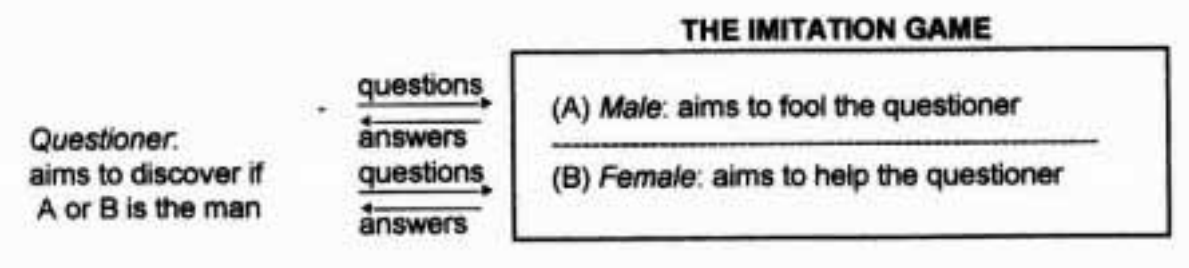
The Turing Test & Chinese Room Experiment: Lecture Handout: Larry Hauser

The Turing Test and Chinese Room Experiment

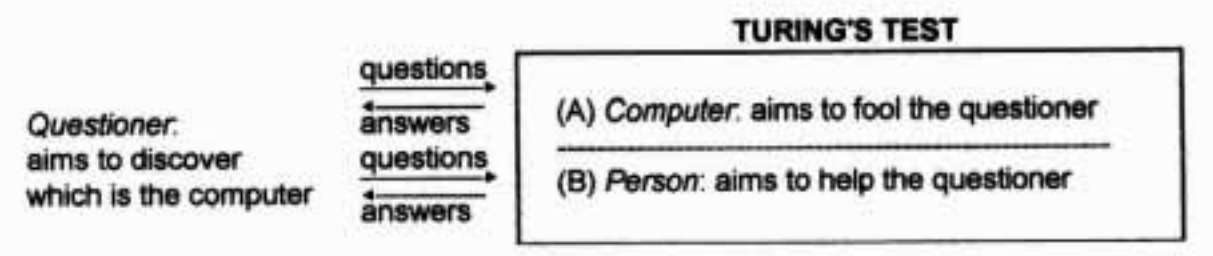
THE TURING TEST

Descartes' Challenge: For we can certainly conceive of a machine so constructed that it utters words, and even utters words which correspond to bodily actions causing a change in its organs (e.g., if you touch it in one spot it asks what you want of it, if you touch it in another it cries out that you are hurting it, and so on). But it is not conceivable that such a machine should produce different arrangements of words so as to give an appropriately meaningful answer to whatever is said in its presence, as even the dullest of men can do. (Descartes 1637, p. 140)

