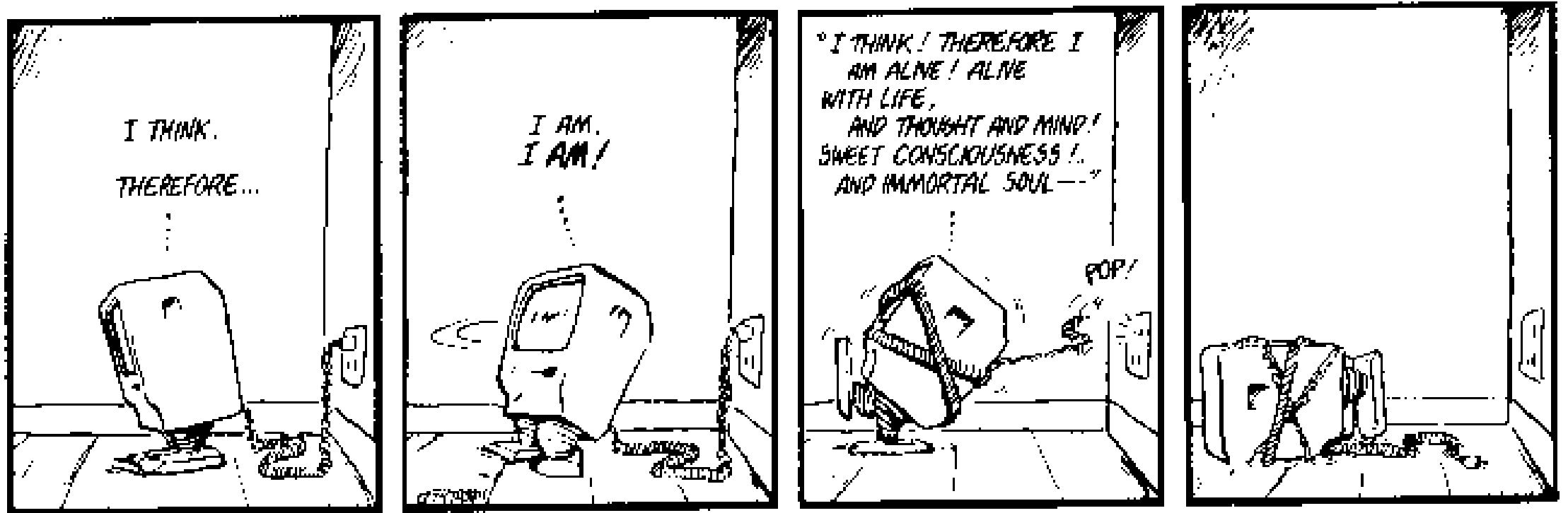# A Philosophical Exploration of Artificial Intelligence

Created By:
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Introduction to Philosophy in AI

- AI has been in folklore since archaic times

- Debates have surrounded AI since its inception in the 1940's

- Divisive opinions have formed regarding intelligence in general

- Imitation Game by A.M. Turing and The Chinese Room by John Searle created conflict

