contingent being (*mumkin al-wujūd*) and the necessary existence (*wājib al-wujūd*). The logical structure of Ibn Sīnā is as follows:

[49] Majid Fakhry, "The Ontological Argument in the Arabic Tradition: The Case of Al-Farabi," *Studia Islamica*, no. 64 (1986): 13, https://doi.org/10.2307/1596043.
[50] *Al-Madīnah al-Fāḍilah*, 23.
[51] Majid Fakhry, "The Ontological Argument in the Arabic Tradition: The Case of Al-Farabi,", 13.
[52] Ibid, 16.

i. Every being is either necessary or contingent in existence.
ii. Contingent beings require a cause for existence.
iii. If there exists a contingent being, it must be caused by another being which is also either a necessary or contingent being, and so on.
iv. But there cannot be an infinite series of contingent causes.
v. The series must terminate (*tantahī*) in a Necessary Existent Being (*wājib al-wujūd bi-dhātihi*) which is the final cause of all contingent beings.[53]

What is meant by 'cause' in Ibn Sīnā is the efficient cause (i.e. cause of existence) in a metaphysical sense, contrary to the physical sense of efficient cause (i.e. cause of motion). As such, the cause of every contingent existence must coexist with its corresponding effect. In his work *Najāt,* Ibn Sīnā argues that if the series of causes could regress infinitely, then an ultimate First Cause would cease to exist, which is impossible.[54] The novelty of Ibn Sīnā's argument is that it does not aim to prove the First Cause from the finitude of the series. It rather begins with establishing the existence of a First Cause, then infers that the possible existence of a series of causes is finite.[55]

In the case of infinite temporal series, Ibn Sīnā was aware that the reasoning of inferring that a series of simultaneous causes (i.e. metaphysical causes) must be terminated by an Uncaused cause can also be used for inferring that a series of temporally ordered causes (i.e. physical causes) must also end by a first and eternal cause preceded by no other cause. In the *Physics* section of his major work *al-Shifāʾ*, Ibn Sīnā attempts to defend the possibility of time stretching infinitely back to the past. In doing so, he further addresses the question of what makes a series of events be considered as a whole (*kulliya*) rather than merely a collection of individual parts. He refutes several arguments that were made against the possibility of a series of temporally ordered events existing without a

[53] Ibn Sīnā, *Ibn Sina's Remarks and Admonitions (Al-Ishārāt Wa'l-Tanbīhāt) : Physics and Metaphysics : An Analysis and Annotated Translation*, trans. Shams Inati (New York: Columbia University Press, 2014), 122.
[54] Ibn Sīnā, *Najāt,* 567, cited in Ayman Shihadeh, "Avicenna's Proof of the Existence of God: Problem 7." In *Doubts on Avicenna: A Study and Edition of Sharaf al-Dīn al-Masʿūdī's Commentary on the Ishārāt*, 147. Brill, 2016. http://www.jstor.org/stable/10.1163/j.ctv2gjwxrx.9.
[55] Ibid.

beginning. This reasoning is Ibn Sīnā's response to an objection by John Philoponus against the idea of an infinite past.[56] Ultimately, Ibn Sīnā rejects a temporally infinite series by arguing that past events do not constitute a complete and actual whole in the physical world; they are merely a successive series and only exist conceptually.

2.7. Al-Ghazālī

Abū Ḥāmid al-Ghazālī (d. 1111) developed a cosmological argument for God's existence using the argument from creation (*dalīl al-hudūth*). Being concerned with the ancient Greek philosophy of his day in denying God as the creator of the universe, al-Ghazālī wrote a critique of their views in his *Tahāfut al-Falāsifa* (The Incoherence of the Philosophers). In this work, al-Ghazali argues that the idea of a beginningless universe is plainly absurd. There must be a beginning for its cause and a transcendent creator for its existence since nothing begins to exist without any cause. His critique of the notion of an eternal universe attempts to demonstrate its incompatibility with monotheistic belief. Therefore al-Ghazālī's cosmological argument hinges mainly on the temporality of the university which attempts to establish the existence of a Necessary Being:[57]

Al-Ghazālī's argument may be formulated as follows:

i. Everything that begins to exist has a cause for its beginning.
ii. The world is something that began to exist.
iii. Therefore, the universe has a cause for its beginning, namely God.

The logical context for this syllogism in the *Incoherence* may be found in two of al-Ghazali's works; namely the *Al-Iqtiṣād fī al-Iʿtiqād* (The Moderation in Belief) and his 'Jerusalem Letter'.[58] He states that what is meant by ''world'' is every being except God;

[56] Ibid, 148.
[57] Lenn E. Goodman, "Ġẖazâlî's Argument from Creation. (I)," *International Journal of Middle East Studies* 2, no. 1 (1971): 73, https://doi.org/10.2307/162272.
[58] See Al-Ghazāli, *Al-Ghazāli's "Moderation in Belief" (Al-Iqtiṣād fī al-Iʿtiqād)* (University of Chicago Press, 2013), 99–127; Al-Ghazāli, "The Jerusalem Epistle : Imam Ghazāli Trans al Tibawi ," Internet Archive, 2018, https://archive.org/details/TheJerusalemTract/page/n3/mode/2up.

and that ‘‘every being which begins’’ refers to all bodies and their accidents.[59] Al-Ghazali’s reasoning on the finitude of the universe thus involves three simple premises which may also be presented in this manner:

i. Every being that begins to come into existence has a cause.
ii. The universe began to come into existence.
iii. Therefore, there is a cause of the existence of the universe.

This argument lays the foundation of Craig’s *Kalām* cosmological argument and is refined in a contemporary context using scientific proof of the beginning of the universe as well as further philosophical reasonings. With this reasoning, al-Ghazālī rejects Aristotle's idea on the eternality of the universe. If it is true that the universe is eternal, there exists an actual infinite series of past events, which is logically impossible. Al-Ghazālī argues that if the universe existed with no beginning, it is impossible for the present time to exist since an infinite number of past times would have to be traversed. In this way, he establishes that an actual infinite series of past events cannot exist.[60] Departing from this argument, al-Ghazālī emphasizes the divine will and creation of god. As an omnipotent and personal being, God made the choice to create the universe at a certain point in time. Hence if the universe was infinite or eternal, God’s faculty to willfully cause creation and existence would be negated, which is impossible.[61]

2.8. The Kalām Cosmological Argument

The *Kalām* cosmological argument is the modern version of the cosmological proof that was popularized by William Lane Craig, which is directly inspired by al-Ghazālī. According to Craig, the evidence that the universe began to exist rests on at least two grounds; scientific evidence for the beginning of the universe with the Big Bang theory and the impossibility of an actual infinite regress of events. In his argument, Craig restates the first premise as one prime:

[59] William L Craig, *The Kalam Cosmological Argument*, ed. John Hick (London: Macmillan, 1979), 44.
[60] Ibid, 74-75.
[61] Ibid, 81.

i. If the universe began to come into existence, then it has a cause for its beginning.
ii. The universe began to come into existence.
iii. Therefore, there is a cause of the beginning of the universe.

The key premise that Craig mainly attempts to support is the second, that the universe began to exist. This premise may be supported by philosophical and empirical reasoning.[62] The philosophical arguments are the impossibility of an actual infinite and the impossibility of an actual infinite formed by successive additions.[63] As for the former, it may be presented as follows:

i. The existence of an actual infinite is impossible.
ii. An infinite series of events with no beginning is an actual infinite.
iii. Therefore, an infinite series of events with no beginning is impossible.

The second philosophical argument in support of the premise that the universe had a beginning is that an actual infinite cannot be formed by successive additions. Syllogistically, it may be presented in the following way:

i. The series of temporal events in the universe is a set formed by successive addition.
ii. An actual infinite cannot be a set formed by successive addition.
iii. Therefore, the series of temporal events in the universe cannot be actually infinite.

Essentially, the *Kalām* cosmological argument rests on two disputes, each contributing to the strength of his argument; the principle of efficient causality and the impossibility of an infinite regress of events.[64] The first principle states that everything which began to exist must have a cause for its existence. On the basis of this Craig builds upon his argument that the universe, which has a beginning, requires a cause. The second fundamental component of the argument is the impossibility of an infinite regress of

[62] Graham Oppy, "Cosmological Arguments," *Noûs* 43, no. 1 (February 4, 2009): 189, https://doi.org/10.1111/j.1468-0068.2008.01694.x.
[63] Ibid. 65.
[64] Ibid, 63.

events in time. There cannot be an endless chain of events that goes back to infinity without a beginning. Craig argues that if the universe had an infinite past, we would not have a present moment since we cannot travel across an infinite series.

2.9. Conclusion

While the cosmological argument shares similarities with the teleological argument as a posteriori argument, its focus is on the existence of the universe as a whole and its causation. The cosmological argument on the existence of God is found in various forms and thoughts—from ancient Greek philosophy, Islamic, medieval Christian, and modern philosophy. Among the most important versions are the arguments by Thomas Aquinas, John Duns Scotus, Leibniz, William Craig, Philoponus, as well the prominent Islamic scholars which include al-Fārābī, Ibn Sīnā, and al-Ghazālī. In the next chapter, I will discuss the issue of infinite regress which arises out of the general framework of the cosmological argument. I will review the nature of infinite regress, its implications, and the perspectives of various philosophers around its possibility or impossibility.

CHAPTER III

THE INFINITE REGRESS ARGUMENT

The various formulations of the cosmological argument largely hinge on the Principle of Sufficient Reason; that everything that exists in this world must have an explanation or cause. The cosmological proof aims to argue for the necessary existence of God as the First Cause. When tracing the causal chain back to time, theists argue that it is necessary to arrive at an ultimate Uncaused Cause which is God.

i. Through empirical observation, we know that at least some things in the world are caused to come into existence.
ii. Either that some things are caused into existence by themselves, or that they are caused by something which has not itself been caused into existence by something else.
iii. If the cause has itself been caused by something else, there would be an infinite chain of causes stretching back in time.
iv. But an infinite chain of causes is absurd.
v. Therefore, there is a cause that has caused something into existence that has not itself been caused into existence by something else. This Uncaused Cause is God.

Now the most common dispute between the advocates and opponents of the cosmological proof is over premise (iv); whether an infinite chain of causes stretching back in time with no beginning is possible.[65] Hence from the cosmological argument, the problem of infinite regress arises when we challenge the idea that the temporal causal chain is finite and terminates in a First Cause:

[65] Wolfe, "Infinite Regress and the Cosmological Argument", 246.

i. If everything that exists has a cause, then the First Cause itself must also have a cause.
ii. If the First Cause has a cause, then that cause must also have a cause, and so on.
iii. If each cause has a cause, we are led to an infinite regress of causes, where every cause depends on a prior cause *ad infinitum.*

If we accept the initial premise that everything must have a cause, we cannot end the causal chain at a First Cause without contradicting the first premise. Otherwise, we are led to a paradox: either we are led to an infinite regress of causes or there is a First and Uncaused Cause. In the context of discussing the infinite regress argument, I would like to delve into the concept and definition of infinity itself.

3.1. Infinity

To discuss the concept of the infinite, it is crucial to begin with defining infinity itself. However, there have been several debates over the possibility of defining such a concept. One of the main issues is that defining something implies the action of limiting or conditioning it, while this cannot be possible for the infinite because it is something that must be unlimited and unrestricted. Hence by definition, the infinite can not be defined. Despite this, many attempts to define the infinite have been made throughout history. There is however a lack of consensus among these definitions, mainly due to the way that thinkers have concentrated on the different aspects of the infinite. The most dominating definitions among all the others are two groups of consensus; one which defines the infinite as boundless, unlimited, endless, immeasurable, something in which there is always more to come, and that which is greater than any specific quantity. This definition is largely based on a sense of potentiality, often found in logical or mathematical discussions of infinity. The second group defines the infinite as something whole, complete, universal, absolute, perfect, autonomous, and self-sufficient. These definitions are what is discussed in the metaphysical and theological discourses linked to beings of existence and God.[66]

[66] A.W Moore, *The Infinite* (Routledge, 2018), 1.

Among the earliest known references to the concept of 'the infinite' may be found in the pre-Socratic Greek works of Anaximander, who used the term *Apeiron* which refers to something that is limitless, boundless, and indefinite. According to Anaximander's definition, anything and everything can come into existence out of *Apeiron* without it being depleted.[67] While Anaximander discusses the origin of the orderly reality of the world through *Apeiron*, the pre-Socratic Zeno of Elea explores the paradoxes of infinity through the mathematical aspects of the infinite. In the subsequent period, Aristotle put forward the well-known argument about the distinction between potential and actual infinity. He contends that infinity only exists as a potential rather than actual; even though it is possible for something to be indefinitely extendable or divisible, it is a process that can never be fully completed as a whole.

Medieval thinkers such as Thomas Aquinas dealt with the concept of infinity in his discussions about the infinite nature of God. Subsequently, during the early modern period, thinkers such as Descartes, Leibniz, and Spinoza challenged the Aristotelian view of infinity and rather incorporated the concept into their metaphysical as well as mathematical thought systems. Later on, in the nineteenth century, Georg Cantor established the revolutionary concept of actual infinity through set theory. Cantor argues that infinities can vary in size and can also be consistent mathematically, solving many of the earlier debates on infinity while simultaneously provoking new questions in the mathematical systems and foundations.[68] In the Islamic world, one of the most well-known debates on the implications of infinity and its problems is one discussed by al-Ghazāli, who argues that physical infinities that are large and denumerable are impossible; an argument which I shall dive deeper into in this chapter.[69]

The discussion about the infinite in philosophical debates often does not appear without controversy. The various kinds of issues of infinity may be categorized into at least three problems:

[67] Ian Stewart, *Infinity : A Very Short Introduction* (Oxford, United Kingdom: Oxford University Press, 2017), 1.
[68] See A.W Moore, *The Infinite*, 15-126.
[69] See Graham Oppy, *Philosophical Perspectives on Infinity* (Cambridge University Press, 2006), 49.

i. Large infinities and small infinities (infinitesimals). The former is a problem in which a set has at least denumerably many elements or members. The latter are quantities or collections that are nonzero but yet lesser than any finite quantity in absolute magnitude.

ii. Denumerable infinities and nondenumerable infinities. The former is a countably infinite set that is equinumerous to natural numbers. They can be aligned with the series or set of natural numbers in a one-to-one correspondence and can be counted sequentially although the process is infinite and hence never reaches an end. The latter in contrast is a larger type of infinity since it cannot be placed in such a correspondence with the natural numbers.

iii. Theoretical (or abstract) infinities and physical infinities. Abstract infinities are the infinite collections in the possible or theoretical world or the like, such as those of numbers, propositions, sets, or properties. The latter are problems about the actual or instantiated infinities; the infinite sets of physical objects or physical quantities, and such.[70]

The problem of the infinite on which this paper is centered is the issue concerning the denumerable, large, and physical infinities that lead to an infinite regress. This is the case that many of the contradictory implications of infinity are discussed by many scholars and areas of thought. Hence it is undeniable that infinity may lead to problematic cases such as infinite sequences, causes, or events, particularly in metaphysics and cosmological arguments, including notions about causation and existence. These cases provoke the problem of an infinite regress, a controversy that can arise in various areas, primarily in arguments for the existence of God as the First Cause.

3.2. Infinite Regress

An infinite regress itself is a series of elements that are related to one another in which each element generates or causes the next member, with an existing first member in the series but no last member, hence infinite. What these elements are and their relation to one

[70] Oppy, *Philosophical Perspectives on Infinity*, 7.

another may vary; they may be elements of objects in which its members are related by an ontological dependence, events related by causation, propositions related by logical justification, facts with a relation by explanation; etc. This problem plays a crucial role in arguments for the existence of a Necessary Being or a First Cause in a chain of events or beings. Not all infinite regress are harmful; those which are benign and do not cause any problem for the theory in which they are a part. The fact that a theory causes a benign infinite regress is not considered a flaw or reason for criticism against the theory it is in.[71]

To illustrate, consider an infinite chain of natural numbers (1, 2, 3, 4, …) in mathematics. This series is a benign infinite regress because the theory of natural numbers and the infinite nature of numbers do not contradict one another; the infinite series in this context itself is not a subject to dispute nor is it a point of criticism against the theory of natural numbers. The presence of the infinite regress in this theory does not invalidate the theory itself. These are the principles of Peano's axioms for arithmetic; where zero is a natural number and that every natural number has another natural number as its successor. Two natural numbers cannot have the same successor since it would imply the two to be identical, which is absurd. However, while zero itself is not the successor of any natural number, according to the axioms it must have a successor which is a new natural number; one. The successor of zero cannot be zero itself nor can it be one, otherwise zero and one would be identical which is contradictory. The natural number one must have a new number as successor which is two, and so on, *ad infinitum*. Each natural number possesses a new successor, leading to an infinite series of natural numbers. Once again, the infinite regress brought about by Peano's axioms is not contradictory or logically problematic; it is a well-established concept in mathematics. The infinite regress that arises out of Peano's axioms is not a ground for invalidating the theory.[72] One may reject the existence of numbers themselves, which leads to rejecting Peano's axioms. However, this rejection would not lead to a valid objection to the infinite regress itself. I would argue that there is nothing problematic to the infinite series in successive natural numbers nor about infinity per se. As a matter of fact, the concept of infinity and infinite successive numbers are

[71] Ross P Cameron, *Chains of Being: Infinite Regress, Circularity and Metaphysical Explanation* (Oxford: Oxford University Press, 2022), 11.
[72] Cameron, *Chains of Being*, 11.

foundational to mathematics and science which are widely accepted and have both theoretical and practical applications. In various practical applications such as in physics, an infinite series and the concept of infinity are involved as being essential tools in different calculations and solving complex problems. Take for instance the perturbation theory in quantum mechanics, which is a method using infinite series to find an approximate solution to a problem that cannot be solved exactly. [73]

A more substantial problem of infinity concerns the physical infinities that are large and denumerable, many of which have been discussed by scholars through certain examples. The following are some of the cases and the problematic implications of physical infinities:

i. Al-Ghazāli's Argument: Suppose that the universe is infinite and that time stretches back infinitely with no beginning. If this were true, then both the Earth and Jupiter would have been orbiting around the sun for an infinite number of times; that is to say, they would have both done the same amount of rotations, which is infinite. However, this is surely a contradiction because, in one year, the Earth completes one orbit, while Jupiter takes every twelve years only to complete one orbit. Given this comparison, the Earth should have completed more amounts of rotations than Jupiter. So here is the paradox: how could both planets make the same number of rotations for an equally infinite amount of time, while one of them rotates twelve times more than the other? Al-Ghazāli concludes from this argument that this contradiction demonstrates the incoherence of large, denumerable, physical infinities and the impossibility of an infinite series of temporal events in the physical world. Hence, the universe must have a beginning point with a First Cause which is, for him, God.[74]

[73] David J. Griffiths, *Introduction to Quantum Mechanics*, Second (NJ: Pearson Education, 2005), 249–50.
[74] See Graham Oppy, *Philosophical Perspectives on Infinity* (Cambridge University Press, 2006), 8; William Lane Craig, *The Kalām Cosmological Argument* (Barnes & Noble, 1979), 46–47; J. L. Mackie, *The Miracle of Theism : Arguments for and against the Existence of God* (Oxford University Press, 1982), 92–93.

ii. Hilbert's Hotel: Suppose there is an actual hotel with an infinite number of rooms, all numbered in a sequence; room number 1, 2, 3, 4, and so on infinitely. Despite the hotel being fully occupied in every room, it can still accommodate additional guests due to the infinite amount of rooms. Whenever a new guest arrives, the proprietors of the hotel simply move the guests from room 1 to room 2, the guests in room 2 to room 3, and so on *ad infinitum.* As a result, the new guest would be able to take room 1 although the hotel had already been full. However, this is absurd; the hotel cannot accommodate any new guests if it is fully occupied. Now if an infinite number of guests turn up, the hotel could still accommodate all of them; every guest already occupying a room would be requested to move to the room which is double their current room number. Hence the guest in room number 1 moves to room number 2, while the guest in room number 2 to room number 4, the guest in room number 3 moves to room number 6, and so on infinitely. This way, the infinite number of new guests would be able to occupy all of the odd-numbered rooms, therefore showing that an infinite hotel can always accommodate an infinite number of new guests. More remarkably, even when an infinite number of guests leave the hotel, the total number of occupying guests would never decrease; the hotel remains full with an infinite number of guests. This is the paradox of physical infinities; although infinity may be logical and consistent using set theory in abstract mathematics, it leads to an absurd contradiction when applied in physical reality with objects such as hotels, celestial bodies, or even time itself.[75]

iii. Craig's Library: This thought experiment developed by William Lane Craig is another example similar to Hilbert's Hotel used to illustrate the paradox of an infinite past and physical infinities to support the *Kalām* Cosmological Argument. Suppose there is a library with an infinite amount of books that are lined up in a sequential order: book 1, book 2, book 3, book 4, and so on *ad infinitum.* The contradiction arises when we begin to remove the books. If we remove one book,

[75] See Oppy, *Philosophical Perspectives on Infinity*, 8-9; Craig, *The Kalām Cosmological Argument*, 84–85.

