

# 24.09 Minds and Machines

## Fall 11 HASS-D CI

from functionalism to  
externalism

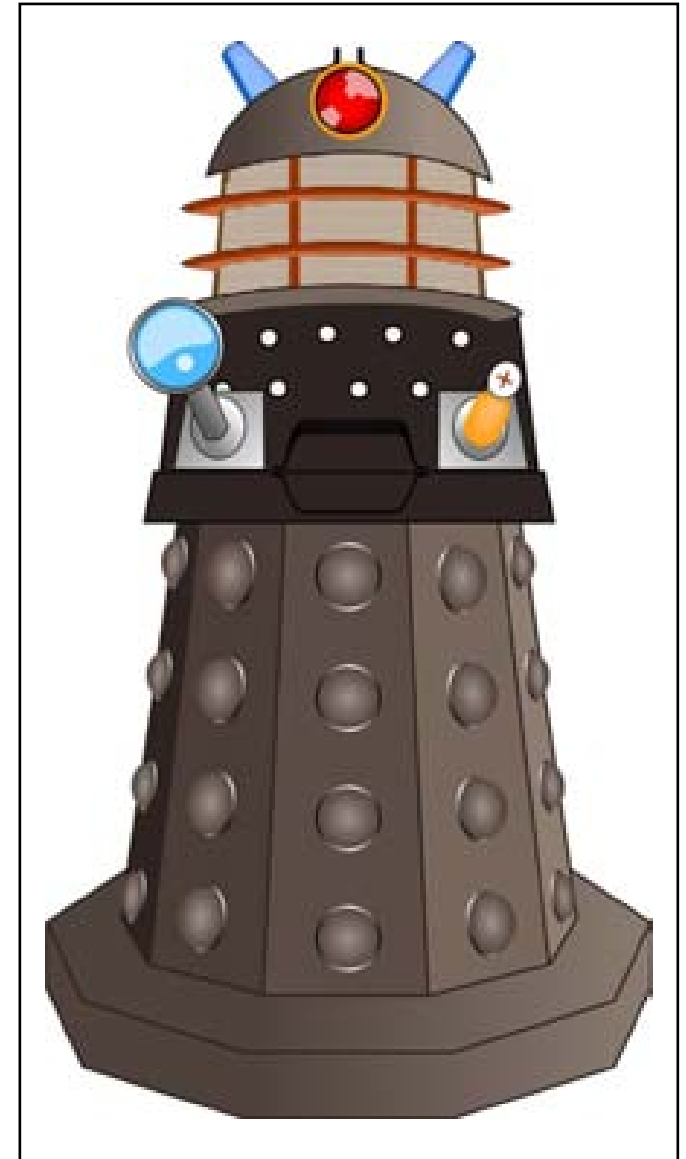


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# philosophical toolkit: a priori and a posteriori

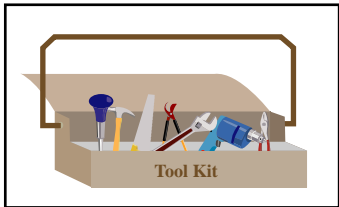


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(knowable) proposition  $p$  is knowable a priori iff  $p$  can be known independently of experience

otherwise, proposition  $p$  is knowable (only) a posteriori

|   |   |
|---|---|
| a posteriori and<br>necessary:<br>water= $H_2O$ | a posteriori and<br>contingent:<br>it's sunny |
| a priori and<br>necessary:<br>$2+3=5$           | a priori and<br>contingent:<br>??             |

the view that mental states are functional states—states specified in terms of their causal relations to inputs, outputs, and other states

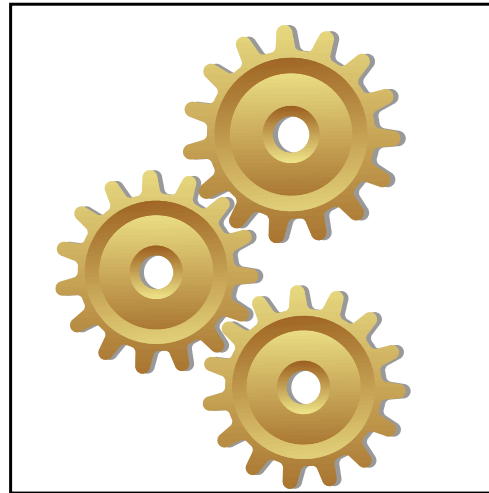


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# analytic functionalism vs. psychofunctionalism

suppose functionalism is true

could you (at least ‘in principle’) write down the functional characterization of mental states just by reflecting on the meanings of mental vocabulary?