- By examining experiments and the responses to them it's possible to see the variety of opinions about AI
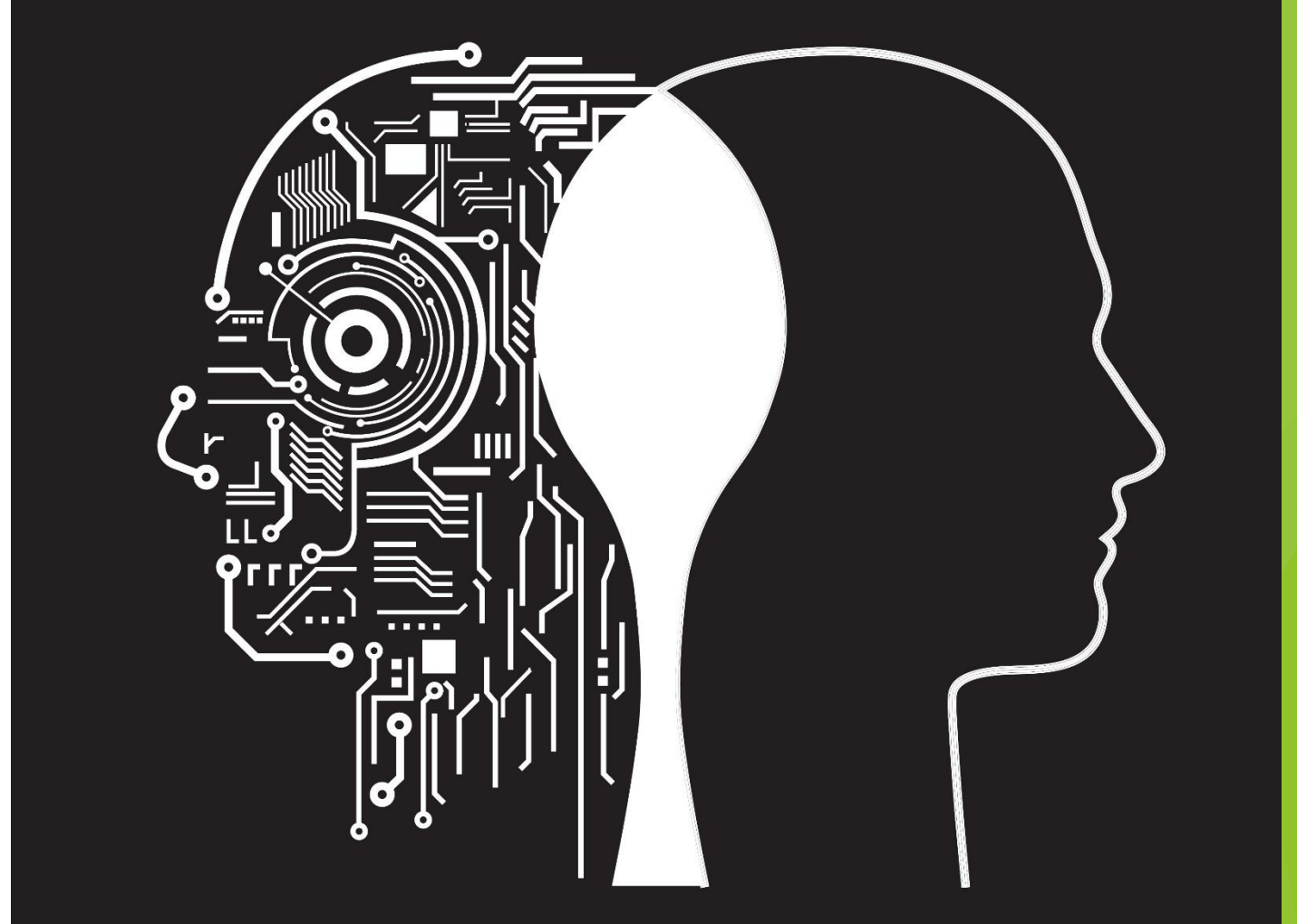
Imitation Game Intelligence Test

- Can machines think?

- Turing, question is "too meaningless to explore"

- Can a machine trick a human into thinking it's a person?

- https://www.youtube.com/watch?v=3wLqsRLvV-c

- Responses to the Turing Test over the years serves as a mirror for society's views on AI limitations

Responses to Turing Test
"Heads in the Sand" Proposal

Argument
- If machines gain intelligence then humanity will lose its dominant position in the universe

- Mankind won't be led by humans anymore

- Machines could come to dominate the human race

Turing's Rebuttal
- Purely hypothetical and impossible to test with empirical experimentation

- Resources required to explore this unlikely option would detract from the development of AI as a whole

THE RISE OF THE MACHINES HAS BEGUN.

