

Kant's Prolegomena

Immanuel Kant (1724-1804)

Born in Königsberg, capital of East Prussia (now renamed Kaliningrad and part of Russia)

Attended the University of Königsberg, taught there for most of his life.

Major works:

- Critique of Pure Reason (1781/87)
 - Metaphysics, epistemology
 - The Prolegomena to any Future Metaphysics (1783) is a summary of the main idea in the Critique of Pure Reason
- Critique of Practical Reason (1788)
 - Free will, ethics
- Critique of the Power of Judgment (1790)
 - aesthetics

Started out as a rationalist a la Leibniz (By way of Christian Wolff)

Abandoned that project after reading Hume, who was “the very thing which many years ago first interrupted my dogmatic slumber and gave my investigations into the field of speculative philosophy quite a new direction.” (5)

Preface and Preamble

Recall Hume's fork:

- Relations of Ideas, known a priori via demonstrative reasoning, based on principle of contradiction
- Matters of fact, known a posteriori either via moral reasoning or direct experience, not based on principle of contradiction (but subject to it)

Kant accepts something similar:

Analytic vs Synthetic judgments (i.e. *contents* of judgments)

- Analytic =df
 - ‘merely explicative, adding nothing to the content of the cognition’
 - ‘express nothing in the predicate but what has been already actually thought in the concept of the subject, though not so clearly and with the same consciousness’

- Synthetic =df
 - ‘ampliative, increasing the given cognition’
 - ‘contains in its predicate something not actually thought in the universal concept of body; it amplifies my knowledge by adding something to my concept’
- example: ‘all bodies are extended’ is analytic b/c a body the concept of a body just is the concept of an extended thing
 - but, ‘all bodies have weight’ is synthetic b/c it’s ampliative - it’s predicate adds something to the subject that wasn’t there already

All analytic judgments are

- based on principle of contradiction
- a priori
- certain

Some synthetic judgments are (as Hume thought)

- not based on principle of contradiction
- a posteriori
- not certain

Recall: Hume’s skepticism about induction was based on his claim that the two prongs of Hume’s Fork exhaust the possibilities

1. Inductive inference involves a step from premise to conclusion that must be justified by some process of reasoning
2. All reasoning is either demonstrative or moral
3. Reasoning in support of inductive inference isn’t demonstrative (because it doesn’t follow from the principle of contradiction)
4. Reasoning in support of inductive inference isn’t moral (that’s circular)
5. So, there is no reasoning in support of inductive inference

Hume takes this to undermine our knowledge of induction, and hence of empirical generalizations

Kant points out that, if Hume is correct, the problem is WAY worse than Hume realizes. Why?

- Everyone agrees that mathematical truths (arithmetic and geometry) are necessary and a priori.
- Hume also thinks they’re a relations of ideas, i.e. *analytic*
 - He *has* to say that: if they’re ROI’s then they must be necessary and a priori
- Kant: that’s wrong: they’re necessary and a priori, but also *synthetic*

Consider: $5+7=12$

- Is '=12' contained within '5+7'?
 - Kant says no: "It might at first be thought that the proposition $7+5=12$ is a mere analytic judgment, following from the concept of the sum of seven and five, according to the principle of contradiction. But on closer examination it appears that the concept of the sum of $7+5$ contains merely their union in a single number, without its being at all thought what the particular number is that unites them. The concept of twelve is by no means thought by merely thinking of the combination of seven and five; and, analyze the possible sum as we may, we shall not discover twelve in the concept." (Prolegomena, 11)
 - Hence it's synthetic
- He goes on:
 - '...All principals of geometry are no less synthetic. That a straight line is the shortest path between two points is a synthetic proposition. For my concept of straight contains nothing of quantity [i.e. nothing of 'shortest'], but only a quality. The concept of the shortest is therefore altogether additional and cannot be obtained by any analysis of the concept of the straight line.' (Pro. 12)
 - hence 'a straight line is the shortest path between two points' is synthetic

Here's another way of seeing Kant's point.