the analytic functionalist (or ‘commonsense functionalist’) says ‘yes’

the psychofunctionalist (or ‘empirical functionalist’) says ‘no’—science will tell us the functional story, not conceptual analysis

Lewis (the author of *On the Plurality of Worlds*)  
is an analytic functionalist

see 'Mad pain and Martian pain' in Readings

Putnam is a psychofunctionalist

psychofunctionalism is probably the more  
popular version

we will return to this issue when we discuss  
Chalmers' paper 'Consciousness and its Place  
in Nature'

## recall: strong strong vs. weak strong AI

**STRONG STRONG AI:** there is a computer program (i.e. an algorithm for manipulating symbols) such that any (possible) computer running this program literally has cognitive states

**WEAK STRONG AI:** there is a computer program such that any (possible) computer running this program and embedded in the world in certain ways (e.g. certain causal connections hold between its internal states and states of its environment) literally has cognitive states

## recall: morals from the Chinese room

Searle's official argument  
against strong AI fails

but he does have a point,  
namely that merely  
implementing a program is  
arguably insufficient for  
(underived) intentionality

something else is needed—  
perhaps certain kinds of  
causal connections between  
the system and its  
environment



Image by MIT OpenCourseWare. "Di V`jWXca U]b`d\chr`W&i fhYgmicZB5G5"

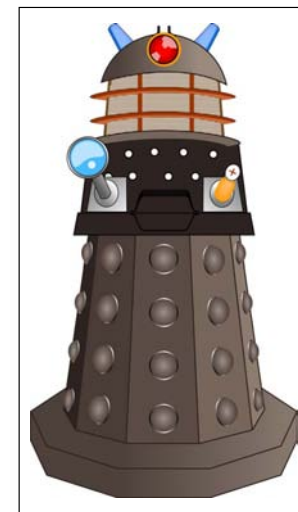


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## a question about the inputs

if we were trying to develop a functionalist account of belief, would the relevant sensory inputs involve distal objects in the system's environment (tomatoes, refrigerators, snow, etc.)?

or would the inputs be independent of the system's environment—patterns on the system's 'retina', e.g.?

if the latter, then a system could believe that there are tomatoes in the fridge even if it's never had any tomato input



# brain in a vat in distant galaxy

Image removed due to copyright restrictions.  
Brain in a vat.

is this possible with no  
Cambridge input?

# philosophical toolkit: extrinsic and intrinsic properties

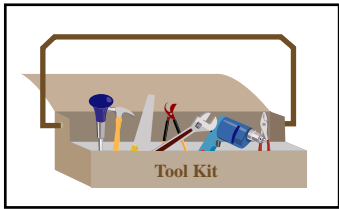


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## perfect duplicates:



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## not-so-perfect duplicates:

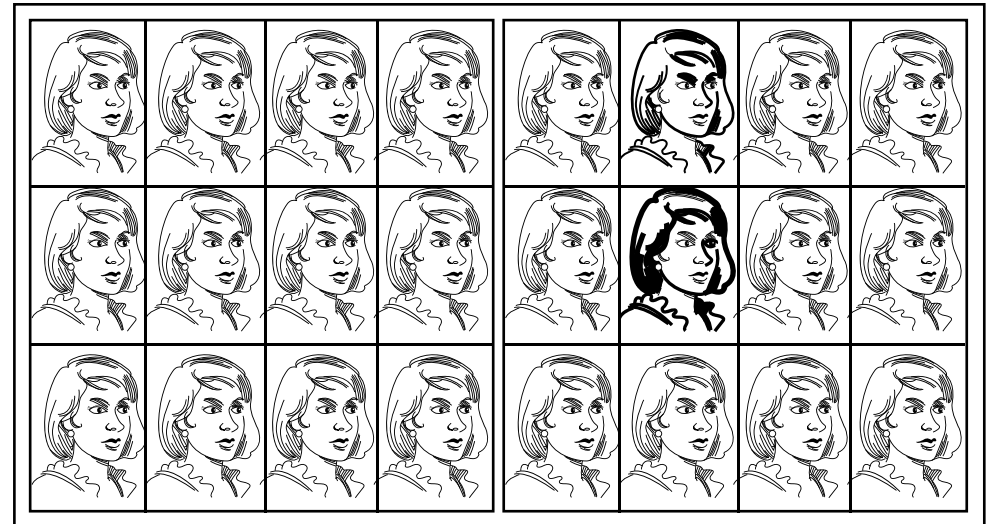
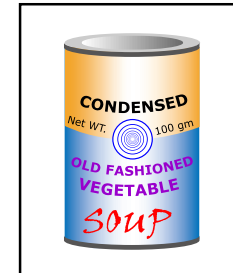
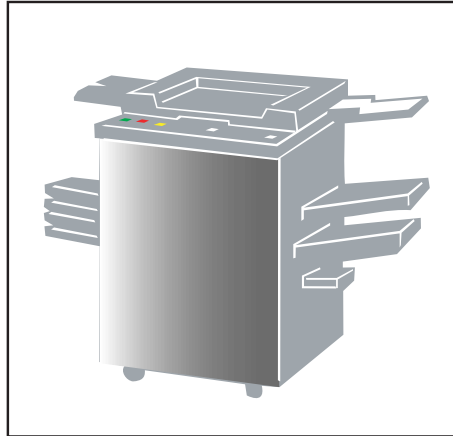


