

## Why Time is In Your Mind: Transcendental Idealism and the Reality of Time

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In this Chapter, you will learn about **Immanuel Kant's** (1724-1804) view that time is a *category of human understanding*, not a real property of the world. According to Kant, our mind imposes time on the world. If Kant is right, there is no such thing as “time” outside of our minds. Instead, time is one of the ways the human mind organizes and understands its perceptions. (*Space* is another.) You will also read one of Kant's most famous arguments for this view: the **first antinomy of pure reason**.

#### I. How did we get here?

Where does our knowledge about the world come from? Kant's predecessors developed two different answers to this question. According to the **rationalists**, we can gain knowledge about the world by pursuing **pure** or **a-priori reasoning**. An a-priori argument is an argument that does not rely on any sensory inputs. In other words, it is an argument that relies *only* on your own reasoning and on nothing else. Here is an example of an a-priori argument:

1. The word “bachelor” means “unmarried man.”
2. Socrates is a bachelor.
3. *Therefore:* Socrates is an unmarried man.

This argument is a-priori because you do not need to go out into the world and investigate Socrates to know that the conclusion is true. Instead, you can know that the conclusion is true just by applying the definition of the words used in the argument. Rationalists tried to use complex a-priori arguments to answer **Metaphysics** questions, such as whether there is a God, or whether the world has a beginning in time.

**Empiricists** had the opposite view. According to empiricists, *all* of our knowledge comes from our senses. Empiricists largely thought that metaphysical questions like “Is there a God?” or “has the world always existed” *could* not be answered, because we cannot observe the answers with our senses.

Kant began his life as a rationalist, but he quickly realized that both rationalism and empiricism had fatal flaws. Rationalism is **dogmatic**: it relies on definitions and assumptions that can't be proved themselves—at least not by rationalist arguments. That's true even for our simple Socrates example. After all, the only way to find out if Socrates *is* a bachelor is to go out into the world and find him. We don't really know if Socrates is unmarried except if we just assume that he's a bachelor. So, our rationalist argument about Socrates doesn't really tell us anything at all about Socrates.

Empiricism, in contrast, leads to **skepticism**. This was most famously demonstrated by **David Hume** (1711-1776), who was himself one of the most prominent empiricists. He argued that if all of our knowledge comes from our senses, then we ultimately can't really know anything meaningful about the world. Hume provides a famous example of this problem. Suppose you're at the bar playing pool. You see that one ball hits another, and the second ball starts to move. It might seem logical to assume that the first ball hitting the second ball *caused* the second ball to move. But you actually don't *know* this—at least, not if you're an empiricist. Because you don't *see* that the movement of the first ball *caused* the second ball to move. You only see two subsequent events: one ball moving, another ball moving. Even if you play pool a hundred, or a thousand times in a row, all you see is that every time your ball hits another ball, that ball starts to move. You see what Hume called a **constant conjunction** (a **correlation**). But many things are correlated without being causally related. For instance *the number of people who*

*drown in swimming pools* in a certain period of time is correlated with *the number of films Nicolas Cage appears in* during that same period.<sup>1</sup> But though Cage's acting may frequently disappoint, it doesn't cause swimming pool drownings. The point is: you can only ever see correlations in the world. Without more, we never *know* whether anything causes anything else. If you are an empiricist, the same kind of problem comes back for almost any kind of knowledge about the world. So you end up with skepticism, the view that we can't really know anything about the world at all.

Neither skepticism nor dogmatism are happy outcomes: either we know nothing, or our knowledge comes from definitions that we just assume to be true. In an attempt to get out of this problem, Kant developed an alternative to rationalism and empiricism called **Transcendental Idealism**. Kant agrees with the skeptics that we can never know what the "real" world looks like from an objective perspective. We couldn't know, for instance, what the world would look like to God. That is true for the simple reason that we aren't Gods: we are mere humans who must perceive the world through limited senses and understand it with a limited mind. But, Kant realized, we *can* know things about the world *as it appears to creatures with minds like us*.

## II. Transcendental Idealism

The next step in Kant's argument is a shocking one: according to Kant, **time and space** are not features of the "real world" but only features of the world as it appears to creatures like us. In other words, our brain **adds time and space** to every observation.

