

Class 9 - February 16
Leibniz, *Monadology*

I. Leibniz Background

We started the term looking at Descartes's work, to which all of the philosophy we will study is, to some degree, a response.

Descartes attempted to accommodate the new science into the orthodox, theological world view.

We then looked at the work of two philosophers, Hobbes and Spinoza, who presented very different views of the world, philosophers who were eager to dismiss the religious orthodoxy.

Leibniz rejects the materialism of Hobbes, the atheism (or at least naturalism) of both Hobbes and Spinoza, and, the view, found in both Hobbes and Spinoza, that everything is necessary.

Indeed, as Tlumak argues, Leibniz's attempt to rehabilitate a standard view of contingency and human freedom is central to his work.

Still, there are Spinozan elements to Leibniz's work, which we can see especially in his claim that every living thing reflects the entire universe, and its past and future.

While Leibniz's philosophy is closer to that of Descartes, broadly speaking, they differ on many details. In particular regarding bodies, Descartes had argued, as part of his embrace of the new science and its mechanics, that bodies are essentially extended, unthinking, divisible, individual substances.

In contrast, Leibniz rejects the infinite divisibility of matter, holding that there are atomic components of the world called monads.

Leibniz rejected Descartes's claim that the ultimate constituents of the material world are passive, believing that in order for them to be substances, they have to have within them a source of action.

Leibniz thought that the claim that bodies are unthinking leads to the impossibility of thought.

For Leibniz, the fundamental components of the world are not inert divisible matter, but active, mind-like substances.

Each portion of matter can be conceived as a garden full of plants, and as a pond full of fish. But each branch of a plant, each limb of an animal, each drop of its humors, is still another such garden or pond (M67, AW 281b).

Still, Leibniz's work is, like Descartes's, an attempt to recapture much of the prevailing, and preceding, theological view of the world.

Leibniz's reactionary views include embracing both efficient and final causes.

According to Aristotle, there are four different kinds of causes:

- C1. Efficient cause: the source of a change (basically our contemporary notion)
- C2. Final cause: the goal, or telos, of an object or event
- C3. Material cause: the constituent matter of the object
- C4. Formal cause: what it is to be an object

Galilean physics denigrated C2-C4, focusing on C1 alone.

Leibniz, seeking a return to an admittedly anthropocentric view of God's role in the universe, looked to rehabilitate the notion of a final cause.

Bodies act according to laws of efficient causation, but souls act, like God, according to laws of final causes.

It would be best to join together both considerations, for if it is permitted to use a humble comparison, I recognize and praise the skill of a worker not only by showing his designs in making the parts of his machine, but also by explaining the instruments he used in making each part, especially when these instruments are simple and cleverly contrived. *And God is skillful enough artisan* to produce a machine which is a thousand times more ingenious than that of our body, while using only some very simple fluids... (D22, AW 237b-238a)

These two systems of final and efficient cause work together, in parallel.

Our study of Leibniz's work will focus mainly on two, comprehensive presentations of his philosophy, the *Monadology* and the *Discourse on Metaphysics*.

These two works cover much of the same material, though with different emphases.

In the next three classes, we are going to examine five elements of Leibniz's world-view:

1. Monads;
2. Theodicy;
3. The mind/body distinction;
4. The Complete-World View of Substance; and
5. Freedom and Harmony.

Then, next Thursday, we will look at Leibniz's controversy with Newton over the nature of space and time.

Like Descartes, Leibniz was an enormously influential mathematician.

Leibniz and Newton independently developed the calculus of infinitesimals, without which the physics of the late 17th century and beyond would not have been possible.

Newton and Leibniz fought for credit for the development of calculus, and the powerful Newton prevented Leibniz from gaining university employment in England, which he had sought.

The correspondence conducted between Leibniz and Newton's secretary Samuel Clarke, regarded the question of whether space is an absolute receptacle in which matter is contained (Newton) or whether there is no space independently of the relations among material bodies (Leibniz).

We start with the fundamental substances of the world, which Leibniz calls monads.

II. Monads

We have seen that the notion of substance characterizes the different theories of the moderns.

For Descartes, there are two kinds of substance, each with its own essential trait: mind (consciousness) and body (extension).

For Hobbes, there are only bodies.

For Spinoza, there is only one instance of a substance: God, or Nature.

