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Is the Future Predetermined?

PHI 171 - Fall 2014

Last Week we Examined

- Time as a Block versus Time as a Flow
- Parmenide's and Zeno's arguments that change/transformation/movement do not exist. They are illusions.

Time as Flow *versus* Time as Block

Conventional view: Only the present is real

Block universe: All times are equally real

Parmenides' Argument: Change is Impossible

Imagine a new building is made. *Looks like a change just happened because a new building came into being!*

Parmenides thinks change is impossible.

If the building did not exist earlier, but it exists now, between "now" and "earlier" the building must have come from nothing.

But nothing can come from nothing. So the building cannot have come into being.

Zeno's Paradox of Dichotomy

If you want to cover a *finite distance* in a *finite time*, you first have to cover **half of the distance.** Next, you have to cover **half of half of the distance**. Next, you have to cover **half of half of half of the distance**. And so on. You'll have to cover an infinite number of space intervals. *But covering an infinite number of space intervals in a finite time is impossible*. So, movement is impossible.

A Mathematician's Response

Consider the infinite series

$$1/2 + 1/4 + 1/8 + 1/16 + 1/32 + \ldots = 1$$

The series converges to 1. So, there is no paradox. It is possible that a finite space interval be the result of adding an infinite number of space intervals, such as **1/2 + 1/4 + 1/8 …**

The Mathematician's Response Misses the Point of Zeno's Dichotomy

Consider the infinite series

1/2 + 1/4 + 1/8 + 1/16 + 1/32 + … = 1

The mathematician is telling that adding an infinite number of items can still give us a finite quantity.

But the problem in Zeno's Dichotomy is not whether adding an infinite number of items gives us a finite quantity. The problem is whether we can go through an infinite number of space intervals in a finite time. That's impossible, just as it is impossible to perform an infinite sequence of tasks in a finite time.

Zeno's Dichotomy Is a Paradox

A **paradox** is a piece of reasoning whose steps are all plausible, but whose conclusion is clearly absurd.

If you want to cover a *finite distance* in a *finite time*, you first have to cover **half of the distance.** Next, you have to cover **half of half of the distance**. Etc. You'll have to cover an infinite number of space intervals. *But covering an infinite number of space intervals in a finite time is impossible*. So, movement is impossible.

In order to reject Zenos' absurd conclusion, we need to reject one of the steps in Zeno's reasoning. But the problem is, which step in Zeno's reasoning is wrong?

Let’s Take Stock

Did You Change (!) Your Mind?

Before this class, you might have taken for granted that things change through time and that time flows or passes by.

Maybe now you're wondering whether time actually passes by and change is really real.

If you are now wondering about time and change, you've entered the philosophical attitude. The philosopher marvels at things that most people take for granted. The philosopher finds puzzles in what most people think it's obvious.

Parmenides and Zeno's Arguments Lead to Conclusions That Seem Absurd Because They Contradict Experience

Rational Arguments v. Experience

A **rational argument** tells us that change does not exist, that it is impossible, and that it is an illusion.

Experience tells us that change and transformation obviously exist.

Should we trust more our experience or a rational argument?

Both Rational Arguments and Experience Are Important

The challenge is to reconcile the two. This is the challenge that Parmenides and Zeno pose to you.

We Cannot Rely on Experience Alone

The A-square **seems darker** than the B-square. But is it **actually darker**?

Maybe not.

In fact the A-square and B-square are of the same color.

Couldn't our experiences of change and the flow of time be as illusionary as our experiences of colors?

Although Experience can be Misleading, at the Same Time, Reasoning Alone is Not Enough…

Clip of Gandhi thrown out of the train in South Africa
http://movieclips.com/3miX-gandhi-movie-thrown-off-the-train/

We Should Rely on Both Experience and Reasoning to Understand the World and Ourselves

Different Ways to Understand The World and Ourselves

Personal experience

Rational arguments and abstract reasoning

Scientific observations, experiments and data collection

Religious faith and personal beliefs

We can assign different degrees of importance to each way of understanding. How we should combine them is itself a philosophical question.

And Now Our New Topic

Free Will and the Future

Is the future predetermined?

Do we have free will? Are we free to choose?

Aristotle's Sea Battle Argument

Aristotle's Sea Battle Argument

1. **Either** there will be a sea battle tomorrow **or** there will not be one.

   A. If there **there will be** a sea battle, then it is unalterable that there will be a sea battle tomorrow. [*see following slides*]

   B. If there **there will not be** a sea battle tomorrow, then it is unalterable that there will not be a sea battle tomorrow. [*similar to A*]

2. In both cases, an inevitable event—that is, the inevitable sea battle or the inevitable absence of a sea battle—will result.

3. No matter what will happen, then, the future is predetermined one way or the other.

If There Will Be a Sea Battle Tomorrow, It Is Unalterable that There Will Be One — How So?

Let's look at the past first and then at the future

If an Event <u>Has</u> Happened, Then the Event Cannot be Altered

- If the statement "Event **E** has happened in the past" is true, then **E** cannot be altered, that is, there is nothing we can do to make **E** not happen.

What is true in the past cannot be altered because it belongs to the past. We cannot change the past.

Can We Alter the Future? (A)

Suppose it is true **there will be** a sea battle on Sept 23, 2014

- It is true **today** that there will be a sea battle on Sept 23, 2014
- It is true **yesterday** that there will be a sea battle on Sept 23, 2014

- If what is true in the past cannot be altered, it follows that it cannot be altered that it is true **yesterday** that there will be a sea battle on Sept 23, 2014
- If it cannot be altered that it is true **yesterday** that there will be a sea battle on Sept 23, 2014, then it cannot be altered that **there will be** a sea battle on Sept 23, 2014

Can We Alter the Future? (B)

Suppose it is true **there will not be** a sea battle on Sept 23, 2014

- It is true **today** that there will not be a sea battle on Sept 23, 2014
- It is true **yesterday** that there will not be a sea battle on Sept 23, 2014

- If what is true in the past cannot be altered, it follows that it cannot be altered that it is true **yesterday** that there will not be a sea battle on Sept 23, 2014
- If it cannot be altered that it is true **yesterday** that there will be a sea battle on Sept 23, 2014, then it cannot be altered that **there will not be** a sea battle on Sept 23, 2014

If an Event <u>Will</u> (Not) Happen, Then the Event Cannot be Altered

- If the statement "Event **E** will happen in the future" is true, then **E** cannot be altered, that is, there is nothing we can do to make **E** not happen.
- If the statement "Event **E** will not happen in the future" is true, then the absence of **E** cannot be altered, that is, there is nothing we can do to make **E** happen.

Aristotle's Sea Battle Argument

1. **Either** there will be a sea battle tomorrow **or** there will not be one.

   A. If there **there will be** a sea battle, then it is unalterable that there will be a sea battle tomorrow. [*see previous slides*]

   B. If there **there will not be** a sea battle tomorrow, then it is unalterable that there will not be a sea battle tomorrow. [*similar to A*]

2. In both cases, an inevitable event—that is, the inevitable sea battle or the inevitable absence of a sea battle—will result.

3. No matter what will happen, then, the future is predetermined one way or the other.

Aristotle Goes Further

- Aristotle believes—just like many of us—that it is absurd to conclude that the future is predetermined.
- Now, the only way to avoid that absurd conclusion, Aristotle thinks, is to deny the initial premise of the argument.
- The initial premise is that **either** there will be a sea battle tomorrow **or** there will not be a sea battle tomorrow.
- Denying that initial premies is itself quite strange. Nevertheless, Aristotle thinks that denying that premise is less strange than concluding that the future is predetermined.