Kant's *Critique of Pure Reason*

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Metaphysics in Disarray

- Immanuel Kant (1724-1804) in his early career worked in the tradition of continental rationalism.

- He wrote that his recollection of David Hume awoke him from his "dogmatic slumber."

- He recognized that metaphysics had not been established as a science, and in fact had made little progress since ancient times.

- Philosophers had reached impasses on all the main metaphysical questions.

- This is a disastrous result, because metaphysics is supposed to be the "queen of the sciences."

- Kant set out to place metaphysics on a new footing by subjecting the use of "pure reason" to a scathing "critique."

Our Interest in Metaphysics

- Apart from its alleged role as the basis of all science, metaphysics is intended to satisfy three fundamental interests of human beings:

    - Does God exist?
    - Am I free in my actions?
    - Will I survive my death?

- The answers to these three questions are supposed to be found in three branches of metaphysics:

    - Theology,
    - Cosmology,
    - Psychology.

- Kant's realization was that we have no right to proceed with any of these metaphysical investigations until we have answered this question:

  - How is metaphysics itself possible as a science?

Rationalist Metaphysics

- On Kant's view, a minimal condition for a metaphysical system is that it contain only necessary truths.

- Hume had proved that probable reasoning from experience cannot reveal the way things must be.

- So, an acceptable metaphysical system must be based on the *a priori* use of reason.

- Continental rationalists writing after Descartes had proposed various metaphysical systems that are not based on experience.

- The system within which Kant worked in his early years was a modification of system proposed by Leibniz (1646-1716).

Leibniz's Metaphysical System

- According to Leibniz, there are two fundamental principles which are known *a priori* through reason.

  - The principle of non-contradiction (PNC): if the notion of a thing is self-contradictory, then it is impossible.

    * "Square circle" is a contradictory notion, and so it is impossible that there be a square circle.

  - The principle of sufficient reason (PSR): if a thing exists, then it does so in virtue of a reason sufficient to bring about its existence.

    * If a stone becomes warm, then there is a reason for its becoming warm (such as being heated by the sun).

- Leibniz held that the principle of non-contradiction is enough to establish what is possible, and the principle of sufficient reason is enough to establish what is actual.

- Theoretically, it can be known *a priori* what is possible and what is actual (though perhaps only by God, and not by humans).

Hume's Problem Applied to Leibniz's System

- Kant recognized that Hume had raised a fundamental problem for any rationalist metaphysics that employs the principle of sufficient reason.

- How is the PSR supposed to be justified *a priori*?

- It would have to be based on demonstrative reasoning, and its denial would have to be contradictory.

- But what contradiction is there in the proposition that something exists without a reason sufficient to bring its existence about?

- Kant agrees with Hume that none can be found.

- If this is correct, and if the PSR is fundamental to any metaphysical system, then the practice of metaphysics must be halted until the PSR can be given an adequate justification.

- This is one of the main tasks of the *Critique of Pure Reason*.

The Antinomy of Pure Reason

- A second problem with metaphysics lies in the application of the PSR to cases.

- Kant tried to show that an unrestricted application of the PSR will yield contradictory results, which he called the "antinomy of pure reason."

- Take the question of free (uncaused) human action as an example.

- It can be "proved" that there are free human actions.

  - If there are no uncaused human actions, then the chain of causes resulting in a given human action is infinite.

  - If a chain of causes leading to x is infinite, then there is no sufficient reason for x (in violation of PSR).

- And it can be "proved" that there are no free human actions.

  - If there is an uncaused human action, then there is no cause to serve as a sufficient reason for that action (in violation of PSR).

- Similar contradictions can be generated for other metaphysical propositions.

A New Method for Metaphysics

- Given Hume's results and the antinomy, Kant's task was twofold:

  - To provide an *a priori* justification for the principle of sufficient reason (and perhaps other metaphysical principles),
  - To do so in a way that avoids contradiction.

- As an aid to accomplishing this task, Kant turned to the sciences which, unlike metaphysics, had a record of success:

  - Mathematics,
  - Natural Science.

- He thought that a method shared by mathematics and natural science can be adapted to metaphysics.

