Al-Ghazali, *The Argument Against Eternity*

1. **Avicenna: Causes Necessitate Their Effects:** Recall that, somewhat confusingly, Avicenna says that ALL things that exist, exist necessarily. But, he doesn’t mean by this that contingent beings are really necessary beings. To understand, we must recognize that he sometimes considers beings in themselves and sometimes through another.

The Necessary of Existence exists necessarily “through itself”. In other words, it gets its necessity from itself (because its essence IS existence). So, when considering ONLY the Necessarily Existent (i.e., God), we see that He is a necessary being—WITHOUT considering his relationship with anything else. Avicenna writes, “What is necessarily existent through itself is that which is owing to itself, not to any other thing.” (*Book of Salvation*, 2.1)

Contingent beings, on the other hand, are possible “though themselves”. When considering ONLY the contingent being by itself, we see that it is merely possible—i.e., it can exist or not exist. However, when we consider it IN RELATION to other things, its existence or nonexistence becomes NECESSARY. As an example, he mentions the burning of some wood. By itself, this is merely possible. It could happen, or not. But, if we consider the wood PLUS contact with fire, then the burning necessarily occurs (i.e., it MUST occur). In this case, its existence is “necessary through another”. On the other hand, if we consider the wood WITHOUT the contact with fire, then burning necessarily does NOT occur. In this case, the NON-existence of the burning is necessary through another. He writes,

“with respect to the thing itself, it exists possibly; with respect to introducing an association with that other, it exists necessarily; and with respect to disrupting the association with that other, it exists impossibly. ... [In sum,) what exists necessarily through another exists possibly through itself. This is convertible. Thus, everything existing possibly in itself—if indeed its existence has occurred—exists necessarily through another. (*ibid.*, 2.2-2.3)

In short, every contingent being exists possibly “through itself” but necessarily “through another”. This is just a way of saying that contingent beings do not get their existence from themselves; but, when their causes are present, they MUST exist.

2. **Two Commitments of Avicennian Philosophy:** In his *Tahāfut al-Falāsifa* (*The Incoherence of the Philosophers*), Al-Ghazali has some scathing criticisms for Avicenna and his followers. He believes that Avicenna is committed to the following two claims, both of which are false and contrary to the Muslim faith:
(a) The universe is eternal
(b) God is not free

(a) The universe is eternal: Avicennians believe this for two reasons:

First Point: Change Requires a “Determinant”: If creation has a beginning in time, then there would be a time BEFORE creation when there was only God, in which case God sat around for a long time not creating and THEN He decided to create. But, this change requires an explanation (a “determinant”). When God finally creates, we might ask: “Why now, and why not before?” Did something in God’s will change? Did His power change? Or what? Say that His will changed. Well, now THAT requires an explanation: Why did God change His will NOW and not earlier? Did a new desire appear in God? Some new reasons? Or what? And now THAT thing will require an explanation... And so on, which is absurd. For, as eternal, God is fixed and immutable. He cannot change. So, the whole premise of God changing his will, desire, or activity, etc., is absurd. In short,

“If the determinant did not emerge, the world should still remain in the state of bare possibility, in which it was before. But if it has emerged ... why does it come into being now, and did not do so before? ... [I]t is absolutely clear that the procession of the temporal from the eternal is impossible, unless there were a change in the eternal in respect of power, or means, or time, or nature. And it is impossible to suppose a change in the states of the eternal.” (Incoherence, pr. 1)

Second Point: Fully Present Causes Necessitate Their Effects: You might think God could have willed FROM ETERNITY that the world begin in time. But the Avicennian denies this possibility. For, remember, causes necessitate their effects. Avicenna believes that:
Whenever (a) the cause is fully present, and (b) nothing is hindering the cause, then the effect must also be present, “concurrent” (or, simultaneous) with the cause.