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# the all-purpose duplicating machine

a perfect  
'3D printer'



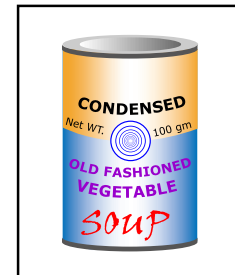
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# a definition in terms of duplication

property  $P$  is intrinsic iff it is necessarily shared between perfect duplicates



Images by MIT OpenCourseWare.



otherwise,  $P$  is extrinsic

there are many complications here, but we will ignore them; see the handout on properties and particulars

# examples

being cylindrical

having mass 200g

being red

(intrinsic)

being a Campbell's soup can

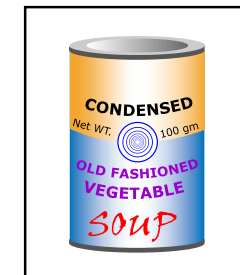
having weight 200g

being in the cupboard

(extrinsic)



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## are mental states intrinsic?

yes, according to:

Descartes (well, arguably—his dualism raises complications)

the identity theory (taken as theory of all mental states, not just properties like being in pain)

functionalism and behaviorism (on one natural way of spelling these theories out)

commonsense (?)

‘thoughts are in the head!’

## are mental properties of kind K intrinsic?

yes, according to internalism (about mental properties of kind K)

no, according to externalism (about mental properties of kind K)

we are about to look at some famous arguments for externalism about 'propositional attitude' properties like wanting a glass of water, believing that Cambridge is pretty, etc.

## an item from the *Weekly World News*

Images removed due to copyright restrictions. To read the article "Earth Twin's Found" by Erik Van Datiken, go to <http://weeklyworldnews.com/aliens/8326/earths-twin-found>.