Scientific Method

- Kant considered geometrical proof to be a paradigm of mathematical practice.

- Geometrical objects, he claimed, are not *given* to us, but are only *constructed*.

  - A line is constructed from points, surfaces from lines, and solids from surfaces.

- The properties of a geometrical object, such as a square, depend on the way in which a square would be constructed from lines.

- The square's properties of are, so the speak, "built into" it through the manner of its construction.

- In natural science, we perform experiments by constructing experimental set-ups with the properties we want.

- The results of the experiment depend to that extent on what has been "built into" the experimental set-up.

Applying Scientific Method to Metaphysics

- Geometry and natural science have in common the following feature:

  - They do not begin with their objects and try to determine their properties, but rather,
  - They construct their objects and discover the consequences of the construction.

- Metaphysics traditionally has not followed the scientific method.

- It begins with pure concepts, which have been generated by pure reason, and then tries to discover whether reality conforms to those concepts.

  - We have a concept of a most real being, which we call God,
  - Does God exist?

- The proper method is to begin with a construction of reality and then discover which concepts are required to carry out the construction.

Constructing Reality?

- Kant's suggestion that metaphysical investigation should imitate scientific investigation has led to a startling consequence.

- It may be correct to say that geometrical objects are constructed, in that they are ideal.

- And it may be correct to say that experimental set-ups are constructed from things that already exist.

- But it is going pretty far to say that the objects of metaphysics, i.e., all really existing things, are themselves constructed.

- A main problem in Kant interpretation is to determine whether Kant really made this extraordinary claim.

- Note that it is almost commonplace in present-day thinking to make a claim similar to this.

- So Kant had a great influence on the way many people now think, regardless of what he intended to claim.

Two Interpretations of Kant

- The view that human beings construct reality is extreme, and controversial.

- A weaker view is that we human beings only construct the way in which we must represent reality.

- The point of both approaches is to enable us to reflect the goal of metaphysics.

  - Metaphysics is supposed to be the description of the most fundamental aspects of reality.

- The stronger view more clearly reflects this goal of metaphysics, but it seems intrinsically implausible.

- The milder view seems intrinsically more plausible, but it does not clearly reflect this goal of metaphysics.

Two Ways of Thinking About Reality

- For Kant, the goal of metaphysics is to construct, *a priori*, a metaphysical system of concepts and principles.

- In that case, we can ask whether the *a priori* metaphysical system applies to reality, or merely to the way we think about reality.

- Kant's answer would be that there are two distinct ways of describing something as real:

    - As empirically real, i.e., as object of experience, or "appearance,"
    - As transcendentally real, as an object independent of experience, or "thing in itself."

- Kant claims that the *a priori* system of metaphysics holds only for what is real empirically.

- This seems to require that the empirically real be constructed according to the rules of the system.

- The mistake of metaphysics has been to try to construct *a priori* a system that applies to things in themselves.

Return to the Interpretive Problem

- Now we must ask again our earlier question, which was directed at "reality" as such:

    - Do we construct reality?

- We do not construct transcendentally real objects, so the question becomes:

    - Do we construct objects that are empirically real?

- Empirically real objects are objects in space and time, so does Kant adopt the strong view that spatio-temporal objects are constructions of the human mind?

- Or should we adopt the weaker view that as humans we only construct a way of representing objects in space and time?

- Unfortunately, Kant's text supports both interpretations.

The Outputs of Human Mental Activity

- The structure of Kant's metaphysical system reflects the different kinds of outputs of human mental activity.

    – Intuitions, which present individual objects,

    – Concepts, which present many objects as falling under kinds,

    – Judgments, which combine intuitions, concepts, or other judgments into descriptions of reality.

- For example, Socrates meets Plato, and Plato forms an intuition of Socrates.

- Plato already has the concepts of a philosopher and of wisdom, which apply to more than one individual.

    – Plato forms the judgment that Socrates is a philosopher.

    – Plato also forms the judgment that all philosophers are wise.

    – Plato infers from this that Socrates is wise.

Analytic and Synthetic Judgments

- Kant divides all judgments into two types:

    – Analytic judgments, which only serve to clarify concepts:

        * A square is a plane figure with four equal sides.