For instance, generally, when the Sun is present, so is the cause of its light. But, if (b) something is blocking its light, then light will be absent. For (a), imagine a match and some newspaper—fire is not yet present because the cause is not FULLY present. A third thing is needed: You must STRIKE the match. [Ghazali gives an example of a man who declares that a divorce will not become official until sunrise. Here, the sufficient cause is the declaration+sunrise. So, before sunrise, the full cause is not yet present.]

Since God is eternal, He is ALWAYS present. So, if His creation is NOT always present, then before the universe began it must have been either be the case that (a) the complete cause was still absent, or (b) something was hindering the cause. But, nothing hinders God. He is all-powerful. So, (b) is false. Furthermore, there is no change or anything that God has to “wait for” prior to creation. So, (a) is false. It follows that the world is present whenever God is; i.e., it must be eternal. In short,
“It is impossible for the cause to fail to produce its effect when all the conditions and factors requisite for the causal operation are complete and nothing else remains to be awaited. ... With intention being coupled with power, and with all obstacles having been removed, it is unintelligible that the intended thing should be delayed.” (Incoherence, problem 1)

Anyone who disagrees, and denies the eternity of the world, must say the following:

That the Cause existed; that all the conditions of its efficiency were complete, so that nothing else remained to be awaited; that, in spite of all this, the origination of the effect was postponed over a length of time, the beginning of which cannot be imagined, and which could not be measured out even by millennia; and that eventually the effect made its appearance all of a sudden, without a new factor coming into operation, or a new condition being realised. And such a thing is intrinsically impossible. (ibid.)

In short, if God is eternal, and unchanging, then He is ALWAYS present—and furthermore, whatever will He had to create would ALSO always be fully present. Therefore, His creation would always be present too.

Problem: Ghazali believes that this view is contrary to the Muslim faith. For, the Qu’ran states that the universe DID have a beginning.

Avicennian Reply: The Sun and its effect (namely, light) are simultaneous in time. But, the Sun is still “prior” to the light in the sense that it is a CAUSE of, or is EXPLANATORILY PRIOR to, the light. So, “in the beginning God created the heavens and the earth” gets re-interpreted as not meaning that there is a beginning in TIME, but rather that God is a “beginner” or FIRST CAUSE of the universe

(b) God is not free: If God (the complete cause of the universe) has ALWAYS existed, and effects MUST come into existence whenever their causes are fully present (they are “necessary through another”), then it seems as if God did not create freely. Avicenna’s view entails that God causes the world in much the same way as the Sun causes light—it just necessarily flows (or “emanates”) out of Him. But, then, He doesn’t seem to have any choice in the matter, and God “acts” or “wills” only in the metaphorical sense, as a stone “wills” to move toward the ground. They say,

“We do not care whether the cause is an agent by nature, or by will ... What we mean by God’s being the Agent is that He is the Cause of the existence of every other being: that He sustains the world: that if He had not been, the existence of the world would have been inconceivable; and that if His non-existence could be supposed, the world should cease to exist, as with the supposition of the non-existence of the Sun, light should cease to exist.” (Incoherence, problem 3)
Problem: Again, Ghazali says that this is contrary to the Muslim faith. He is quite upset by this, stating, “this is the place where these idiots have fallen into error”:

“You have denied the reality of the meaning of an action, retaining the word itself in order to find favor with the Muslims. But religious obligations cannot be fulfilled merely by applying words which are devoid of meaning. Therefore, do assert that God has no action, thus making it clear that your belief is opposed to that of the Muslims. Do not dishonestly say that God is the maker of the world, and that the world is His Product. For you have not discarded this word, yet you have denied its reality. And the purpose of this problem was to expose this dishonesty.” (ibid.)