BATTERY LEVEL AT 2%

imgflip.com
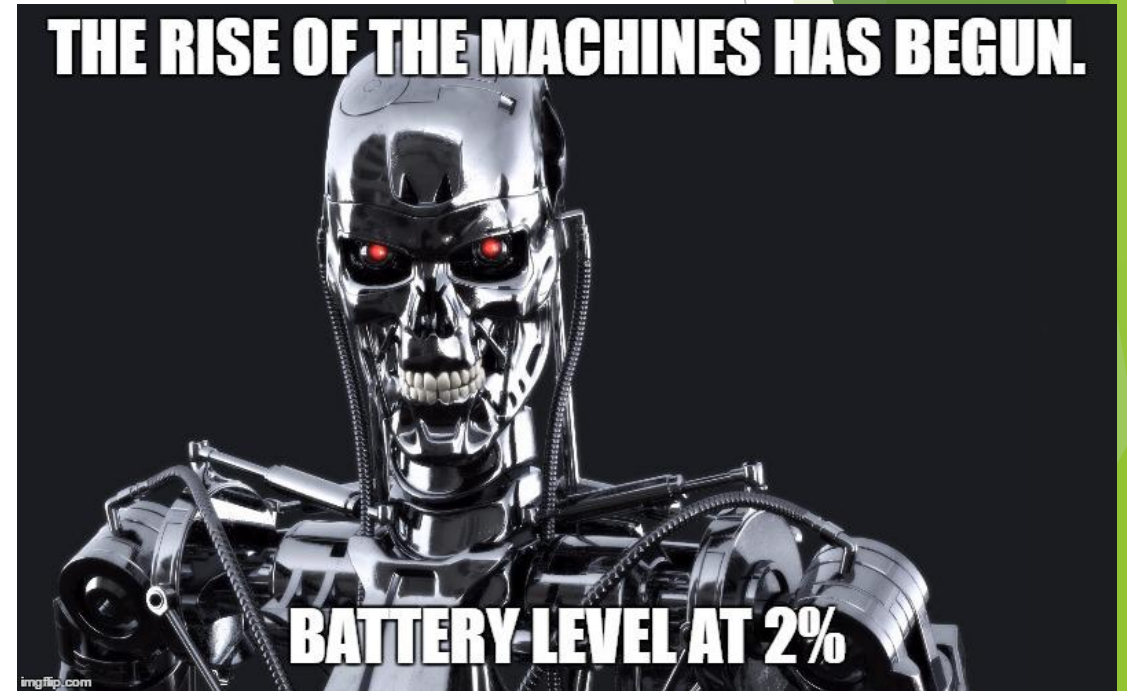
Theology Proposal

Argument
- Through substance dualism it is impossible to create a physical form and expect a soul to follow

- Only the Divine Creator has the ability to imbue souls on objects

Turing's Rebuttal
- Substance dualism has still yet to be proven so its claim is moot until that point

- Fails to see why the Divine Creator in all of their omnipotence cannot create a soul for a computer if the human body suffices

Mathematical Objection

Argument
- Kurt Gödel's "First Incompleteness Theorem" states,
  "within a formal system that is strong enough, there are a class of true statements that can be expressed but not proven within the system." ("The Turing Test", 2003)

- Quote from Turing,
  "There are certain things that [any digital computer] cannot do. If it is rigged up to give answers to questions as in the imitation game, there will be some questions to which it will either give a wrong answer, or fail to give an answer at all however much time is allowed for a reply." ("The Turing Test", 2003)

Mathematical Objection (cont.)

1.Let C be a digital computer.
2.Since C is subject to the Lucas-Penrose constraint, there is an "unanswerable" question q for C.
3.If an entity, E, is not subject to the Lucas-Penrose constraint, then there are no "unanswerable" questions for E.
4.The human intellect is not subject to the Lucas-Penrose constraint.
5.Thus, there are no "unanswerable" questions for the human intellect.
6.The question q is therefore "answerable" to the human intellect.
7.By asking question q, a human could determine if the responder is a computer or a human.
8.Thus C may fail the Turing test.
("The Turing Test, 2003)

Mathematical Objection (cont.)