Hume's attack on induction proceeds via an attack on knowledge of causal connections, a kind of necessary connection between events.

As Kant reads the argument, Hume is rejecting knowledge causal connections because that would be synthetic a priori knowledge, and Hume thinks there is no such knowledge

Hume's error, according to Kant, is that he construes his target too narrowly:

- there's nothing special here about causal knowledge: it's rejected simply because synthetic a priori knowledge is rejected
- So we should really be rejecting all synthetic a priori knowledge
- Kant thinks that the interesting truths of metaphysics are all synthetic a priori
- So, by Hume's argument we should also reject claims of metaphysical knowledge as nonsense: such knowledge is in principle impossible
 - Hume would likely agree

BUT!

Hume *does not* think that *math* is nonsense, or that the truths of math are in-principle unknowable, because he thinks they're a priori relations of ideas

If Kant is right that all mathematical truths are synthetic a priori, then by Hume's argument math must be rejected along with metaphysics.

What's the lesson?

Maybe rejecting metaphysics isn't that big of a deal: after all, there's lots of disagreement about metaphysical truths, so there is no universally recognized theory of metaphysics that we would thereby be rejecting

(really? Not even the bare minimum theory that some things cause other things?)

But we do have universally recognized theories of math and geometry:

'...it happens, fortunately, that though we cannot assume metaphysics to be an actual science, we can say with confidence that certain a priori synthetic cognitions are actual and given, namely, pure mathematics and pure physics [=geometry]; for both contain propositions which are everywhere recognized as apodeictically certain, partly by mere reason, partly by universal agreement from experience, and yet as independent of experience. We have therefore some, at least uncontested, synthetic knowledge a priori, and need not ask whether it is possible (for it is actual) but *how* it is possible, in order that we may deduce from the principle which makes the given knowledge [of math and geometry] possible the possibility of all the rest [i.e. of metaphysics].' (17)

If that's right, then synthetic a priori knowledge is possible after all (sorry Hume!)

At least, it's possible in the case of *mathematical* knowledge

That leaves us with the **Transcendental question**: how is synthetic a priori knowledge possible?

This in turn breaks down into some more specific questions:

1. *How* exactly is synthetic a priori knowledge possible in the case of mathematical propositions?
2. Is synthetic a priori knowledge possible outside of mathematics? If so, where, and under what conditions?
3. In particular, is it possible in the sciences? Or in metaphysics?

Kant's big project: answer the Transcendental Question by answering (1), (2), and (3)

Kant's Positive Picture:

Kant's positive picture is called Transcendental Idealism.

It's a version of Idealism in that he takes the objects of our experience to be what's ultimately real, sort of like Berkeley (though he also thinks that non-mental objects exist).

He argues for his version of Idealism using a **Transcendental Argument**

1. P
2. Q is a necessary condition for P
3. So, Q

We saw his starting point last time: that synthetic a priori knowledge exists

- Mathematical and geometric knowledge exists
- Facts about math and geometry are synthetic a priori
- So, at least *some* synthetic a priori knowledge exists

Kant's transcendental argument:

1. Synthetic a priori knowledge exists
2. X is a necessary condition for the existence of synthetic a priori knowledge
3. So, X

The trick is to figure out what X is.

The Copernican Revolution:

Warm-up

- You point a radar-gun at a car on the highway traveling towards you and it reads 100mph
- Possible conclusion: the other car is traveling 100mph
- But this involves the presupposition that you are standing still:
 - If you were to learn that you yourself are traveling towards the other car at 50mph, then the better conclusion is that the other car is traveling only 50mph
- The point: sometimes the best explanation of the data involves facts about the thing observed *and facts about the observer*, not just facts about the thing observed

Copernicus's big contribution to astronomy was to put the Sun at the center of the universe rather than the Earth (still not quite right, but whatever)

- Both Copernicus and his predecessors sought to explain their observations that the Sun/ stars/ planets travel across the sky from east to west every day

