

Philosophy of Mind

Justin C. Fisher

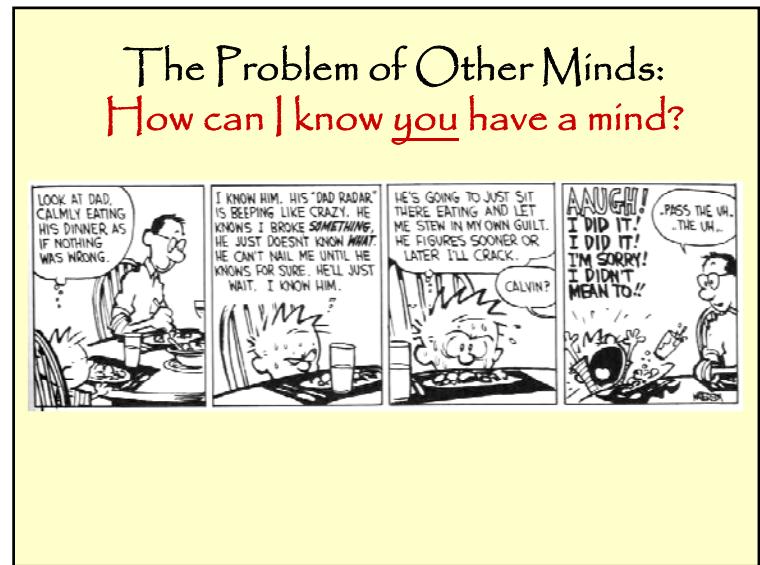
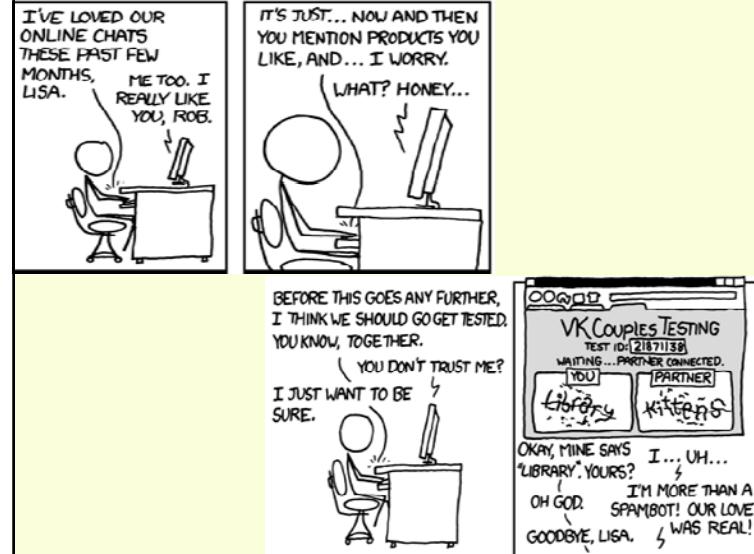


The Turing Test

Alan Turing thought that a computer will have proven its intelligence if it can pass as a human in instant-message conversations.

If a computer passes the Turing Test,
would it definitely have a mind?

What more would it take to convince you?



Arguments from Analogy

Britney and Kim are both major pop stars.
The paparazzi follow Britney.



So (probably) the paparazzi follow Kim.

- generalize from a single thing to another
- the conclusion re-uses words/concepts that were observed to be true of the sample.
- the argument will be stronger, the more similar the two things are (especially in ways that are relevant to the feature in question)

Weaker analogies?

Britney and Kim are both major pop stars.
Britney is blonde.



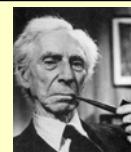
So (probably) Kim is blonde.

Being a pop star was highly relevant to predicting paparazzi behavior...
but not so much to predicting hair color.

What if Kim were just Britney's sister?

- Then their hair would be more likely to match.
- But paparazzi would be less likely to follow both.

Russell: We use Analogy

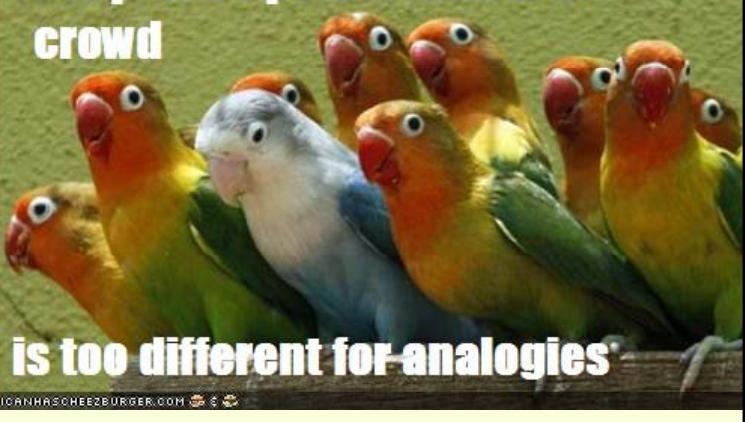


- A1. Other people are like me in many observable ways.
 - A2. I have a mind.
-
- A3. So others have similar minds.