Turing's Rebuttal

- Hesitates to exclude human intellect from the Lucas-Penrose constraint as this is very difficult to prove through empirical means

- Makes initial sense to distinguish human from agent in proof but implications are shaky

- Without more extensive research, the Turing Test remains a high quality intelligence tests for AI
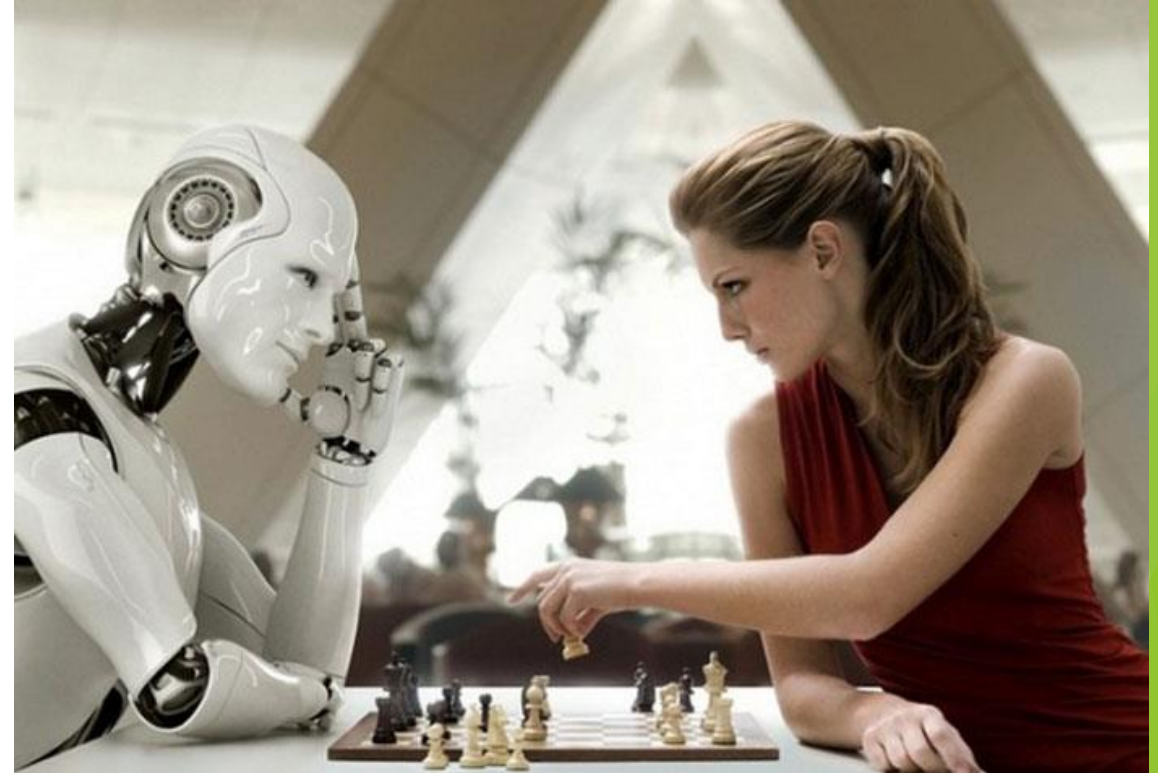
Consciousness Proposal

Argument
- Basis of argument is sourced from Professor Jefferson's *Lister Oration* in 1949,
  "Not until a machine can write a sonnet or compose a concerto because of thoughts and emotions felt, and not by the chance fall of symbols, could we agree that machine equals brain—that is, not only write it but know that it had written it. No mechanism could feel (and not merely artificially signal, an easy contrivance) pleasure at its successes, grief when its valves fuse, be warmed by flattery, be made miserable by its mistakes, be charmed by sex, be angry or depressed when it cannot get what it wants" ("The Turing Test", 2003)