This is a difficult idea to wrap your mind around, so consider a simpler example first. Imagine that there are no colors in the world—only shades of gray (more than fifty!). When we

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<sup>1</sup> See Tyler Vigen, *Spurious Correlations*, <https://tylervigen.com/spurious-correlations> (last accessed 01/28/2022).

see color, that is because the different shades of gray out in the world are processed differently by our eyes and brains, to create the *illusion* of colors in the world. And imagine that every human processes these shades of gray in the same way, so that we all see color the same way, even though there are no “real” colors in the world. We could still talk about colors to one another in exactly the same way as we do now. In one sense, all of the information we exchange about colors would be accurate, because it accurately reflects how we all experience the world. In another sense, the information would be inaccurate, because color is generated by our eyes and brain—it’s not actually a feature of the “real” world. An objective observer who sees the world as it really is would not see colors. To use Kant’s terminology, in this imagined world color would be **empirically real** (because we all experience it) but **transcendentally ideal** (because it’s a part of our minds, not the real world).

This is exactly the situation Kant believes us to be in, except with respect to time and space instead of color. The real world doesn’t have either time or space. Instead, the human mind adds time and space to the world—just like in our example, our minds added color to the world. This allows us to gain knowledge about how the world works—including knowledge of cause and effect—in the same sense as the people in the colorless world could gain knowledge about colors. Such knowledge would be true about the world as it’s observed by creatures like us—creatures who add space and time to all observations. But it would not be true about the world objectively speaking, because time and space are part of our minds, not part of the outside world. To use Kant’s words again, time and space are empirically real but transcendentally ideal.

### **III. Kant’s Proof of the Unreality of Time**

We will now turn to one of Kant’s arguments for his view that time is imposed on the world by our minds. According to Kant, whenever we assume that time and space are real properties of

the world, we commit ourselves to a contradiction. Kant calls this contradiction the **antinomy of pure reason**. This antinomy involves four contradictions, but we will focus only on the first, which is about the unreality of time. Appropriately, this argument is called the **first antinomy**, and it is in an argumentative form called a **reductio ad absurdum** (“reduction to the absurd”).

A *reductio* argument works by starting with the assumption it intends to disprove. Then, the argument shows that if the assumption is true, something ridiculous or impossible would also have to be true. Since the impossible can’t be true, our assumption also can’t be true. We use basic reductio arguments without realizing it all the time. Someone in an argument about household chores might use a reductio like this:

1. You think I should do the dishes tonight? (*assumption*)
2. Well, we both agreed that it wouldn’t be fair for one person to do *all* the chores.
3. And I’ve already done every other chore today!
4. If I also had to do the dishes, then I would have to do all the chores today, which we agreed isn’t fair. (*contradiction*)
5. *Therefore*, I should not have to do the dishes tonight. (*conclusion*)

This very simple argument works like a reductio because it shows that the assumption (the speaker has to do the dishes) implies something ridiculous (the speaker has to do all the chores).

Kant’s argument about the unreality of time is a complex reductio that consists of two steps—two separate arguments. We start with the assumption that time is real, because that’s what Kant wanted to disprove. If time is real, Kant points out, then *either* the world has to have had a beginning in time, *or* the world has to have always existed. In the first part of his argument (called the **thesis**) Kant shows that it is impossible that the world has existed forever. Instead, the

world must have had a beginning in time. But in the second part of his argument (called the **antithesis**) Kant shows that it is *impossible* for the world to have had a beginning in time. So it must always have existed. This is how Kant arrives at the contradiction: if time is real, then it would be true *both* that the world has always existed, *and* that the world had a beginning. But that's impossible. Therefore, the assumption that time is real leads to a contradiction. Because the assumption leads to a contradiction, it is false. Therefore, time is not a real feature of the world.

Here are Kant's arguments in his own words:

### **The Antinomy of Pure Reason: First Conflict of the Transcendental Ideas**

**Immanuel Kant, *Critique of Pure Reason* (A247/B455—A429-B457)**

#### Thesis

The world has a beginning in time, and in space it is also enclosed in boundaries.

#### Proof

For if one assumes that the world has no beginning in time, then up to every given point in time an eternity has elapsed, and hence an infinite series of states of things in the world, each following another, has passed away. But now the infinity of a series consists precisely in the fact that it can never be completed through a successive synthesis. Therefore an infinitely elapsed world-series is impossible, so a beginning of the world is a necessary condition of its existence; which was the first point to be proved.

[...] [argument about space omitted].

#### Antithesis

The world has no beginning and no bounds in space, but is infinite with regard to both time and space.

#### Proof

For suppose that it has a beginning. Since the beginning is an existence preceded by a time in which the thing is not, there must be a preceding time in which the world was not, i.e., an empty time. But now no arising of any sort of thing is possible in an empty time, because no part of such a time has, in itself, prior to another part, any distinguishing condition of its existence rather than its non-existence (whether one assumes that it comes to be of itself or through another cause). Thus many series of things may begin in the world, but the world itself cannot have any beginning, and so in past time is infinite.