## Harvard Square



Hilary

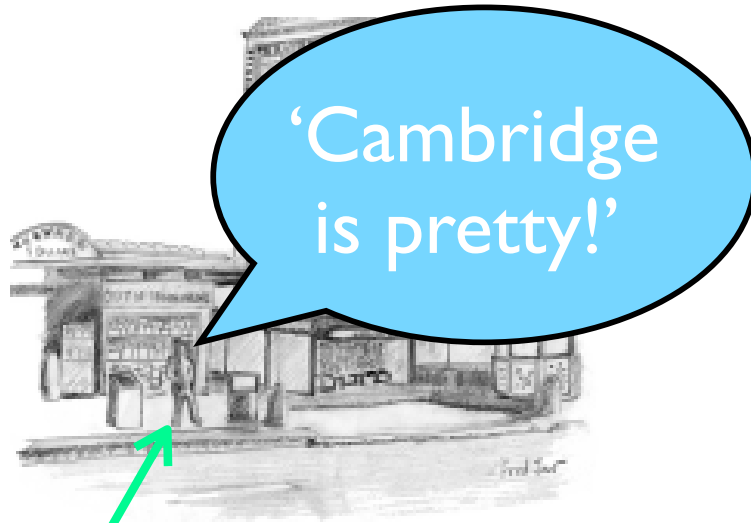
## twin-Harvard Square



twin-Hilary

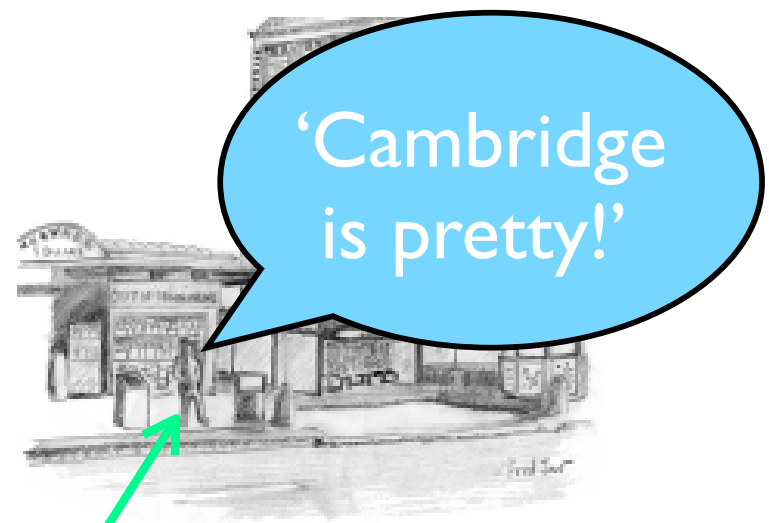
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## Harvard Square



Hilary

## twin-Harvard Square



twin-Hilary

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## Hilary and twin-Hilary say different things

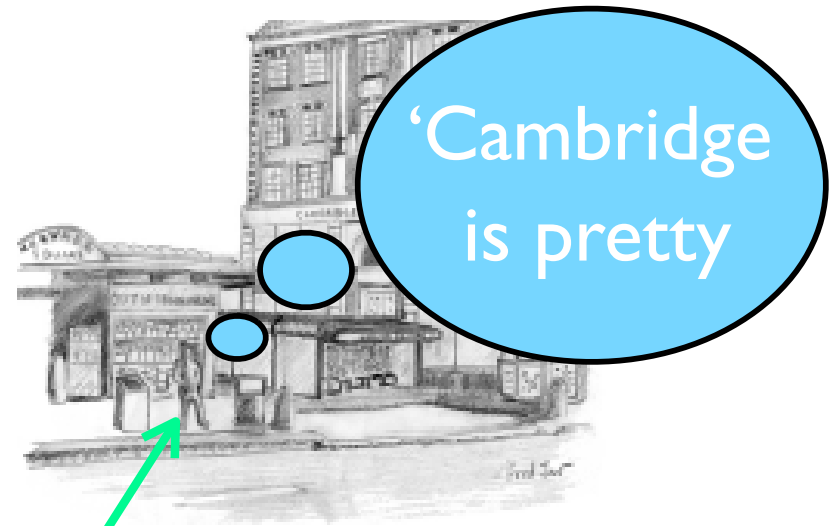
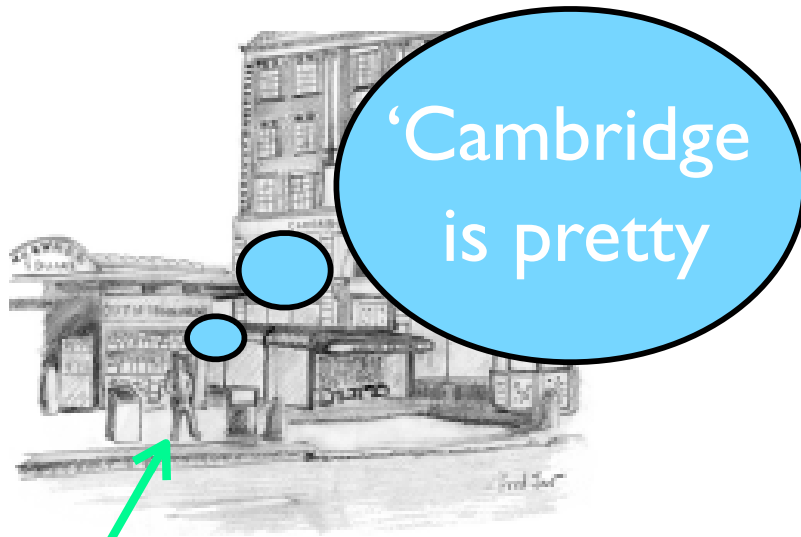
Hilary's utterance is about Cambridge (not Twin-Cambridge, of which he has never heard)

his utterance is true iff Cambridge is pretty  
the aesthetics of twin-Cambridge are totally irrelevant—if we imagine that twin-Cambridge is an imperfect duplicate of Cambridge (a twin Harvard Square, but exceptionally attractive elsewhere), then Hilary's utterance remains false, although twin-Hilary's utterance is true