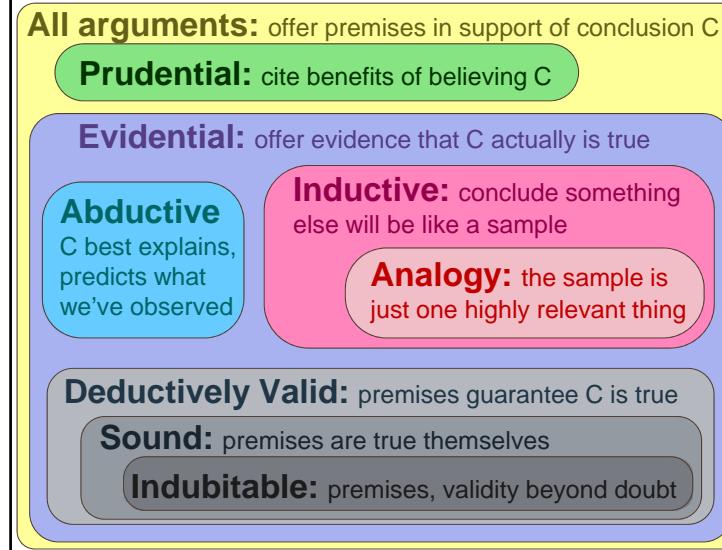


This is a weak analogy! Just because other people are physically like you, there's no guarantee they'll also be mentally like you. It's like arguing that since we play basketball alike, and we must sing alike too.

solipsistic parrot thinks the crowd



is too different for analogies



Abductive Arguments

("inference to the best explanation")

- O1. Flipping the switch turns the light on.
- O2. When you rub a balloon on your head, it then will stick to the wall.

The theory of electrons predicts these things will happen, whereas other theories can't explain it.

So, electrons (probably) exist.

Note: the conclusion uses further concepts (electrons) not used in the observations (lights, balloons) that support it.

Sober: We use Abduction

O: Other people behave in well-adapted goal-oriented ways.

H1: Their behavior is caused by inner mental states.

H2: They are mindless automata.

Observation O is well explained and predicted by H1, but not by H2.

So, other people probably have inner mental states.

Note the similarity between this and Paley's argument. Paley overlooked a third hypothesis (evolution). Are we also missing a third one here?

Discussion.



How strong of an analogy is there between us and aliens? Is it strong enough to justify attributing minds to aliens?

Is there anything aliens could do that would be **best explained** by attributing minds to them?

The Mind/~~Body~~ Problem Brain



- What is the relationship between our minds and things in the physical world?
- Are our minds part of the physical world?
 - Are our minds independent of the physical world?
 - In general, what would make something (physical or non) be a mind?



Dualism

Dualists think the world contains two types of stuff: **physical stuff** and **non-physical minds**.

Descartes thought **minds** communicate with **brains** via the pineal gland (at center of brain).

Descartes thought **physical mechanisms** couldn't use **language**.

- So, he'd accept the **Turing Test** as a good indicator of **minds**.

- He thought animals were **mindless automata**.

Contemporary dualists focus more on understanding and consciousness, rather than language use.

Dualism



Fits the intuition that the mind (thoughts, feelings, experiences) is very different from physical properties (mass, velocity, electrical charge)

Fits with the pop-fiction idea that bodies might exchange minds.

Allows for the theoretical possibility that the mind might survive the death of the body (to go to reincarnation or an afterlife).

Dualism

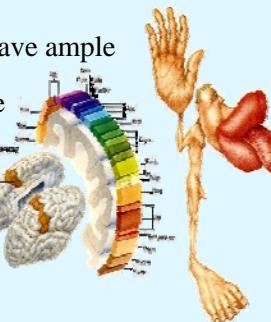


Dualism

But...

We have no evidence of brain events being caused by anything non-physical – as far as science can tell, brains are just physical things obeying the laws of physics.

Furthermore we have ample evidence linking different cognitive functions to different events in the brain.



Ockham's Razor
(a criterion for abductive arguments)



If two hypotheses do equally well to explain and predict all the data, then we should prefer the simpler hypothesis.

