

# Minds and Machines

spring 2003

## Searle's Chinese room argument

# Can computers think?

- According to “Strong AI”, “the mind is to the brain, as the program is to the computer hardware”
- Searle’s “Chinese room argument” purports to show that Strong AI is false

# arguments

- an argument is a list of sentences,  $P_1, \dots, P_n, C$
- see [handout](#) on arguments
- validity
- soundness

# intentionality

that feature, possessed by (e.g.) words and mental states, of being “about” -- representing, referring to -- something. The belief that Fido is furry is a mental state that is about Fido. And the word `Fido' refers to the dog, Fido. So these are two examples of intentionality.

NB: don't confuse intentionality with intending something. The latter is just one example, along with believing and desiring, of an intentional mental state.

# derived/underived intentionality

Something has *derived intentionality* just in case it has intentionality in virtue of the intentionality of something else. Plausibly, 'dog' refers to dogs in virtue of the beliefs, intentions, etc., of English speakers -- hence 'dog' has derived intentionality. My belief that dogs have fur is an intentional state, and doesn't have its intentionality in virtue of the intentionality of anything else -- hence my belief has *underived* (or *original*) intentionality. If thinking is conducted in a language written in the brain, then the words of this language have underived intentionality.

Searle's Chinese room argument is directed against the claim that instantiating a computer program is sufficient for *underived intentionality*.

## 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).

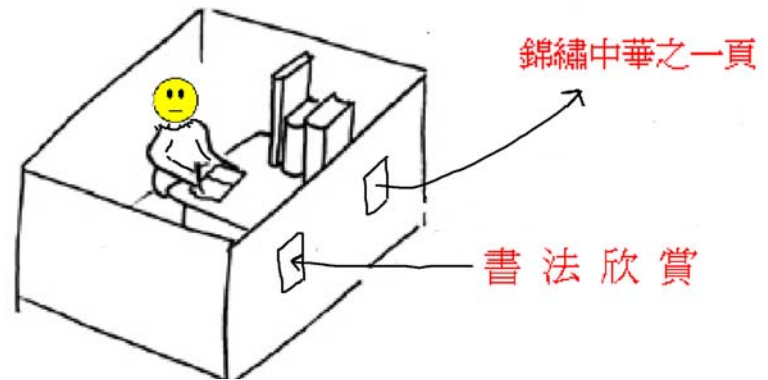
## STRONG AI

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

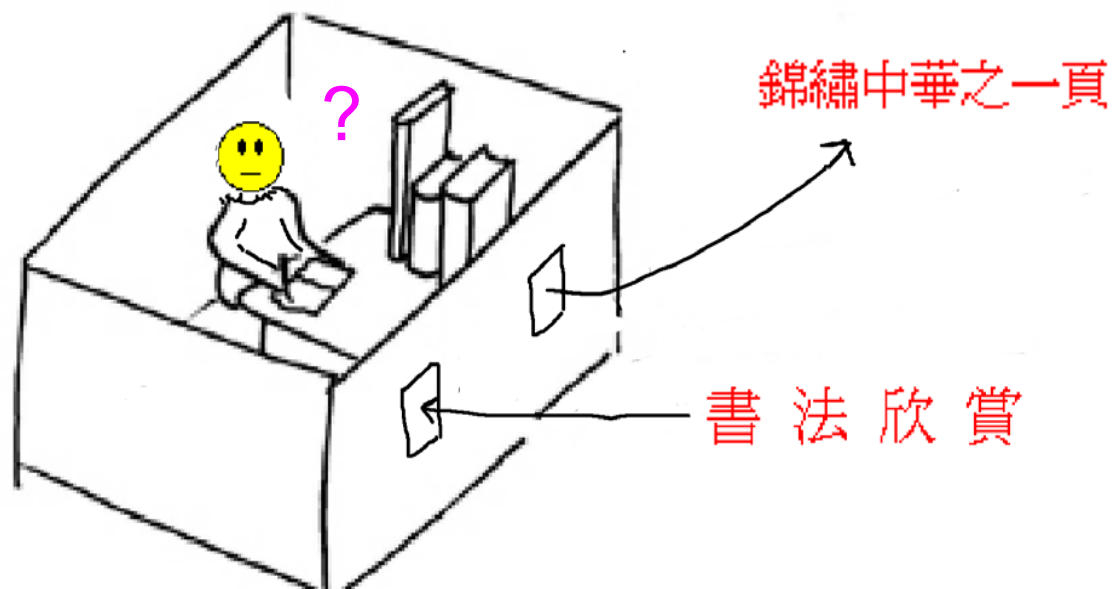
- a program: an algorithm (mechanical recipe) for transforming symbols into symbols
- the thought experiment exploits the fact that computer programs can be “multiply realized”





“...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



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- problem set 1
- read Descartes for class #3