> the total number of books should have decreased, but this is not the case with the infinite library because it would still remain with an infinite amount of books. Even though we have removed, say book 1, it does not change the fact that the sum of books remains infinite. Suppose we remove an infinite number of all the odd-numbered books, the paradox remains the same; we are still left with infinite books. Reversely, if we add books to the infinite library, whether it is one or a few finite number of books, or whether it is an infinite number of books, the library remains infinite with its amount of books. Such is the incoherence of actual infinities and a series of infinite past events.[76]

Several other problem cases as thought experiments have been discussed surrounding the notion of an actual infinity, all demonstrating a common ground; the logical contradiction and incoherence that arises out of applying infinity into physical phenomena. There are no substantial reasons or justifications to support the possibility of an infinite series of denumerable physical entities or events. In the next section, I shall explore how the notion of infinite regress appears in various arguments and their usage in different areas of philosophy.

3.3. Infinite Regress Arguments

Arguments that deal with the problem or concept of an infinite series of causes or events are regarded as infinite regress arguments (henceforward IRAs). Such arguments are often used in epistemology, metaphysics, ethics, philosophy of mind, and philosophy of language. IRAs can be an effective tool to invalidate various theories, mainly in reasonings of justification. Many IRA cases can be found in everyday events or problems and as a result, we may be faced with many infinite regress cases of reasons, criteria, rules, connections and disputes, and many other instances, most of them leading to logical contradictions.[77] Historically since the time of the ancient Greeks, IRAs have developed and been employed to argue against numerous such cases, all of which I would argue share

[76] Ibid.
[77] Jan Willem Wieland, *Infinite Regress Arguments* (Springer Science & Business, 2014), 1.

at least two common grounds; (i) the absurdity of a regress; that if the proposed reasoning and its logical conclusion are followed and taken to be true, we are faced with a never-ending series of reasons, causes, forms, or the like. This suggests that one of the initial premises must be reevaluated, (ii) the necessity of a foundational element; that in a series of instances, there must be a beginning point element in which the same line of reasoning in the argument does not apply. This foundational element should resolve the potential for a regress.

Consider the case of several main classic examples of arguments that involve an infinite regress problem, all of which I will provide an overview in syllogistic forms as follows:

Plato's Third Man

i. Anyone is human if they partake of the Form of Humanness.
ii. Forms are distinct from anything that takes part in them.
iii. The Form of Humanness is itself ''human'' (to explain what it means to be a human).
iv. But if the Form of Humanness is itself ''human'', then it too must partake of a higher Form of Humanness.
v. There is an infinite regress of Forms of Humanness.
vi. There cannot be an infinite regress of Forms of Humanness.
vii. Therefore, it is not true that anyone is human if they partake of the Form of Humanness.[78]

Aristotle's Highest Good

i. Everything that is good is something we desire for the sake of another good thing.
ii. Every good thing is desired for the sake of another good thing.
iii. But if every good thing is desired for the sake of another good thing, there is an infinite regress of good things.
iv. An infinite regress of good things is absurd.

[78] See Samuel Scolnicov, *Plato's Parmenides* (Univ of California Press, 2003). 132 a-b, 61-62.

v. Hence, there is at least one good thing that is not desired for the sake of another good thing, which is the highest good (*eudaimonia*) which is desired for its own sake.[79]

Sextus' Reasons

i. Some propositions are justified to a person.
ii. A proposition is justified to a person only if they have a reason for it which is itself justified to them.
iii. But if every justified reason requires another reason to justify it, there is an infinite regress of justifying reasons.
iv. An infinite regress of reasons is impossible.
v. Therefore, either it is not true that all justified propositions are supported by reasons that are also justified propositions themselves, or that no proposition is justified to any person.[80]

Aquinas' Cosmological Argument

i. Every finite being has a cause.
ii. Every cause is itself a finite being.
iii. But if every finite being has a cause, and every cause has a cause, we have an infinite regress of causes.
iv. An infinite regress of causes is impossible.
v. Hence it is not true that every cause is a finite being; there is a First Cause which is neither finite nor contingent, and that is God.[81]

Hume's Induction

i. An inductive inference is justified when it is assumed that the future resembles the past.

[79] Aristotle, *Nicomachean Ethics,* trans. W. D. Ross (Massachusetts: Focus Publishing / R. Pullins Co., 2002) Book I, chapter 2, 1.
[80] Sextus Empiricus, *Outlines of Pyrrhonism-Prometheus,* trans. Robert Gregg Bury (Great Books in Philosophy, 1990), 1. 166-7, 63-64.
[81] *Summa Theologica,* book I, v. 2, sect. 3.

ii. Assuming that the future resembles the past is something that requires justification.
iii. To justify this assumption, it must be assumed that the future resembles the past.
iv. There is an infinite regress of justifications of assumptions.
v. If there is an infinite regress of justifications, any inductive inference can never be justified.
vi. Therefore, any inductive inference can never be justified.[82]

Carroll's Tortoise

i. To demonstrate that a conclusion logically follows from certain premises, the premise 'if the previously stated premises are true, then the conclusion is true' must be added.
ii. However, the additional premise does not show that the conclusion follows unless another identical additional premise is added.
iii. There is an infinite regress of additional premises.
iv. If there is an infinite regress of additional premises, one can never demonstrate that a conclusion logically follows from certain premises.[83]

An infinite regress in an argument occurs when the proposition leads to an endless chain of causation or reasoning. An IRA in one of its premises includes the following elements; (i) any statement that entails an infinite regress, (ii) any statement in an argument that triggers an infinite regress. The former may be known as the regress formula and the latter the triggering statement.[84] The regress formula is one or more statements that imply an infinite regress and it is usually a recursive universally quantified proposition; it is applicable repeatedly and universally. Whereas the triggering statement is what induces or prompts an infinite regress in which when combined with the regress formula, it initiates the infinite chain. Given this structure of IRAs, it is crucial to note that an infinite regress itself and by itself does not prove or disprove anything; it must be a component of

[82] See David Hume, *An Enquiry Concerning Human Understanding*, ed. Peter Millican (Oxford: Oxford University Press, 2007), xxxvii–xxxix.
[83] See Lewis Carroll, "What the Tortoise Said to Achilles," *Mind* IV, no. 14 (1895): 278–80, https://doi.org/10.1093/mind/iv.14.278.
[84] Claude Gratton, "What Is an Infinite Regress Argument?," *Informal Logic* 18, no. 2 (January 1, 1996), https://doi.org/10.22329/il.v18i2.2380.

a larger argument in which additional premises are combined with the regress formula and triggering statement to arrive at a conclusion.[85]

For instance, consider an infinite regress of justifications. The regress formula is ‘‘every belief requires a justification’’, and the triggering statement is ‘‘belief x is held’’, where belief x is some certain belief. Combining these two ingredients, we arrive at an infinite series of justifications, since if every belief demands a justification and belief x is held, then belief x also requires a justification. Every justification is itself a belief that further requires another justification, and so on infinitely. To illustrate, I shall display the argument as follows:

i. Every belief requires a justification.
ii. Belief ‘x’ is held.
iii. Belief ‘x’ requires a justification. (from i and ii)
iv. A belief without a final justification is irrational.
v. An infinite chain of justification implies the absence of a final justification for belief ‘x’.
vi. Hence, belief ‘x’ (or any other belief in an infinite regress of justifications), is irrational, and cannot be held. (from iv and v)

In this argument, it is implied that an infinite regress of justification is vicious since the conclusion argues that such a regress of beliefs cannot be rationally held. This form of IRA is vicious since it leads to an absurd conclusion that belief ‘x’ is irrational due to the non-existence of a final justification in the series. Therefore, in this case, the infinite regress itself is what leads to irrationality. This reveals the problem of infinite regresses in matters of justifying beliefs.

In the case of an infinite regress of causes in IRAs and its usage in the cosmological argument, ‘‘everything has a cause’’ is the regress formula and the triggering statement is

[85] Anna-Sofia Maurin, ‘‘Infinite Regress - Virtue or Vice?’’ in *Hommage à Wlodek. Philosophical Papers Dedicated to Wlodek Rabinowicz.* Ed. T. Rønnow-Rasmussen, B. Petersson, J. Josefsson & D. Egonsson, 2007, 1, www.fil.lu.se/hommageawlodek.

‘‘y exists’’ (y representing some event or entity). The infinite series of causes that we can derive from the merging of these two components is the argument that *if* everything has a cause and ‘y exists’, then ‘y’ must have a cause which also possesses another cause, and so on infinitely.[86] Although now we are led to an infinite regress, the argument requires additional premises in order to be meaningful and result in either a vicious or virtuous IRA. In the case of an IRA in a cosmological argument, the additional premises would be ‘‘An infinite regress of causes implies an actual infinity’’, ‘‘An actual infinity is impossible’’ and ‘‘If an actual infinity is impossible, there must exist a First Cause’’.[87] Pertaining to the cosmological argument which argues for God to be the First Cause, the infinite regress of causes may be outlined as follows:

i. Everything has a cause.
ii. Entity ‘y’ exists.
iii. Therefore, ‘y’ has a cause. (from i and ii)
iv. If ‘y’ exists, then the cause of it must have too, leading to an infinite regress of causes.
v. An infinite regress of causes implies an actual infinity.
vi. An actual infinity is impossible.
vii. Hence, an infinite regress of causes is impossible. (from v and vi)
viii. If an infinite regress of causes is impossible, there must exist a First and Uncaused Cause.
ix. The First and Uncaused Cause is God.
x. Therefore, God exists. (from viii and ix)

By conjoining the regress formula and triggering statement with the principle of the cosmological argument, which is that an infinite regress of causes, in reality, cannot exist, we are led to the conclusion that the impossibility of an actual infinity necessitates the existence of an ultimate cause which is identified as God.[88] The additional or subordinate arguments serve to demonstrate why the infinite regress conclusion derived from the

[86] Maurin, ‘‘Infinite Regress - Virtue or Vice?’’, 1.
[87] Ibid, 3.
[88] Ibid, 1-3; Craig, *The Kalām Cosmological Argument*, 63–69.

premises leads to a vicious conclusion, which as a result justifies the rejection of the argument's initial infinite regress formula. This provides rational proof for God's existence by rejecting the infinite regress by demonstrating its viciousness.

In the forthcoming chapter, I shall turn to examine the concept of infinite regress (*tasalsul ilā ghayr al-mutanāhī*) in al-Ījī's *Mawāqif*; the central part of his argument against an endless chain of causes and effects as well as against a beginningless universe, to demonstrate a First Cause.

CHAPTER IV

AL-ĪJĪ AND THE PROBLEM OF INFINITE REGRESS IN AL-MAWĀQIF

This chapter discusses the life of and works of ʿAḍud al-Dīn al-Ījī, his scholarly journey, and his Five Reasons argument against infinite regress. In his most celebrated work, *al-Mawāqif,* al-Ījī critically addresses the problematic nature of an infinite regress of causes and effects (*tasalsul al-ʻilal wa al-maʻlūlāt*). His rejection of the concept of an infinite chain of causes is arguably one of al-Ījī's significant lines of reasoning in the Islamic cosmological argument. As an Ash'arite *Kalām* scholar, al-Ījī defended the idea of the temporality of the universe (*ḥudūth al-ʻālam*) to arrive at the existence of an Ultimate Cause of the world.

4.1. ʿAḍud al-Dīn al-Ījī

Abū al-Faḍl ʿAḍud al-Dīn ʿAbd al-Raḥman b. Aḥmad b. ʿAbd al-Ghaffār al-Ījī (d. 756/1355) was born near Shiraz in the city of Īj in the Fārs province, Iran in around 680/1281.[89] According to van Ess, the later dates of al-Ījī's birth such as 708 or a period after 700 mentioned by Arab biographers Ibn al-'Imād, Ibn Ḥajar, Suyūṭī, and others, are patently inaccurate.[90] Al-Ījī belonged to a wealthy family whose lineage traced back to Abū Bakr (d. 13/634), the second caliph of Islam. Al-Ījī's father was a respected jurist (*qāḍī*) in the town where al-Ījī was born. In the fourteenth century of the thriving tradition of Islamic thought, al-Ījī was a renowned Persian Ash'ari theologian and Shāfi'ī scholar

[89] Tahsin Görgün, "ÎCÎ, Adudüddin," TDV İslâm Ansiklopedisi, accessed April 27, 2024, https://islamansiklopedisi.org.tr/ici-adududdin.

[90] Josef van Ess, ''Aẓod-al-Dīn Ījī,'' Encyclopaedia Iranica Foundation, August 18, 2011, https://www.iranicaonline.org/articles/azod-al-din-iji.

of his time.[91] Among his teachers were Fakhr al-Dīn al-Jārbardī/Çârperdî (d. 746/1346) [92], who studied under Qāḍī Bayḍawī (d. 1319) and also Qutb al-Dīn al-Shirāzī (d. 1311), who was a student of Naṣīr al-Dīn al-Ṭūsī (d. 1274). While learning with al-Jārbardī, al-Ījī began holding different opinions from his teacher, and their discussions became well-known among the scholarly communities. Al-Īji had also encountered in his life the prominent Persian jurisconsult and theologian Abū Isḥāq Ibrāhīm ibn ʿAlī al-Shīrāzī (d. 1083) as well as the famous poets Hāfiz al-Shirāzi (d. 1390) and ʿUbayd Zākānī (d. 1370).[93] On account of al-Īji being an exceedingly knowledgeable scholar of his time in Fārs, Hāfiz describes him as among the five important figures who have developed the Persian world and named al-Īji the ‘‘sultan of sultans of the land of knowledge’’[94] or ‘‘the King of Learning’’ in his Dīvān.[95] ‘Ubayd also mentioned al-Īji through some facetious anecdotes in his *Ḥikāyāt-i fārsī.*[96]

After growing up in his birth town, al-Ījī first visited Shiraz. Later in 706/1306, he traveled to Sultaniye under the protection of the influential vizier Rashīd al-Dīn Faḍlullāh Hamadānī (d. 1318), the vizier of the Ilkhanid dynasty rulers Ġāzān Khan (d. 1304) and Öljaitü (d. 1316). By the time al-Ījī arrived in Sultaniye, the city had just been designated by the eighth Ilkhanid ruler Öljaitü as the new capital of the empire. Meanwhile, his older contemporary, ibn al-Fuwaṭī (d. 1323) who also visited the same city, claimed that al-Ījī began adopting wrong views in the Islamic creed (*ʿaqīdah*) and developed unfavorable habits in Sultaniye, although having studied science, philosophy and literary sciences in the city with Rashīd al-Dīn. Ibn al-Fuwaṭī also reported in his *Majmaʿ al-ādāb fī muʿjam*

[91] Feryal Salem, "Ṭaşköprüzāde Ahmed Efendi's Commentary on the Ethical Philosophy of ʿAḍud al-Dīn al-Ījī: Theory and Praxis of Muslim Philosophical Ethics in the Sixteenth Century [شرح طاشكبري زاده أحمد الفلسفية الإسلامية تنظيرا وتطبيقا في القرن العاشر الهجري/السادس عشر أفندي على الفلسفة الأخلاقية لعضد الدين الإيجي: الأخلاق الميلادي]", *Journal of Islamic Ethics* 6, 2 (2021): 3, doi: https://doi.org/10.1163/24685542-12340065.

[92] Named after the settlement Çârperd (Cârberd) in the Arrân region, Abū al-Makārim Fakhr al-Dīn Ahmad ibn al-Hasan ibn Yūsuf was a shafi'i jurist and linguist. He was born in 664 (1265). Later, he settled in Tabriz, where he studied science and dedicated his life to teaching until the end of his life. See Mehmet Şener, "ÇÂRPERDÎ," TDV İslâm Ansiklopedisi, accessed April 30, 2024, https://islamansiklopedisi.org.tr/carperdi.

[93] Van Ess, ‘‘'Aẓod-al-Dīn Ījī’’.

[94] From the Turkish translation,‘‘*Birisi de bilgi ülkesinin padişahlar padi- şahı olan Adud...*’’, see Hafız Şirazi, *Hafiz Divanı,* trans. Abdülbâki Gölpınarlı (Istanbul: MEB Yayınları, 1992), 537.

[95] See Ḥāfiẓ, *The Dīvān-i-Hāfiz,* trans. H. Wilberforce Clarke (Maryland, USA: Ibex Publishers, 1997), 936.

[96] P. Atābakī ed., *Kullīyāt-i ʿObayd-i Zākānī* (Tehran: 1321 Š./1942), 311ff, cited in Van Ess, ‘‘'Aẓod-al-Dīn Ījī’’.

al-alqāb[97] about al-Ījī's dissolute behavior which has caused him to be removed from the court to Kermān, including having conflict with his father. However, it is quite likely that al-Fuwaṭī put forward such allegations in order to accuse al-Ījī who prevented him from acquiring a position in the Ilkhanid palace.[98]

During the reign of Öljaitü, al-Ījī served as a judge (*qāḍī*) in Sultaniye and also taught at a mobile *madrasa* (*madrasa-ye sayyāra*). The ancient Persian historian Hāfiz-i Abru (d. 1430) pointed out in a passage in his *Majmaʿal-Tawārīkh* that al-Ījī was a notable teacher at the mobile *madrasa*. The *madrasa* was established by the Ilkhanid ruler on the recommendation of vizier Rashīd al-Dīn. A few years later in around 719/1319, the vizier mentions al-Ījī again in his will, associating him with two *madrasas* in Shabankara, which then provided a significant amount of endowment (*waqf*) income allocated to al-Ījī and his sons.[99] After Öljaitü's death, his son Abū Saʿīd Bahadur Khān (d. 1335) became the chief judge of Sultaniye. Consequently, al-Ījī left his duty in Sultaniye and returned to Shiraz in 727/1327 to work there as a *qāḍī*. This was upon the request of Rashīd al-Dīn's son, Ghiyāth al-Dīn (d. 1336), who became the next vizier after his father's death. However, it is not known how long al-Īji served his jurisdiction duty in Shiraz; some sources state that he left the city after some time and spent a period of his life in Shabankara. Eventually, al-Ījī returned to the capital when he was appointed as the *qāḍī al-mamālik* ('supreme judge') of the empire by Abū Saʿīd Bahadur Khān. This promotion was attributed to al-Ījī to the fact that Abū Saʿīd no longer followed the Shi'ite belief system; unlike his father Öljaitü who had adhered to it. We know from Shi'ite sources that al-Ījī had been devoted to defending the Sunnite creed; this fact is found in the *Majālis al-Mu'minīn* written by the philosopher and Shi'ite theologian Qāḍī Nur-al-Dīn Šūštarī (d. 1339), including in the *Rawḍāt al-Jannāt* by Moḥammad-Bāqir Khānsārī (d. 1923).[100] In 736/1335, the death of Abū Saʿīd and the execution of Ghiyāth al-Dīn led to al-Ījī losing his position as *qāḍī al-mamālik.* After spending some years in Shabankara, he traveled

[97] Mostafa Jawad, ed., *Majmaʿ al-ādāb fī moʿjam al-alqāb* (Damascus: 1962), IV, 1, 444f. no. 634, cited in van Ess, ''Aẓod-al-Dīn Ījī''.
[98] Josef van Ess, "Neue Materialien zur Biographie des Adudaddīn al-Igī", *Die Welt des Orients* 9, 2 (1978): 272.
[99] Van Ess, ''Aẓod-al-Dīn Ījī''.
[100] Ibid.

back to Shiraz where he earned the honorary title *qāḍī al-quḍāt* (‘chief judge’)[101] upon joining the court of the governor of Fārs of that time, Īnjū Abū Isḥāq (d. 1321).