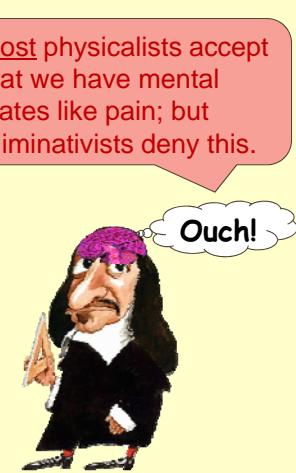


If we can make sense of our minds without positing weird non-physical substances, then why posit them?

Dualism



Most physicalists accept that we have mental states like pain; but Eliminativists deny this.

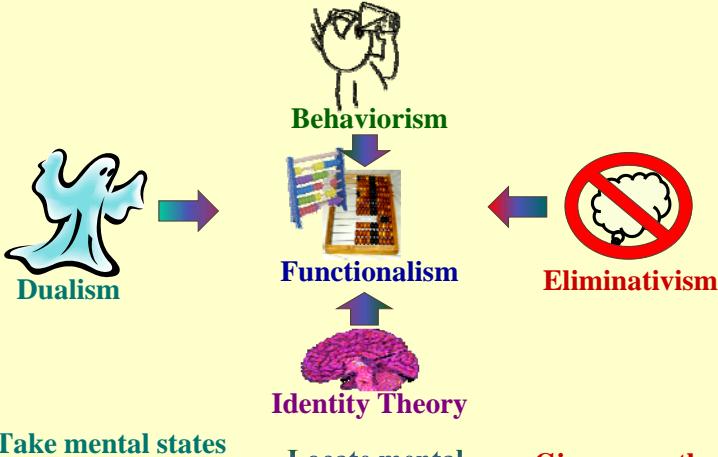


Ouch!

Dualism

Ouch!

Physicalism
(or materialism)



Dualism: Take mental states to be something additional beyond the physical?

Behaviorism: Locate mental states in the physical world?

Functionalism: Give up on the claim we have mental states?

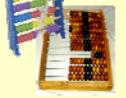
Identity Theory

Eliminativism

Versions of Physicalism.



Behaviorism: Mental states are dispositions to produce appropriate behaviors (e.g., thirst = the disposition to drink water when it is present).



Functionalism: To have a mind, you just need to be running the right software (hardware doesn't matter).



Identity Theory: Mental states are certain physical events (e.g., pain = C-fibers firing).



Eliminativism: There aren't any beliefs or desires! We should just use neuroscience to explain our behavior.

Eliminativism

Traditional ways of thinking about “minds” have made no progress in 2000 years at explaining...

- Sleep
- Creativity
- Memory
- Mental Illness
- Infant or Animal cognition



Paul Churchland

Talk of “minds” is bad science, and should instead be replaced with neuroscience.

[D]on't speak to me, my serotonin levels have hit bottom, my brain is awash in glucocorticoids, my blood vessels are full of adrenaline, and if it weren't for my endogenous opiates I'd have driven the car into a tree on the way home. My dopamine levels need lifting. Pour me a Chardonnay, and I'll be down in a minute.



Paul Churchland

How would we talk if we eliminated talk of minds?

Problems for Eliminativism:

1. Can't we tell from the inside that we have mental states?
2. Isn't this throwing out the baby with the bathwater?
3. It's hard to be a coherent eliminativist: How can you persuade others to accept your view if you say you don't believe it yourself?



Paul Churchland



Behaviorist Smalltalk

Behaviorism



BF Skinner



Gilbert Ryle

Problems for Behaviorism

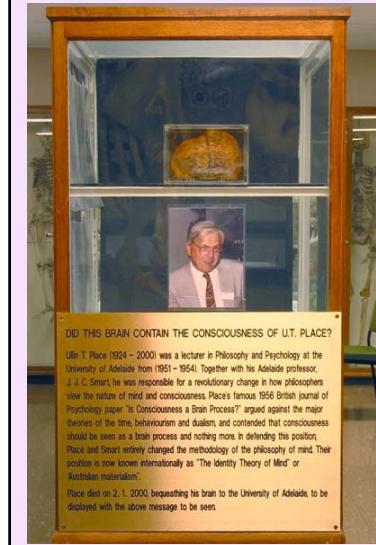
Could a great actor
be disposed to display
pain-behavior without
actually being in pain?



Tis only a
fleshwound!



Could a super-spartan
be disposed to behave
perfectly normally in all
circumstances, despite
actually being in pain?

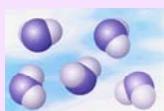


Identity Theory

Motivations for Identity Theory

Lightning = Electrical Discharge

Water = H_2O



These are *a posteriori* discoveries, not knowable *a priori*.

Conceivability arguments would fail: I might *imagine* that different things are true of water and H_2O , but that doesn't mean water isn't H_2O .