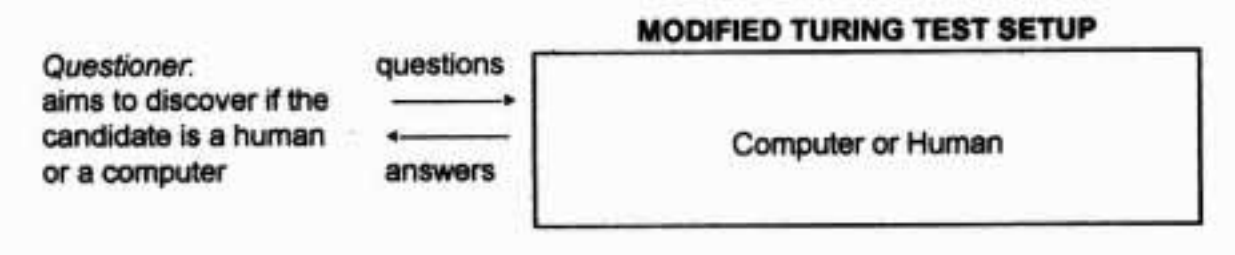
The Imitation Game



Turing's Test



Modified Turing Test Setup



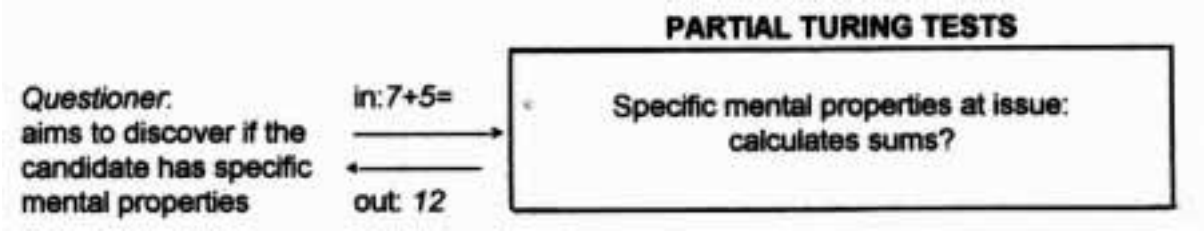
Turing's rationale: "The question and answer method seems to be suitable for introducing almost any one of the fields of human endeavor which we wish to include" (Turing 1950, p.435).

Turing's analysis: "The [imitation] game may perhaps be criticized on the ground that the odds are weighted too heavily against the machine. This objection is a very strong one, but at least we can say

that if, nevertheless, a machine can be constructed to play the imitation game satisfactorily, we need not be troubled by this objection" (Turing 1950, p. 435).

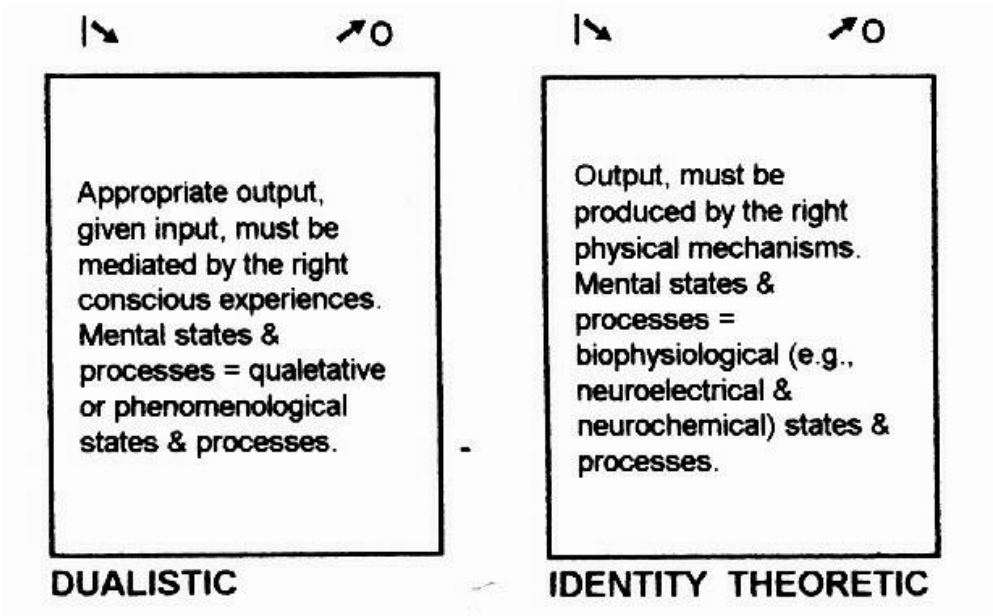
Turing's prediction: "in about fifty years' time [by the year 2000] it will be possible to program computers ... to make them play the imitation game so well that an average interrogator will have no more than 70 per cent. chance of making the correct identification after five minutes of questioning." (Turing 1950, p.442).