3. Against the Eternity of the World: More generally, Ghazali’s problem with Avicenna is that he doesn’t think his proof for God’s existence works if the universe is eternal. He agrees with Avicenna that, IF the universe DOES have a beginning, then it requires a necessary being to cause it. But, he REJECTS the claim that the universe were eternal (i.e., a beginningless series of contingent causes), it would require a necessary being to cause it. Avicenna believes it would be absurd to deny that a collection of contingent beings must ALSO be contingent (so that it too requires a cause). Ghazali disagrees, writing:

“we do not admit that it is absurd. To call it absurd is like one’s saying that something eternal made up of temporal events is impossible. ... [E]ach cause has a cause, but the aggregate of these causes has no cause.” (Incoherence, prob. 4)

But, Ghazali goes further. He offers a PROOF against the eternity of the world (which, in turn, doubles as a proof for the existence of God. The proof is very simple, as follows:

1. Whatever begins to exist has a cause.
2. The universe began to exist.
3. Therefore, the universe has a cause (and this is God).

He offers variants of this proof in three of his works:

• “The world began in time; and ... nothing which originates in time originates by itself, and ... therefore, it needs a creator.” (Incoherence, problem 4)

• “The Existence of God: Its proof is that we say: ‘The occurrence of every occurring has a cause; the world is an occurring; it necessarily follows that it has a cause.’ ... For we mean by ‘occurrence’ that which was nonexistent and then became existent.” (Moderation in Belief, proposition 1)

• “The first fundamental is the knowledge of His existence ... It is self-evident to human reason that there must be a cause for the origination of anything originated. Since the universe is originated it follows that there was a cause for its origination.” (The Jerusalem Tract)
Premise 1: Whatever begins to exist has a cause: Ghazali believes that the first premise is obvious, and hardly in need of argument. When something begins to exist, then it goes from nonexistence to existence. But, nothing can cause ITSELF to exist (for, then it would need to exist before it exists, which is impossible). It needs an external cause (or “giver of preponderance”).

We do not intend by ‘a cause’ anything other than the giver of preponderance. In summation, for a nonexistent whose nonexistence continues, its nonexistence would not change into existence unless something comes along that gives preponderance to the side of existence over the continuation of nonexistence. *(Belief, proposition 1)*

Note that premise 1 only states that whatever BEGINS to exist requires a cause. God did not begin to exist, so He requires no cause. Here, Ghazali seems to buy into the Avicennian view of necessary being (which appeals to essence vs. existence), writing, “If its existence were necessitated by its essence, it would be necessary, not contingent.”

Premise 2: The universe began to exist: This is where all of the action is. He believes that nothing can be eternal if it has parts that begin and end (as is the case whenever there is change). He offers the following argument for premise 2:

1. The universe contains things that begin to exist (e.g., change, motion, etc.).
2. Whatever contains things that begin to exist ITSELF began to exist.
3. Therefore, the universe began to exist.

Ghazali’s best defense of this occurs in his *Moderation in Belief* (First Proposition), where he offers three distinct proofs for the second premise. (Again, the action is in P2.)

(a) **No Infinite Series Can Be Completed:** If the universe contains motions and changes, and it is eternal, then there would have already had to have been an infinite number of these. His go-to example is the rotations of stars and planets. Imagine that the Solar System had existed for ETERNITY—with no beginning. This means that we would have orbited the Sun an INFINITE number of times. In that case, we have ALREADY completed an infinite series. Ghazali thinks that this is impossible, however, since an infinite series cannot be completed. He says, “if this were the case, then what is infinite would have passed, would have been followed by void, and would have concluded.”

*[To illustrate Ghazali’s point, consider an example:]*

**Infinite Counter:** Imagine that there has ALWAYS been The Count from Sesame Street. He has always existed, and as long as he has existed, he has been counting down. Today, he is about to reach zero. “Negative two!” he says. “Negative one! Zero!!! Ah ah ah!” (“Who is the Count?” you ask? Find him [here](#).)
Now, it seems clear that, if I begin counting up ("one, two, three..."), I will never reach infinity. One can never count TO infinity. But, why should it be any different in the other direction? How could one ever count FROM infinity?