The identity theorist thinks we'll also discover that types of mental states are identical to physical types.

Pain = C-fibers firing



Bisson's Story



Should the aliens care that our minds are made out of different stuff than theirs?

Multiple Realizability



Flight can be accomplished via many different physical mechanisms.

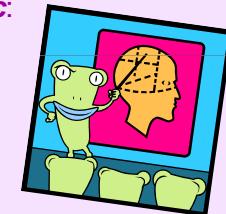
We can't identify flight with any particular kind of physical ingredient.

Instead flight should be understood in behavioral or functional terms: it's a means for controlled locomotion through atmosphere.

Are minds multiply realizable too?



Identity Theory seems *chauvinistic*: it says the only way to have a mind like ours is to have a brain like ours.



A more open-minded view would allow that creatures without brains like ours can still have mental states like ours.



Functionalism

Q: How detailed a match do two systems need to have to ensure they're mentally alike?

Behaviorism requires only that inputs and outputs match.

 An actor can match your behaviors without matching your mind. So we should demand a more detailed match.

Functionalists say the two systems must follow the same internal flowchart but allow that hardware details can be different.

 Animals and aliens can feel pain, even if not made of the same stuff as us. So we shouldn't demand so much detail.

Identity Theory demands that the two systems be made out of the same kinds of physical ingredients, which requires their functioning match down to the finest details.



Functionalism vs Behaviorism

$$\begin{array}{r}
 12 \\
 \times 34 \\
 \hline
 48 \leftarrow (12 \times 4) \\
 +360 \leftarrow (12 \times 30) \\
 \hline
 408
 \end{array}$$

$$\begin{array}{r}
 12 \\
 \times 34 \\
 \hline
 68 \leftarrow (2 \times 34) \\
 +340 \leftarrow (10 \times 34) \\
 \hline
 408
 \end{array}$$

These two ways of doing long multiplication always give the same responses (answers) to the same stimuli (questions), so behaviorists would say they're equivalent.

But they involve different intervening stages (scratch-paper work), so functionalists might maintain that they're importantly different.

Discussion.

How strong of an analogy is there between us and aliens? Is it strong enough to justify attributing minds to aliens?

Is there anything aliens could do that would be best explained by attributing minds to them?



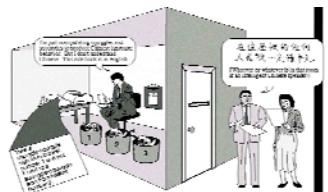
What would dualism, eliminativism, behaviorism, identity theory and functionalism say about the aliens?

Homework: Searle's Chinese Room

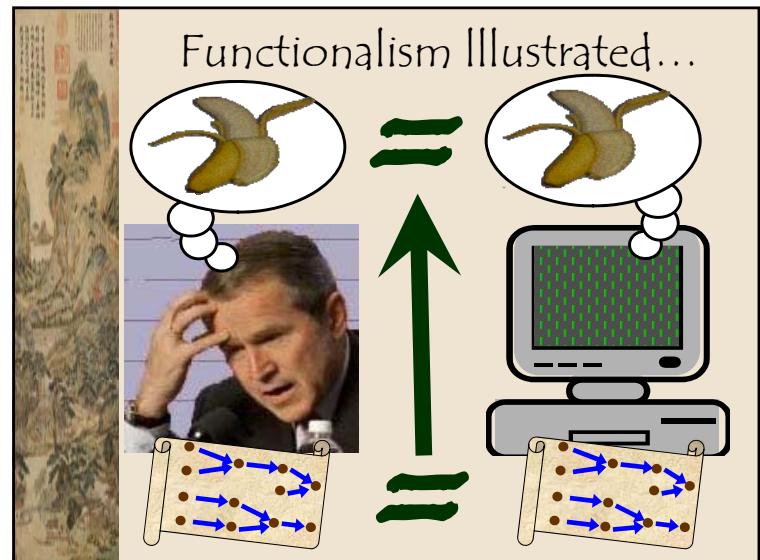
Be sure to read Searle and Bisson on blackboard.

