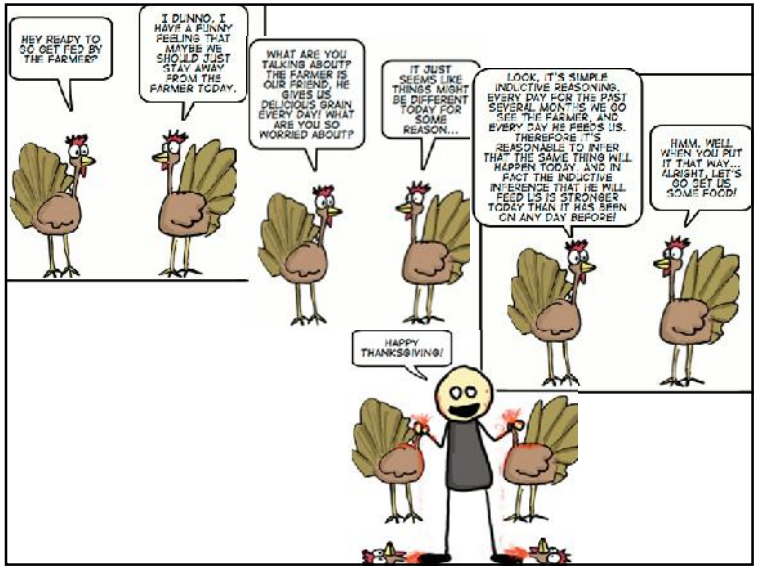
PHIL 1305

Are we living in the Matrix?

Justin C. Fisher




## Descartes' plan

1. Bulldoze uncertain beliefs.
2. Find a certain foundation.
3a. Establish that God exists.
3b. Count on God to rule out worries about the external world.

## What Descartes Accomplished

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## A possible way out

Use “abductive” inferences that are probable, but not certain.

- We aren’t certain electrons are why lights turn on and motors spin, but it’s reasonable to believe in electrons as the most probable explanation for all these events.
- Maybe our belief in daggers is reasonable as the most probable explanation for all our dagger-seemings.

## But, Bostrom says…

Probabilistic reasoning should lead us to conclude we’re probably in a Matrix, not out in the “real world”.

(Without God) we **can’t know for sure** what the external world is like – we ***could be*** living in a matrix.

We **can know with high probability** that we ***actually are*** living in a matrix.

## Inductive Arguments

A weak guarantee: “If the premises are true, then the conclusion is probably true.”

A large random sample of A’s have been B’s.

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So (probably) all A’s are B’s.

- generalizing from a sample to other things.
- the conclusion re-uses words/concepts that were observed to be true of the sample.

## How To Make an Inductive Argument

**Step 1.** Find a sample that would be representative of what you want to draw a conclusion about.

**Step 2.** Observe what traits things in your sample have.

**Step 3.** Conclude that one or more other things will have those traits too.

P1. We randomly selected 500 voters from Florida.

P2. A strong majority of our sample prefer Obama.

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C. So, a strong majority of all voters in Florida probably prefer Obama too.

## Assessing Inductive Arguments

How large is the sample?

- Would you trust a poll of 10 voters? 10,000?

How representative is the sample? (i.e., how likely is it that the things in the sample would be like the things in the conclusion?)

- Poll Kansans to predict how Oklahomans will vote?
- How about polling New Yorkers?

Was the choice of sample-members biased?

- Many polls involve telephone calls to land-lines.
- This under-represents cell-phone users, people who aren't home much, people who lack phones.

## Bostrom's Simulation Argument

P1. Technology will advance so people can make matrices (simulations containing beings with experiences like ours).

P2. If people can make matrices, they will make a lot of matrices.

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C1. So, out of all the beings with experiences like ours, most will be in matrices.

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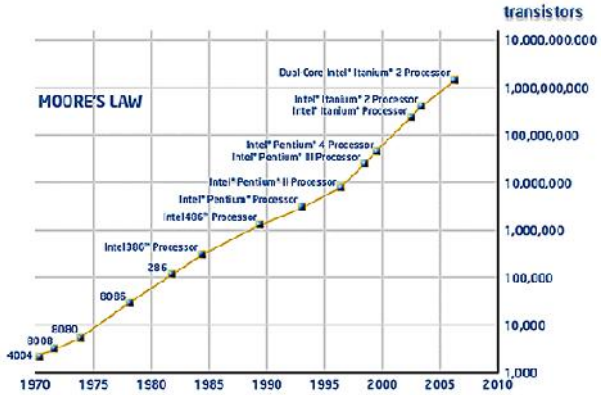
C2. So, we're probably in a matrix ourselves.