After 750/1350, Abū Isḥāq’s freedom of power and influence became restricted by the expansion of Mubāriz-al-dīn Muḥammad (d. 1363), the founder of the Muzaffarid dynasty who had already made himself the master of Shabankara years prior. Therefore, he resolved to send al-Ījī to negotiate with Mubāriz-al-dīn. Although al-Ījī’s arrival was accepted with great respect, the mission to address the situation diplomatically had failed—Mubāriz-al-dīn was firm on his position. Despite the negotiation failure, al-Ījī considerately received Mubāriz-al-dīn in Shabankara as his guest before returning to Abū Isḥāq. The Muzaffarid dynasty continued to expand further and besieged Shiraz in 754/1353, but al-Ījī managed to flee the city in secret. About a year later, after a rebellion that took place in favor of Abū Isḥāq, Mubāriz-al-dīn’s son Shah Šojāʿ visited al-Ījī in Shabankara, where al-Ījī eventually retired. However, he was eventually caught and imprisoned inside the Deraymīān fortress at Īj due to the rebellion that had already occurred against the Muzaffarids. Other sources report that it was the rebel and the last *atābak* (governor) of Shabankara, Malik Ardašīr, who had sent al-Ījī to prison, where he died there shortly after in 756/1356.[102]

Al-Ījī’s works include a vast range of fields including Arabic grammar, Islamic law, *tafsīr* (qur’anic exegesis), ethics, and rhetoric. However, his arguably most celebrated contributions are his writings on philosophy and theology. His works and views were highly sought by a great number of students and scholars; this is evident from the many commentaries and annotations written on his works.[103] The works of al-Ījī were not mainly original, yet they served as systematic guides for teaching in the *madrasa* and were mainly

[101] This honorary title would be given to the judge of the capital city. In later periods, the *qāḍī al-quḍāt* was the top manager of the state's judicial organization in the country or region. See Şükrü Özen, “KĀDILKUDÂT,” TDV İslâm Ansiklopedisi, accessed April 29, 2024, https://islamansiklopedisi.org.tr/kadilkudat.
[102] Van Ess, ‘‘ʿAẓod-al-Dīn Īǰī’’.
[103] Ömer Türker, “Kelâm Geleneğinde Adudüddin el-Îcî: Kelâmın Bilimsel Kimliği Sorunu” in *İslâm İlim ve Düşünce Geleneğinde Adudüddîn el-Îcî*, ed. Eşref Altaş (Ankara: İSAM Yayınları, 2017), 299, cited in Mehmet Akif Ceyhan, “Adudüddîn El-Îcî’nin Bilgi Teorisi”, *Eskiyeni* 43 (March 2021), 145-166. https://doi.org/10.37697/eskiyeni.844941.

valued for their structure and clarity. His writings were among the persisting works despite the Mongol invasion and have further inspired a large number of commentaries, but most have not yet been thoroughly studied. According to Van Ess, the best bibliographical surveys about al-Ījī and his works are written by Carl Brockelmann and A. Ateş.[104] In theology (*Kalām),* al-Ījī's most important works include; (i) *Al-Mawāqif fī ʿilm al-Kalām* ('Positions in the science of *Kalām*')*;* which may have been composed before 730/1330. Numerous scholars have commented on the work and many of the manuscript copies including its commentaries and annotations are still available today. (ii) *Jawāhir al-'Ulūm fī al-Kalām* ('Essences of Knowledge in *Kalām*'), a work structured after the same pattern and content of the *Mawāqif,* only shorter but not to be deemed synonyms to its summary. According to Van Ess, the precise connection between these two works is yet to be examined.[105] The *Jawāhir* was dedicated to Ghiyāth al-Dīn and was later commented upon for the Muzaffarid ruler Quṭb-al-dīn Shah Maḥmūd (d. 1375) in 770/1368.[106] (iii) *Al-ʿAqāʾid al-ʿAḍudīya* ('The Doctrines of Aḍud'), a short catechism which al-Ījī completed twelve days before his death. It is a concise treatise (*risāla*) that comprises the doctrines and consensus of beliefs (*'aqā'id*), composed for the purpose of study and memorization in the *madrasas.* In jurisprudence (*fiqh*), al-Ījī's works comprise the following; (i) *Sharhu Mukhtaṣar al-Muntahā,* a commentary written on the prominent Māliki jurist Ibn Ḥājib's *al-Muntahā'l-su'll wa'l-'amal fī ʿilmay al-uṣūl wa'l-jadal,* on the subject of *uṣūl al-fiqh* (principles of jurisprudence) and dialectics. The work was finished in 734/1334 and attracted the attention of multiple scholars. Ibn Ḥājib (d. 1249) had relied on al-Āmidī (d. 1233)'s *al-Iḥkām fī uṣūl al-Aḥkām* ('Judgement on the Principles of Law') as the foundation of his own work.[107] Although both were Mālikites, the difference of *maḏhab,* contrary to al-Ījī who was a Shāfi'i, was of no great importance to his work. (ii) *Risāla fī ādāb al-baḥth* ('Treatise on the Conduct of Disputation'), a work which also addresses the

[104] See Carl Brockelmann, *Geschichte Der Arabischen Litteratur, Vol. 2* (Leiden: E. J. Brill, 1943), 267; A. Ateş, "Îcî," in *İslam Ansiklopedisi Vol. 5,* (Istanbul: MEB, 1987), 921, cited in Van Ess, ''ʿAẓod-al-Dīn Ījī''; Brockelmann, *GAL vol. 2,* Internet Archive, 287, https://archive.org/details/in.gov.ignca.10051/page/n289/mode/1up;
[105] Van Ess, ''ʿAẓod-al-Dīn Ījī''; Görgün, "ÎCÎ, Adudüddin".
[106] See Brockelmann, *GAL vol. 2,* 270; ed. Abu'l-ʿ Alāʾ ʿ Afīfī, *Majallat Kullīyat al-Ādāb bi-al-Jāmi'ah al-Misrīyah II* (Cairo: 1934), 133, cited in Van Ess.
[107] Brockelmann, *GAL vol. 1* (Leiden: E. J. Brill, 1902), 494; Brockelmann, *GAL Supplement vol. 1* (Leiden: E. J. Brill, 1937), 678.

subject of dialectical disputation. It is crucial to note that in spite of al-Ījī being the supreme judge, he did not write anything on the *furū',* the ancillaries, or the practical rulings of Islam. This may have been due to the mixture of both the Mongol and Muslim law that was prevalent during the later Ilkhanid empire, suggesting a sense of al-Ījī's restraint in the empire's intellectual environment.[108] In *tafsīr* (qur'anic exegesis), al-Ījī wrote the *Taḥqīq al-tafsīr fī takṯīr al-tanwīr*, a commentary on Bayḍāwī's *Anwār al-tanzīl wa asrār al-taʾwīl.* [109] Although the focus of the work is based on linguistics and the philosophy of language, it also delves into the philosophical issues related to *fiqh* and theology. Al-Ījī also wrote an annotation to *Al-Kashshāf* by al-Zamakhsharī (d. 1143), in which a copy of it is available today in the Süleymaniye library.[110] In ethics, he composed *al-Risāla al-Shāhīya fī ʿilm al-Akhlāq* ('The Noble Treatise on the Science of Ethics'), dedicated to Abū Isḥāq Īnjū.[111] The work deals with individual ethics, politics, and economics; the three branches of practical philosophy in alignment with the Greek model. The Sunni scholar Shams al-dīn al-Kirmānī (d. 1348) wrote the earliest commentary on this book. In rhetoric and linguistics, al-Ījī wrote the following three; (i) *Al-fawāʾid al-ghīyāthīya*, a summary of section III of the *Miftāḥ al-ʿulūm* ('The Key to Knowledge') by the famous scholar and rhetoric al-Sakkākī (d. 1228-1229). This section discusses the three essential pillars of Arabic rhetoric (*balāgha*); *al-maʾānī* (meanings), *al-bayān* (eloquence), and *al-badī'* (figures of speech). The work was dedicated by al-Ījī to the vizier Ghiyāth al-dīn.[112] Commentaries on this book were written by the famous Ottoman scholar and historian Taşköprizâde Ahmet (d. 1561) in 1314, the Indian scholar Molla Mahmūd al-Fārūqī in 1331/1913, including al-Kirmānī.[113] (ii) *Al-madkhal fī 'ilm al-maʾānī wa al-bayān wa al-badī'* ('Introduction to the Science of Meaning, Clear Speech and Figurative Style').[114] (iii) *Al-risāla al-waḍ'iyya al-'aḍudiyya*, a short treatise of one and a half pages on the *'ilm al-waḍ';* the relation between expression and meaning,

[108] Van Ess, ''Aẓod-al-Dīn Ījī''.
[109] See Brockelmann, *GAL vol. 2,* 267.
[110] Görgün, "İCİ".
[111] Ibid, 270, cited in Van Ess.
[112] Ibid, 271, cited in Van Ess; Görgün, "İCİ".
[113] Görgün, "İCİ"; Brockelmann, *GAL Supplement vol. 2,* Internet Archive, 292-293, https://archive.org/details/in.gov.ignca.10051/page/n315/mode/1up.
[114] Brockelmann, *GAL vol. 2,* 270.

particularly concerning technical terms in speech.[115] Al-Ījī attempted to establish a logic-based foundation of language, as later the logical positivists, especially Rudolf Carnap (1970), sought to do the same in his *Logische Syntax der Sprache.* In the first section of the treatise, al-Ījī discusses the relationship between language and existence on the basis of logic, establishing a logical classification. The second section points out that the classification should be in relation to existence, and the last elaborates that this relation is linked to a basis or principle. Various commentaries and annotations have been written on this treatise including by the *Kalām* scholar Muḥammad ibn Ahmad al-Dasūqī (d. 1230/1815) and al-Ḥifnī (d. 1181/1767).[116] In historiography, al-Ījī authored a brief overview of historical events pertinent to theologians, titled *Ashrāq al-Tawārīkh.* The book contains an introductory section about the lives of prophets from Ādam all the way to ʻĪsā, followed by the three main chapters on the prophet Muḥammad, the *al-ʿAshara al-Mubashshara* (the ten to whom Paradise was promised), as well as on the most important religious figures from among the Companions until al-Ghazāli.[117] Al-Ījī had also written a treatise on political science titled *al-Akhlāq al-ʾAḍudiyya*, on which Taşköprizāde wrote a commentary.[118] Al-Ījī's works left a lasting impact on the Islamic as well as the Ottoman thought and understanding of science; his works were taught as textbooks in schools for many centuries. The system that was established by al-Ījī in his *Mawāqif* is the basis for both theology and other sciences, from which all of the commentaries and annotations have been written.[119]

Among Al-Ījī's students was the Sunni scholar Shams al-Dīn al-Kirmānī (d. 1384/1385) who wrote a commentary (*sharḥ*) on Al-Ījī's *Mawāqif* and *Fawāid.* The notable scholars of theology who also studied under Al-Ījī were Al-Sharīf al-Jurjānī (d. 816/1413) and Saʿd al-Dīn al-Taftāzānī (d. 792/1390). Al-Taftāzānī who is considered the most important student of Al-Ījī, wrote an annotation (*ḥāshiya*) for the *Sharḥ al-Mukhtaṣar.* Al-Jurjānī wrote a commentary also on Al-Ījī's *Mawāqif* as well as *Jawāhir al-Kalām,* including

[115] Ibid, 268.
[116] Görgün, "ÎCÎ".
[117] Van Ess, ''ʿAẓod-al-Dīn Ījī''.
[118] Görgün, "ÎCÎ".
[119] Josef van Ess, *Die Erkenntnislehre Des 'Adudaddin Al-Ici* (Otto Harrassowitz Verlag, 1966), 38–39.

annotations (*ḥāshiya*) on the *Sharḥ al-Mukhtaṣar.*[120] The *Kalām* texts and commentaries of both al-Jurjānī and al-Taftāzānī were studied comprehensively and discussed among knowledgeable groups across the Ottoman lands, the very milieu that gave rise to the works of Ṭaşköprūzāde.[121]

4.2. Al-Ījī's Kitāb al-Mawāqif

The *al-Mawāqif fī ʿilm al-Kalām* is the most important text by al-Ījī on rational theology (*Kalām*) of the post-classical Sunnī tradition, written based on a synthesis of *Kalām* and Arabic philosophy (*falsafa*). This hybrid genre was first found in the works of al-Ghazālī (1058-1111) and Fakhr al-Dīn al-Rāzī (1149/1150-1209).[122] In the Ottoman madrasas and the Islamic capital cities, the *Mawāqif* was the central component and a foundational text for learning. Alongside the *Mawāqif,* its most well-known commentary, the *Sharḥ al-Mawāqif* of Sayyid Sharīf al-Jurjānī (1340-1413) was also studied in the Ottoman madrasa curriculum.[123] In this work, al-Ījī**'** carefully attempts to discuss the doctrines of *Kalām* and *falsafa* on theories in metaphysics, epistemology, revealed theology, morality, and human nature (anthropology).[124] It is fair to say that one of the purposes of al-Ījī writing the *Mawāqif* was to demonstrate the systematic nature of *Kalām* as an equally rigorous discipline as philosophy. The doctrines and specific arguments in the *Mawāqif* are presented in such a way that they are made for specific positions while their weaknesses are also revealed through objections. Critiques towards the different positions of *Kalām* schools as well individual *mutakallimūn* are put forward by al-Ījī in the *Mawāqif,* making it evident of his commitment to the doctrines of the Ash'arī *Kalām.* Al-Ījī's criticisms of specific premises or conclusions in his attempt to object to certain positions are written in a concise yet often obscure manner. As a result, commentaries to the *Mawāqif* are vital

[120] Görgün, "ÎCÎ''.
[121] Salem, "Ṭaşköprüzāde Ahmed Efendi's Commentary'', 4.
[122] See Frank Griffel, *The Formation of Post-Classical Philosophy in Islam* (Oxford University Press, 2021), on the development of post-classical Islamic philosophy.
[123] See Alnoor Dhanani, "*Al-Mawāqif Fī ʿIlm Al-Kalām* by ʿAḍuḍ Al-Dīn Al-Ījī (d. 1355) and Its Commentaries" in Khaled El-Rouayheb and Sabine Schmidtke (eds.), *The Oxford Handbook of Islamic Philosophy* (New York: Oxford University Press, 2017), 375.
[124] Chowdhury, "A Short Commentary on the Doctrine of Resurrection from ʿAḍuḍ Al-Dīn Al-Ījī's *Al-Mawāqif Fī ʿIlm Al-Kalām*," n.d., 2.

for comprehending and analyzing the arguments.[125] Hence my use of al-Jurjānī's *Sharḥ al-Mawāqif* for deciphering al-Ījī's arguments and writing this research which otherwise would have been barely feasible to analyze the text.

The book *al-Mawāqif fī ʿilm al-Kalām* covers a wide range of topics, divided into six ''positions'' or ''stations'' (*mawqif*, pl. *mawāqif*). Each *mawqif* is divided into several sections or observations (*marṣad,* pl. *marāṣid*), which consist of discussion topics called the ''aims'' (*maqṣad,* pl. *maqāṣid*). The First Station is centered on epistemology and logic. The Second Station is devoted to discussions of essence, existence, and nonexistence; that is, the existents in the *Kalām* ontology which includes God as the Necessary Existent (*wājib*), accidents (*a'rād*) and atoms (*jawāhir*). The Third and Fourth Stations are the two sections focused on metaphysics and natural philosophy, exploring the inherent accidents which are the secondary qualities of objects as well as the substances or atoms. The Fifth Station is on natural theology which involves both the attributes of God in Himself as well as those which are manifested through His activity in the world. The Sixth Station discusses topics of revealed theology; prophecy, resurrection, post-prophetic leadership views, belief and unbelief in religious dispositions, as well as about Muslim sects.[126]

The problem of an infinite series of causes and effects (*al-tasalsul ilā ghayr al-nihāya*) is discussed intensively by al-Ījī in the Second Station under the Fifth Section or Observation (*marṣad*). Since cause and effect are among the comprehensive accidents by way of correspondence, such as possibility and necessity, they are discussed in the Second Station about the general matters, under which there are ten aims.[127] This section addresses the overall topic of cause (*'illa*) and effect (*ma'lūl*) in causality and is divided into ten Aims (*maqāṣid*). Each Aim (*maqṣad*) individually breaks down the doctrines of causality and explores the notions of necessary existents, cause and effect, and infinity, including the

[125] A. Dhanani, "*Al-Mawāqif Fī ʿIlm Al-Kalām* by ʿAḍuḍ Al-Dīn Al-Ījī (d. 1355) and Its Commentaries", 376.
[126] A. Dhanani, "*Al-Mawāqif Fī ʿIlm Al-Kalām* by ʿAḍuḍ Al-Dīn Al-Ījī (d. 1355) and Its Commentaries", 377.
[127] Al-Jurjānī, *Sharh al-Mawāqif (Mevâkıf Şerhi) Vol. 1,* trans. Ömer Türker, (Istanbul: 2015), 840-841.

arguments put forward by the philosophers. The topic of infinite regress (*al-tasalsul*) is discussed in the eighth Aim titled 'An Infinite Series is Impossible' (*al-Tasalsul Muḥāl*). It is in this segment where al-Ījī puts forward the argument that a chain of causes and effects stretching back infinitely in time is impossible, and outlines his Five Reasons for it. Before we review the Five Reasons, I will give a brief overview of the concept of *al-tasalsul* itself; the underlying core of al-Ījī's entire argument on an infinite regress.

4.3. The Concept of Tasalsul

The term *al-tasalsul ilā ghayr al-nihāya* (short: *tasalsul*) in its literal form means ''the sequence of elements joined together like a chain extending infinitely''. It refers to the concept of infinite regression in theological and philosophical discussions; the causal relationship of the chain of objects or events continuing backwards in time infinitely.[128] The concept *al-tasalsul* is derived from the root word *salsala,* which means ''to join the parts of something together like a chain'', hence the Arabic word *silsila* meaning ''chain''. Therefore technically, *tasalsul* means ''to continue one after another without interruption''.

Islamic scholars have attached great importance to this concept due to its implication and proof of the existence of Allah the Almighty God. They contend that the existence of the chain of causes and effects in the world directly implies that there must exist a necessary First Cause. Every event and contingent being must be based on a cause; otherwise, there would be a circularity (*dawr*), where two beings are the cause of each other's creation, or the chain of causes and effects in succession would continue backward in time infinitely, in which both cases are impossible.[129] Although succession may also be called '*dawr bāṭil*'[130] in terms of its similarity and relation to the concept of circularity, they are not identical terms. Circularity refers to the notion that all contingent beings are brought into

[128] Almaany Team, "التسلسل إلى غير النهاية - Translation and Meaning in All English Arabic Terms Dictionary," www.almaany.com, accessed August 29, 2024, https://www.almaany.com/en/dict/ar-en/.
[129] Osman Demir, "Teselsül" TDV İslâm Ansiklopedisi, 2024, https://islamansiklopedisi.org.tr/teselsul.
[130] See Ismail Fenni Erturul, *Lugatçe-i felsefe,* Internet Archive, 90, https://archive.org/details/luateifelsefe00ertu/page/87/mode/1up.

existence by each other; they exist through a mutual causal relationship to one another, where for instance A is caused by B, and B causes A. Whereas in succession, the causal chain progresses in a sequence where an effect is caused by the element which comes before it, while also being the cause of the element that comes after it.[131] The concept of *al-tasalsul* corresponds to the problem of an infinite chain of successive events which al-Ījī argues is impossible.

4.4. Al-Ījī's Argument on Infinite Regress: Arabic Text and English Translation of Mawqif II, Marṣad V, Maqṣad VIII

The following is the translated text from the original primary source, *al-Mawāqif*, on the second *mawqif*, fifth *marṣad,* and eighth *maqṣad*, about al-Ījī's Five Reasons or arguments against infinite regress.

The Second Position	**الموقف الثاني**
On general matters, that is, what is not specific to any of the necessary categories of existence, which is the necessary, the essence, and the accident. We have mentioned each of these in their chapters, which include an introduction and several observations.	في الأمور العامة أي ما لا يختص بقسم من أقسام الموجود، التي هي الواجب والجوهر والعرض. إذ قد أوردنا كلا من ذلك في بابه، وفيه مقدمة ومراصد
The Fifth Observation on causes and effects, and it has several aims.	**المرصد الخامس** في العلة والمعلول وفيه مقاصد.
The Eighth Aim: An infinite chain of causes and effects, in which the contingent cause is based on a cause, and that cause to a cause, and so on *ad*	**المقصد الثامن :** التسلسل محال ، وهو أن يستند الممكن الى علة، وتلك العلة الى

[131] Demir, "Teselsül".

infinitum, is impossible, for the following reasons:

علة، وهلم جرا، إلى غير النهاية لوجوه:

The First: The entirety of this chain - that is, such that nothing else is included into the chain and nothing is excluded from it - is not non-existent, otherwise it is the absence of a part (of the chain). And it is assumed that nothing other than the parts of which each one exists is included, so it (the infinite chain) exists, since there is no intermediary, but it (the chain) is not necessary due to its need for every part; therefore it is contingent, and it has an external cause. Since the creator of a thing is neither itself nor any of its parts, and it (the creator of a thing) did not create itself but it creates a part, for if all of the parts were created by other than it, then the whole would be created by other than it, and there would be no cause, so that part (of the chain) would not be based on a cause that is within the chain, and this is contradictory to what is assumed.

الاول : جميع تلك السلسلة - أي بحيث لا يدخل فيها غيرها ولا يخرج عنها شيء منها - ليس بمعدوم، والا فبعدم جزء، والمفروض عدم دخول غير الاجزاء التي كل واحد منها موجود، فهو موجود، إذ لا واسطة، وليس بواجب لاحتياجه الى كل جزء؛ فهو ممكن، فله علة خارجة؛ اذ الموجد للشيء لا يكون نفسه ولا شيئا من أجزائه، و لا أوجد نفسه وأنها توجد جزءا، فان جميع الاجزاء لو وقع بغيرها كان المجموع واقعا بغيرها، فلم تكن علة، فلا يكون ذلك الجزء مستندا الى علة داخلة في السلسلة؛ وهو خلاف المفروض.