    – Synthetic judgments, which connect a concept with something beyond it:

        * The sum of the angles of a square is 360°.
        * The sun warms the stone.

- A system of metaphysics will consist primarily of synthetic judgments which are made *a priori*.

- Kant insists that before such a system is developed, it must be shown how synthetic judgments can be made *a priori*.

- The answer is that because we construct the objects (or view of the object) about which the judgment is made, we can know in advance of experience that the object (or view thereof) has the features attributed to it in the judgment.

Intellectual Intuition

- The standard rationalist answer to Kant's question about the *a priori* origin of synthetic judgments is that they are known through "intellectual intuition."

- The truth of the proposition is immediately known to reason.

  - For example, Descartes claimed that we can know a (synthetic) causal principle by the "light of nature."

- On Kant's view intuition is a power through which objects are given to the mind.

- An intellectual intuition would be one in which objects are given to our rational faculty simply by thinking about them.

- But, Kant claims, no objects are given to the rational faculty only by thinking about them.

  - Humans only intuit objects in sense-perception.
  - Thinking takes place through the use of abstract concepts.

- So, there is no human knowledge through intellectual intuition.

- If we are to have a purely rational knowledge of a principle, it would be through the relation of concepts to one another, and hence analytic.

Sensible Intuition

- Kant came to the surprising conclusion that we can gain knowledge *a priori* of synthetic propositions through the passive reception of objects presented in sense-perception.

- This conclusion is contrary to the views of both the rationalists and the empiricists.

  - The rationalists held that no real knowledge is gained through sense-perception,
  - The empiricists held that all knowledge through sense-perception is *a posteriori*, or experiential.

- The key to this view is that sensation gives us the *matter* of intuited objects, while the faculty of "sensibility" gives us the *form* of the objects.

- There are two forms of human sensibility:

  - Space,
  - Time.

- Kant's view, then, is that all objects which are intuited in sense-perception are in (or are viewed as being in) space and time.

A Priori Knowledge of the Quantifiable Properties of Intuited Objects

- As was stated earlier, Kant claimed that the objects of geometry are constructed by the human mind.

- He also claimed that numbers are generated by counting.

- These two claims can be connected with space and time.

  - Geometrical objects are constructed in space,
  - Numbers are constructed in time.

- Given that intuited objects are in space and time, geometrical and numerical constructions apply to them.

- Mathematical constructions in general can be carried out *a priori*.

- We can thus know, *a priori*, that intuited objects have quantitative properties to which mathematics applies.

- This result provides a foundation for mathematical sciences of sensibly intuited objects.

The Categories of the Understanding

- Space and time are *a priori forms* to which every object given in sensible intuition must conform.

- Corresponding to space and time are *a priori* concepts of the understanding, the *categories*.

- Categories are supposed to be based on logical forms of judgment.

- One important category is that of substance and accident.

  - Logical form of judgment: object O has predicate F.
  - Category: O is a substance, which has properties but is not a property of something else.

- A second important category is that of cause and effect.

  - Logical form of judgment: if O is F, then O is G.
  - Category: given that O has a property at a time, O is lawfully determined to have some other property at a later time.

The Category of Substance and Accident

- According to Kant, concepts are intellectual rules for describing sensibly intuited objects.

- The category of substance is a rule describing how objects endure and how they change.

- Kant tries to prove that intuited objects are substances.

- He claims that substances are permanent, i.e., that they do not come into existence or go out of existence.

- So, the only way in which intuited objects change is by having different "accidents."

The Category of Cause and Effect

- As substances, intuited objects are subject to changes in their states over time.

- The category of cause and effect represents change as taking place as governed by a rule which must be followed.

  - If a billiard ball's current motion causes it to continue to move, then there is a rule according to which the continuation of the motion must occur (in this case, the law of inertia).

- Kant argues for an *a priori* principle according to which all change in objects that can be intuited is due to the relation of cause and effect.

- If Kant's argument is successful, then Hume has been refuted.

The Argument for Causal Necessity, Phase I

- Suppose O is an object of intuition.