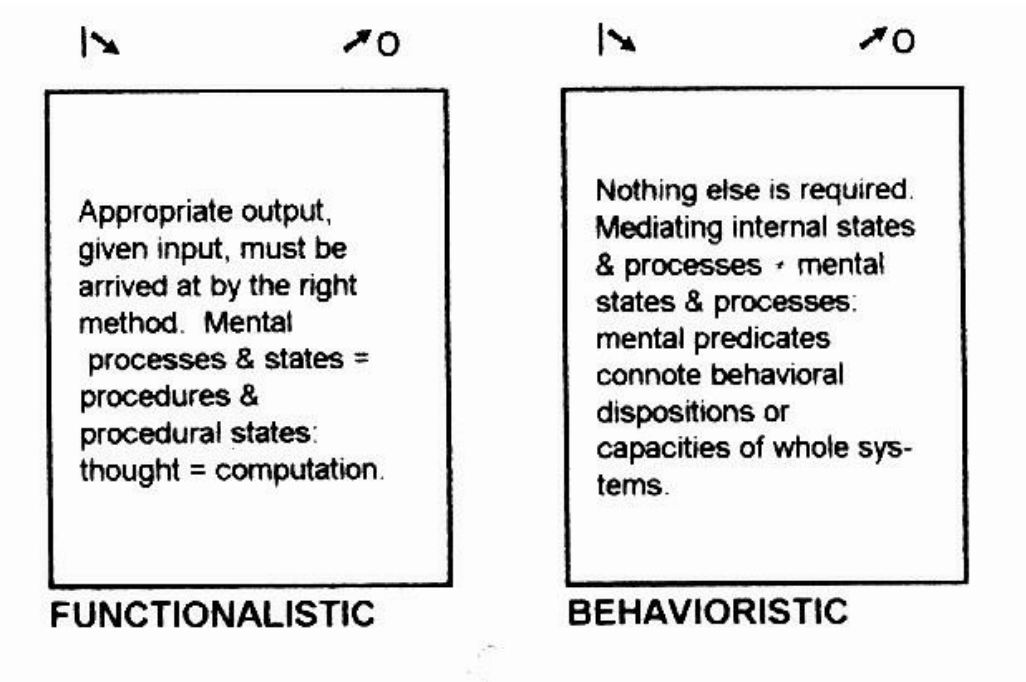
Partial Turing Tests



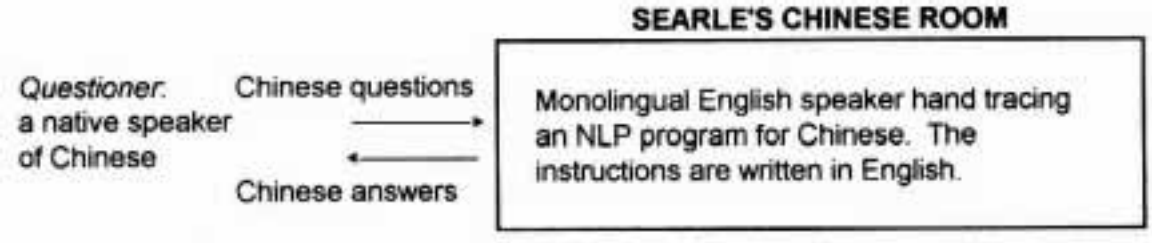
Turing's Second Prediction: I believe that at the end of the century the use of words and general educated opinion will have altered so much that one will be able to speak of machines thinking without expecting to be contradicted." (Turing 1950, p.452)

FOUR METAPHYSICAL TAKES ON MIND





SEARLE'S CHINESE ROOM EXPERIMENT



Searle's Conclusion: it seems to me quite obvious in the example that I do not understand a word of the Chinese stories. I have inputs and outputs that are indistinguishable from those of the native Chinese speaker [i.e., everything that behaviorism would require], and I can have any formal program you like [all functionalism would require], but I still understand nothing. (Searle 1980a, p. 418)

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