Programming Consciousness

01 Explaining Consciousness

02 Programming Consciousness

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Explaining Consciousness

01

Understanding consciousness through philosophy and neuroscience.

Philosophy

John Searle's Chinese Room Experiment

You want to find out whether the person in the room actually knows chinese, or is faking it.

You can only put in messages, and get replies as the output.

What questions do you ask to determine whether they know chinese or not?

Integrated Information Theory

Consciousness arises from the interconnectivity of the different brain parts.

Has offered a measurement system to differentiate between awake and asleep persons.

Neuroscience

Mapping the Mouse Brain

100,000 neurons and the one billion connections, or synapses, between them in a cubic millimetre of mouse brain

The microscopes ran continuously for five months, collecting more than 100 million images of 25,000 slices of mouse visual cortex, each just 40 nanometres thick

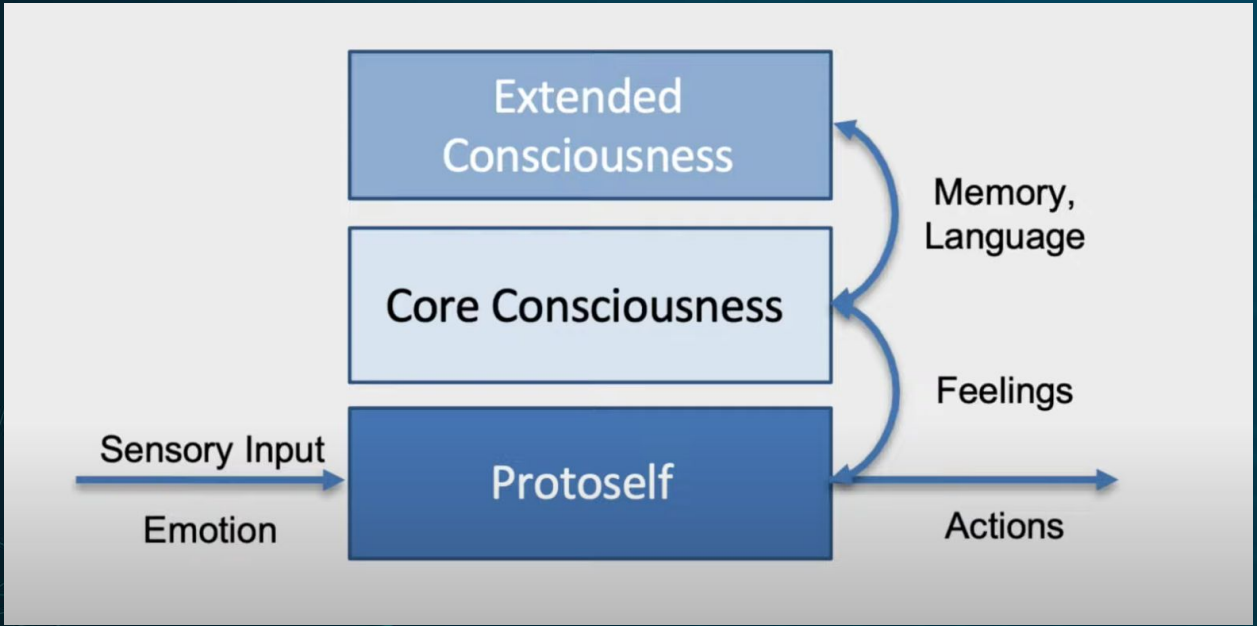
More than 2PB of data was produced.

Programming Consciousness

02

Antonio daMasio's theory for consciousness

DaMasio's Theory



Describing Consciousness

Mechanistic part of the body capable of basic tasks. E.g Sleepwalking

Protoself

Start interacting with your environment and carry out simple planning tasks

Core Consciousness

Human-like consciousness which consists of language and autobiographical memory

Extended Consciousness

WHAT DO WE DO?

Say we have a robot which has a battery and a hard drive, in a house with power sockets.