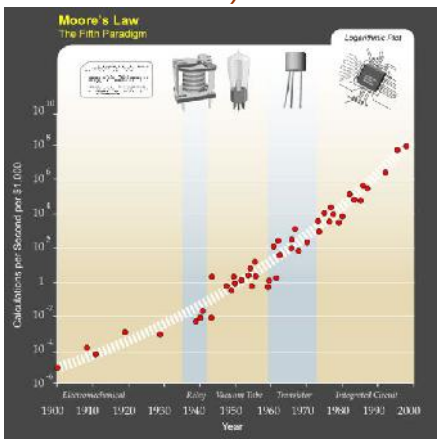
P1. Technology will advance so people can make matrices (simulations containing beings with experiences like ours)



P1. Technology will advance so people can make matrices (simulations containing beings with experiences like ours)

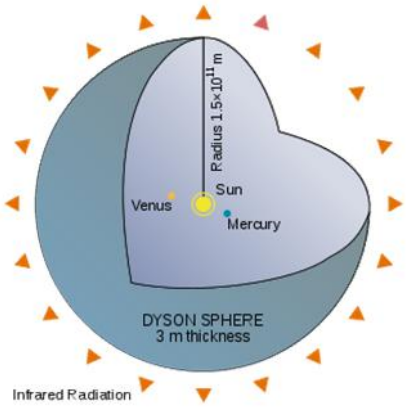
Exponential growth of computational power continued even as we went through very different sorts of computational technology.

Will this trend continue after we reach the physical limits of transistors?




P1. Technology will advance so people can make matrices (simulations containing beings with experiences like ours)

We (or some alien species) might someday dismantle moons, asteroids and even planets to build massive solar-powered computers with tremendous computational power.

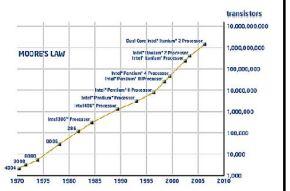


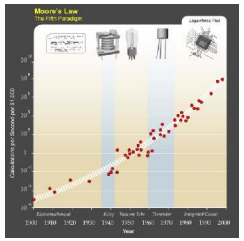

P1. Technology will advance so people can make matrices (simulations containing beings with experiences like ours)

**Inductive Argument**

**Sample:** past computational technology

**Observation:** has continually grown at exponential rates.



**Conclusion is about:** Future technology

**Conclusion:** will continue to grow until we reach matrix tech.

1a. Humans and/or aliens will develop computational power that far exceeds the computational power of our brains.

1b. If a computer simulation includes a detailed simulation of the computations our brains perform, then it would contain a being with experiences like ours.

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In the philosophy of mind section, we'll see that *functionalism* accepts 1b, and is widely accepted by philosophers and cognitive scientists. This premise *could be* wrong, but many people would be surprised.

**P2. If people can make matrices, they will make a lot of matrices.**

To understand Earth's history?

To explore alternate histories?

Immersive artwork?

Holodeck adventures?

Realistic "AI" opponents for computer games?

An interesting screensaver?

…

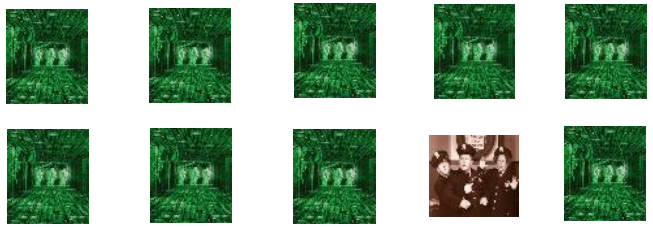
If you know that three "real people" and three simulated people are all having the sort of experience you're having, what are the chances you're one of the sims?

**50%**

What if it's **3** "real people" and **27** simulated people?

**90%**

**Moral:** The more matrices you think will end up having been built, the more likely it is you're in one.



## Four Possible Responses

**1a.** Say that our technology (and that of any alien species) will collapse or stall out before reaching immense computational power.

**1b.** Say that a computer carrying out the same computations as our brains (even down to the finest details) would not have our experiences.

**2.** Say that any beings with the power to simulate a world like ours would be too ethical or too disinterested to do so.

**3.** Accept that we're probably simulations ourselves.

## A pie chart

How much probability should we assign to each option?


1. **No Tech:** No societies would develop the computational technology needed for a matrix.
2. **No Minds:** Some would develop such tech, but it wouldn't yield minds with conscious experiences like ours.
3. **No Use:** Some would develop such tech and it would yield experience; but no one would build many matrices.
4. **Lucky:** Most beings with experiences like ours are sims, but we're among the lucky few flesh and blood beings.
5. **Sims:** We're among the many sims.

As our tech continues to follow Moore's law, as we continue not to nuke ourselves, and as we discover distant planets, **No-Tech** has to shrink.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As we see broad demand for realistic computer games, simulations, porn, etc… and as we see little governmental regulation of this, it's hard to keep **No Use** large.


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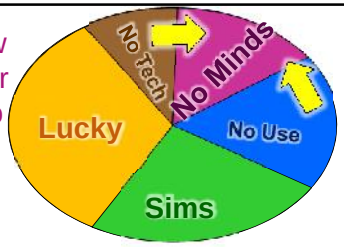
As we better understand how our brains are responsible for our cognition, its very hard to see why it shouldn't be possible to build artificial minds (our next topic).

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But the more confident we become that many sims will have experiences like ours, the less rational it is to insist we're among the lucky few, rather than the many sims!


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## What difference does it make?

Is life in a matrix as good as life "in reality"?

Is a matrix more likely to end abruptly?

Would being in a matrix affect religion?

What sort of afterlife might a matrix allow?