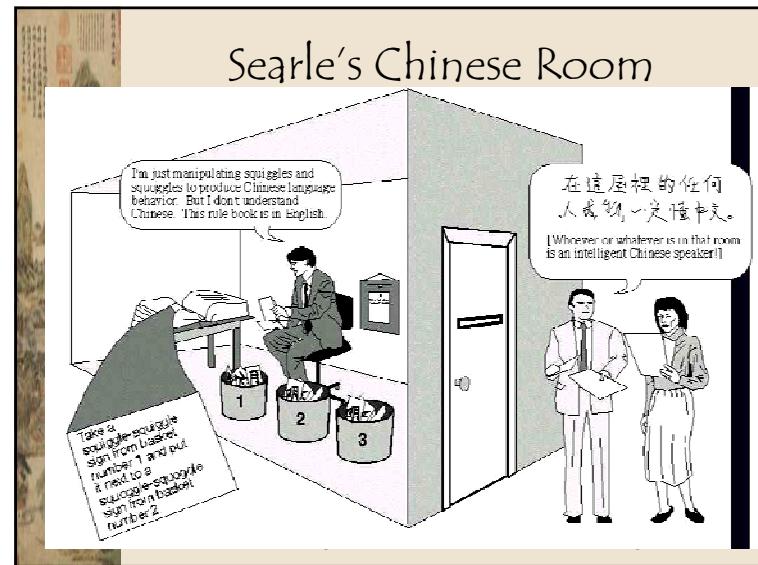
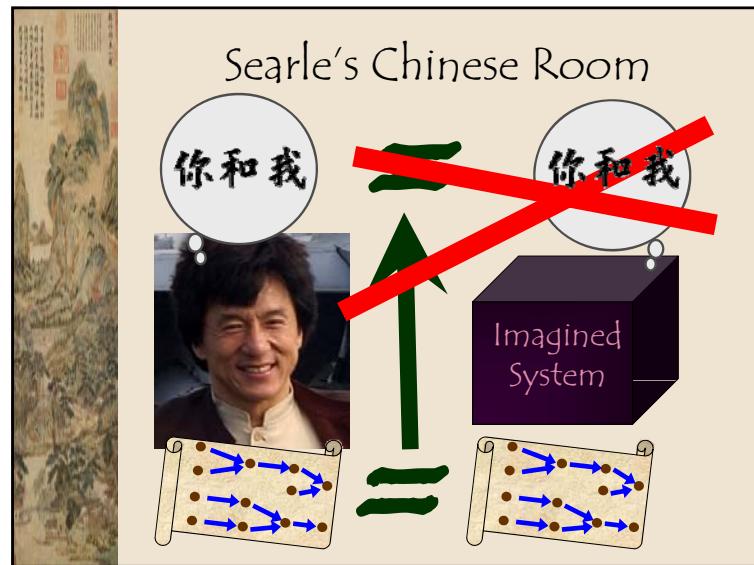
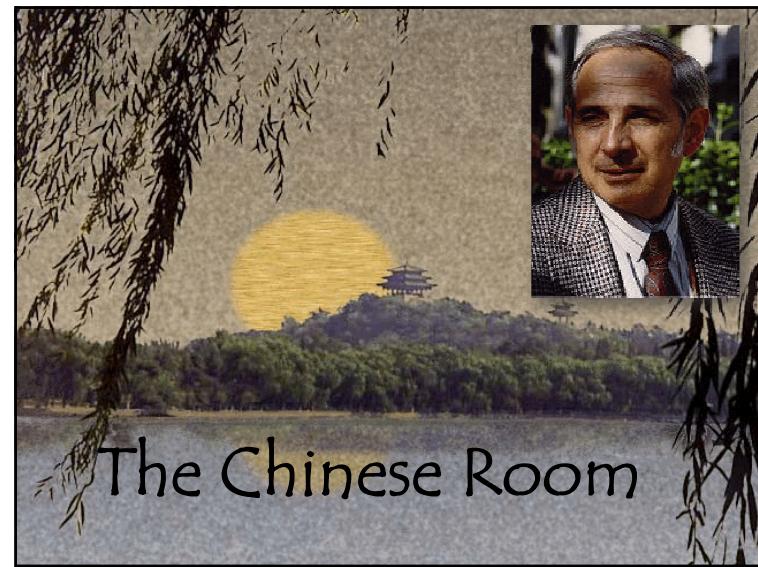
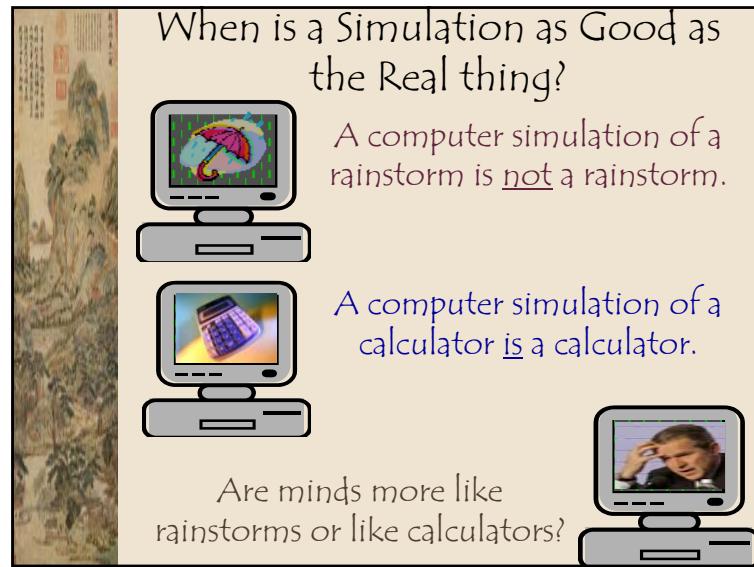
Part I. (½ page) How might one use **Russell's argument from analogy** to argue the C.Room understands Chinese? How strong would this analogy be?