It seems like The Count should reach zero today, because (if the past is beginningless) there were an infinite number of moments before today. But, wait... There were also an infinite number of moments before YESTERDAY. So, it seems like The Count should have finished counting yesterday. But, wait... There were also an infinite number of moments before A YEAR AGO, or A BILLION YEARS AGO. In fact, no matter how far back in time we go, it seems like The Count should have ALWAYS ALREADY FINISHED counting (since, no matter how far back in time we go, there was always an infinite amount of time before that). But, that is absurd. Therefore, an infinite series cannot be completed.

(b) **Infinity, Even, and Odd**: Consider the number of times that the Earth has gone around the Sun (and that it has been in orbit eternally). Either this number is even, odd, both, or neither. Clearly, it cannot be both even AND odd; nor can it be neither even NOR odd. Only two coherent options remain. And if you discovered that the number was even (or odd), it wouldn’t be very upsetting.

But, now imagine that the universe is eternal, and there have been an INFINITE number of orbits. Ghazali says that the two remaining options are ALSO incoherent. For, imagine that the number of orbits were even. Well, any even number can be made odd by adding one to it. But, infinity doesn’t NEED any number to be added to it in order to achieve that number. It is COMPLETE.

Similarly, if the number of orbits were odd, it would only need to be increased by one in order to be even. Again, infinity CAN’T be increased by one. It shouldn’t NEED one more in order to become even. It has ALL THE NUMBERS! For this reason, Ghazali says that the concept of an actually infinite series of events is incoherent.

[Note that the primary response to al-Ghazali was ‘neither’. Simply put, the number of the planetary rotations are NEITHER even nor odd because ‘even’ and ‘odd’ do not apply to infinity. These concepts only apply to FINITE numbers. This was, for instance, Averroes’ (Ibn Rushd’s) reply in his Incoherence of ‘The Incoherence’, in which he criticized Ghazali:

“This account applies only to what has a beginning or end ... As for whatever ... [has] neither a beginning nor an end, neither being even nor odd, or beginning or terminating, or going into the past or into the future applies to it. ... So it is not described as being either odd or even ...” (Incoherence of the Incoherence)
But this reply is not available in the following case.

**The Lamplighter:** (inspired by *The Little Prince*) A tiny little planet has been rotating for eternity, and upon it there has ALWAYS lived the lamplighter. The planet is so small that, one minute, sunset arrives, and the next minute, sunrise. The Lamplighter lights a single lamp with the arrival of every sunset, and extinguishes it with the arrival of every sunrise. Here is a question: Is the lamp presently on, off, both, or neither?

The lamp cannot be NEITHER on nor off! That is incoherent. Nor can it be both on and off. That is a contradiction. So, is it ON? But, why should it be on instead of off? For, the lamp would have only needed to be switched one more time in order to have been presently off. But, it’s already been switched on and off ALL THE TIMES; i.e., infinity times. So, that’s incoherent. And similarly if we predict that the lamp should be presently off.

(c) **Infinity = Infinity ; and Infinity ≠ Infinity:** Ghazali points out that Saturn orbits once every 30 years, while Earth (though he says the Sun) orbits every 1 year. In that case, the number of Earth’s orbits are 30 times that of the number of Saturn’s orbits. And yet, if the universe is eternal, their orbits are both infinite in number. We appear to have a contradiction.

- Earth’s Orbits 30x > Saturn’s Orbits
- Earth’s Orbits = Saturn’s Orbits (i.e., \( \infty \) = \( \infty \)) *

In short, the number of Earth’s and Saturn’s orbits are both equal and NOT equal. This is absurd, and so an actual infinite is impossible.

[* Why are they equal? It seems true that, if the members of two sets can be placed into a one-to-one correspondence, then the sets have an equal number of members. Consider:

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\begin{align*}
\{1, 2, 3\} & \quad \text{For every member of the first set, there is a corresponding} \\
\downarrow & \quad \text{member of the second set. No members are left out. This is} \\
\{5, 6, 7\} & \quad \text{what we mean by a one-to-one correspondence.}
\end{align*}
\]

But, if the universe has no beginning, then the same thing can be said of the number of Earth’s and Saturn’s orbits. Do you see why?]