#### IV. Parsing Kant's Argument

Kant's text is dense and difficult to understand, so let's take a careful look at the arguments he makes, beginning with the *thesis* that the world has to have a beginning in time. The key to understanding this argument is the concept that it is *impossible to complete an infinite series of steps*. That is what Kant means when he writes that "the infinity of a series consists precisely in the fact that it can never be completed through a successive synthesis."

To see Kant's point, imagine that the road leading to your college building is *infinitely long*. And imagine that you're somewhere on that road, trying to make it to class. It would be impossible for you ever to actually make it to that class, because you would have to travel an infinitely long distance. And you can't ever actually *finish* travelling an infinitely long distance.

Kant isn't saying that there is anything impossible about an infinite series. It is obvious that there can be infinite series. For instance, the series of negative whole numbers (integers) is

infinite, as is the series of positive integers (and the series of all integers!). What *is* impossible, Kant thinks, is finishing a process with infinitely many steps. For instance, even though there's nothing impossible about having an infinitely long series of numbers, it would be impossible to say every negative number out loud *and finish*.

Kant's argument imagines the history of our world as a series of world states, which together form a "world-series". Consider every moment in the history of the world to be one "world state" in this "world-series." If the world has existed for ever, without any beginning in time, then there would be *infinitely many world states* before today, the present. But, right now, the world is in the present. So the world successfully underwent infinitely many world-states to arrive at today, the present. In a sense, the world *travelled an infinitely long road and arrived at the end*: the present. But we just saw that it's impossible to travel an infinitely long road and arrive at the end. It's not possible for the world, then, to have undergone an infinite number of world-states to arrive at the present world-state. If the series were truly infinite, the world would never have made it to today. But it did. So: the metaphorical road leading up to today can't have been infinitely long. It must have had a beginning. Therefore, the world must have a beginning in time. To return to the numbers analogy, if someone has been saying out loud all negative integers and then stops at "-1!", they can't actually have said *all* of them. Instead, they must have started somewhere! So too for the world.

Now let's look at the other part of Kant's argument—the one that sets out to prove the opposite. The antithesis also rests on a relatively simple idea: nothing can come from nothing. By "the world" Kant doesn't mean "the globe" or "the solar system." Instead, "world" means *literally everything that exists*. If the world has a beginning in time, then there must have been some point in time where it didn't exist. And by the world we mean "everything." So if



“everything” had a beginning, then there must be a point in time where there was *literally nothing*. Kant calls this an “empty time.”

Kant then notices that it is impossible for anything to come out of a genuinely *empty* time. If there were a genuinely empty time, nothing would exist in that time with any potential causal powers. So nothing would exist with the capacity to cause other things to come to exist. An empty time would stay empty, and nothing would ever come into existence. But the world *does* exist! Therefore, it’s impossible that the world had a beginning in time before which there was only empty time.

You might think that positing a Creator God is a way out of this argument. Perhaps the world has a beginning because God created it out of nothing. But remember that for purposes of this argument, the word “world” means “everything that exists.” Including God, if God exists. So if you believe that God always existed, you believe that part of the world has always existed. That would also mean that at least part of the world can’t have had a beginning, because God has no beginning. Thus, the argument would still show that something (God) has no beginning in time, which is sufficient for Kant’s purposes. Accordingly, the existence of God does not solve the contradiction Kant raises in the *antithesis* argument.

Putting Kant’s thesis and antithesis together gives us an argument that shows that *if time is real*, then it is *necessary* for the world to have a beginning and also *impossible* for the world to have a beginning. So, if time is real, a contradiction follows. Therefore, Kant concludes that time is not real.

## V. Discussion Questions.

1. Try to imagine a couple of things you know to be impossible. Now, try to imagine a world without time. Can you do it? Remember that time passes even if nothing is changing! Does the fact that your mind is incapable of imagining a world without time, even though it can imagine many other impossible things, support Kant's position that time is part of our mind?
2. Do you think either of Kant's arguments (the thesis or antithesis) is more persuasive than the other? Why?
3. Regarding the *thesis*: could it be possible to travel an infinitely long road and finish if you had an infinite time in which to do so?
4. Regarding the *antithesis*: what do you think of Kant's view that God doesn't solve this problem? Do you think the Big Bang theory of the beginning of the Universe provides a solution to the contradiction? Why or why not?