- One possible explanation for those observations: the Earth is unmoving, other celestial bodies revolve around the earth
 - This required them to say lots of weird things in order to explain their observations: that the stars rotated around the earth on the inside of a giant sphere, that the orbits of the planets/ sun involve lots of crazy epicycles, etc
- Copernicus's predecessors presupposed that the Earth wasn't moving
- Copernicus's big insight: we can better explain our observations by supposing that the Earth is moving, and the apparent motion of the heavenly bodies is a product of facts about the Earth's motion plus facts about the motions of other heavenly bodies
- This is analogous to above: facts about the observer are essential to explaining our observations

Kant's goal is to explain how synthetic a priori knowledge of math, metaphysics and science are possible

Given Hume's picture of mind, synthetic a priori knowledge is not possible: all synthetic knowledge comes from experience, so it's all synthetic a posteriori

Hume views our perception of the world as passive: the world impresses itself onto our minds, which is itself like soft clay accepting the impression
(It's no accident he calls perceptions 'impressions')

As a result, if you take the experience and strip away the contribution of the object being observed, there's nothing left

In this Hume is like the pre-Copernican astronomer trying to explain the data strictly by appealing to facts about the thing observed, ignoring facts about the observer

Kant thinks that facts about the observer are essential to explaining our observations.

Suppose that's right: experience is the product of a contribution of sensory data from the outside, plus an essential contribution from the mind itself.

All possible experience is constructed in this way: a combination of passive sense data and active shaping by the mind (what Kant calls 'pure concepts' or 'a priori concepts')

In other words, it's impossible to have an experience that isn't shaped by pure a priori concepts, since the very nature of my mind is to construct experiences in that way.

So, the a priori concepts that shape our experiences function as laws governing any possible experience.

Moreover, we can attain knowledge of the a priori concepts by reflecting on the conditions of possible experience.

From CPR: [NB: the bit in Times font is a paraphrase of an incomprehensible Kantish sentence]

Up to now it has been assumed that all our cognition must conform to the objects; but all attempts to find out something about them a priori through concepts that would extend our cognition have, on this presupposition, come to nothing. Hence let us once try whether we do not get farther with the problems of metaphysics by assuming that the objects must conform to our cognition, which would agree better with the requested possibility of an a priori cognition of them, which is to establish something about objects before they are given to us. This would be just like the first thoughts of Copernicus, who, when he did not make good progress in the explanation of the celestial motions if he assumed that the entire celestial host revolves around the observer, tried to see if he might not have greater success if he made the observer revolve and left the stars at rest. Now in metaphysics we can try in a similar way regarding the intuition of object.' If intuition has to conform to the constitution of the objects, then I do not see how we can know anything of them a priori. But if instead the object has to conform to the constitution of our faculty of intuition, then I can very well represent this possibility to myself. Yet I cannot stop with these intuitions, if they are to become cognitions [judgments]. I must refer them as representations of an object and determine this object through them, which leaves two possibilities. The first possibility is that the concepts through which I bring about this determination also conform to the objects. But in that case I am once again in the same difficulty about how I could know anything about them a priori. The second possibility is that I assume that the objects in which alone they can be cognized – those objects being experiences or given objects – conforms to those concepts. In that case I immediately see an easier way out of the difficulty: experience itself is a kind of cognition requiring the understanding, whose rule I have to presuppose in myself before any object is given to me and hence is known a priori. This rule is expressed in concepts a priori, to which all objects of experience must therefore necessarily conform.

The most important pure a priori concepts are space and time.

- Any possible experience will be located in space and time.
- Why? Because that's part of the contribution that our minds make to experience
 - *Being in space and time* is a precondition of any possible (outer) experience, so everything that I can ever experience is in space and time
- I can know this simply by reflecting on these preconditions, and therein lies the origins of all of synthetic a priori disciplines: math, geometry, natural sciences, etc.

- “Geometry is based on the pure intuition of space. Arithmetic attains its concepts of numbers by the successive addition of units in time.”

Now we describe Kant’s ‘Transcendental Idealism’

Transcendental objects are those existing in space in time.