When the battery starts running out, the robot must roam around and find a socket to recharge, using supervised learning.
PROTOSELF

Add unsupervised learning so the robot builds a “world model” of its surroundings, but also a model of itself, and the emotions to expect.
BASE CONSCIOUSNESS

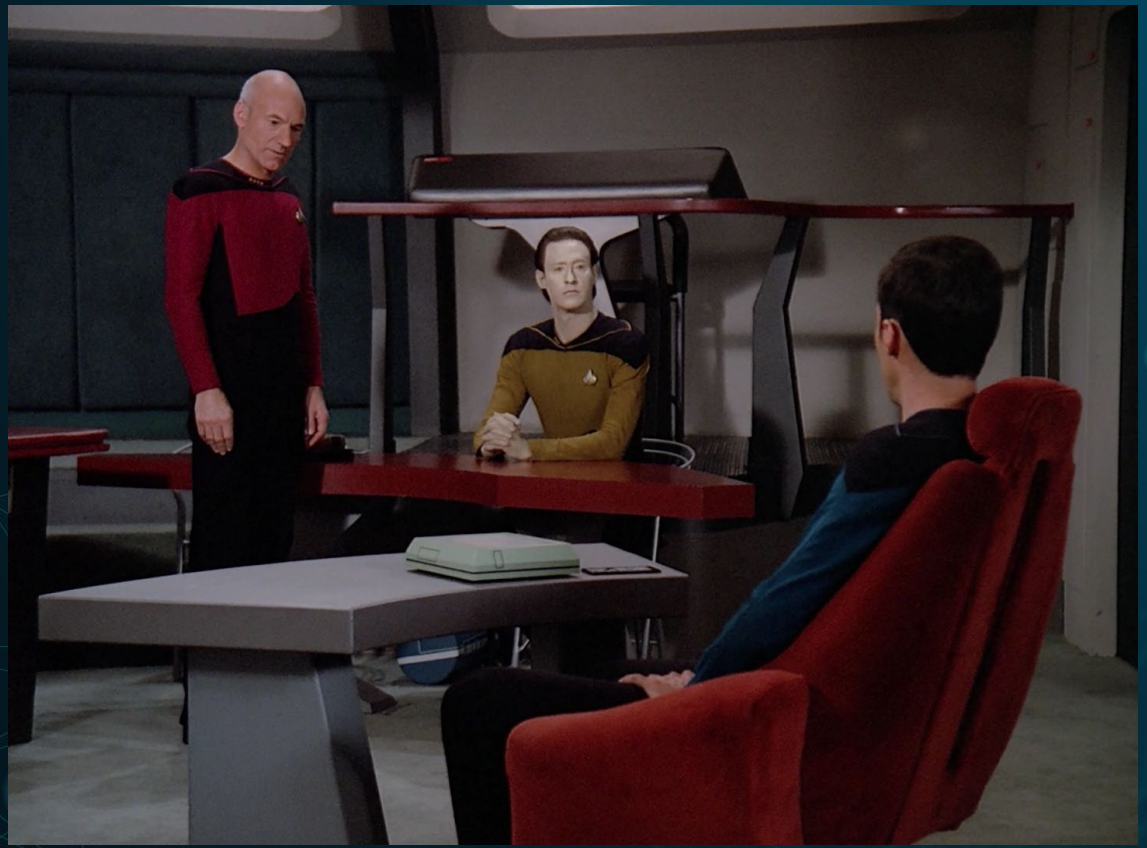
Populate the house with other robots that have reached base consciousness and allow these robots to interact.
EXTENDED CONSCIOUSNESS

Rights of Androids

03

How do we treat them?

Star Trek - Measure of a Man



- Yellow - Commander Data
- Red - Captain Picard
- Blue - Dr. Bruce

Plot

Data is a one of a kind android and Bruce wishes to dismantle him in order to learn more and replicate androids, but this procedure is possibly “fatal” for Data.

Bruce argues, as Data is not sentient, he is property of Starfleet and Bruce has full rights over it. Picard asks what makes a being sentient. Bruce replies with 3 main criteria: INTELLIGENCE, SELF-AWARENESS, CONSCIOUSNESS.

Meeting the Criteria

01	02	03
Demonstrated as Data is able to learn and understand and cope with new situations.	Data knows that he is in a courtroom, where his rights are challenged, his freedom and life are both in question	Bruce wishes to dismantle Data, to learn and produce more androids. But what if Data is conscious?

Picard's Defence

If Bruce is able to dismantle Data and replicate him successfully, and produce 100s of 1000s of androids, what would happen if they they show even a slightest bit of consciousness?

They are now a race. If the freedom of a whole race is put in question, then it becomes a matter of condemning all andriods to be destined to live in slavery. Thus, ruling that Bruce can dismantle Data and disregard his freedom has very serious consequences.

Discussion Questions

04

Questions

1. How do you make the mass production of androids ethical?
2. Do you think AI today exhibit animal-like consciousness?
3. Should the company producing conscious androids have the power to take away the rights and freedom of their products?

Thank You!