24.09 Minds and Machines
spring 2006

- recitations

intentionality
underived:
- the belief that Fido is a dog
- the desire for a walk
- the intention to use ‘Fido’ to refer to Fido
derived:
- the English sentence ‘Fido is a dog’
- the Spanish sentence ‘Fido es un perro’

Weak AI
the principle value of the computer in the study of the mind is
that it gives us a very powerful tool—e.g, it enables us to
simulate various kinds of mental processes
(cf. Weak Artificial Meteorology)
obviously correct (ditto Weak AM)

Strong AI
an appropriately programmed computer literally has mental states
(in particular, cognitive states)
(cf. Strong AM—an appropriately programmed computer
literally has meteorological states.)
disputable, and disputed by Searle
(Strong AM, at least, is obviously false)

the Chinese room
- a program: an algorithm
  (mechanical recipe) for
  transforming symbols into
  symbols
- the thought experiment
  exploits the fact that
  computer programs can
  be “multiply realized”

digression on Turing machines
- wartime codebreaker,
  founder of computability
  theory
- invented “Turing
  machines”
- also invented the “Turing
  test” (more on this later)

Alan Turing (1912-54)

Turing machines
states: $S_1, S_2, \ldots, S_n$

head
\{R, L, 1, 0, halt\}

\ldots10001111100001111101111000000000\ldots
tape
a simple Turing machine

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S₁

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S₁

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S₁

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S₁
“...you behave exactly as if you understood Chinese, but all the same you don’t understand a word of Chinese. But if going through the appropriate computer program for understanding Chinese is not enough to give you an understanding of Chinese, then it is not enough to give any other digital computer an understanding of Chinese” so, Strong AI is false.

• the “whole system” understands Chinese, not Searle
• (don’t get hung up on “understanding”)
Searle’s reply…

… appears to rely on the mistaken principle that if x is part of y, and y isn’t F, then x isn’t F. (My liver is part of me, and I don’t weigh 1 pound, but maybe my liver does.)

the robot reply

"Inside a room in the robot’s skull I shuffle symbols…As long as all I have is a formal computer program, I have no way of attaching any meaning to any of the symbols. And the fact that the robot is engaged in causal interaction with the outside world won’t help me…"

There is one aspect of Searle’s case with which I am sympathetic. I have my doubts as to whether there is anything it is like to be the Chinese system, that is, whether the Chinese system is a phenomenally conscious system. My doubts arise from the idea that perhaps consciousness is more a matter of implementation of symbol processing than of symbol processing itself.

Block, “The mind as…”

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dualism

• Meditations (1642)
  “Wherein are demonstrated the existence of God and the Distinction of Soul from Body”

• Principles of Philosophy (1644)

• Passions of the Soul (1649)

René Descartes (1596-1650)
from the philosophical toolkit:

• properties and particulars

substance dualism

an extra kind of thing

property/attribute dualism

same kind of thing with funky property

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• problem set 1 +
writing assignment 1
on Friday
• next class on
tuesday