- We normally think of ordinary objects in this way
 - The chair, the table, our bodies all exist in particular places at particular times

We normally think of space and time as things existing independently of our minds, just as the chairs, the tables, and our bodies do; space and time are *out there* in the world

Kant: space and time exist only in the mind, and objects only appear to be in space and time because our minds shape experience that way

Some terms (as Kant uses them):

Realism: we can know that external objects exist

Idealism: we cannot know that external objects exist¹

Consider just **empirical objects**, mind-independent objects that cause our perceptual experience.

We can now distinguish:

Empirical realism: we can know that empirical objects exist

- this is the common sense view among non-philosophers

Empirical idealism: we cannot know that empirical objects exist

We’ve seen two versions of this view this semester:

Dogmatic idealism: we cannot know that empirical objects exist, because they don’t exist (Berkeley)

Problematic idealism: we cannot know that empirical objects exist, but they might (Descartes², Hume)

¹ NB that this is an *epistemic* definition of ‘idealism’ - it concerns what we can know, not what’s true.

² This is Kant’s interpretation of Descartes, anyway. Notice that the question is merely whether we can know that empirical objects exist and cause our experiences, now whether we can know what they’re like due to the accuracy of those experiences. Descartes clearly thought that we can know that they exist, but he was unsure whether we perceive them accurately, so according to Kant’s definition he counts as a problematic idealist.

Now, instead of *empirical objects* consider *transcendental objects*: those existing in space and time. This yields:

Transcendental realism: we can know that mind-independent objects exist in space and time

Transcendental idealism: we cannot know that mind-independent objects exist in space and time, only that they exist in the mind

The common sense, pre-philosophical view is that the mind-independent, material objects that cause our perceptual experiences *themselves exist in space and time*:

So, empirical objects = transcendental objects

So, the common sense view is empirical realism + transcendental realism

Since space and time don't exist at all independent of the mind³, *objects* existing independent of the mind – the ones that cause our experiences – are not themselves located in space and time

So for Kant, empirical objects are not identical to transcendental objects

So Kant rejects Transcendental Realism, embraces Transcendental Idealism

Nonetheless, mind-independent objects – empirical objects – are essential to the Kantian picture: they are the causes of all our experiences, and without them experience is impossible.

So, we can know that they exist, we just can't know anything about what they're like.

So, Kant is a Transcendental Idealist and an Empirical Realist

Questions:

1. On Kant's picture, is it objectively true that $5+7=12$?

- To say that $5+7=12$ is *objectively true* is to say that it's true independent of what you or I think about it.
- For Kant, mathematical facts are true because of the pure form of inner intuition – time

³ It's a bit more complicated than that: Kant thinks that we have no knowledge at all of the nature of 'things in themselves' - all we ever know is how they appear to us and that they exist. So it's possible that they might exist in space and time as well; the point is that we have no (zero) reason to believe that this is the case.

- I.e., math facts depend on an essential fact of human psychology
- Human psychology is inescapable *for humans*, so math facts are the same for all humans
- But, then needn't be true beyond the realm of possible human experience, i.e. in the realm of noumena
- So: math facts are *intersubjective*, but not *objective*

2. So is the chair real? How seriously are we to take this talk of idealism?

- Reality breaks down into two sorts of things
 - Phenomena: the objects of our experience
 - Noumena: things in themselves; the objects that cause our experiences
- Being in experience, all phenomena are shaped by the preconditions of experience: the pure forms of space and time
- Not being in experience, noumena need not be shaped by those preconditions
 - They needn't have the mathematical or temporal properties we perceive them as having
 - In fact, then needn't have *any* of the properties we perceive them as having
 - Because our experience is always shaped by our minds, we have no idea what things in themselves (noumena) are like independent of that shaping
 - The point is even stronger: it's *in principle impossible* that we could ever know what noumena is like
- But that's all fine: as far as we're concerned, the chair *just is* our experience of the chair, so we are in touch with what's real
- So, there's no straightforward skeptical consequence of Kant's Transcendental Idealism: we really do know the properties of the chair