Leibniz accepts the multiplicity that we ordinarily assume, and which we see in the work of Descartes and Hobbes, rejecting Spinoza's unity.

But, he adopts Spinoza's views on the ubiquity of mind, and his claim that substance has to have an internal agency.

For Leibniz, substance is an active unity, always perceiving, and which can will.

In the *Discourse*, Spinoza characterizes the monad as a substantial form, a soul or a haecceity, the thing which underlies or collects all its properties.

In the *Monadology*, Spinoza argues for the existence of simple substances on the basis of the obvious plurality of things.

Since there are composites, these must be made of parts.

A Cartesian piece of extended matter could be divided into further pieces of matter.

You can never get to the simple parts by taking extended bodies as substances.

But, if there were no simple parts, there could be no composites.

Thus, there must be some basic elements, which he calls monads.

The relation between these simple substances and the bodies or composites that we see is like the relation of the rainbow to the drops of water and refracted light.

We think of bodies as coherent wholes, but they are really just accidental unities of real substances.

So far, Leibniz sounds like the Greek atomists, like Democritus, or the 17th century atomists, like Gassendi.

The difference between atoms and monads, though, is striking.

For the atomists, the simple objects are essentially undifferentiable; they are all alike.

Leibniz denies the similarity of atoms.

We can see two reasons for this denial.

First, Leibniz takes each monad to be an active, rather than passive unity.

Second, he denies that there can be identical objects on the basis of his principle of sufficient reason.

In the first case, Leibniz argues that machines could never think.

Perception, and what depends on it, *is inexplicable in terms of mechanical reasons*, that is, through shapes and motions (M17, 276b).

Leibniz considers walking inside the mechanical parts of a thinking substance, like a brain.

All we would see would be moving parts.

We would see no memory, no thought.

Consider Ned Block's Chinese Nation example, normally used to argue against functionalism in the philosophy of mind.

The brain is essentially a collection of neurons which discharge impulses from one to another.

Neurons fire, and induce other neurons around them either to fire or not to fire.

The story is obviously more complicated than that, but the differences appear to be a matter of degree, not of kind.

Neurons transmit information like electrons passing along a circuit board.

Imagine, now, that we have mapped the brain, and it contains one billion neurons.

(This is a fiction, but only by a factor of about a hundred - there are about a hundred billion neurons in the brain.)

We can set up the people of China to act as our billion-neuron brain, with walkie-talkies connecting each person to surrounding people.

We give each person the instructions to transmit information in the way that our neurons do, to other people, as our mapping of the brain indicates.

The brain can even be attached to human-looking robot with receptors that function like our sense organs.

Information can be transmitted to the Chinese brain and back to the robot via radio signals.

The result would be a creature that looked and functioned just like us with an artificial processing system made out of the people in China.

Leibniz imagines just this sort of case, and concludes that such contraptions could not support thought.

When inspecting its interior, we will only find parts that push one another, and we will never find anything to explain a perception (M17, AW 276b).

Since there is no thought in a mechanical body, Leibniz argues, there must be some essentially active, essentially perceptive, component to the basic elements of the world.

We need active components in order to account for minds.

The perceptions of these monads will distinguish them, thus denying the atomist's uniformity.

The second reason that Leibniz rejects the materialist's atomism relies on his claim that there could be no two objects that did not have some internal difference.

It is also necessary that each monad be different from each other. For there are never two beings in nature that are perfectly alike, two beings in which it is not possible to discover an internal difference, that is, one founded on an intrinsic denomination (M9, AW 276a).

This latter claim, that there can not be two identical objects in the world, is known as the identity of indiscernibles.

It follows, Leibniz argues, from his two great principles, contradiction and sufficient reason.

The principle of sufficient reason (PSR) states that nothing is without a reason.

Alternatively, for Leibniz, we can take this principle as holding that there is no effect without a cause.

As Leibniz notes, though, these reasons can be obscure, hidden from our view.

PSR, especially in its second version, seems almost definitional, and uncontroversial: every effect has a cause.

But, since Leibniz wields PSR to substantial conclusions it is worth noting that he thinks of it as following from a more substantial thesis, his conception of truth as a claim in which a predicate is contained in a subject.

We'll start with Leibniz's theory of truth on Thursday.