  1. If I perceive that O changes its state S_1 to an opposite state S_2, then I represent S_1 of O as occurring before S_2.
  2. If I represent S_1 as occurring before S_2, I connect S_1 and S_2 through the use of my imagination.
  3. If I connect two states of O through the use of the imagination, then I connect them either by perceiving time itself or else by a rule which necessitates which state comes first.
  4. I cannot perceive time itself.

5. So, if I connect two states of O through the use of the imagination, then I connect them by a rule which necessitates which comes first. [3,4]

6. So, if I perceive that O sometimes changes its state S_1 to an opposite state S_2, then I connect S_1 and S_2 by a rule which necessitates which comes first. [1,2,5]

The Argument for Causal Necessity, Phase II

- Suppose O is an object of intuition.

  1. I perceive that O sometimes changes its state S_1 to an opposite state S_2.

  2. If I perceive that O sometimes changes its state S_1 to an opposite state S_2, then I connect S_1 and S_2 by a rule which necessitates which comes first. [Phase I]

  3. So, I connect S_1 and S_2 by a rule which necessitates which comes first. [1,2]

  4. If I connect states S_1 and S_2 of O by a rule which necessitates which comes first, then I connect the S_1 and S_2 according to the category of cause and effect.

  5. So, I connect S_1 and S_2 according to the category of cause and effect. [3,4]

  6. If I connect S_1 and S_2 according to the category of cause and effect, then S_1 and S_2 are really causally connected in O as an object of experience.

  7. So, S_1 and S_2 are really causally connected in O as an object of experience. [5,6]

Analysis of the Argument for Causal Necessity I

- Has Kant provided a sound *a priori* argument for causal necessity?

- Hume might find premise 2 from Phase I to be objectionable.

- He could claim that that we can objectively represent one state as occurring before another just because the perception of the first state occurs before the perception of the second state.

- In that case, we could be said to *feel* the precedence of the first state over the second.

- Hume could also object to premise 3 of Phase I, on the grounds that the imagination may function as *memory*, which does not require either a perception of time or the use of an intelligible rule.

- Finally, Hume might reject premise 5 of Phase II because the way I connect my perceptions may not reflect the way things really are.

Analysis of the Argument for Causal Necessity II

- We can look at Kant's argument for causal necessity from the standpoint of Hume's negative argument.

- Kant agrees with Hume that causal necessity cannot be established by probable reasoning, and so must be demonstrated.

- He claimed further that there is no demonstration of a causal connection between states of O, because it is always possible that O is in S_1 but not in S_2.

- Kant counters that it is not possible for O, *taken as an object of human experience*, to be in S_1 but not S_2.

    - Premise 6 of Phase II indicates that objects (or views of objects) of human experience are constructed in a way that requires connection of objects through causal rules.

- Hume assumes that objects of human experience are given as they are in themselves, which is why we cannot demonstrate anything about them.

Free Will

- Kant proposed a solution to the impasse between arguments favoring free will and arguments favoring necessity.

- He claimed that a human action may be both freely undertaken and necessitated.

    - As an *appearance*, the human being is a part of nature, so that its actions are subject to causal laws.

    - As a *thing in itself*, it is at least possible that the human being is not subject to causal law and hence able to initiate an action spontaneously.

- Thus, "transcendental freedom" is possible in the face of natural necessity.

- Like Hume, Kant was a compatibilist, but unlike Hume, he tried to reconcile freedom with a very strong sense of causal necessity—yet one which is limited in its scope to "appearances."

The Ontological Proof for the Existence of God

- Kant advanced a famous argument against the "ontological" proof of God's existence.

- Any form of the argument depends on the assumption that "exists" is a "real predicate."

- "From the fact that I cannot think of God except as existing, it follows that existence is inseparable from God, and that for this reason he really exists." (Descartes, Meditation Five)

- On Kant's view, "existence" is separable from any nature whatsoever.

- I can think of anything as not existing, because existing does not make something the kind of thing it is (as does a "real predicate").

  - The thought of \$1 and the thought of \$100 are different thoughts.

  - But the thought of \$100 and the thought of an existing \$100 are the same thought.