[To illustrate Ghazali’s point, consider the famous thought experiment of *Hilbert’s Hotel*.]
**Hilbert's Hotel:** Imagine that there is a hotel with an infinite number of rooms. Now, imagine that ALL of the rooms are full. Every room is occupied by exactly one person. What if someone were to come along and ask if there are any vacancies?

We might think that such a hotel, since it is full, would have no vacancies. But the clerk at the front desk is easily able to accommodate one new guest in the following way: The clerk has everyone exit their rooms at once. She then assigns the guest from room #1 to room #2, and the guest from room #2 to room #3, and the guest from room #3 to room #4, and so on, so that every guest in the hotel moves to the next room over.

Now, room #1 is vacant! With a finite number of rooms, this would be impossible. Say there are 10 rooms. The guest from room #9 goes into room #10, but where does the guest from room #10 go? That guest is left without a room, because THERE IS NO room #11. But, when the number of rooms is infinite, THERE IS NO LAST ROOM. So, no one gets cheated by the room swap.

What is worse, the clerk could create an INFINITE number of vacancies in a similar way; for instance, she could assign the guest from room #1 to room #2, the guest from room #2 to room #4, the guest from room #3 to room #6, and so on, so that every guest goes to the even numbered room that is (their own room #) x 2. Now, all of the odd-numbered rooms are vacant. But, there are an infinite number of those! Now the hotel has an infinite number of occupied rooms (namely, the even ones) AND an infinite number of vacancies (namely, the odd ones).

The purpose of this example is to demonstrate that an actual infinite cannot exist, since if it did it would lead to absurdities. Clearly it is absurd to think that we could create a vacancy in a completely full hotel merely by having the guests swap rooms!

**4. Objections:** Ghazali has concluded that the universe MUST have had a beginning, and therefore a cause. And that cause is God. Here are some objections.

(a) **Time Before Time:** Ghazali says that God is prior to the world. And yet, if He was prior IN time, then apparently He just sat around for eternity doing nothing and then suddenly decided to create (which they think is absurd, as we’ve seen). The only alternative is to say that God is prior to time itself. But, then, how can God be prior to the world as a cause if there was no “BEFORE” before time? They write,

it follows that, before the existence of the world and time, there was a time when the world did not exist. ... On this view, accordingly, there must be an infinite time before time. But that is self-contradictory. And for this reason it is impossible to believe in the origination of time. (*Incoherence, 1*)
Reply: Ghazali’s reply is that his opponent is confused. In order to demonstrate, he likens time to space. As it turns out, Avicennians DO believe that (unlike time) SPACE is finite. Yet, they discuss what is “beyond” or “outside” of the universe. They mean this only metaphorically, of course. There is no space beyond space itself. Time, he says, is like that too:

Time did have a beginning; and it was created. And before time, there was no time whatsoever. ... When we say "God is prior to the world and time," we mean ... that His being was the only being (before the existence of the world). ... But ... [strictly speaking] the world has no 'before'. ... If you say: "The commencement of an existence, which had no 'before', is unintelligible," the rejoinder will be: The existence of a finite body, which has no 'outside,' is unintelligible. If you say: "Its 'outside' is its own surface whereby it is bounded off. It has nothing external to it which could be called its 'outside,'" we will say: In like manner, its 'before' is the beginning of its existence whereby it is limited (in that direction). It has nothing external to it which could be called its 'before.'

(b) **Al-Ghazali Committed to an Actual Infinite?:** Ghazali believes that God’s power and knowledge are infinite. As such, he too believes that there are actual infinites (e.g., the objects of God’s knowledge).

Reply: This is confused. It is not as if God’s knowledge consists of actual OBJECTS (i.e., concrete things). Only THAT kind of actual infinite results in absurdities.