The Second: Suppose assume from one effect, a whole chain infinitely, and from what precedes it by a finite, we suppose another whole chain infinitely. Then we correspond the two whole (chains) from

الثاني : أنا نفرض من معلول ما الى غير النهاية جملة، ومما قبله بمتناه الى غير النهاية جملة أخرى، ثم نطبق الجملتين من ذلك

that beginning point, so the first with the other first and the second with the other second, and so on. If the counterpart of each part of the excess is one of the incomplete chain, then the incomplete chain would be equal to the excess chain. This would be a contradiction, since there is a part in the excess chain which has no counterpart to it from within the incomplete chain, and so at this point the incomplete chain is discontinued and becomes finite. And the excess chain does not increase except by a finite, and an excess on the finite by a finite is finite, so both of their discontinuation and finitude is necessary, and this is a contradiction. This proof is the supporting one, and it is contradicted by (the objection of) the degrees of numbers, because the proof exists within them even though they are not finite, and the answer (to that objection) is: that the effects are determined by existence, so they are not purely imaginary, until the discontinuation is due to the cessation of imagination and their disappearance is due to its consideration, contrary to the degrees of numbers, and its actualization: is that the numbers do not contain two wholes in the same matter that apply, so we infer that they both are

المبدأ، فالأول بالأول والثاني بالثاني وهلم جرا، فان كان بازاء كل واحد من الزائدة واحد من الناقصة كان الناقصة كالزائدة. هذا خلف، والا وجد في الزائدة جزء لا يوجد بازائه في الناقصة شيء، وعنده تنقطع الناقصة فتكون متناهية، والزائدة لا تزيد عليها إلا بمتناه، والزائد على المتناهي بمتناه متناه، فيلزم انقطاعهما وتناهيهما هذا خلف، وهذا الدليل هو العمدة، وقد نقض بمراتب الأعداد، لأن الدليل قائم فيها مع عدم تناهيها، والجواب: أن المعلولات قد ضبطها وجود، فليس وهميا محضا حتى يكون انقطاعها بانقطاع الوهم وذهابها باعتباره، بخلاف مراتب الأعداد، وتحقيقه: أن الأعداد ليس فيها جملتان في نفس الأمر تطبقان، فنختار أنهما تنقطعان بانقطاع الوهم أو أنهما لا ينقطعان، ولا يلزم تساويهما في نفس الأمر، بخلاف ماله وجود فانه

يلزم إما انقطاعه في نفس الامر او عدمه في نفس الامر وكلاهما محال. وانما قلنا قد ضبطها وجود ليتناول كل ماله وجود إما معاً وإما على سبيل التعاقب، فان ترتبهما ليس بمجرد اعتبار الوهم. وقال الحكماء: انما يمتنع التسلسل في أمور لها وجود بالفعل، وترتب إما وضعا وإما طبعا ليسقط عنهم ذلك النقض. وأنت تعلم أن الدليل عام لقيامه في كل ما ضبطه وجود فتخصيص المدلول اعتراف بالتخلف، وانه يوجب بطلان الدليل.

discontinued by the cessation of imagination or that they are both not discontinued, and it is not necessary that they are equal in the same matter, contrary to the case of if it does not exist, it is necessary that it is either interrupted in the same matter or not in the same matter, and both of these cases are impossible. Rather, we say that it is determined by existence so that it can acquire everything that has existence either together or successively, for their order is not merely by taking into consideration the imagination. The philosophers said: The (infinite) chain (of causes and effects) is only impossible in matters that actually exist and occur in an order either by circumstance or by nature, so that that criticism is waived from them. You know that the proof is general because it exists in everything that is determined by existence, so specifying the inference meaning is admitting failure, and that it necessitates the invalidity of the proof.

الثالث: ما بين هذا المعلول وكل علة متناه؛ لأنه محصور بين حاصرين. فيكون الكل متناهيا؛ لأنه لا يزيد على ذلك الا بواحد.

The Third: What is between an effect and every cause is finite; because it is confined between two restrictors. So the whole of it (the chain) is finite; because nothing more is added to it except for

one. If the distance between this part and each part does not exceed a parsec, then the total will not exceed a parsec except by a necessary part. And what does not exceed the finite except by one, is finite, and those who used it as evidence admitted that it is flawed.

فأنه اذا كان ما بين هذا الجزء من المسافة وكل جزء لا يزيد على فرسخ يكون المجموع لا يزيد على فرسخ الا بجزء ضرورة. ومالا يزيد على المتناهى الا بواحد. فهو متناه واعترف من احتج به بأنه حدثى.

The Fourth: If the chain of causes and effects continues infinitely, then it would be necessary that the number of the effect exceeds over the number of causes, and the latter is invalid, as for the conditional: If we require a chain from a last effect to other than the end, then everything that is a cause in it is an effect without reversion, for the last is an effect and not a cause. As for the exceptional case, it is because the cause and the effect are mutually exclusive, and one of their necessities is equality in existence, so there must be a counterpart to each one of the others, so they are both necessarily equal in number.

الرابع : لو تسلسل العلل لزم زيادة عدد المعلول على عدد العلل. والتالى باطل، أما الشرطية فلأنا اذا فرضنا سلسلة من معلول أخير الى غير النهاية كان كل ماهو - علة فيها فهو معلول من غير عكس فان الاخير معلول وليس بعلة، وأما الاستثنائية فلأن العلة والمعلول متضايفان ومن لوازمهما التكافؤ في الوجود، فلا بد أن يوجد بازاء كل واحد واحد من الآخر فيكونان متساويين في العدد ضرورة.

The Fifth: I will demonstrate that the discontinuation of the whole chain ends

الخامس : أنا ستبين انتهاء الكل الى الواجب لذاته،

وعنده تنقطع السلسلة وهذا يختص بالتسلسل في العلل وأنما يتم اذ أثبتنا الواجب بطريق لا يحتاج فيه الى ابطال التسلسل والا لزم الدور.

at the Necessary Being, and at this point, the chain is discontinued. However, this discontinuation applies specifically to a chain of causes, but this is only achieved if we prove the existence of the Necessary Being in a way that does not require invalidating the chain, otherwise a circularity would necessarily occur.

In the subsequent chapter, I shall delve into a detailed and critical analysis of the entire argument; all of al-Ījī's Five Reasons against infinite series. I will break down the argument and examine each of the reasons to outline the logical reasoning as well as its implications. This analysis will in turn provide a more refined picture of the strengths and weaknesses of the arguments, including how the Five Reasons support the proof of God's existence in the cosmological argument.

CHAPTER V

SYNOPSIS OF AL-ĪJĪ'S ARGUMENTS

In the previous chapter, I have exhibited al-Ījī's Five Reasons against the possibility of an infinite regress, as outlined in the eighth *maqṣad* within the fifth *marsad.* I shall now dive into a detailed analysis of the arguments that al-Ījī has presented in a series of structured proofs. Before we begin, I shall outline an overview of the entire argument, followed by an interpretation and dissection of each of the Five Reasons.

5.1. Overview of the Five Reasons

In the First reason, al-Ījī invalidates the possibility of an infinite series of causes by demonstrating that such a series cannot exist without an external cause; a being that is not a part of the contingent elements from within the series. This need for an external cause proves the impossibility of an infinite series since it implies the contingency of the series rather than an infinite nature. This is because each cause and effect that makes up the entire series is contingent, therefore the whole series must be contingent. As a result, the series requires an external cause which is necessary since it cannot be one of the contingent parts of the series. In the Second Reason, al-Ījī demonstrates the contradiction of infinite regress by assuming two infinite chains of causes aligned against each other. One chain would be incomplete whilst the other is more in number than the other, resulting in both chains being finite rather than infinite, proving that a chain of causes or events cannot be infinite.[132]

The Third Reason highlights the distance between each event or cause and effect within the series, which are inevitably finite. This is because every distance or gap is bound by two limits, that is the preceding cause and the following effect. Al-Ījī proceeds by using

[132] Al-Ījī, *al-Mawāqif*, 90.

the same reasoning as in the First reason, which is that the entire series must be finite due to it being composed of finite elements, that is the finite gap or distance between every cause and effect. Hence an infinite series of causes cannot exist. The Fourth Reason proves the impossibility of an infinite regress by demonstrating how an infinite series contradicts the nature of causality. Al-Ījī addresses the principle of causality that every cause must have a corresponding effect. However, in an infinite series, the existence and total number of every cause or effect would be indefinite, which is absurd. Therefore, an infinite series of causes is logically untenable. In the Fifth Reason al-Ījī emphasizes that the series of causes must terminate at a Necessary Being— a First Cause Uncaused itself. With this final reason, al-Ījī ends the entire argument against an infinite regress with the existence of a being that is necessary for existence and acts as the First Cause of the whole series.[133]

Before outlining the Five Reasons against infinite regress, al-Ījī begins with the statement that, "An infinite chain of causes and effect, in which the contingent cause is based on a cause, and that cause to a cause, and so on ad infinitum, is impossible.''[134]

The argument schema of this starting argument prior to the Five reasons may be presented as follows:

i. Every contingent being has a cause.
ii. Every cause has a cause.
iii. At least one cause has a cause.
iv. There is an infinite chain of causes and effects. (From i-iii)
v. An infinite chain of causes and effects is impossible.
vi. Therefore (4) is false; there is no infinite chain of causes and effects.

It is evident from this syllogism that al-Ījī began with a solid statement based upon the cosmological argument; that an infinite series of events without a First Cause is impossible. It also suggests that the relationship between every cause and effect is

[133] Al-Ījī, *al-Mawāqif*, 91.
[134] Ibid, 90.

temporal, while the First Cause must be a timeless entity existing outside of the series. Al-Ījī proceeds to demonstrate that there are Five Reasons for this argument.

5.2. First Reason

Al-Ījī's First Reason in arguing against an infinite series is one that I shall break down into four parts with the following statements: (i) The entire infinite series exists, (ii) The entire series is contingent, (iii) The series requires an external cause, which is independent of the entire series; and the final conclusion, (iv) An infinite series of causes and effects is impossible.

Al-Ījī begins in the First Reason by supposing the existence of the entire infinite series of causes and effects as a whole. The entirety of this series encompasses all of the existing infinite causes and effects; a series which consists of all of the individual parts, the causes and effects. He introduces the argument by initially taking into account the entirety of this series in which none of its parts are excluded from it. As he asserts in the First Reason in *Mawāqif*: ''..nothing other than the parts of which each one exists is included in the chain, so it exists.''[135] He posits that the entire series in discussion consists only of all the causes and effects that undoubtedly exist.

Given the entirety of this series in this manner, al-Ījī states that the series must exist. This is because the non-existence of the series would suggest the non-existence of one of its parts; which is in this case one of the causes or effects within it. He employs the reasoning that a compound cannot exist in the absence of (at least) one of its parts: 'The entirety of this chain … is not non-existent (*laysa bi ma'dūm*), otherwise it is the absence of a part (*ya'dam juz'*).'[136] Al-Jurjānī in his commentary elucidates on this section: ''The non-existence of a compound *(murakkab)* cannot be imagined except by the non-existence of one of its parts.''[137]

[135] Al-Ījī, *al-Mawāqif,* 90.
[136] Ibid.
[137] Al-Jurjānī, *Sharh al-Mawāqif,* 892-893.

Thus an entire infinite series of causes and effects cannot exist if one of its parts is non-existent. However, this is not true because we know from empirical observation that at least one cause or event does exist. Al-Ījī asserts that there cannot exist an intermediary or middle ground (*wāsiṭah*) between existence and non-existence. That is to say, the entirety of the series either is or is not. But we have supposed that it is *not* non-existent, therefore it must exist (*mawjūd*).

Syllogistically, this first part of Al-Ījī's First Reason may be presented as follows:

i. The entire infinite series of causes, which consists of all of the individual parts, i.e., causes and effects, exists (assumption).
ii. The whole of this series exists when all of the individual parts exist.
iii. All of the individual parts, i.e., causes and effects, of the compound of an infinite series exist.
iv. A compound exists if all of its parts exist.
v. If all individual parts of the series exist, then the whole series must exist.
vi. Therefore, an infinite series of causes and effects exists.

In the second part of the First Reason, al-Ījī proceeds to argue that even if the entire series does exist, its existence is not necessary. This is because within the entire series, each contingent part of it, that is, the causes and effects, are dependent upon another contingent cause and so on for its existence. Due to each of its parts being contingent, al-Ījī concludes that the entire series itself must be contingent rather than necessary: ''It (the series) is not necessary due to its need to every part; therefore it is contingent.''.[138] He argues that the entire series cannot be necessary for existence when each of the causes within it is contingent in nature. Therefore, the entire series of causes and effects is contingent (*mumkin*).

[138] Al-Ījī, *Mawāqif*, 90.

The argument of this part of the First Reason may be displayed in this manner:

i. If the whole series exists, it does not necessarily mean that it is necessary in existence.
ii. Each individual part of the series is contingent.
iii. The nature of a compound depends on the nature of its individual parts.
iv. If the nature of the individual parts is contingent, then the whole series is contingent.
v. Therefore, the whole series is contingent.

Given this conclusion, al-Ījī infers that the series must have an external cause (*'illa khārija*) since contingent beings by nature require something else for their existence. This argument is the third part of the First Reason; the necessity of an external cause for the series due to its finitude. The entire series of causes and effects, which we have supposed to be infinite, is therefore contingent in nature rather than necessary. If the series is contingent, it cannot be infinite since infinity entails its existence being necessary. The state of being both contingent and necessary in existence is logically absurd; if the supposed infinite series is contingent, it cannot be infinite.

Syllogistically:

i. Contingent beings require something external to them such as a creator for its existence.
ii. The series of causes and effects is contingent.
iii. Therefore, the series of causes and effects requires something external to itself (i.e. a creator).

The external cause which acts as the creator of the entire series must be a separate entity from the whole of the chain. In al-Ījī's words: ''The creator of a thing is neither itself nor any of its (own) parts (*al-mūjid li al-shay' lā yakūn nafsahu*)''[139] The series being contingent entails that it cannot have been created by itself as a whole, nor by any of its individual parts. Al-Jurjānī adds in his commentary that if the creator of the series is the

[139] Ibid, 90.

series itself, then it ‘‘would have existed before the existence of itself’’.[140] In other words, the series would have preceded its own existence in order to exist, the same way the parts of the series would have existed before itself in order to bring itself and the entire series into existence. Al-Ījī argues that this case is plainly contradictory.

Syllogistically:

i. The creator of a thing cannot be the thing itself nor any of its parts.
ii. If the creator of the entire series were itself nor any of its parts, then the entire series or one of its parts would precede their own existence.
iii. It is impossible for either of the entire series or any of its parts to precede their own existence.
iv. Therefore, the entire series including all of its parts must have an external cause, an entity independent of the series itself.

In addition, al-Ījī discusses the relationship between the creation of the series and its creator. Al-Jurjānī elaborates on this argument that the creator or cause of the whole is the creator of all of its parts, including any particular parts (*mūjid al-kull mūjidun li ajzā’ihi kullihā*). Hence the cause of the whole series is likewise the cause of its parts. If any or all of the parts of the series are caused by anything other than that external cause, then the whole series would also be caused by something other than that cause.[141] There is thus an interconnectedness between the existence of the parts and the existence of the whole of the series; whatever causes the parts of the series, is the very same cause of the whole of it. It is crucial to note however that this cause must certainly remain external to the series itself and must be independent of it in existence.

Al-Ījī finalizes the First Reason with the following argument; suppose the external cause does in fact cause at least one of the parts within the series. If this were the case, then that particular part from within the series would not be created by any other cause from within the chain itself. But from what we have initially assumed, is that each part of the series is

[140] Al-Jurjānī, *Sharh al-Mawāqif,* 893-894.
[141] Al-Jurjānī, *Sharh al-Mawāqif,* 893-894.

caused by another part from within the series. Therefore, the parts of the series itself cannot be caused by an external cause independent of the series. In other words, the parts of the chain are either caused by another part within the series *ad infinitum* or caused by an external cause. But we have maintained in the beginning that each part in the series is caused by another part within it infinitely. Therefore, no parts in the series are caused by an external cause.

If that particular part, which is supposedly caused by another contingent part within the series, is simultaneously caused by an external cause, we are led to a logical contradiction. There cannot be two causes for one individual effect, as al-Jurjānī describes in his commentary: ‘‘.. two causes coexist forming one individual effect’’[142], which is in this case absurd. Both an external cause as well as a cause from within the series cannot simultaneously cause the creation of one single effect or part within the series. Al-Ījī insists that this is contradictory because it conflicts with our preliminary assumption that each part of the series depends on another cause within the series infinitely. Based on this logical inconsistency, al-Ījī challenges the foundational assumption about the infinite regress of contingent causes that depend on one another within the series. If that particular part, which we have supposed at the beginning, is indeed caused by an external cause, rather than another cause within the series, then that particular part would be an end (*ṭarf*) of that series. But an end on at least one side of the series suggests its finitude since an infinite series cannot logically possess an end on either or both sides. Hence, the existence of an infinite series of causes and effects is impossible.

To encapsulate the final part of the First reason, the argument may be outlined as follows:

i. Each part is caused by another part from within the series.
ii. But suppose there is an external being that caused one of the individual parts in the series.
iii. If a part is caused by an external cause, then that part is not caused by any other part from within the series.

[142] Ibid.

iv. But if each part is caused by another part from within the series, then that part that is caused by an external cause is also caused by a part from within the series, which leads to a logical contradiction (two causes for one effect).

v. Hence, no part of the series can be caused by an external cause.

vi. But if one part in the series is caused by an external cause, this would suggest an end of the series.

vii. But an infinite series cannot have an end.

viii. Hence, the existence of an infinite series of causes is impossible.

5.3. Second Reason

In the second argument in refuting an infinite series, I shall elaborate based closely on the interpretation of al-Jurjānī in his *Sharh al-Mawāqif*. Al-Ījī begins by supposing two scenarios; one where infinity is on the side of the causes, and another where it is on the side of effects. In the former case, where infinity is on the side of causes, he imagines two whole series (*jumlatayn*) of infinite causes and effects; one whole (*jumla*) which begins from an effect and ascends or stretches back in time to its cause and another cause and so on infinitely, and another whole from what comes before it as a finite point to infinity (*ilā ghayr al-nihāya*).[143] In the case where infinity is on the side of effects, al-Ījī visualizes two other whole series; one which begins from a cause and descends or moves forward to a chain of effects and other causes and so on infinitely, and another whole which begins from a finite point after that cause and goes to infinity. Hence there are two whole series in each case, one of which is greater than the other by a finite number. So there is an excess (*zā'ida*) whole series exceeded by a finite number (*bi'adadin mutanāhin*) and another one that is incomplete (*nāqiṣa*) in number. Suppose that at the starting point of each whole series, we insert into it one part from the other whole series, so that the first part of one of the two series is positioned opposite to the first part of the other one, both facing each other in a parallel manner.[144] Its second part coincides simultaneously with the second part of the opposite series, and so on. So the first is parallel to the other first, and the second is

[143] Ibid.
[144] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1262, 900-901.

parallel to the other second, and so forth (*al-awwal bi-l-awwal wa al-ṯānī bi-l-ṯānī*).[145] In other words, the first member of the first series is paired with the first part of the other series, the second part of the first series with the second of the other, and so on.

Suppose each of the excess whole series is aligned with the incomplete ones in terms of the number of its parts. We would be led to two possible outcomes; either the alignment is successful, or unsuccessful. If it is successful, in that every part of the excess whole series is positioned parallel to the corresponding parts of the incomplete one, then the incomplete series will become equal to the excess whole series in terms of the number of its parts. As al-Ījī argues in the Second Reason: '..then the incomplete one would be equal to the excess chain' (*kāna al-nāqiṣa ka al-zā'ida*).[146] That is to say, the supposedly incomplete series would no longer be incomplete—it would have the same amount of parts as the excess whole series. Successful alignment would render the process complete and reinforce the notion that a causal series cannot extend infinitely in the real world. However, this conclusion is inconsistent, since it contradicts the initial premise that one of the whole series is excess while the other is incomplete. On the other hand, suppose the alignment is unsuccessful; there would be at least one part of the excess whole series that does not align with any part of the incomplete series. If this were the case, then the incomplete series would end or be cut off at that point where it does not have any part corresponding to the excess series. As a result, the excess whole series would be greater than the incomplete whole by a finite number. This is because, as al-Jurjānī explains in his commentary, 'anything which is greater than a finite thing by a finite number is undoubtedly finite' (*al-zā'id 'alā al-mutanāhī bi mutanāhin mutanāhin bi lā shubha*).[147] Hence, the incomplete series must be finite due to its endpoint. However, this contradicts our initial assumption that the incomplete series is infinite. Ultimately, both of the outcomes of aligning the excess series with the incomplete one are logically contradictory. This is because the two outcomes conflict with one another and are inconsistent with the initial assumption of the nature of the incomplete series, and the infiniteness of it. Given this line of reasoning, both of the whole series, which we have initially assumed to be

[145] Al-Ījī, *Mawāqif,* 90.
[146] Ibid.
[147] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1263, 900-901.

infinite, are thus finite; since they possess an end at one point rather than stretching on infinitely.

This form of argument against an infinite regress in successive matters in existence is what al-Ījī calls the *burhān al-taṭbīq* (argument from correspondence); a method of practical demonstration aligning two infinite series parallel against each other. It is a rebuttal against an infinite series in all areas, whether there is a natural order such as cause and effect in the succession, or no apparent order at all.[148] This proof aims to establish that even if an infinite series of causes and effects is plausible, there will be logical constraints that lead us to the finitude of the successive chain of events. By applying this proof to various successive scenarios, whether they involve causes and effects or numbers, we arrive at the conclusion that it is impossible for any series of things or events to go on *ad infinitum.*

We know that the argument or proof from correspondence relies on the assumption that if we align two of the supposed infinite whole series, we are led to logical inconsistencies which thereby demonstrates the finitude rather than the infinity of the series. In the commentary, al-Jurjānī addresses the objection to the proof of application which states that this method of proof may not be valid when dealing with numerical or mathematical infinity. Critics argue that this proof can be contradicted by degrees of numbers or other scenarios which involve numbers. The reason for this point may be illustrated by two sets of infinite whole numbers. Suppose that one of the two numbers is greater than the other and is multiplied over an infinite number of times, while the other whole number is multiplied over a thousand. We place the first number of the larger infinite set of whole numbers against the first number of the incomplete whole numbers, the second of the larger set against the second of the incomplete set, and so forth until the end.[149] Despite the two whole sets being necessarily infinite, the proof from correspondence will attempt to align both of them numerically. But if both sets are infinite, the process of alignments would continue infinitely without any definite end. So rather than becoming finite, as the

[148] Ibid,, no. 1264.
[149] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1265, 902-903.

proof of applications attempts to establish, both sets of numbers will instead remain infinite. No matter how many parts of the two series are aligned, there will always remain an infinite number of parts. This is the challenge to the proof of application; it cannot disprove the numerical infinity in those two sets of whole numbers aligned. Infinity would still persist in numerical sets and cannot be resolved by this method of alignment.