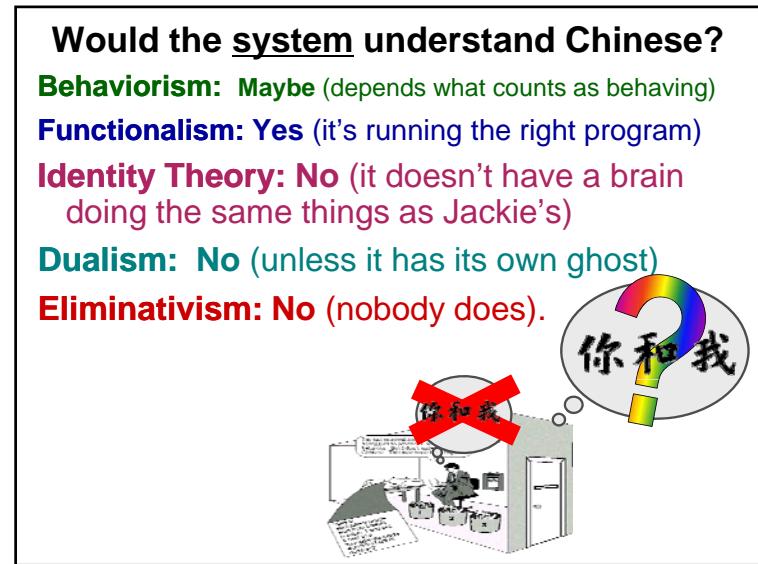
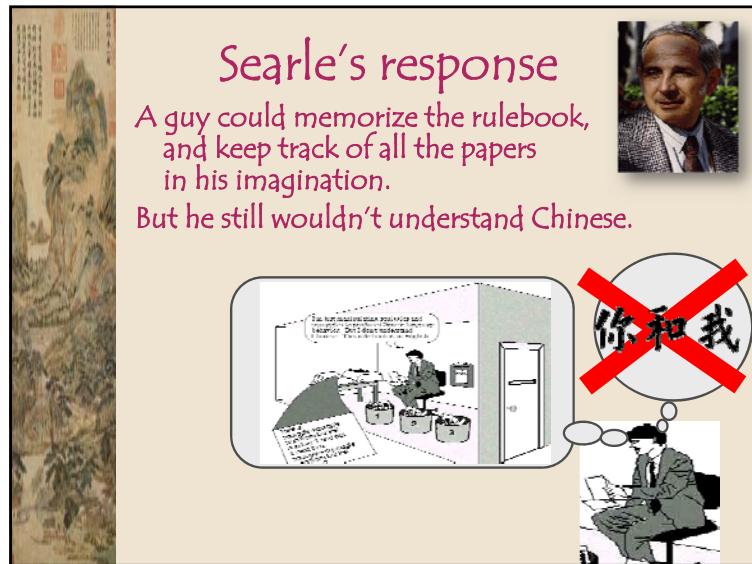
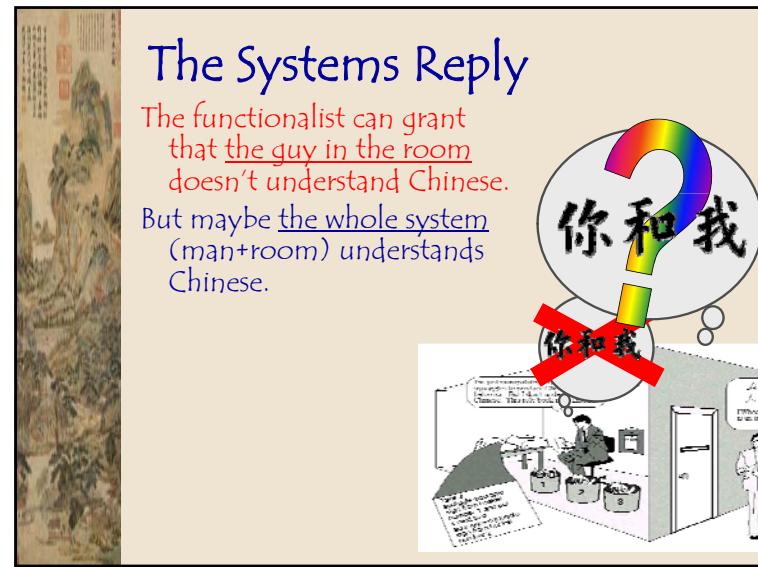
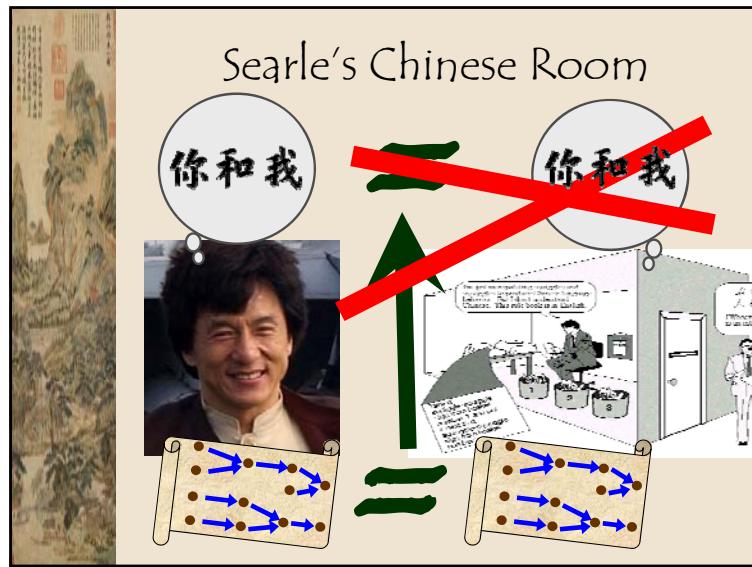
Part 2. (½ page) How might one use **Sober's abductive argument** to argue the C.Room understands Chinese? How strong would this argument be?