# thinking, not uttering

Harvard Square

twin-Harvard Square



Hilary

twin-Hilary

Courtesy of Frederick Jao. Used with permission.

## different thoughts

Hilary's thought is about Cambridge (not Twin-Cambridge, of which he has never heard)

his thought is true iff Cambridge is pretty

the aesthetics of twin-Cambridge are totally irrelevant—if we imagine that twin-Cambridge is an imperfect duplicate of Cambridge (a twin Harvard Square, but exceptionally attractive elsewhere), then Hilary's thought remains false, although twin-Hilary's thought is true

# next session

Putnam on twin Earth,  
Burge, and Clark and  
Chalmers

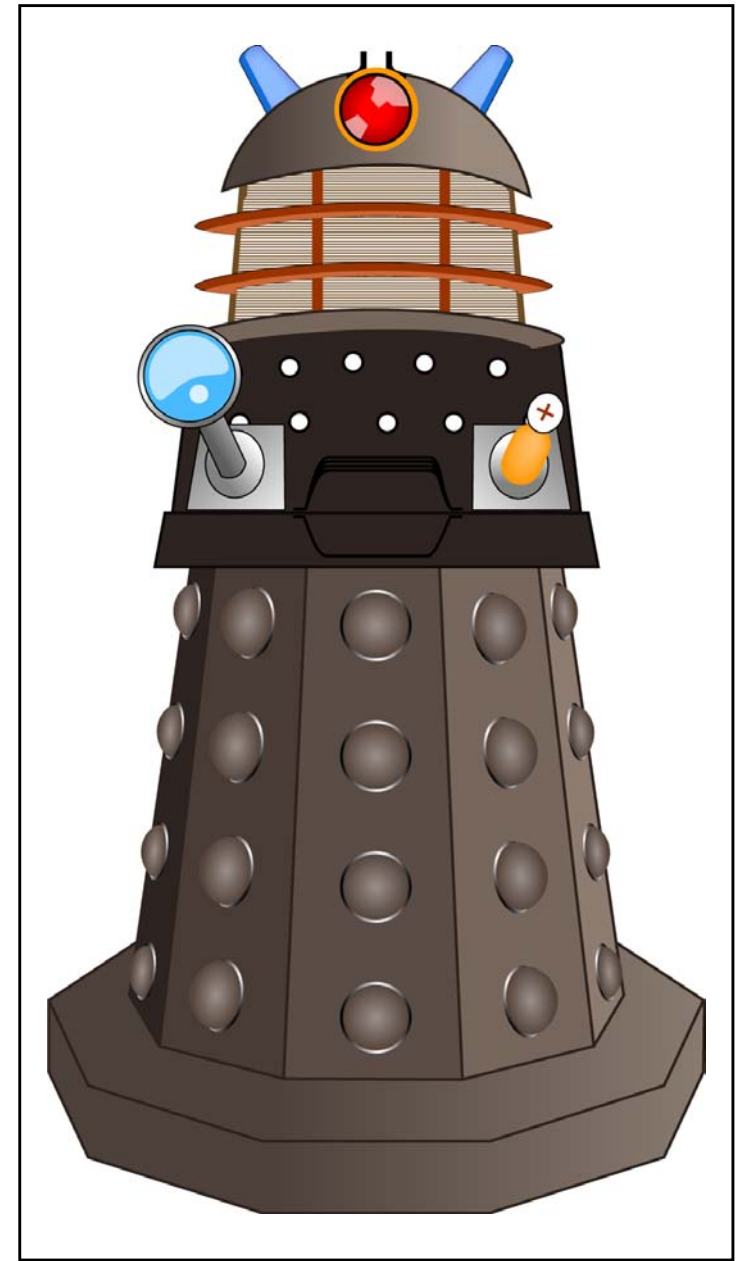


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