Al-Jurjānī explains al-Ījī's response to this objection; that the effects, including the numerical sequences, are determined by existence (*wujūd*) in the real world. Both their existence and non-existence are determined by reality rather than purely by the mind or abstract thought or imagination.[150] Al-Ījī utilizes the word illusion or imagination (*wahm*) to indicate a state of reality in the mind, which is distinct from reality in the physical world.[151] When something exists, its effects are observable and tangible manifestations of existence. In the case of sequences of numbers with effects, they are by nature inherently abstract constructs in the mind. So whether infinite numerical orders exist and persist or not is purely dependent on the abstract perception of the mind. But the mind is unable to conceive infinity or any form of infinite successions. As al-Jurjānī posits, 'illusion (the mind) is incapable of grasping imaginary things that are infinite'. So if the mind cannot perceive infinity, it cannot exist in the real concrete world; hence infinity is impossible.[152]

Al-Jurjānī elaborates in the commentary that numbers are purely 'imaginary' (*wahmiyya*), in other words, abstract mental entities, that exist solely in the realm of the mind rather than the physical. Since numbers are purely abstract in existence, there cannot be two whole sets of numbers that can be aligned in the same way this method was applied to two infinite series of causes and effects. The non-physical existence of numerical entities does not allow them to experience any form of discontinuity or endpoint that would have suggested their finitude. So the proof from correspondence is not applicable to the aforementioned whole sets of numbers. Since it is inconceivable for a series of numbers to have an end or be cut off in that manner, we cannot conclude their equality which we would have deduced from applying the proof. Therefore both outcomes of applying the

[150] Ibid,, no. 1266.
[151] Al-Ījī, *Mawāqif,* 90.
[152] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1266, 902-903.

proof to the numerical sets, either it is the end of one of the infinite whole sets which would render it finite, or whether both sets are not cut off, which would render the equality between the two whole sets, are both invalid scenarios. These abstract entities do not adhere to the same rules as the physical successive entities of causes and effects. Al-Jurjānī emphasizes this reasoning that the existence of any form of series, whether it is infinite or not, is determined by its existence in the physical world rather than the abstract realm of existence.[153] This argument implies that there are two ways in which entities can exist; either coexisting simultaneously or successively. The reality of both of these modes of existence depends on observable phenomena rather than mental conception. So while either the successive or coexisting sets of numbers merely exist in the mind, they are distinct from the series of events in the physical world. Al-Jurjānī adds that an infinite causal chain can be conceived only when every part of the series coexist together in the physical world and are sustained in a sequential order. Every cause and effect in the series must be relationally present in the external reality rather than in the mind, with every event logically and sequentially following from its preceding one. With this principle of relational sequence and concurrent existence, al-Jurjānī implies that a causal series of events is bound by both temporal and spatial restrictions, hence suggesting that an infinite series must be untenable.

Al-Ījī's concludes by asserting that the *burhān al-taṭbīq* is universal (*'ām*), meaning that it applies to all entities and events that exist in the actual physical world.[154] Al-Jurjānī explains the implication of this in the commentary; that due to the universal nature of the proof of application, we may begin to assign meaning or inference to specific multiple entities which coexist and are arranged in order in existence. That is to say, ascribing an interpretation or significance to them which could involve identifying patterns or causal relationships between them.[155] For example, when we observe a series of events which occur in a particular order, we may begin to ascribe meaning to this phenomena by inferring the existence of a causal relationship between those events. However, al-Jurjānī clarifies that according to al-Ījī, inferring such a causal relationship from patterns is

[153] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1268, 904-905.
[154] Al-Ījī, *Mawāqif,* 91.
[155] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1272, 906-907.

considered acknowledging a contradiction. This is because it would violate the proof's validity in cases which involve successive entities or events without a specific order and that coexists in reality. If this contradiction is true, the proof of application would be invalid.[156]

To sum up, the *burhān al-taṭbīq* is a method al-Ījī utilized to disprove an infinite series of all types of entities that exist in actuality. The proof is meant to be applied universally and equally to all situations, including in successive events that are not in order. But if the proof is only applicable to ordered successive events and fails at the unordered situations, then we are led to a contradiction; the proof is flawed and invalid. Therefore, the objections of the critics who argue that the proof is inapplicable in certain scenarios is itself an invalid objections. Since by definition, the proof is applicable to all scenarios of existence in the physical world.

5.4. Third Reason

The third rebuttal against an infinite regress is al-Ījī's argument that the point of distance between each cause and effect in the series is finite because it is bounded by two limits or ends; that is, between the cause and an effect. In al-Ījī's words: 'What is between this effect and every cause is finite' (*mā bayna hāḏa al-ma'lūl wa kulli 'illa mutanāh*).[157] From this argument, al-Ījī maintains that if each point between a cause and effect is finite in this way, then the whole series must be finite. The series cannot be infinite if it possesses points of distances between each cause and effect which is finite. Furthermore, the elements which are added upon those finite limits is merely another finite element. Hence the series of causes and effects which we have assumed to be infinite is in fact finite due to the nature of the existing limited distance between each cause and effect within the series. If the series was infinite, it would not possess any finite points. That is, that point which is confined by the specific effect it leads to and the cause that precedes it in the series. Al-Jurjānī adds that something infinite cannot have parts which are bound by two

[156] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1272, 906-907.
[157] Al-Ījī, *Mawāqif,* 91.

surrounding entities (*maḥṣūran bayna amrayn*).[158] Therefore, al-Ījī reaffirms that if one part of the series is finite, then the entire series must be finite. He proceeds to claim that even if we added one more cause between an effect and the last cause in the existing series, it does not change the fact that the distance or space between the two points is finite.

To illustrate his point, al-Ījī introduces the concept of distance (*masāfa*) between each cause and effect of the series using the parsec (*farsakh*) measurement; a finite unit of distance in astronomy. He argues that if this distance does not exceed one parsec, then the total distance (*al-majmū'*) of the whole series would still remain finite, with the exception of a necessary part (*illā bi juz' ḍarūra*).[159] To clarify this conceptual argument of al-Ījī in addressing why an infinite series is problematic, al-Jurjānī begins by illustrating a series of points A, B, C, D and the distances between them. Al-Jurjānī describes how the distances between the individual points of A and B, and so on, are less than a meter apart, in other words, a small and finite distance.[160] The sum of the distances together may result in a total distance which is only slightly more than the total sum of all of the individual points. However, the total sum of the distance and finite points would inevitably remain finite. This implies that the series of points A, B, C, D and so on cannot go on infinitely because if it did, it would be impossible to sum up the total distance; the sum of the distance would never arrive at a final amount. Furthermore, if we were to assume an infinite number of points between A and B, we would never arrive at a total sum of distance between the two points of limit. If the series were infinite, measuring and summing up the distance is unacquirable. If this were the case, we arrive at a problematic contradiction against the principle of finitude itself; that the measurement between one point to another is limited by two points.

Al-Jurjānī reveals the implication of this argument by asserting that even if 'the total were to be increased (*zāda 'alayh*), it would only increase by one more part'.[161] In other words, even if the sum of the distances within the series by one part, it is only increased by one

[158] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1273, 906-907.
[159] Al-Ījī, *Mawāqif,* 91.
[160] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1274, 906-907.
[161] Ibid, no. 1275.

more finite part, suggesting infinity cannot be reached simply by accumulating a finite number or element to a finite sum of parts. The sum of the distance and hence the series will always remain finite no matter how many times another part is added to the sequence. Al-Jurjānī argues that the sum only increases when the beginning point (*al-mabda'*) is incorporated in the calculation since otherwise, there is no increase by one part at all. When we have a starting point and apply an addition, we would have a last part to which we add the extra part to, which once more suggests the finitude of the series rather than infinite. Al-Jurjānī continues to explain this point; suppose that every distance between the causes and effects within the series measures a parsec with respect to the past part of the series. In this case, we can imagine two scenarios; one where we include the starting point of the first part in the calculation, and another scenario where we exclude the starting point to look at the entire series as a whole. In the first scenario where the first part is considered, the sum of distance increases in a way that is measurable and thus is finite. In the second scenario where we view the series as a whole without a starting point, it remains impossible for the series to become infinite. This is because the act of adding another part after the last part, no matter how many times, renders the total to remain finite and never infinite.[162] Al-Ījī's concludes that the finitude of the series, that when the entire series is added by one or more number of finite parts, the whole series remains finite: '..and nothing exceeds the finite except by one' (*wa mā lā yazīd 'alā al-mutanāh illā bi wāḥid*).[163]

Al-Ījī ends the Third Reason by mentioning that philosophers who have used this way of reasoning as proof for the impossibility of an infinite regress have admitted that this reasoning is flawed.[164] Though it is not excplicity mentioned in the text in the Third Reason section about who the aforementioned philosophers are, al-Jurjānī clarifies in his commentary that the thinker who has utilized this argument is al-Suhrawardī (d. 1191). Al-Jurjānī reveals that al-Suhrawardī discusses the 'highest demonstrative proof'*(al-burhān al-'arshī)* and admits that this proof is flawed due to it being intuitive (*ḥadsī*). That is to say, rather than logical reasoning, a level of intuition (*ḥads*) is required to grasp the

[162] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1275, 908-909.
[163] Al-Ījī, *Mawāqif,* 91.
[164] Ibid.

truth and validity of this proof.[165] Intuition in this case is presented as a faculty that is capable of grasping truths beyond what is immediately evident through logic. It lies in recognizing that even in an assumed infinite series of causes and effects, there must be a First Cause and a Final Effect in such a series, with all of the causes and effects that is contained within it. If the series is finite, it would be intuitively straightforward to grasp that each cause, except the first, must have a cause preceding it. However, when the series is infinite, it would be difficult to conceive of a First Cause due to the absence of a starting point. This argument suggests that with a strong and sound intuition, one is capable of recognizing that a First Cause must exist, despite it not being directly evident.

Al-Jurjānī elaborates that this argument highlights the distinction between the intuitive proof (*al-burhān al-ḥadsī*) and the practical proof (*burhān al-taṭbīq*), which is the argument from correspondence. While the proof involves logical reasoning or measurement and may be valid in the physical realm, it does not allow grasping the full contradictory implication of an infinite regress in the same manner that an intuitive method does. In cases when we visualize a line segment as being infinitely divisible, by intuition we can make sense of concepts such as infinitesimal changes or continuity applied to that line. Such intuitive understanding can equally be utilized in other areas such as mathematics and physics to reason about continuous phenomena or successive processes. However, when we imagine quantities that are not infinitely divisible, we are required to use other methods such as empirical observation in analyzing those quantities. Hence in this scenario, al-Jurjānī argues that intuitive reasoning is unnecessary since the practical proof would be adequate and valid.[166]

5.5. Fourth Reason

Al-Ījī argues in the Fourth Reason that if causes in the series were to continue infinitely (*tasalsala[t] al-ʻilal ilā ghayr al-nihāya*), then the number of effects *(al-maʻlūlāt)* should exceed the number of causes (*al-ʻilal*).[167] In other words, an infinite series of causes and

[165] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1276, 908-909.
[166] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1276, 908-909.
[167] Al-Ījī, *Mawāqif,* 91.

effects would render an infinite number of effects but not an equal total of infinite number of causes. As al-Jurjānī clarifies, the reason for this implication is because the last event in the series is an effect rather than simultaneously a cause for a subsequent event. Therefore, the number of effects in an infinite series would always exceed the number of causes. However, if the series of causes were finite, meaning that there is a limited number of causes, then we would not have an excess total of effects. While every cause would lead to an effect, the existence of the final effect would balance out with the number of existing causes in the series. Hence in a finite series of causes and effects, the number of causes and effects would be equal.[168] On the other hand, if causes were to continue infinitely, the number of effects would always exceed the number of causes. Al-Ījī asserts that this is invalid (*bāṭil*) and points out that this is the logical problem with an infinite regress of causes and effects. If causes were to go back infinitely into the past, then logically, each cause would be at the same time an effect of its preceding cause. In such an infinite, every cause is also an effect. For every part of the series, except the final one, is both an effect caused by the preceding one and a cause for the subsequent event. There would however be no point in the series in which the direction is reversed.[169]

To make it clear, I shall illustrate as follows: suppose we have a causal chain in which A causes B, B causes C, C causes D, and so on. While A is the cause of B, A is simultaneously the effect of nothing preceding it, if a was the First Cause. B is the effect of A and also the cause of C. C is the effect of B and the cause of D, and so on. This causal direction remains consistent throughout the series. At no point does the causal direction reverse entirely; every part is both an effect and a cause. But the last part of the series always remains only an effect and not a cause, as the series cannot loop reversely on itself. This is the nature of causality in an infinite series; every part within it is causally connected to both what precedes it and what comes after it. Hence, the number of effects would be ever-increasing without a corresponding increase in the sum of causes. In the case where the series is finite rather than infinite, the number of causes would match the number of effects, with the First Cause initiating the series and the last effect ending it. But this is

[168] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1277, 910-911.
[169] Al-Ījī, *Mawāqif,* 91.

not the case in an infinite series; the fact that the number of effects exceeds the number of causes in such a series indicates a logical inconsistency and therefore invalid. Suppose the series does extend infinitely from the last effect. We have established that the consequence of this is that every cause in the series would also be an effect infinitely. However, since the series and its causal direction would not reverse itself completely, the last part of the series would always and only remain an effect rather than simultaneously a cause. This leads to an imbalance and inequality between the number of causes and effects, which is logically problematic.

Al-Ījī introduces an exceptional proposition (*al-istithnā'iyya*),[170] interpreted in the commentary by al-Jurjānī. A cause and effect are two distinct entities from one another. Causes bring into existence an event or action, while effects are the direct outcome or result of that cause. In a series of causes and effects in which we have discussed earlier at the beginning of the argument, both the causes and effects in existence must be equal in their total number. If one of them exists, then the existence of the other is necessary. For every cause which comes into existence, there must exist a corresponding effect, and vice versa. This would lead to a necessarily equal number in the total of causes and effects in a causal series. However there is an exceptional case where in a causal relationship, the total number of causes and effects do not have to be equal in order for the series to be logically valid in existence.

Al-Jurjānī illustrates this exceptional case by providing the analogy of a father with many sons. Such a context is exceptional in terms of a causal relationship where the number of causes and effects must be equal in number. Suppose there is a father who is the cause of his multiple sons, which are his effects. Hence, there exists one cause with multiple effects. However, in such a given context, although the father is a single cause, his relationship with his multiple sons is equal in terms of existence (*al-wujūd*). In other words, even if there are more effects than causes or vice versa in such a father-sons relationship, each cause would have a corresponding effect while each effect would have a corresponding cause. Each son shares an individual and equal relationship with the

[170] Al-Ījī, *Mawāqif,* 91.

father, regardless of the number of sons the father possesses. Hence, both the causes and effects are equal at the level of existence. Since in this context of causal relationship, rather than equality in the number of both causes and effects, the focus is on the equal relationship between every cause and its corresponding effect and vice versa.[171]

5.6. Fifth Reason

Al-Ījī maintains in his last reason that the series as a whole ultimately ends and lead to something which is necessary of itself in existence (*al-wājib li ḏātihi*).[172] That is to say, all of the contingent elements within the series rely on an external and necessary entity for their existence, while necessary entities by their very nature exist by themselves.[173] In a series of causes and effects, where each contingent part is caused by another and so on stretching back in time, al-Ījī argues that this series must end with a necessary entity. Since a contingent thing cannot cause itself, let alone an infinite series of contingent beings. At the point where the series arrives at something necessary, it must be discontinued and the series ends there. This is because the necessary part, which should act as the cause for the first contingent effect, does not require another cause to come into existence. Therefore, it cannot be an effect of another thing or be caused by something else. Al-Jurjānī points out specifically that such a discontinuation or end of a series applies only to causes and not effects: 'This case is specific to the chain of causes and not effects' (*hāḏā al-wajh yakhtaṣṣ bi al-tasalsul fī al-'ilal dūn al-ma'lūlāt*).[174]

Al-Ījī finalizes the Fifth Reason by emphasizing that the end of the series only occurs when the existence of the necessary is proven in a way that would not invalidate (*ibṭāl*) the existence of the series itself. Otherwise, we would be confined in a vicious cycle (*dawr*) where we attempt to validate the necessary existence of the Necessary Being. If we attempt to prove the existence of the necessary cause by invalidating the existence of the infinite series, we would be led to a circular reasoning. This is because invalidating

[171] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1278, 910-911.
[172] Al-Ījī, *Mawāqif,* 91.
[173] Al-Jurjānī, *Sharh al-Mawāqif,* no. 1280, 910-911.
[174] Ibid.

the series relies on the proof of the necessary, but the proof of the necessary relies on the invalidation of the series.[175]

I shall break down this argument as follows; in order to prove the necessary existence of something, one might attempt to disprove the existence of an infinite series of causes and effects. This would mean arguing for the existence of an end point of such a series, a first or fundamental cause that does not rely on anything prior to it to exist. This end point is often considered as necessary to disprove an infinite regress of causes, where each cause is caused by something prior to it *ad infinitum.* In such a scenario, we are left with no choice but to be trapped in a circular argument; this is the flaw of the concept of infinite regress. Circular arguments like this are logically fallacious since they assume the truth of what they are already attempting to prove. This circular form of reasoning suggests that both the rejection of the infinite series, and the proof of the existence of a Necessary Being as the First Cause of the entire series, are equally reliant on another; they cannot independently support each other. In other words, invalidating the series should not be dependent on merely proving the First Cause, nor can the existence of the First Cause be proven by initially rejecting the series itself. The implication of this is that the impossibility of an infinite series is not due to circular reasoning, but rather that the series leads to a problematic conclusion in which a first or ultimate cause cannot be identified. To avoid this circularity, the existence of the First Cause must be proven without initially rejecting the series. Al-Ījī argues that the First Cause must be established and proven as the beginning point of the series, without which it is impossible for the series to exist to begin with. This reasoning demonstrates that an infinite series of causes and effects is impossible since it fails to provide a coherent and non-circular explanation for the existence of the necessary First Cause. Therefore, al-Ījī maintains that the series must end with a necessary First Cause, through recognizing that the series must end with an ultimate Uncaused Cause, rather than through a circular reasoning.[176]

[175] Al-Ījī, *Mawāqif,* 91.
[176] Al-Ījī, *Mawāqif,* 91.

5.7. Summary of the Five Reasons

The core argument that drives almost the entire Five Reasons is the argument from temporality (*dalīl al-ḥudūth*). The series of causes and past events (i.e. the universe) cannot be infinite, therefore the universe began to exist at a certain point in time. The First until the Fourth Reasons rests upon the temporality principle, each providing distinct features yet carry the same core argument. Once it is established that the universe is finite, the Fifth Reason wraps us the entire set of Five Reasons by establishing the existence of a Necessary Being (*wājib al-wujūd)* that is the beginning point of the entire series. The following table is a summary of the Five Reasons, providing an outline of their core arguments, key features and the main conclusion.

Table 5.1. Summary of al-Ījī's Five Reasons

Reason	Core Argument	Key Feature	Main Conclusion
FIRST	The universe is *not* infinite or eternal; it began to exist in time.	Use of the part-whole relation; that if every individual part of the series is contingent, the entire series must be contingent.	An infinite series of causes and past events leads to at least two logical contradictions, hence is impossible.
SECOND	The universe is *not* infinite or eternal; it began to exist in time.	Use of the practical proof/the argument from correspondence (*burhān al-taṭbīq*) of aligning two sets of infinite series.	An actual infinite series of causes and past events leads to logical contradictions, rendering it impossible.
THIRD	The universe is *not* infinite or eternal; it began to exist in time.	Introduces the concept of *masāfa* (finite distance/gap between every cause and effect).	The entire series must be finite because every point of distance between every cause and effect within the series is finite.

Table 5.1. (cont.)

FOURTH	The universe is *not* infinite or eternal; it began to exist in time.	Emphasizes the definition and features of a causal series and the implication of one if it were infinite.	An infinite series is impossible because it leads to a contradiction; that the number of effects would exceed the number of causes, which is illogical in a causal series.
FIFTH	The existence of the universe requires a Necessary Cause (God).	Emphasizes the First Cause as a Being that must be proven independently of negating an infinite series, in order to avoid a potential circularity (*dawr*).	It is necessary that a self-sufficient Necessary Being (*wājib al-wujūd*) exists; a First Cause that terminates the series.

CHAPTER VI

CRITICAL ANALYSIS OF AL-ĪJĪ'S FIVE REASONS

This chapter covers a critical and comprehensive examination of al-Ījī's Five Reasons. It would be inaccurate to assume that each Reason is meant to represent a distinct line of reasoning against an infinite causal series. Although the arguments are segmented into Five Reasons, they are collectively interconnected in supporting the existence of a Necessary Being (*al-wājib li ḏātihi*). The self-sufficient Necessary Being serves as the final explanatory ground for the causal series of events and the existence of the universe.[177] While applying the argument from the temporality of the universe (*dalīl al-ḥudūth)* (i.e that the universe has a temporal beginning), al-Ījī also incorporates elements of the contingency argument (*dalīl al-imkān)* (i.e. that the universe's existence is contingent and therefore requires a Necessary Cause).

Al-Ījī's Five Reasons are arguably persuasive within the *Kalām* reasoning. However, his arguments are not free from potential flaws or immune to objections and criticisms. The coherence and alignment of his arguments with the Islamic thought embodies the strength of his reasoning, but there are alternative perspectives against his arguments which suggests that al-Ījī's Five Reasons are open to debate. Therefore, I find it crucial to critically evaluate his arguments and test them against possible objections to support the robustness of his original arguments and sustain its overall relevance. I shall attempt to do so carefully in this chapter.