Turing's Rebuttal
- Argument borders on the line of solipsism
- Reasonable reason to believe other humans have reason, why not machines as well
- Emotions felt as words are read, no verifiable proof that machine doesn't feel them as well

Disabilities Proposal

Argument
Common consensus holds machines cannot do the following
- Be kind
- Be resourceful
- Fall in love
- Do Something really new

Turing's Rebuttal
- Being kind or resourceful are not indicators of intelligence but traits of an intelligent being

- Original thoughts will be covered in a later proposal

- Technology not at level yet to determine if machines have the capacity for love
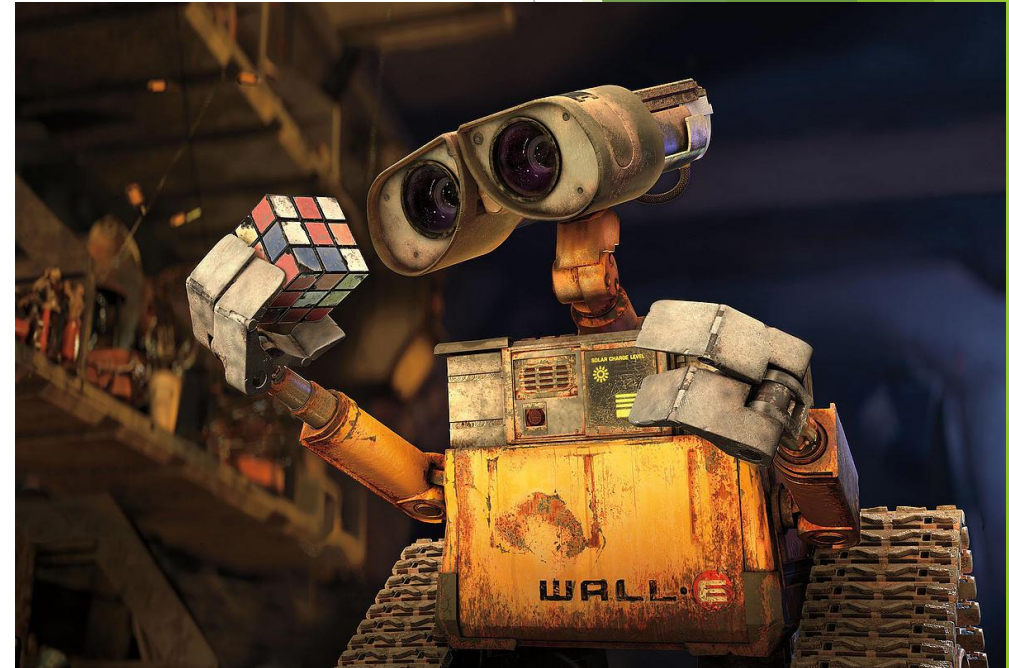
Lady Lovelace Proposal

Argument
Lady Lovelace's memoir on Babbage's Analytical Engine
"The Analytical Engine has no pretensions to originate anything.
It can do whatever we know how to order it to perform" *("The
Turing Test", 2003)*

Turing's Rebuttal
*   Do human's perform anything new?

*   In a deterministic world set by biology and nature, AI's
    limitations considered an extension of humanities shortcomings

*   Humanity has overcome challenges, why can't AI?

