

# MIND: Thinking Machines (Part 2)

## Lecture 16

Phil 1000, Fall 2008  
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## Quick Review

- Review: Artificial Intelligence
  - Turing Test?
  - Mind = Information Processor?
  - Henry?
- Today: Mystery of the Chinese Room
  - Strong AI vs. Weak AI
  - Computational Machines: symbol manipulations
  - The Chinese Room
  - Objections and Replies

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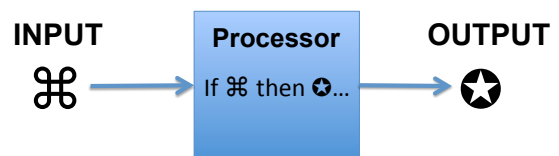
## Artificial Intelligence?

- AI: the science of getting machines to perform jobs that normally require human-like intelligence; usually using computational machines.
- **Weak AI:**
  - Understand computers are valuable in modeling (simulating) psychological theories, but not instantiating a psychology; powerful tools for investigation.
- **Strong AI:**
  - Understand computers not merely as a tool, but able to instantiate psychology: an appropriately programmed computer really is a mind, so that a computational machine can literally be said to have a mind.

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## Computational Machine

A formal symbol manipulating machine: it takes input (as symbols, e.g., 1 or 0) and according to the programming manipulates that symbol so that the appropriate output is generated.



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## Searle's Argument

- Strong AI is mistaken, because if we instantiate a completely computational model of the mind there will still be something left out; namely intentionality.
  - Intentionality is the "aboutness" or "referential property" of mental states.
  - A symbol is intentional when it represents something else; it is about something else.
- Searle considers the **Chinese Room** →


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## The Chinese Room



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## Searle's Point

If you see this shape, "什麼"	then produce this shape, "爲天"
followed by this shape, "帶來"	followed by this shape, "下式".
followed by this shape, "快樂"	

- We can have a fully computational machine (formal symbol manipulating machine) but still lack something important to having a mind – intentionality (understanding)
- Symbols are uninterpreted; the man in the box doesn't understand Chinese.
- Doesn't mean computational theories are all wrong, just not sufficient for a mind.

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## Systems Objection

It may be true that the man doesn't understand Chinese, but that is only part of a larger system (the entire Chinese room). No simple part interprets, but the whole system can be said to understand. That is what is analogous to attributing minds to people (or animals).

**Searle's Reply:** Doesn't touch on the problem of interpretation. We could, for example, completely internalize the Chinese Room (rule book) and still not understand Chinese – just pushing meaningless symbols around.

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## Robot Objection

If what is missing is meaningful content (interpretation), then we might add that to the Chinese Room by making more like a human: add cameras, listening devices, locomotion, etc. so that the computational system (program) can learn to associate certain symbols with certain objects or actions.

**Searle's Reply:** Acknowledges that some causal connection to the world is necessary, but it still doesn't get us intentionality (interpretation). The type of intentionality in this Robot Chinese Room would be "observer relative"; interpretation would be given by some outside observer. Doesn't give us "intrinsic intentionality." E.g., A page in a book has words, but the meaning is only given by the reader, not the book.

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## Intrinsic Intentionality?

- What is Searle's idea of intrinsic intentionality?
- Lycan might ask Searle, "How do you know that person has intrinsic intentionality?" If Searle replies, "By how the person behaves and processes information," then Lycan might wonder why deny the (Robot) Chinese Room has intentionality?
- What more does Searle want? What more should anyone want?

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## What do we want from a mind?

- There appears to be something fishy about Searle's argument. What is it?
- The problem rests in the fact that any question about the nature of minds also entails questions about how we know minds.
  - Ontology and epistemology are intertwined in the other minds problem.

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## Next Time

In-class Video  
(and in-class assignment)

On Animal Consciousness or  
Machine Intelligence

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