[177] Al-Ījī, *Mawāqif,* 90-91.

6.1. First Reason

Al-Ījī's First Reason as the starting point of his entire constructed argument is one that draws on the classical Islamic metaphysics against an infinite regress of causes and effects.[178] It is reasonable to conclude that his argument has adequately demonstrated the necessity of not only a First Cause but a Necessary Being which is external to the whole series. The proof of the temporal beginning of the chain of causes and effects leads to the necessity of an Uncaused Cause.

To facilitate the evaluation of the First Reason, I shall begin by presenting the entire structure of the argument for the purpose of clarity:

> Premise I:
> The entirety of an infinite series of causes and effects consists of parts which are the causes and effects.
>
> Premise II:
> The whole of the infinite series exists when all of the parts exist (a compound exists if all of its parts exist).
>
> Premise III:
> All of the parts of an infinite series of causes and effects exist.
>
> Conclusion I:
> Therefore, an infinite series of causes and effects exist. (from premise 1 to 3)

[178] Al-Ghazali argues about the temporal beginning of the universe in the *Iqtisād* and 'The Jerusalem Letter'. See Al-Ghazali, *Kitāb al-Iqtisād fi'l-I'tiqād,* with a Foreword by İbrahim Agâh Çubukçu and Hüseyin Atay (Ankara: University of Ankara Press, 1962), pp. 15-16; cf. p. 20, cited in Craig, *The Kalām Cosmological Argument*, 44.

Premise IV:

The nature of a compound depends on the nature of its parts.

Premise V:

Each part of the series is contingent because it requires the part before it (i.e its cause) for its existence.

Conclusion II:

Therefore, the whole series and its parts are contingent. (from premises 4 and 5)

Premise VI:

No contingent being can create itself or any part of itself.

Conclusion III:

Therefore, the series cannot cause itself, nor can the parts cause it, and also the parts cannot cause itself. (from conclusion 2 and premise 6)

Premise VII:

Contingent beings have an external cause for their existence (a cause that is independent of the series)

Conclusion IV:

Both the infinite series and its parts, being contingent, have an external cause for their existence.

Premise VIII:

At least one part of the series is caused both by another part from within the series as well as by an external cause. (from premise 5 and conclusions 2, 3 and 4)

Premise IX:

There cannot be two causes for one effect, i.e. part.

Conclusion V:

Therefore, one part in the series cannot be caused by another part from within the series as well as by an external cause. (from premises 8 and 9)

Premise X:

If one part of the series is caused by an external cause, then that part would render the end of the series.

Premise XI:

An infinite series cannot have an end.

Conclusion VI:

The existence of an infinite series leads to logical contradictions; hence it is impossible.

The three key arguments from which the First Reason can be segmented into, also mentioned in the previous chapter, is crucial to draw attention to: (1) the existence of the whole infinite series of causes and effects, (2) the temporal beginning of the series and its parts, hence the existence of an external cause, (3) the impossibility of an infinite series.[179]

I. The existence of the whole infinite series of causes and effects

The first conclusion, following from premises 1, 2, and 3 as outlined above, is the argument that the whole of an infinite series of causes and effects (i.e. a beginningless series of past events stretching back in time) does exist. It is evident that al-Ījī assumes on an empirical plausibility; that there exist, in fact, observable causes and effects in the form of events and phenomenons in the world. One cannot deny this empirical recognition and hence this serves as a sound foundation for the stepping stone of the argument. Once it is

[179] Al-Ījī, *Mawāqif,* 90.

established that the series must exist, al-Ījī proceeds to explore its nature of being—whether contingent or necessary. This method of formulating an argument in a logical structure is also reflected in the various lines of reasoning by other Islamic philosophers such as Ibn Sīnā and al-Farābī.[180]

Al-Ījī's argument rests on the ontological principle that a compound or whole, i.e. the compound and the whole of the series, is nothing more than merely the sum total of its parts in which it consists. The Aristotelian understanding of a composite is evident here; that the essence of a compound is grasped through the nature and existence of the components in which it is made up.[181] In this sense, the argument put forward by al-Ījī that the whole series exists if all of its components exist aligns with this classical metaphysical tradition. If the causes and effects in the world exist, which from our empirical observation they do, then it follows logically that the entire infinite series, which is the sum of the causes and effects, must also exist. By beginning with this premise, al-Ījī attempts to avoid a vital logical inconsistency; if we accept the existence of the events of causes and effects but deny the existence of the infinite series as a whole, we arrive at a contradiction. It is absurd to affirm the existence of a series of events while simultaneously rejecting the existence of the whole series that is formed by them. This is the principle of non-contradiction in classical logic which al-Ījī seems to aim at upholding it. Otherwise, we fall into a paradox where a proposition is both true and false at the same time and in the same sense; affirming that the infinite series of causes and effects do exist, while simultaneously denying the existence of the infinite series of causes and effects, which is absurd.[182]

[180] See Saloua Chatti, *Arabic Logic from Al-Fārābī to Averroes: A Study of the Early Arabic Categorical, Modal, and Hypothetical Syllogistics* (Switzerland: Birkhäuser, 2019), 63–64; Ibn Sīnā, *Remarks and Admonitions*, trans. Shams Constantine Inati (Belgium: Toronto, Ont., Canada Pontifical Institute Of Mediaeval Studies, 1984), 77–89.
[181] See Aristotle, *Metaphysics Books Z and H*, ed. J. L. Ackrill and Lindsay Judson, trans. David Bostock (Oxford: Clarendon Press, 1994), 72.
[182] See Julian Baggini and Peter S Fosl, *The Philosopher's Toolkit: A Compendium of Philosophical Concepts and Methods* (Chichester: Wiley-Blackwell, 2010), 40.

II. The contingency of the series and its parts, hence the existence of their external cause

The reasoning moves on to the argument that even if the series exists, it is contingent rather than necessary (from premise 4, 5, and conclusion 2). The definition of a 'contingent' or 'possible' (*mumkin*) being in this case is the idea that the existence of something is not necessary nor impossible; it could have *not* existed and requires a cause for its existence. Following from the same part-whole relationship reasoning, al-Ījī infers the contingency of the whole series due to the nature of its components being contingent. If all of the events in the series are contingent, then the whole series must be contingent. Claiming the series to be necessary in existence while it is composed entirely of contingent events would be contradictory since by definition, a Necessary Being exists independently of anything else for existence. Ibn Sīnā refers to the Necessary Being as 'the necessary of existence in itself' (*wājib al-wujūd bi-ḏātihi*) in contrast to contingent beings in which their existence depend on an external cause, referred to as 'the necessary of existence through another' (*wājib al-wujūd bi-ghayrihi*).[183] Al-Ījī appears to affirm the argument that if the events and parts of the series are contingent, it is incoherent to conclude that the whole series, which is merely a collection of the parts, is necessary. The world and series which consists of a collection of contingent beings and events must itself be contingent.[184] Following from the contingency of the series and its parts, al-Ījī asserts that there must exist an external cause (from premise 6, 7, and conclusion 3, 4).

III. The impossibility of an infinite regress

In premise 5, it is established that every part of the series is contingent due to its dependency on another part from within the series for existence. In other words, every part in the series, which is both a cause and an effect, depends on the element preceding it, which is its cause, in order to come into being. Hence the contingency of the parts and therefore the contingency of the entire series. Departing from this argument, it follows that both the parts and the series have an external cause which caused both the parts and the whole series. But if this were the case, then we are faced with the possibility that at

[183] Kara Richardson, "Avicenna and the Principle of Sufficient Reason.," *The Review of Metaphysics* 67, no. 4 (2014): 746, https://www.jstor.org/stable/24636440.
[184] Clark, *Readings in the Philosophy of Religion*, 34.

least one part of the series is caused by another part from within the series and also by an external cause independent of the series (premise 8). However, this leads to a paradox because one part cannot be caused by two independent causes. This principle is supported by Leibniz's principle of sufficient reason; that everything possesses one sufficient cause or reason, hence the existence of two independent causes for a single effect would violate this principle.[185] In this way, al-Ījī maintains an efficient way of developing the First Reason. He proves the metaphysical impossibility of an infinite regress of causes by demonstrating the paradox of assuming its existence and the two-causes-one-effect absurdity through contingency.

The final demonstration in al-Ījī's First Reason lies in the argument that if it is the case that one part is caused by an external cause, then that part acts as the end of the chain due to its dependency on the preceding cause from within the series being terminated. This implies the need for the series of causes and effects to end at a First Cause independent of the series, a necessary external being that is not further caused by something else preceding it. This evidently aligns with Aristotle's 'Unmoved Mover' in his *Metaphysics*—that an infinite series of movers or causes is absurd, as it implies a series without an Uncaused Final Cause.[186] Aquinas argues that if the chain of causes extends infinitely, then we would not have any explanation for the existence of anything in the series at all.[187] Al-Ījī's argument adheres to the same line of reasoning, therefore making it persuasive and coherent to disprove an infinite regress.

6.1.1. Addressing Objections

Several objections may be raised upon the First Reason, particularly with regard to the part-whole relationship and the contingent nature of the series. The critical discussion is as follows:

[185] Ibid.
[186] H. J. Easterling "The Unmoved Mover in Early Aristotle." *Phronesis* 21, no. 3 (1976): 260-261. http://www.jstor.org/stable/4181995.
[187] Aquinas, *Summa*, I.2.3.

I. Fallacy of Composition

The dominant theme of the First Reason lies mainly in the relationship between the parts and the entire series as a whole. This opens doors to potential critics who may argue that the argument implies a fallacy of composition. This is because al-Ījī maintains throughout the whole argument that what is true of the part of the series is necessarily true of the whole.[188] Hence the objection may arise from the argument that the contingency of every cause and effect within the series does not necessarily entail the contingency of the whole chain. It is possible that the properties of the whole series are not entirely equal to the properties of the individual parts, just as the individual bricks of a wall are small but that property of the bricks does not entail the entire wall being small. There is a possibility that the whole infinite series is necessary despite its parts being contingent. This part-to-whole reasoning may be linked to mereology, the idea that the whole of something is understood merely as a collection of its components. Hence the series, though considered as a whole, is merely a collection of its parts.[189]

While the fallacy of composition may be a valid concern in certain contexts, the case of an infinite causal series differs. Al-Ījī might argue that the relationship between the parts and the whole in a causal series is distinct in nature from other cases where the fallacy of composition occurs. In instances where properties of the parts do not transfer to the whole, the causal dependence of the parts in a causal series is what determines the nature of the entire series as contingent. For example, the properties of the small bricks which collectively construct an entire wall, do not entail the wall itself to be small as well. Otherwise, one would fall into the fallacy of composition. However the same case cannot be applied to a causal series, hence al-Ījī's position may remain valid. It is not implausible to conclude that the series is contingent, since the parts themselves are a collection of contingent events. Therefore the existence of a First Cause independent of the series is necessary.

[188] Al-Ījī, *Mawāqif,* 90.

[189] Peter van Inwagen. "Composition as Identity." *Philosophical Perspectives* 8 (1994): 207. https://doi.org/10.2307/2214171.

II. The problem of contingency

Al-Ījī's concept of contingency and dependence may appear to be problematically conflated to some critics. Al-Ījī attempts to argue for the contingency of the whole series by establishing that each part is existentially dependent on one another. However, it could be true that the individual causes and effects are dependent on one another while the whole series itself is necessary for existence. For instance, in a sequence of natural numbers, the dependence of the numbers on one another does not necessarily establish the contingency or finitude of the set of the numbers as a whole. Critics may argue that al-Ījī had not provided sufficient justification for the idea that the contingency of the parts necessitates the contingency of the entire series. The argument would have been more compelling if al-Ījī provided a deeper substantial relationship between the nature and contingency of the parts and the nature of the whole series.

Al-Ījī may respond to this objection that the analogy and similarity between a causal series and numbers are problematic due to their distinction in nature. Numbers are abstract entities that exist timelessly, while the series of events exist within the boundaries of time and space, hence subject to the contingent conditions of the world. The concepts of contingency and dependency are not misaligned—by metaphysical definition, contingency entails that the existence of something is impossible without something external to it. Distinct from natural numbers, the dependent nature of the parts in a causal series is a temporal and physical dependence rather than an abstract one.[190]

III. The problem of an external cause

Critics may also object to the First Reason the fact that there is no sufficient justification for an external cause for the series. The claim that the whole series requires an external cause demands further justification. Philosophers may argue that a series of contingent events does not necessarily require an external cause. It is possible that the series is self-sustaining without in need for a cause. For instance, atheists may argue that al-Ījī does not consider alternative perspectives which states that the existence of the series of events and

[190] G. Aldo Antonelli. "The Nature and Purpose of Numbers." *The Journal of Philosophy* 107, no. 4 (2010): 191. http://www.jstor.org/stable/25764438.

the universe is merely a brute fact existing eternally.[191] Opposing viewpoints may contend that al-Ījī has not sufficiently addressed the potential objection that the infinite series of events and in turn the universe's existence may not necessarily require a creator for its existence. His argument lacks a deeper demonstration of why the series cannot be self-sustaining but rather assumes an external cause without an independent justification for the claim. The principle that the series cannot cause itself due to its implication that it would have to precede itself in existence can be challenged. Furthermore, Spinoza maintained that the cause of the universe, and hence the series, is not distinct from the external cause but rather is immanent within the universe itself. He states that the universe is impelled to exist and function in a certain way because of the necessity of the nature of the divine.[192] This may challenge al-Ījī's view that the cause of the universe, despite being necessary for existence, is entirely separate from the universe and the series of contingent events.

Al-Ījī may counter this argument by stating that the existence of the universe as merely a brute fact cannot be adequately supported by logical or empirical proof. The necessary existence for an explanation is the core tenet of the Principle of Sufficient Reason (PSR) by Leibniz, that everything must have a sufficient explanation for its existence. Not every being is a dependent being, including the universe, hence there exists a necessary self-existent being which is the explanation and cause of the universe.[193] Al-Ījī's implication of this being as God is supported by Leibniz as he states that the ultimate explanation and reason of all things must be nothing more than a necessary substance within which the specific details of the change exist only eminently as the source, identified as God.[194]

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[191] See Clark, *Readings in the Philosophy of Religion*, 86; Bertrand Russell, *Russell on Religion*, ed. Louis Greenspan and Stefan Andersson (NY: Routledge, 1999), 21.
[192] Benedict de Spinoza, *The Ethics Part 1: Concerning God*, trans. R. H. M. Elwes (The Pennsylvania State University, 2000), XXIX, 26.
[193] Nelson, Mark T. "The Principle of Sufficient Reason: A Moral Argument." *Religious Studies* 32, no. 1 (1996): 15–16. http://www.jstor.org/stable/20019790.
[194] Nicholas Rescher, *G.W. Leibniz's Monadology : An Edition for Students* (Pittsburgh: University of Pittsburgh, 1991), 22.

6.2. Second Reason

In the Second Reason, al-Ījī introduces the practical proof or the argument from correspondence *(burhān al-taṭbīq)* in order to demonstrate the logical paradox of an infinite regress. As articulated by al-Jurjānī in the *Sharh al-Mawāqif,* the proof is grounded on the assumption that aligning two infinite series of causes and effects would reveal that one of the series is finite and hence actual infinity is impossible.[195] The strength of the Second Reason lies arguably in the proof of application. Although al-Ījī does not explicitly discuss the distinctive implication between a potential and actual infinity in his argument, it is evident that the philosopher attempts to show the impossibility of an actual infinite in the physical world. The series of causes and effects, although assumed to be infinite, cannot be independent of the limits of the physical laws. If Series X is larger than Series Y through the excess number of its parts, then neither series can be infinite in actuality. The intuitive concept that something greater than another by a finite number remains finite renders the argument more persuasive against any possibility of infinite regress. Even if both series were infinite, a successful alignment of the two would contradict the initial premise that Series X is greater, while an unsuccessful alignment necessarily demonstrates nothing other than the finitude of Series Y.

In al-Ījī, the *burhān al-taṭbīq* applies to all cases of an infinite series of tangible entities existing in the empirical, either in a series of causes, effects, elements, or events. He asserts that the proof is universal (*ʿām*); it provides a method of understanding all existing entities in the universe. In any form of series, we may be inclined to infer causal relationships or meaning among the entities due to their occurrence in a particular order. However, al-Ījī maintains that the proof of application may be applied universally including to events or entities that coexist in an appeared series in the universe without any causal relationship or any specific order.[196] If we infer causality from mere patterns of occurrences, we might fall into the risk of misinterpreting the proof by applying it in logically contradictory ways.

[195] Al-Jurjānī, *Sharh al-Mawāqif,* 900-901.
[196] Al-Ījī, *Mawāqif,* 90.

The phenomena of entities existing together in a seemingly correlated pattern may be likened to the orderly planetary alignments in the sky. Over time, we notice a repetitive pattern of alignment which may cause us to infer a causal relationship between the planets. It may be speculated that the particular alignment of one celestial object may be the cause of another to fall into a certain sequence. Hence al-Ījī's emphasis on not inferring a causal relationship from every observed pattern in the universe such as the alignment of the series of planets. The universal applicability of the proof of application means that it ought to be applied to any form of series without necessarily inferring a causality out of mere apparent sequential order. In this way, al-Ījī establishes that the proof remains validly applicable regardless of whether or not the entities of a series are tied in a causal relation.

To analyze the Second Reason and al-Ījī's method of utilizing the proof of application, I shall break it down into the following progressions.

I. Two Sets of Infinite Series

Al-Ījī begins by introducing two infinite series of causes; Series X and Series Y. Both sets of series stretch backward through time infinitely with no beginning. In this case, al-Ījī introduces a vital condition, which is that Series X is larger by a finite number compared to Series Y.[197] Therefore although both are presumably finite, Series X possesses at least one additional number of parts than Series Y. This excess number of parts in one than the other is the first critical proof about the paradox.

II. The Alignment of the Two Infinite Series

Suppose we align Series X and Series Y parallel against each other. In this case, the first part or member of Series X is placed against the first member of Series Y. The second member of Series X against the second member of Series Y, the third of Series X against the third of Series Y, and so on infinitely. As a result, at least some members from one set of infinite series have a corresponding member from the other infinite series. However,

[197] Al-Jurjānī, *Sharh al-Mawāqif*, 900.

the crucial condition remains with the idea that Series X is larger in size and in the number of its parts.[198] The following is an illustration of the alignment:

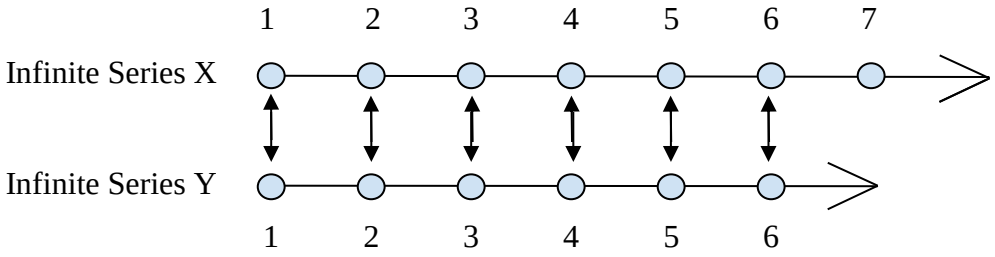

Figure 6.1. Alignment of Infinite Series X and Infinite Series Y

III. The Possible Outcomes

As a result of this alignment, al-Ījī presents two possible outcomes in which both demonstrate the contradiction of an infinite series and challenge the statement about both series being infinite. The two outcomes are as follows; either the alignment of the two series is successful, or unsuccessful. In the scenario where the alignment is successful, both series are positioned perfectly parallel against each other in which every single member from Series X corresponds to its aligned counterpart from the member of Series Y (as illustrated above). If this were the case, and the alignment is successful, it would mean that both of the series possess the same amount of members. Otherwise, the alignment could have not been perfect and not every member from both of the series would have a corresponding counterpart. However, this result leads to a contradiction, since it violates the initial statement that Series X is greater by a finite number than Series Y. In other words, if the alignment is successful, then both series would now be equal in the number of members. On the other hand, if the alignment is unsuccessful, where one member of Series X does not correspond to any member of Series Y, then this part suggests the endpoint of the series.[199] That is to say, Series Y terminates at one point and

[198] Ibid.
[199] Al-Ījī, *Mawāqif,* 90; Al-Jurjānī, *Sharh al-Mawāqif*, 900-901.

hence is finite, and merely potentially infinite in which it is continuously moving towards infinite but can never match the number of members of Series X. This conclusion is absurd since it contradicts the initial premise that both of the series are infinite. The finitude of Series Y which is revealed through the unsuccessful alignment disproves actual infinity.

IV. Implication

The proof of application appears to have successfully suggested the paradox of an actual infinite causal series. If both Series X and Y were infinite, we would not have arrived at a contradiction where a finite nature of the series is revealed through the alignment. The fact that the proof implies that both of the series cannot be equally infinite suggests that an actual infinite regress of causes cannot exist in reality. The same paradox is revealed when we imagine counting forward from 1 to infinity in two different lists of elements. List A begins at 1 and List B at 2, both lists being infinite. However since List B begins at 2, List A would have an excess member (i.e. 1) with no corresponding counterpart from List B. As a result, it would be contradictory to treat both lists as completely aligned infinite lists since there will always remain one unmatched member from one of the lists.