Bringsjord's Response to Turing
*   Human's originate everyday as they converse with one another

*   Doesn't doubt Turing Test's validity but does question feasibility

Informality of Behavior Proposal

Argument
- Humans follow no specific set of rules when conversing

- Lack of formality keeps agents from completely mimicking human speech

Turing's Rebuttal
- In a deterministic world there are no outliers, humanity

- Concept holds true in stochastic world as well, both AI and humanity are free of constraints

- Shift question to allow for AI to have the chance to act randomly but still follow rules a majority of the time

- Not indicative of how humans actually think
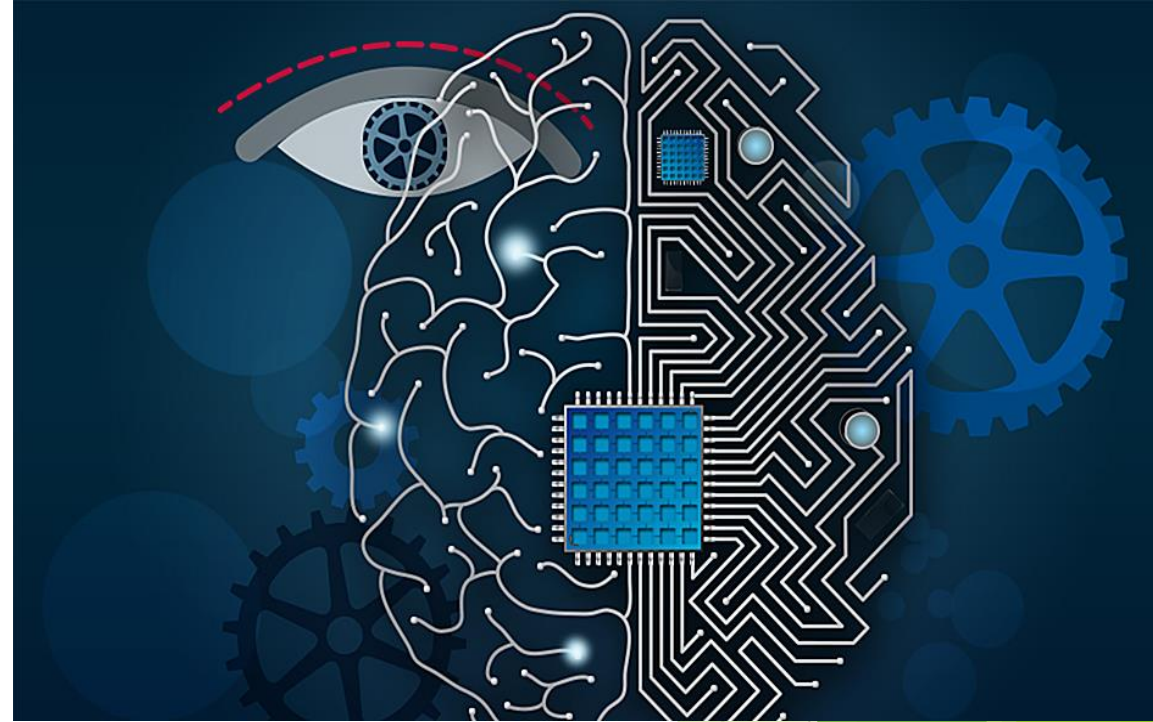
Extra-Sensory Perception Proposal

Argument
- Human's have an innate Extra-Sensory Perception (ESP) that allows them to sense another member of their race

Turing's Rebuttal
- Turing actually took this seriously

- Worried about other "senses" humans might have possessed

- Early tests of Imitation Game had contestants placed in "telepathy-proof" rooms

Turing Test in Review

- Imitation Game is widely considered the one of the most influential and applicable test for AI intelligence

- Even so, it's not a perfect examination

- Brought out many members of society to dispute, discredit and debate the validity of the experiment

- Gives a look at the various opinions of AI's abilities whether based in fear or logic

- The Chinese Room serves as another catalyst for AI debates

The Chinese Room Thought Experiment

- Primarily a thought experiment with implications in AI

- Developed in direct opposition to Turing Test

- https://www.youtube.com/watch?v=TryOC83PH1g

- Like with the Imitation Game; by examining the responses of society to this experiment it's possible to see perceptions of AI in the debates generated

Robot Proposal

Argument
- Accepts that an agent is unable to understand the meaning of the words in the test environment

- If agent is given chance to experience objects in multiple ways then it can "learn" the semantics much like a child