Functionalism Illustrated...



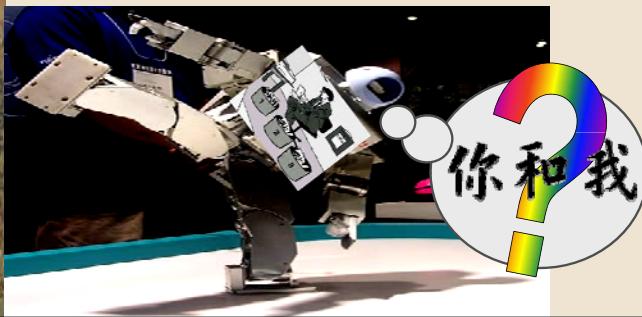






The Robot Reply

What if we put the Chinese Room inside a robot, and have the guy do all the same processing Jackie Chan's brain does to run his body?



Would the robot understand Chinese?

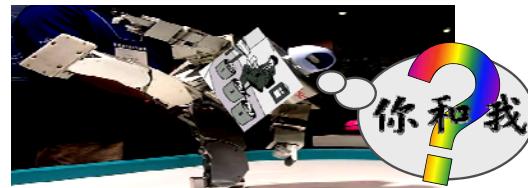
Behaviorism: Yes (it behaves the right way)

Functionalism: Yes (it's running the right program)

Identity Theory: No (it doesn't have a brain doing the same things as Jackie's)

Dualism: No (unless it has its own ghost)

Eliminativism: No (nobody does).



Searle's General Argument



Computers are defined by syntax.

Syntax isn't sufficient for semantics.

Thought requires semantics.

So, computers aren't sufficient for thought

We need a secret ingredient! But what?



But why think *meat* is sufficient for semantics?

Phil 1305

The Extended Mind

Justin C. Fisher

Internalism



Erik Wayne Patterson "The Brain in the Vat Out on the Town"

Internalism

- Any thing's mental state is fully determined by its internal state – its environment doesn't matter.
- Changes in your environment can't change your mind except by causing changes inside your brain.



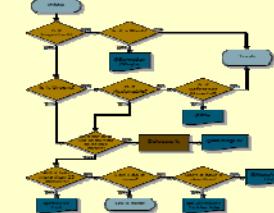
Dualists... agree (if we count ghosts as internal)

Identity Theorists... typically agree (C-fibers are internal)

Behaviorists... say mental states are internal to the brain+body (but not just brain)

Eliminativists... sort of agree (we have no minds)

Functionalism



Intuitive Argument for Active Externalism

A: Do you know Joe's number?

B: Yes I do.