(c) **Equivocation:** Some contemporary philosophers have criticized this argument for “equivocating” on the phrase “begins to exist”. By “equivocation” is meant that the meaning of a term is used in two different ways in the premises of an argument. Consider the following:

1. Elizabeth is a chair.
2. All chairs have four legs.
3. Therefore, Elizabeth has four legs.

On the face of it, this argument is valid. But, clearly, something has gone wrong here. Namely, the word “chair” is being used in different ways (namely, as a chair of a department in P1, and a thing that you sit on in P2).

Similarly, if Ghazali’s claim that time itself had a beginning, then the argument,

1. Whatever **begins to exist** has a cause.
2. The universe **began to exist**.
3. Therefore, the universe has a cause.
should REALLY say:

1. Whatever **begins to exist IN TIME** has a cause.
2. The universe **began to exist WITH TIME**.
3. Therefore, the universe has a cause.

This argument is invalid. That is, the conclusion does NOT follow from the premises. We could make it valid by changing premise 1 to say “Whatever begins to exist WITH time has a cause”, but are we confident that this true? We’re fairly comfortable with the claim that things that begin to exist IN time must have causes. But, what if TIME ITSELF begins to exist? Does it even make sense to say that a thing which begins WITH time must have a cause? Aren’t causes supposed to be BEFORE their effects? But, there WAS NO "before" before time itself.

Reply: Al-Ghazali’s reply would be to insist that whatever begins to exist in ANY way requires a cause. If time ITSELF began, then there must be a cause of time. This just means that the cause of time must be "outside" of time. In this case, the cause is still “before” the effect, but God is only “before” the universe in terms of causal priority, not temporal priority.

*Are you satisfied with this? Note that, if the universe has a beginning, then the alternative to Ghazali’s view is to accept that the universe—including time itself—just popped into existence out of absolutely nothing for NO REASON whatsoever. Which is more absurd? The atheist’s answer or the theist’s?*

(d) **Funny Business with Infinity:** You might think that al-Ghazali is primarily relying on some funny-business that goes on with infinity. We can “prove” all kinds of wacky things by using the absurdity of infinity. For instance, centuries before al-Ghazali, Zeno “proved” that motion was impossible. Here’s one of his examples:

**Zeno’s Paradox:** You want to get across a football field.

**Destination 1:** To do so, you first have to go halfway across, to the 50-yard line. You now have 50 yards to go.

**Destination 2:** To get across that, you first have to go halfway across, to the 25-yard line. You now have 25 yards to go.

**Destination 3:** To get across that, you first have to go halfway across, to the 12.5 yard line (or between the 12 and 13, or whatever). You now have 12.5 yards to go.

**Destination 4:** …. And so on, such that every time you get to your new destination, you still have another halfway to go!
In fact, there are an infinite number of these “new destinations” that you must get to before you can get to the other side of the field. And completing an infinite number of these is impossible. So, you never get to the other side of the field.

Zeno seems to have “proved” something here that is clearly false (people DO IN FACT cross football fields all the time!). So, it stands to reason that something similarly fishy is going on in Ghazali’s examples.

Furthermore, if anything, Zeno has shown that we CAN complete an infinite series! There is an infinite series of “halves” that you must traverse in order to cross the football field. More generally, you complete an infinite series every time you move ANY finite distance in time or space!

Reply: Perhaps Zeno’s paradoxes are not analogous to Ghazali’s. Consider:

- Zeno’s examples involve UNEQUAL increments (where each new increment is increasingly smaller than the last), whereas Ghazali’s examples involve increments of EQUAL sizes.

- Zeno’s examples involve completing an infinite series by traversing a FINITE duration/distance. Meanwhile, Ghazali’s examples involve traversing an INFINITE duration/distance.

- Zeno’s examples attempt to demonstrate the absurdity of a “potential” infinite (i.e., that you can never start from scratch and “get to” infinity). Meanwhile, Ghazali’s examples attempt to demonstrate the absurdity of an “actual” infinite (i.e., his absurdities follow from his supposition that the universe is in fact beginningless, in which case it is ALREADY infinite).