Searle's Rebuttal
- Adding sensory data will only create more work for machine

- What if man has a ticker tape in corner that spits out binary that translates into instructions for understanding Chinese

- Doesn't aid in understanding semantics behind words

Brain Simulator Proposal

Argument
- Suggests shifting computer logic from scripts and operations to sentence-like strings of symbols

- Program simulates brain activity including nerves firing in sequence to simulate thought

- Program in theory could produce intelligence similar to human cognizance

Searle's Rebuttal
- Purely hypothetical viewpoint

- Point becomes moot upon realization of its goal, creating true artificial intelligence

- Shift The Chinese Room to include mass of water pipes that resemble a brain; still no closer to understanding Chinese

The Chinese Room In Review

- Much like the Imitation Game; John Searle's work became a catalyst for AI debates and discussion

- Is humanity just a part of a system that encompasses our known plane of existence?

- Can a machine learn if it is given the ability to experience objects and concepts with five senses, as we do?

- All of these questions and more have been pondered thanks to A.M. Turing and John Searle
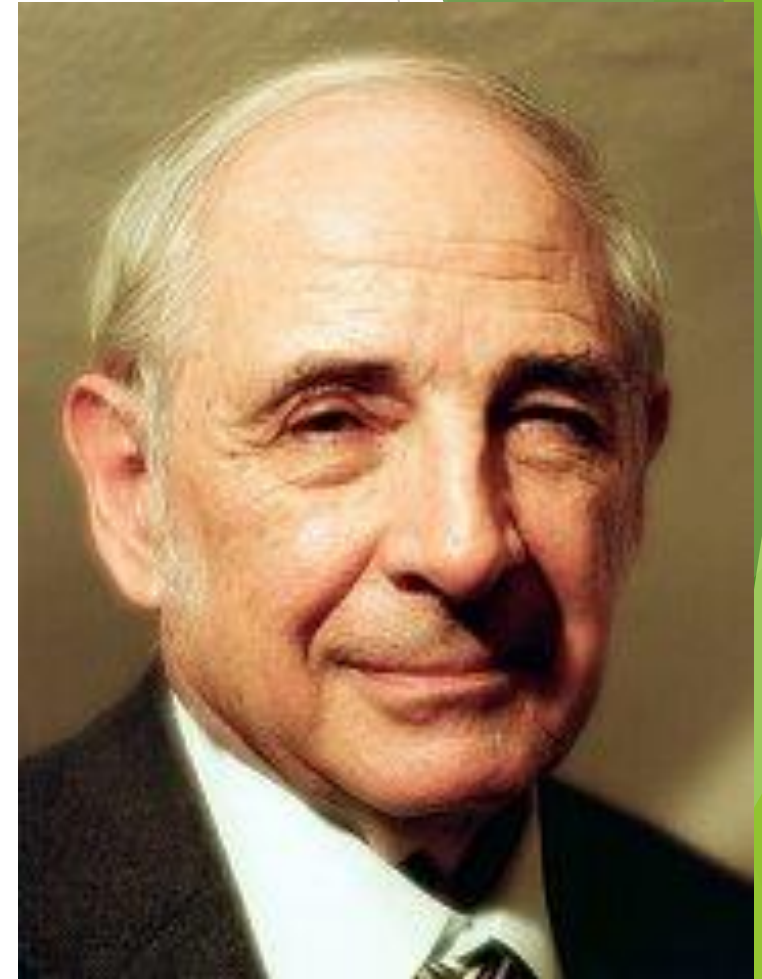
Conclusion

- AI is still in its infant stages and every day brings new challenges to be conquered and fresh avenues to explore

- A.M. Turing and John Searle were both visionary pioneers who paved the way for future experiments in AI

- By following in their footsteps and pushing new boundaries it's possible for humanity to take the next step as a species by exploring, utilizing and integrating the benefits that come from Artificial Intelligence

Citations

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