The proof, however, also suggests the problematic notion that multiple infinite series can be treated as comparable entities in the same way that finite beings are observably comparable. In finite sets, subtracting or adding a member alters the size of the series in a clear-cut manner. However, if the series were infinite, then the addition of a finite number of members does not alter its infinite nature; both of the series should remain infinite.[200] Al-Ījī's approach in treating the infinite Series X and Series Y as two comparable series as if they were finite may suggest a logical inconsistency. Hence it may be argued that the proof of application exposes the limitations of applying the finite approach of alignment to an infinite entity.

A crucial distinction between an actual and potential infinity is reflected through al-Ījī's attempt to use the proof of application. By suggesting that Series Y cannot match the

[200] See Massachusetts Institute of Technology, *Mathematics for Computer Science, Chapter 7: Infinite Sets,* 210, MIT OpenCourseWare, accessed November 25, 2024, https://ocw.mit.edu/courses/6-042j-mathematics-for-computer-science-spring-2015/mit6_042js15_session11.pdf.

number of the parts in Series X, despite both being conceptually infinite, the proof directly implies that infinity may be merely potential rather than actual in the physical universe. Although we may reason about both of the series extending

infinitely, it does not necessarily mean that their actualization in the empirical world is possible. This understanding echoes Aristotle's discussion about the concept of potential and actual infinity. Aristotle defines potential infinity as a process or sequence that continues endlessly but never arrives at completion. For instance, in the process of counting or adding numbers, even though we can always add another number, it can never culminate in an actual infinity; the state remains merely potentially infinite.[201] In al-Ījī's result of the proof of application, it is demonstrated that both Series X and Y cannot be actual infinities. If both series were infinite in actuality, none of them would have more parts or be larger than the other; whether some parts are subtracted or added, both series should remain infinite.

6.2.1. Addressing Objections

In the Second Reason, al-Ījī had already anticipated an objection against the proof of application.[202] I shall discuss below including another possible objection by Cantor.

I. Critique of *Burhān al-taṭbīq*

The first objection that al-Ījī brings attention to is the critique that the *burhān al-taṭbīq* does not apply to the ranks or degrees of numbers, particularly with regard to infinite sequences of whole numbers. They argue that aligning two sets of infinite series of numbers in which one is larger than the other would not render them finite. The critics illustrate two sets of whole numbers in which the first set is multiplied an infinite amount of times whereas the second set is multiplied over a limited amount such as a thousand. Hence the first set is larger than the second in terms of the amount of numbers. Suppose we apply the proof of application to both of the two sets to disprove infinity. The first

[201] See Hintikka, Jaakko. "Aristotelian Infinity." *The Philosophical Review* 75, no. 2 (1966): 199. https://doi.org/10.2307/2183083.
[202] Al-Ījī, *Mawāqif,* 90.

number of the first set is aligned with the first of the second set, the second number is aligned with the second number of the other set, the third number with the third of the other set, and so on. The critics as mentioned by al-Ījī in the *Mawāqif* argue that this method does not yield the second set or either one of the sets being finite since both sets of whole numbers in this case will remain infinite regardless. Therefore there will always remain an infinite amount of numbers in the sets that are left unaligned, even when you align a large amount of numbers from both sets. This conclusion suggests that the proof of application is inapplicable with regard to infinite numerical sets.

In response to the critique of the proof of application, al-Ījī emphasizes that the existence of effects, including numerical sequences, is dependent on their actual existence (*wujūd*) in the physical world rather than in the abstract realm of thought. He attempts to highlight the crucial distinction between the nature of effects or events in the universe and numerical entities. The existence of the effects (*ma'lūl*) in the series is determined by their tangible existence in the universe rather than by the perception of mental thought or abstract imagination (*wahm*). Abstract entities on the other hand such as sets of whole numbers are constructs of mental or imaginary perception (*wahmiyya*).[203] Even if we suppose the existence of an infinite series of whole numbers, the human mind is incapable of conceiving such an infinity or assimilating it entirely. Therefore, anything abstract of pure mental thought such as an infinite series of numbers cannot have a concrete existence. The proof of application is validly applicable only in sequential entities that are tangible, countable and possess finite structures where an alignment is possible. Since numerical entities such as infinite sequences of whole numbers do not have their place in physical existence, they do not possess finitude qualities where a concrete alignment of two sets for an alignment to be achievable. Therefore, the criticism against the proof of application failing to disprove infinity in an infinite numerical series is invalid. Numerical entities cannot be subjected to the proof of application to their nature of existence.

In this argumentation, al-Ījī introduced a critical concept; imagination or illusion (*wahm*). It refers to the mental state of reality which diverges from physical and actual reality; the

[203]Al-Jurjānī, *Sharh al-Mawāqif*, 902.

estimative or intentional faculty.[204] This suggests al-Ījī's emphasis on the division between the sensory and the imaginary or abstract faculties. It appears that *wahm* for al-Ījī in this case is equal to a form of deception, such as a fantasy; a manifestation of an imperfect reality through mental perception. This reflects a crucial epistemic limit; the *wahm* as a mental state cannot be reliable in ensuring an accurate state of an external and tangible reality. Therefore, *wahm* remains a mental construct subjective in nature, essentially differing from the objective phenomena in the world which can be confirmed through the sensory faculties. It is merely a speculative or estimative faculty that perceives intention or imagination.[205] In cases of infinite series of numbers, their nature remains theoretical belonging to the mental infinities within the realm of *wahm* rather than a tangible reality. The limitations of *wahm* and mental capacity in al-Ījī are explicated deeper by al-Jurjānī in the *Sharh.* The mind's incapability of conceiving infinity challenges the possibility of actual infinity as a physical phenomenon. This understanding is reflected in Kant's notion of ''thing-in-itself'' (*noumena*), things that are not regarded as what they appear.[206] It is the truth of reality that lies beyond both human cognition and sensory experience. While the concept of infinity can be discussed or reasoned, the human mind can never fully grasp or experience it directly, it belongs outside of the limits of the empirical world. With a similar line of reasoning, al-Ījī uses *wahm* to argue that an infinite sequence of numbers is merely imaginary; the mind can never comprehend it entirely, hence it cannot exist in actuality.

II. Impossibility of Verifying an Actual Infinite Series

A possible objection could be raised on al-Ījī's proof of application failing to empirically verify an actual infinite causal series. The proof relies on empirically observing two series of causes and effects in the universe and logically determining whether a perfect alignment is possible. It assumes that it is empirically possible to observe the two infinite series.

[204] Banchetti-Robino, Marina Paola. "Ibn Sīnā and Husserl on Intention and Intentionality." *Philosophy East and West* 54, no. 1 (2004): 75, http://www.jstor.org/stable/1399863.

[205] Ibid, 73.

[206] See Allison, Henri E. "Things in Themselves, Noumena, and the Transcendental Object." *Dialectica* 32, no. 1 (1978): 56. http://www.jstor.org/stable/42971399.

However, an actually infinite series of events in the universe can never be entirely observed or verified empirically since, by definition, infinity possesses no endpoint. Suppose we trace all of the causes and effects of every event in the universe that leads up to the present moment in order to verify an infinite temporal series. However, an actual infinite temporal past cannot be empirically observed since the endless sequence of temporal events renders no beginning point to access or reference in order to exercise an alignment. In an actual infinite series, we are constantly left with more causes and events receding to an unobservable and hence inaccessible past. As a result, the proof from correspondence's reliance on aligning two infinite series through empirical observation is infeasible. The proof cannot apply conclusively to the physical world, as any observable causal series would be none other than finite. Kant may support this objection by arguing that an infinite temporal regress of events is beyond empirical verification since the human experience is limited by finite conditions. A totality of an actual infinite series, though possible conceptually and logically, is not possible to be perceived through empirical cognition.[207] This renders the proof of application questionable as a tool for disproving any actual infinite causal series.

The critique assumes that the proof requires empirical observation and verification to align two infinite series. However, the proof aims to examine the coherence of an infinite series conceptually in order to verify logically. The logical question of how an infinite regress of causes could sustain a causal continuity without a First Cause challenges an actual infinite series regardless of human's empirical capability of its observation. Al-Ījī's argument concentrates on the problematic logical implication of infinite regress. Therefore, the proof of application need not rely on empirically aligning two infinite series but rather on conceptually examining whether the concept of an actual infinite causal series itself is logically feasible. Kant's argument about the limits of empirical knowledge may be utilized to reason both for and against such an infinite regress. Despite human's limited finite empirical perception, an infinite whole series remains logically coherent.[208]

[207] Rosalind Chaplin, "Kant on the Conceptual Possibility of Actually Infinite *Tota Synthetica*," *Kantian Review*, April 19, 2024, 1, https://doi.org/10.1017/s1369415424000220.
[208] Ibid, 5.

This suggests that the proof of application may remain valid as a logical critique against infinite causal series despite the constraints of empirical verification.

6.3. Third Reason

Al-Ījī's Third Reason is centered on the argument that the finitude of every distance between each point of cause and effect renders the entire series finite. Every gap or distance (*masāfa*) between every element in the series is bound by two 'restrictors', that is the preceding cause and the subsequent effect.[209] This in turn demonstrates the finite nature of every distance which makes up the entire causal series. If every distance or interval within the series is finite, then the aggregation of these series of intervals cannot produce a causal series that is infinite; rather, they only yield a totality of a series that remains finite in nature. An infinite causal series cannot be composed out of a collection of finite individual segments.[210] With this reasoning, al-Ījī essentially maintains that infinity cannot be constructed from a collection or a series of finite elements. This suggests al-Ījī's view of infinity being necessarily entirely limitless or unbounded in all respects, without the essence of any finite element that is part of the series.

Al-Ījī introduces the concept of *masāfa* when denoting the interval between every cause and effect in the series. He clarifies his argument by presenting the notion of a measurable parsec; that if the distance between every cause-effect pair is not more than a parsec, a finite measure, then the sum of all of the distances within the causal series cannot yield an infinite chain. No matter how many finite measurable distances are added cumulatively, the sum does not lead to an infinite total.[211] Al-Jurjānī in the commentary provides an illustrative example to clarify al-Ījī's argument. Suppose there is a series of points such as points A, B, C, D, and so on *ad infinitum*, but with a certain finite distance between every point. Assume we take the approach of separating every pair of points (i.e. A with B, B with C, etc.) by a smaller division, such as less than a meter. Even if we divide every interval into more segments infinitely, the sum of all of the intervals between every point

[209] Al-Ījī, *Mawāqif,* 90.
[210] Al-Jurjānī, *Sharh al-Mawāqif*, 906.
[211] Ibid.

remains a finite sum. This implies that the series cannot be infinite since the sum is measurable.[212] If infinity is possible and the series is infinite, then measuring and calculating the total distance between every cause-effect pair would be impossible. This paradox is the crux of the Third Reason; assuming the causal series to be infinite leads to the contradiction of having a measurable sum of intervals, rendering the series finite.

The Third Reason implies the discussion around the question of whether infinity can be formed or acquired through the construction of finite elements. Al-Ījī's explicit answer to this is the opposing view; that infinity by definition is unbounded, indivisible, and cannot be a cumulative of finite entities. Al-Ījī's notion about the totality of finite distances of the series and the impossibility of an actual infinite series reflects Zeno's paradox, particularly in the arguments about infinite divisibility and summation. The pre-Socratic Zeno of Elea (1628-1671) introduced the well-known Paradox of Achilles and the Tortoise to show the problematic nature of infinity. The crux of the argument lies in the idea that even if Achilles gives the tortoise a head start in a race, he will never outrun the tortoise because, at every distance point that he covers, the tortoise would have always reached a slightly further point ahead. Even when this sequence of reaching a further distance made by the tortoise and Achilles goes on to infinity, the difference in distance would remain the same; the tortoise would have always acquired a greater distance compared to Achilles.[213]

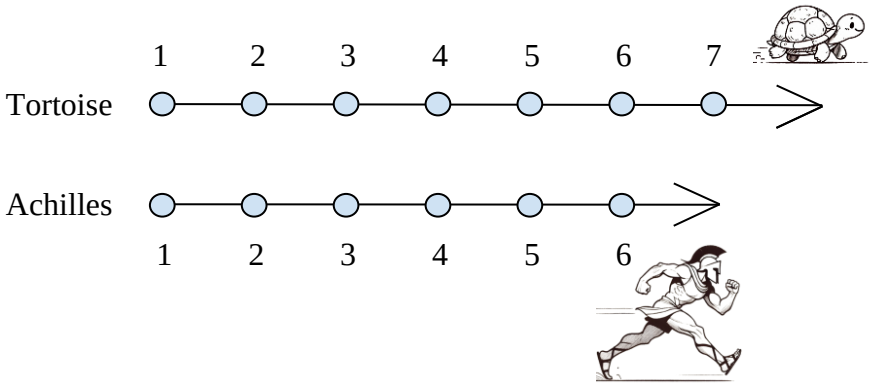

Figure 6.2. Distance between Achilles and the Tortoise

[212] Ibid, 906-908.
[213] See Black, Max. "Achilles and the Tortoise." *Analysis* 11, no. 5 (1951): 91–101. https://doi.org/10.2307/3326455.

The process of Achilles acquiring a distance in the series may be divided infinitely, which renders him to have to run an infinite number of distance points in order to overtake the tortoise. However, even if this was the case, the sum of both the distance and time taken by either Achilles and the tortoise translates to a finite sum, even when the sequence of the running tasks may be infinite. If the series of distances can be divided infinitely, then Achilles could never complete a finite task such as overtaking the tortoise, which is absurd since this task is not impossible. The paradox in Zeno's example lies in the idea that any finite distance between two points can be divided into smaller distances infinitely. Although the intervals within the distance may become continuously smaller, the sum of the intervals may stretch into infinity, rendering the completion of Achilles' motion seem impossible, which is absurd. Some scholars have made attempts to answer Zeno's paradox by arguing that it may be possible for an infinite number of actions to occur in the physical world. This idea is based on the concept of an infinitesimal: the interval of time or space that exudes the quintessence of smallness. Other scholars argue that these intervals in the empirical world cannot be subdivided infinitely, allowing Achilles to complete his mission.[214] In the Third Reason, al-Ījī rejects the possibility of ever attaining an actual infinity; the cumulative sum of finite distances and the division of the intervals can never yield infinity.

6.3.1. Addressing Objections

I. Appeal to Intuition

Al-Ījī explicitly acknowledges the flaw of the Third Reason by referencing a philosopher who has admitted its flaw while utilizing the argument.[215] It is revealed by al-Jurjānī that the philosopher referred to by al-Ījī is al-Suhrawardī, who argues that the argument of the Third Reason employs an appeal to intuition (*ḥads*). Nonetheless, as a philosopher of illuminationist tradition (*ishrāqī*), al-Suhrawardī considers intuition as the ''highest demonstrative proof'' (*al-burhān al-'arshī*). According to al-Suhrawardī, the flaw of this argument lies in its lack of logical deduction; the conclusion of the existence of a First

[214] McLaughlin, William I. "Resolving Zeno's Paradoxes." *Scientific American* 271, no. 5 (1994): 85. http://www.jstor.org/stable/24942910.
[215] Al-Ījī, *Mawāqif,* 91.

Cause in the causal series can rather be accepted as an intuitive (*ḥadsī)* inference.[216] In this case, intuition is an immediate cognitive faculty that is capable of grasping truths without rational or logical analysis. Al-Suhrawardī argues that inferring a necessary First Cause within an infinite causal series is an activity of a direct intuitive grasp. Hence it appears that intuition in this framework is considered as a faculty acquiring truths from the gap between abstract reasoning and metaphysical realms. Despite its lack of appeal to rational reasoning, intuition has been accepted as a higher form of knowledge that extends beyond the boundaries of logical deduction. According to al-Suhrawardī's illuminationist tradition, logical reasoning, while coherent, is ultimately subordinate to illumination or intuition which is a more direct apprehension of truth. Rather than reason, intuition is a necessary tool for comprehending metaphysical realities such as the necessary existence of a First Cause. For al-Suhrawardī, intuition is equal to divine revelation which comes to an individual through mystical vision or perception.[217] For al-Suhrawardī, intuition is a spiritual enlightenment from which one may perceive the First Cause, which is described as the Light of Lights (*nūr al-anwār*).[218] Nevertheless, al-Suhrawardī does recognize the flaw of intuition due to its lack of demonstrative method. If it were the case that arriving at a First Cause is an intuitive conclusion, then one may object to al-Ījī's Third Reason by arguing that the intuitive method is potentially subjective and hence is more vulnerable to error.

The critique that intuition is likely subject to error overlooks the truth about certain metaphysical truths operating in a domain where deductive methods and empirical observation are restricted. Intuition ought not to be viewed as mere subjective insight; it is a cognitive faculty capable of accessing knowledge through a disciplined intellect and spiritual refinement. Al-Suhrawardī maintains that properly cultivated illumination and intuition may reveal objective truths, hence his identification of intuition as the highest

[216]Al-Jurjānī, *Sharh al-Mawāqif*, 908.

[217] Marcotte, Roxanne,'Reason (*'aql*) and Direct Intuition (*Mushāhada*) in the Works of Shihāb al-Dīn al-Suhrawardī (d. 587/1191)', in T Lawson, ed., *Reason and Inspiration in Islam: Theology. Philosophy and Mysticism in Muslim Thought* (London: IB Tauris with The Institute of Ismaili Studies, 2005), 222-3.

[218] Al-Suhrawardī. *Ḥikmat al-Ishrāq (The Philosophy of Illumination)*. Translated by John Walbridge and Hossein Ziai (Brigham Young University Press, 1999) 126-127.

demonstrative proof (*al-burhān al-'arshī*).[219] Ultimately, logical reasonings themselves are likewise potentially susceptible to error or subjectivity. The premises and rules of inference on which deductive reasoning is grounded may be flawed if either the reasoning method is erroneously applied or when the assumptions or statements are incorrect. Some reasonings such as logical fallacies, though appearing to be sound and valid, may cause false conclusions.

Al-Jurjānī highlights the distinction between intuitive proof *(al-burhān al-ḥadsī)* and practical proof (*burhān al-taṭbīq*) in the commentary. He maintains that intuitive proof is used to apprehend non-empirical and abstract concepts such as infinity. To illustrate, al-Jurjānī explains the cases of an infinitely divisible line segment. With intuitive proof, we are capable of arriving at an understanding of the continuity of the line. A line segment that appears finite in terms of its length is divisible infinitely into further smaller parts. Suppose we zoom in on a straight-line segment infinitely. Al-Jurjānī argues that by intuition, we can comprehend that the line remains a continuous entity. Rather than having gaps, the line is a smooth and continuous unbroken entity. Al-Jurjānī suggests that in reasoning with abstract concepts such as an infinite regress of causes, the intuitive proof reveals the direct inherent contradictions of such concepts. However, al-Jurjānī does call attention to the contrast in terms of dealing with measurable quantities that are not infinitely divisible, such as cases in empirical reality. In such scenarios, al-Jurjānī argues that applying the intuitive proof is unwarranted. The practical proof in such cases is more reliable and sufficient.[220]

II. The Idea of a Limit

Al-Ījī's Third Reason centers on the argument that an infinite series cannot be formed out of finite parts; since the parts of the causal series are an aggregation of finite intervals and points, the whole series cannot be infinite. However, in light of Georg Cantor's mathematical perspectives, al-Ījī's argument may encounter an objection. Using the theory of transfinite numbers, Cantor demonstrates that an infinite set can be constructed from

[219] Al-Jurjānī, *Sharh al-Mawāqif*, 908.
[220] Ibid.

finite members. Infinite sets such as the series of the set of natural numbers N = {1, 2, 3, …} are regarded as a collection of finite elements which nonetheless yield an infinity.[221] Even when an amount of finite elements is added to the set, the set remains infinite in an infinite totality, hence it does not require any individual element to complete the set towards infinity. In an infinite set of natural numbers, the series remains infinite despite every element being finite. Though at any juncture we possess a certain finite number of members, the series itself continues infinitely. Cantor's theory demonstrates that the sequence of natural numbers can be stretched infinitely without the necessity of a final number to complete the set.[222] The continuous process of addition by the individual elements does not diminish the infinite nature of the series. This set is countably infinite since every element can be placed into a one-to-one correspondence with the set of natural numbers itself while it is infinite in size. In al-Ījī's causal series, the assumption that every interval and the cause-effect pair necessarily culminate a total sum overlooks the possibility of the series continuing infinitely without a final point. Just as the set of natural numbers can continue indefinitely with the finitude of every element, a causal series is equally possible to be infinite despite the finitude of every cause and effect.

The objection invokes the concept of transfinite sets; the notion that a set can be infinite with the collection of finite elements without the need for a final element. This argument is compelling in set theory, while al-Ījī's argument about causal series operates within a different approach. The key difference lies in al-Ījī's argument on the accumulation of elements in the case of a causal series. The causal relationship in the series involves observable events in the universe in which the intervals between each cause and effect are finite in duration and dependent on the preceding event. Unlike a mathematical set of numbers, a causal series pertains to the transition from one event to the next which entails a basis for the subsequent event. As argued by al-Ījī, is impossible for such a series to be infinite; infinity renders the non-existence of a First Cause and hence the non-existence of a trigger to initiate the entire series, which is absurd.[223] Cantor's argument about the

[221] See Thomas Jech, *Set Theory: The Third Millennium Edition, Revised and Expanded* (Springer, 2006), 13.
[222] Ibid, 20.
[223] Al-Ījī, *Mawāqif,* 91.

infinite sets explores the mathematical process of counting rather than causal necessity. In a causal series, every part of the series is not only finite but a dynamic element that causes the next event and simultaneously an effect of the preceding event.[224] With such a nature, an infinite series with the absence of a first initiating cause is untenable.