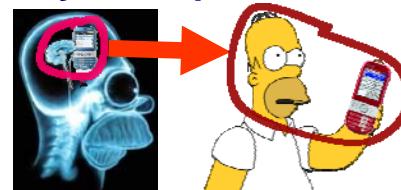
A: What is it?

B: Wait while I look in my phone.

If B was right, then knowledge can be situated outside the skin.



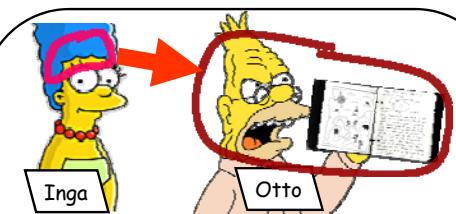
Parity Principle:



Clark & Chalmers

"If a part of the world functions as a process which, were it to go on in the head, we would have no hesitation in accepting as part of the cognitive process, then that part of the world is (for that time) part of the cognitive process." (Clark&Chalmers 1998, pg 8)

Functionalism agrees: all that matters is the flowchart, not what hardware implements it.



P1. Parity Principle.

P2. Inga's head does equivalent processing to Otto+notebook.

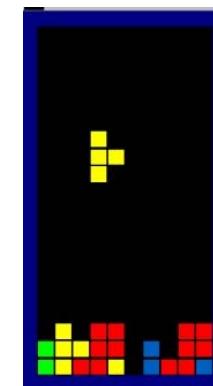
P3. Inga remembers the museum.

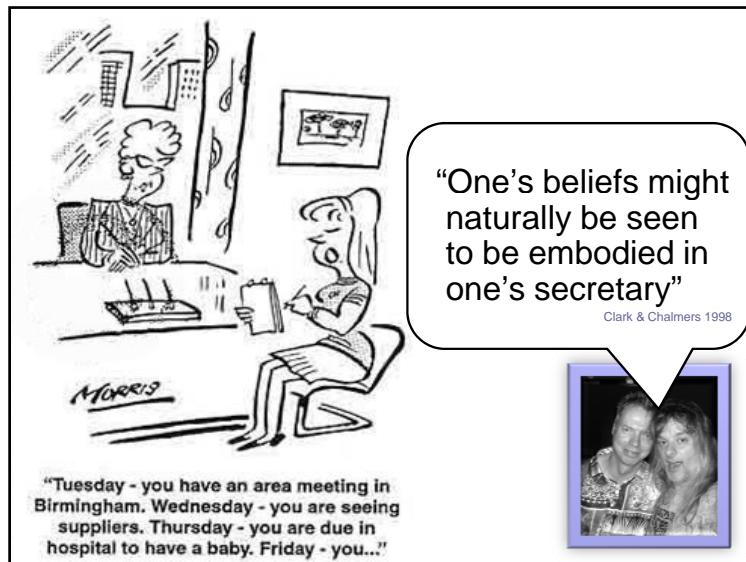
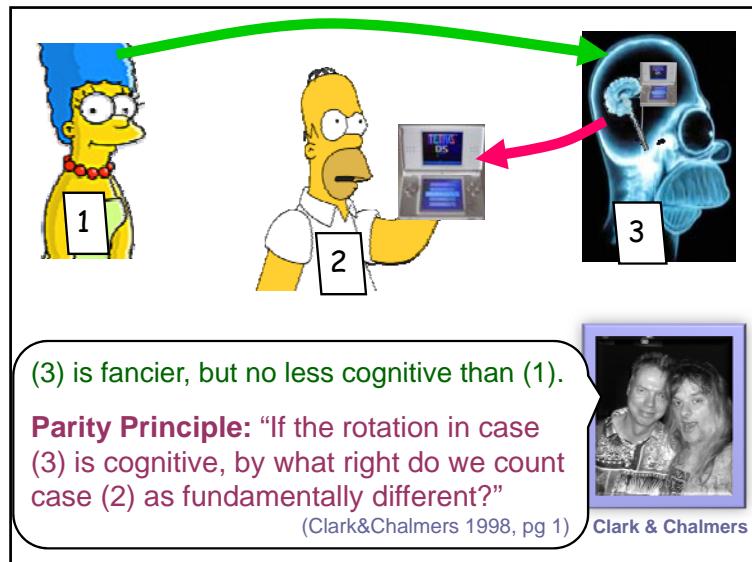
P3. So Otto+notebook does too.



Clark & Chalmers

Faster information processing using parts outside the skin





Clark & Chalmers' four criteria for something to count as memory

- (1) It must be consistently available.
- (2) Information must regularly be stored to it and retrieved from it.
- (3) The agent must be disposed usually to automatically endorse the information retrieved from it.
- (4) All the information within it must have gotten there through a conscious gatekeeper.