6.4. Fourth Reason

Al-Ījī's Fourth Reason is built upon the imbalance between the amount of causes and effects in an infinite series. Al-Ījī maintains that in any causal series, every cause must correspond to a subsequent effect, and every effect must correspond to its preceding cause. Therefore, the members in the series serve both as a cause and as an effect. This is true except for the first and last member; for in a finite series, there is a first Uncaused cause and a last effect which does not cause anything thereafter. In this way, the number of causes would be equivalent to the number of effects within the causal series.[225] Below is a graph to illustrate the argument, where 'C' denotes 'cause' and 'E' denotes 'effect', indicating every member is both a cause and effect except for the first and last member:

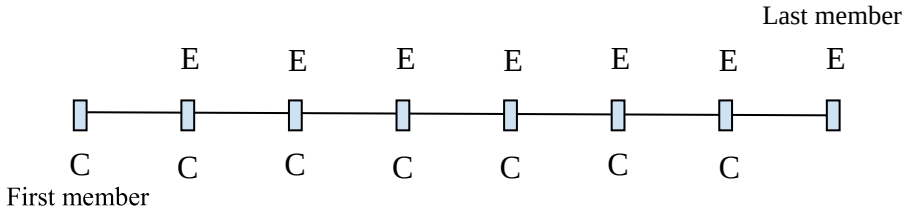

Figure 6.3. Finite Causal Series in al-Ījī

In such a causal series, al-Ījī points out that the causal relation that extends forward temporally, cannot be reversed. That is to say, a cause cannot revert into becoming an effect of the entity which it initially caused. Likewise, an effect cannot be reversed, turning into a cause for the entity that caused it in the first place. Now suppose it is true that the

[224] Miller, Barry. "Necessarily Terminating Causal Series and the Contingency Argument." *Mind* 91, no. 362 (1982): 204-207. http://www.jstor.org/stable/2253478.

[225] Al-Ījī, *Mawāqif,* 91.

causal series in the universe is infinite and we trace the series starting from its last member and extending temporally backwards infinitely. If this is the case, as al-Ījī argues, there would be no First Cause that is not also an effect of a preceding cause (i.e. Uncaused Cause), but rather only a last member which is merely an effect with no causal role for any subsequent effect. As a result, the amount of effects would outnumber the causes, which is absurd, since there cannot be an excess amount of effects than causes in any causal series.[226]

To illustrate, the infinite causal series should appear as follows:

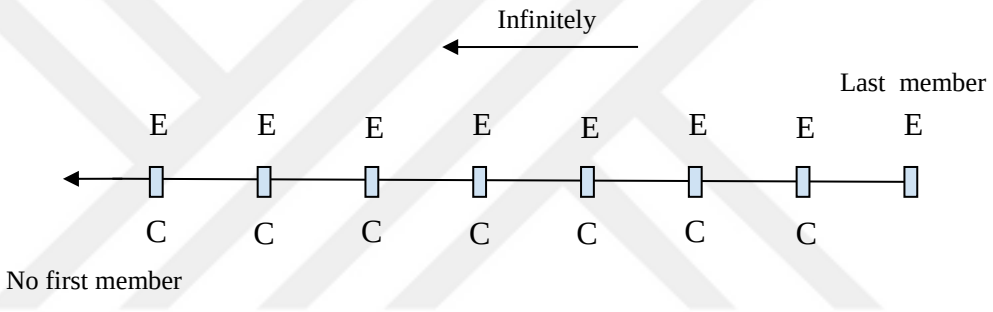

Figure 6.4. Infinite Causal Series in al-Ījī

As displayed above (Figure 6.4.), al-Ījī shows the impossibility of an infinite causal series through the contradictory result of the effects exceeding the number of causes. Unlike a finite series, where the series begins with a First Cause and extends forward temporally without reversal, an infinite series, conversely, can be imagined by starting from the last member and extending reversely backward in time infinitely with no first member. The result that the last member is merely an effect introduces an imbalance of numbers between the causes and effects, which is absurd. Al-Ījī argues that it is logically inconsistent to have more effects than causes in any form of causal series. Hence, an infinite causal series in which the effects outnumber the causes is logically impossible (*muḥāl*).[227]

[226]Al-Jurjānī, *Sharh al-Mawāqif*, 910.
[227] Al-Ījī, *Mawāqif,* 91.

Syllogistically, the main argument of the Fourth Reason may be outlined as follows:

Premise I:

In any causal series in general, every effect must have a cause, and every cause must have an effect, whereby the number of causes would be equal to the number of effects.

Premise II:

In a finite causal series, every member, except the first and the last, is both a cause for its subsequent effect and an effect of its preceding cause. The first member is merely a cause and the last member is merely an effect, aligning with the causal principle about the equality between the number of causes and effects.

Premise III:

If a causal series is infinite without a First Cause, every member is both a cause and an effect, except the last member, which would only be an effect with no causal role for a subsequent effect, rendering the number of effects exceeding the number of causes.

Premise IV:

But in a causal series, the number of effects exceeding the number of causes is logically contradictory.

Conclusion:

Therefore, an infinite causal series is impossible; it must be finite.

A recurrent theme in the Fourth Reason is that while al-Ījī does not explicitly discuss the distinction between an actual and potential infinity, the philosopher does imply that an actual infinity (a completed and fully realized infinite causal series), is incompatible with the empirical world and the nature of causation. The notion of an actual infinite series is rejected since it would violate the principle of causality where the number of causes is equal to the number of effects. While al-Ījī does not outrightly reject the concept of

potential infinity by explicitly mentioning the concept theoretically, he does deny that an infinite series can ever be realized in the universe. Hence this notion obliquely aligns with the concept of potential infinity where the causal series can be theoretically extended infinitely but can never be fully actualized as a completed whole entity. The emphasis in al-Ījī's conclusion, ultimately, is that the causal series in the universe must be finite; it is necessary that the series possesses a first Uncaused cause.

6.4.1. The Exceptional Case

Al-Ījī introduces an exceptional case (*al-istithnā'iyya*) in the Fourth Reason where the number of causes and effects is unequal but nevertheless holds a valid causal relationship.[228] Al-Jurjānī clarifies this exceptional proposition in the *sharh* of a parent such as a father and his many sons to illustrate the case. In a causal series, as al-Ījī states, it is often assumed that every cause must have a corresponding effect and vice versa, rendering the number of causes equal to that of the effects. However, in other cases, it is possible and logically valid for one cause, such as a father, to cause multiple effects, such as his sons.[229] The critical distinction between the exceptional case and the general causation case is that the former rests on the relationship between the causes and effects while the latter on the total number of them. In the father-son analogy, the father is a singular cause that brings about multiple effects, which are his sons. Despite the discrepancy in numbers between the single cause and its effects, every effect shares an equal causal relationship with the cause; every son with the father. In this case, the causal relation is equal, rendering the causation between them valid since the equality between the causes and effects depends on the equal existence in which they share. With this exceptional case, al-Ījī suggests that the logical validity in causal series can be, in some cases, retained through the equal existence and relational connection between the cause and effect, rather than their equality in number.[230]

[228] Al-Ījī, *Mawāqif,* 91.
[229]Al-Jurjānī, *Sharh al-Mawāqif*, 910.
[230] Ibid, no. 1278.

The exceptional case in al-Ījī addresses a potential critique that the correspondent relation between causes and effects, in any case, might allow for an infinite causal series. Ultimately it demonstrates that the existence of any being or event in the universe is insufficient without a first explanatory ground. Furthermore, it not only reinforces a First Cause but also suggests the coherence of a singular, Uncaused cause capable of giving rise to multiple contingent effects. Ibn Sīnā stated a similar argument about a singular cause having the power to cause multiple effects despite being one. All intelligible and material entities in the world emanate from the one Necessary Existent (*wājib al-wujūd*) through the process of emanation (*ṣudūr*).[231] Hence the Unity of the Necessary Cause does not hinder the multiplicity of its effects that lead to a series of causes and effects. Ultimately, the *wājib al-wujūd* is the ultimate source of all of the existing contingent entities, disproving the idea of an infinite causal series and the eternal existence of the universe.[232]

6.5. Fifth Reason

Al-Ījī's Fifth argument is grounded in a self-sufficient entity in which its existence is necessary for itself (*al-wājib li ḏātihi*) initiating the casual series.[233] This First Cause serves as the entity that ultimately terminates the series of causes and effects, preventing an infinite regress. Al-Jurjānī begins the interpretation of the Fifth Reason with the premise that every contingent part in the causal series depends on a preceding cause that stretches backward in time but it cannot extend infinitely. Even if we add up a series of contingent causes infinitely, it cannot exist without a Necessary Being as the First Cause, terminating (*inqiṭā'*) the series and rendering it finite rather than infinite.[234] Al-Ījī aims to emphasize the self-existent (*wājib li ḏātihi*) nature of the Necessary Being which does not depend on any other cause for its existence.[235] This being is crucial for demonstrating the beginning point of the causal series as well as the explanation for why the entire series

[231] Parviz Morewedge. "The Logic of Emanationism and Ṣūfism in the Philosophy of Ibn Sīnā (Avicenna), Part II." *Journal of the American Oriental Society* 92, no. 1 (1972): 3, 14. https://doi.org/10.2307/599643.
[232] Ibid, 1.
[233] Al-Ījī, *Mawāqif,* 91.
[234] Al-Jurjānī, *Sharh al-Mawāqif*, no. 1280, 910-912.
[235] Al-Ījī, *Mawāqif,* 91.

exists and why the universe exists at all. In the *sharh*, al-Jurjānī elaborates his interpretation of the Fifth Reason by highlighting the distinction between the series of causes (*'ilal*) and the series of effects (*ma'lūlāt*). He argues that the principle of the termination of the causal series applies only to the series of causes.[236] In other words, it is necessary to end the regression of a series of causes since without a primary cause, it would be impossible to explain the existence of any existing contingent being. Conversely, the series of effects, in principle, can extend infinitely. This is because effects are mere outcomes of causes, hence they do not act as explanatory grounds for a series.

6.5.1. Addressing Potential Circularity

Al-Ījī warns against the potential fallacy of falling into circular reasoning (*dawr*) which could have undermined the robustness of the Fifth Reason. He draws attention to the potential fallacy of proving the Necessary Being by negating the existence of the infinite causal series while simultaneously resulting in the negation of the series by evoking the Necessary Being. Such reasoning would result in a circularity where both assertions hinge on the validity of the other.[237] That is to say, if we were to prove the existence of the Necessary Being merely by negating the infinite causal series, the entire argument would be flawed; the invalidation of the infinite chain would be determined by the Necessary Being, and the validity of the existence of the Necessary Being would concurrently be based on negating the series. I shall break down al-Ījī's argument on the potential circularity in the following way with two syllogisms:

First Syllogism

> Premise I: A series of causes must terminate; it cannot extend infinitely.
>
> Premise II: The series of effects does not need to terminate.
>
> Premise III: A series terminates with a primary cause which is a Necessary Being.
>
> Conclusion: Therefore, there exists a Necessary Being that acts as a primary cause of a series of causes, terminating the series.

[236] Al-Jurjānī, *Sharh al-Mawāqif*, no. 1280, 910-912.
[237] Al-Ījī, *Mawāqif,* 91.

Second Syllogism

Premise I: A Necessary Being exists.

Premise II: The existence of the Necessary Being explains the termination of the series of causes.

Conclusion: The series of causes is terminated.

The circular reasoning of the entire argument can be seen by the conclusion of the first syllogism being also used as the first premise of the second syllogism. This reflects the circularity in classical syllogistic logic in general, where the conclusion of one syllogism is simultaneously a premise in another, rendering both conclusions of the two syllogisms dependent on one another without independent support. Namely, the conclusion of the argument is justified by the premises while concurrently the premise is justified by the conclusion.[238]

To solve this matter, al-Ījī posits that the proof of the existence of the Necessary Being must be independent of any premise or negation of the infinite causal series. That is, the existence of the Necessary Being must be established despite any arguments that merely reject an infinite series.[239] Al-Jurjānī clarifies in the commentary that to avoid circularity, the concept of the necessary First Cause must be derived from its self-sufficiency and existential independence of any external causes; its attributes that are intrinsic to its nature.[240] With these attributes, the Necessary Being exists as a self-evident truth rather than merely a conclusion derived from external negations or rejecting premises like the possibility of an infinite regress. This approach assures that the proof for a Necessary Being is not subject to any reasoning errors of presupposing the argument of what it aims to prove.

[238] Baggini, *The Philosopher's Toolkit*, 84.
[239] Al-Ījī, *Mawāqif,* 91.
[240] Al-Jurjānī, *Sharh al-Mawāqif*, no. 1280, 910-912.

6.6. Salient Features of the Five Reasons

In the Five Reasons, al-Ījī incorporates both the arguments from the temporality or finitude of the universe as well as the argument from the contingency of it. Al-Ījī's reasoning is certainly influenced by the earlier scholars, such as al-Ghazālī and Ibn Sīnā. The contingency argument (*dalīl al-imkān*), which establishes the Necessary Existent (*wājib al-wujūd*) was primarily posited by Ibn Sīnā.[241] While the temporality argument (*dalīl al-ḥudūth*) was introduced to the Islamic philosophical tradition by al-Ghazālī on the temporal beginning of the universe.[242] These two principles appear to have significantly laid the foundation for al-Ījī's Five Reasons. However, al-Ījī's Five Reasons presents a rather more systematic and refined argument that presents a synthesis between the *dalīl al-ḥudūth* and *dalīl al-imkān.* The First, Second, Third, and Fourth Reasons are primarily built upon the temporality argument or the *dalīl al-ḥudūth.* The Fifth Reason is mainly structured on the contingency argument or the *dalīl al-ḥudūth.* However ultimately, both elements of the temporality as well as contingency argument are both implicitly assimilated in each of the Reasons.

The First, Second, Third, and Fourth Reason rest on the temporality *(ḥudūth)* argument in that they demonstrate the impossibility of an infinite series of past events; that is to say, the universe's temporal beginning. The core idea of the temporality argument which the three aforementioned Reasons attempt to prove is that the universe began to exist in time; an actual infinite series of causes or past events in the world is not possible.[243] The main argument is that whatever begins to exist must have a cause; the view supported by Ash'arites including Mu'tazilites on the basis of divine creation. The way that the first four Reasons incorporate the contingency argument is that they do not only establish the temporal beginning of the universe. They also demonstrate the contingent or possible (*mumkin*) nature of the universe, hence it requires a Necessary Being (*wājib al-wujūd*) to sustain it. The Fifth Reason ends the entire set of Five Reasons with the contingency (*imkān)* argument by proving the existence of a Necessary Being terminating the series.

[241] Shihadeh, "Avicenna's Proof of the Existence of God: Problem 7.", 145.
[242] Goodman, ''Ghazali's Argument from Creation. (I)'', 73, 77.
[243] Al-Jurjānī, *Sharh al-Mawāqif*, no. 1251, 892.

The core idea of the contingency argument is that since the universe's existence is merely contingent or possible (*mumkin*), it relies on a Necessary Cause which is God to exist. The main argument is that whatever is contingent requires a Necessary Being to bring out its existence. This principle was prominently developed by Ibn Sīnā in his proof of God's existence.[244] It appears that al-Ījī attempts to support the robustness of his entire argument by embedding the contingency argument in the Fifth Reason as the final part of the entire Five Reasons. In the Fifth Reason, al-Ījī maintains that the Necessary Being must be proven independently of negating an infinite regress.[245] In other words, the *wājib al-wujūd* is a self-evident truth and is logically required as the First Cause.

[244] Shihadeh, "Avicenna's Proof of the Existence of God: Problem 7.", 143..
[245] Al-Ījī, *Mawāqif,* 91.

CHAPTER VII

CONCLUSION

The Five Reasons against infinite regress by ʿAḍud al-Dīn al-Ījī in the *Mawāqif fī ʿilm al-Kalām* is a significant set of arguments for proving God's existence, particularly in post-classical *Kalām.* As an Ash'arite theologian, although al-Ījī structures his arguments mainly on the basis of the proof from temporality (*dalīl al-ḥudūth*), the philosopher also incorporates elements of the contingency proof (*dalīl al-imkān*) to strengthen his case. This is likely due to al-Ījī's influence on the major arguments formulated by Ibn Sīnā and al-Ghazālī. The First, Second, Third, and Fourth Reasons are primarily focused on demonstrating the temporal beginning (*ḥudūth*) of the universe. The Fifth Reason takes the contingency (*imkān*) argument to finalize the entire Five Reasons by establishing the existence of a First Cause that terminates the series. This synthesis as well as the systematic structured argument into Five Reasons marks the robustness and novelty of al-Ījī's infinite regress argument in the *Mawāqif*. His arguments constitute another, somewhat different and refined version of the cosmological argument, particularly within the Islamic philosophical tradition.

The First Reason of al-Ījī centers on the contingency of the series of causes and effects being the premise leading to the necessity of an external cause that terminates an infinite causal regress. The argument reflects al-Ījī's foundation of classical Islamic metaphysics for proof of God's existence while relying on the Principle of Sufficient Reason. In the Second Reason, al-Ījī introduces *burhān al-taṭbīq*; the method of comparatively aligning two infinite series to highlight the contradictions that arise out of an infinite causal series. The paradoxes of the result of the alignment would render an infinite causal regress impossible. Al-Ījī also addresses the potential limitations of this method as well as its universal applicability towards any form of series. The Third Reason draws on the intervals or distances (*masāfa*) between every point of cause and effect within the series.

The argument lies on the reasoning that a collection of finite elements (i.e the finite intervals) cannot yield a series that is infinite. In this section the parallels of the argument with Zeno's paradoxes including the logical implications of summation and infinite divisibility is explored carefully. The Fourth Reason rests on the principle of causality in which the number of causes must be equal to the number of effects in any causal series. The argument concludes that an infinite causal series results in the excess in the number of effects over the causes, which contradicts the symmetry of causation. In this section al-Ījī brings exceptional case (*al-istithnā'iyya*) where the numerical asymmetry does not invalidate the causal series, including the discussion of both the strength and limitations of the argument. The Fifth and final reason emphasizes resolving the potential circularity fallacy in proving the existence of a Necessary Being through the negation of an infinite series. Al-Ījī attempts to establish the self-evident nature of the First Cause of the series without the necessary dependency of invalidating the series. The critical analysis of al-Ījī's reasons is fortified by al-Jurjānī's explanations and interpretations in his *Sharh al-Mawāqif.* Each of the Five Reasons is evaluated in this paper in light of the Islamic as well contemporary philosophical foundations and challenges.

Among the key parts of al-Ījī's analysis is his use of the *burhān al-taṭbīq* in the Second Reason (proof of application) to demonstrate the logical paradoxes of infinite series. The incoherence of infinite sets of causes and effects strengthens the argument that the universe must have a beginning. In the Western tradition after al-Ījī, we encounter a similar formulation of the Five Ways by Thomas Aquinas, which are also arguments for a First Cause. However, al-Ījī's Five Reasons are more centered on demonstrating the incoherence of an infinite causal series and the logical necessity of a the First Cause as the being that terminates the series. While these evaluations confirm that al-Ījī's arguments can be undeniably considered as part of the cosmological argument tradition, the Five Reasons is a distinctive formulation in its own right. This is because his arguments are not only a response to the existing arguments on infinite regress, but also an original contribution through his unique approach of formulating the five systematic reasonings.

Taking into consideration all of Five Reasons of al-Ījī collectively, I would argue that it is a competent set of arguments against an infinite regress. Particularly due to the systematic methodology that he applies which aligns with the *Kalām* tradition where al-Ījī employs a rational inquiry. With this sort of approach, it is undeniable that al-Ījī is indeed an important figure in the Islamic theological and philosophical tradition. However, the Five Reasons in the *Mawāqif* had been significantly understudied. There are little to no discussions about al-Ījī's version of the Cosmological Argument in the discourse of metaphysics and Philosophy of Religion in both the Islamic as well as the Western intellectual traditions. Among the problem of infinite regress that has been already widely explored such as in Aristotle, Ibn Sīnā and contemporary philosophers such as William L. Craig, the contributions of the relevant topic from the *Mawāqif* remains overlooked. This is also evident from the absence of al-Ījī's scholarly recognition by the comprehensive texts on causality in Islamic philosophy. While the arguments about the necessity of a First Cause has been rigorously put forward by al-Ghazālī and Ibn Sīnā, al-Ījī's Five Reasons on this discourse is worthy of sufficient attention, particularly as part of the Islamic philosophical tradition.

Al-Ījī's methodical approach in addressing infinity in a causal series demonstrates his intellectual depth and commitment to utilizing philosophical methods in metaphysical inquiries. As we have seen in the Mawāqif, al-Ījī put forward a clear argument about his stance against infinite regress, by establishing five systematic reasons for his argument. The Five Reasons are one of the indicators of al-Ījī's mastery in logical analysis and engaging in philosophical problems in an organized and persuasive manner. In his attempt to prove the finitude of the universe, al-Ījī does not directly and explicitly mention the being of the First Cause as God. The reason for this is deliberately due to al-Ījī's intention of engaging a broader audience beyond the scope of the Muslim community, particularly in terms of questioning the notion of actual infinity. The aim of this is to demonstrate the temporal beginning of the universe, as well as the necessary existence of a Creator. Apart from inviting readers to utilize reason in metaphysical questions, al-Ījī also addresses existing objections of his arguments to acknowledge potential criticisms and support his Five Reasons.

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