

# **COMP 20090**

# **Introduction to Cognitive Science**

**Lecturer: Fred Cummins**  
**School of Computer Science & Informatics**

# Organization

- 12 weeks - about 12 topics
- <http://cogsci.ucd.ie/introtocogsci/>
- No set text: readings on the website
- Fred Cummins, Room A1.11, Comp. Sci.
- [fred.cummins@ucd.ie](mailto:fred.cummins@ucd.ie)

# Evaluation

- Mid-term exam, Thursday March 8th, Week 7
  - This exam will be held *in class*
  - Counts for 40%
- Final exam, May
  - Counts for 60%

# Lectures

- Tuesday at 10 (Agriculture, G 15),
- *repeated at 11 (B004, Comp Sci Lecture theatre)*
- Thursday at 10 (Science Hub, H2.22),
- *repeated at 12 (Science Hub, H2.22)*

# Doing this course

- Come to lectures
- Do required reading each week
- Read beyond the required readings as your interest takes you....

Topic 1.1:

# Introducing Cognition

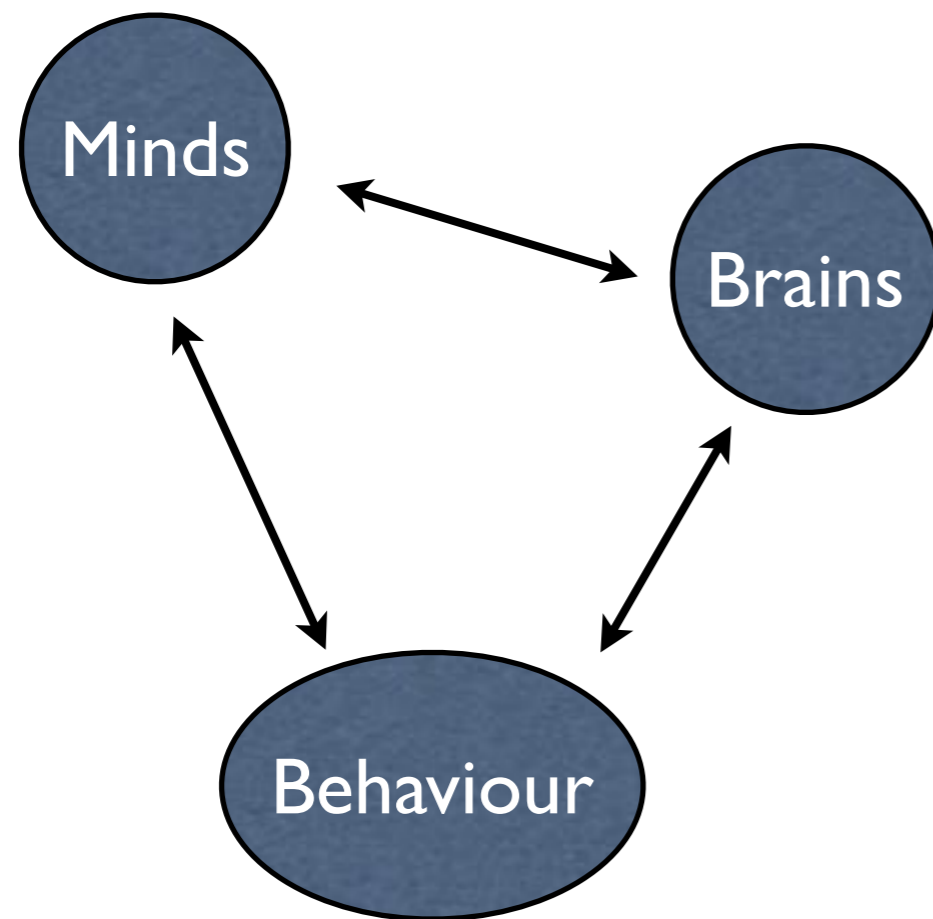
# cognition

. . . is about *knowing*

. . . hence about the **relationship** between the *knower* and the *known*

**Subject**    $\longleftrightarrow$    **World**

Doing science here is challenging, and important!



Spirit  
Consciousness  
Intellect  
Soul

# We know what brains are



They may be the most complex object in the known universe. But we know at least how to find them, how to count them, etc.

# What about behaviour?



We can ask the question “what is this person doing?”.

But we need to be aware that the answer depends on us, the observers, as much as the person observed



pushing

digging

breathing

burying a corpse

worrying

digesting

# What about minds?

Do you have a mind?

Can we study minds?

How should we talk about minds?

We will need to be careful when talking about minds.  
Our everyday use of language may mislead us.

Make up your mind

Put your mind at ease

In my mind's eye....

It will blow your mind

You must be out of your mind!!!

One track mind

Absent minded

An idle mind...

A mind like a steel trap!

Mind/Brain and Mental/Physical is not  
a simple distinction

Not all languages distinguish two classes here.

When discussing “reality”, or  
attempting to be scientific, it is wise to  
remember that much of the language  
one uses is determined, not by facts,  
but by the culture around one.

If you think about it, are you clear what you mean by “mental” or “physical”?

When Doubting Thomas put his fingers in the wounds, what kind of proof was he looking for?

Many everyday uses of the term “physical” seem to mean something more like “experiential”





**brigette** @lillbizzle

4m

it's **physically** impossible for me to pay attention during class

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Discuss the many meanings of the word “physical” here.



**Inside Higher Ed** @insidehighered

2h

**Physically** attractive high school students are more likely to complete college: [insidehighered.com/news/2013/12/1...](http://insidehighered.com/news/2013/12/1...)

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**Imran Sheik** @imranbsheik

6h

Have you ever missed someone so much you feel **physically** sick?

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♡ **bambi** ♡ @bbambz

6h

i **physically** cannot sleep with pants on


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**Julia** @JuJuJukebox

10h

I AM **PHYSICALLY** HURTING OMG" @KaylaDz: LOOK AT BRUNO   
[pic.twitter.com/iDHoYZApAL](http://pic.twitter.com/iDHoYZApAL)

 Hide photo

← Reply ↻ Retweet ★ Favorite ... More



**jenna coleman** @Imp0ssible\_Girl

21h

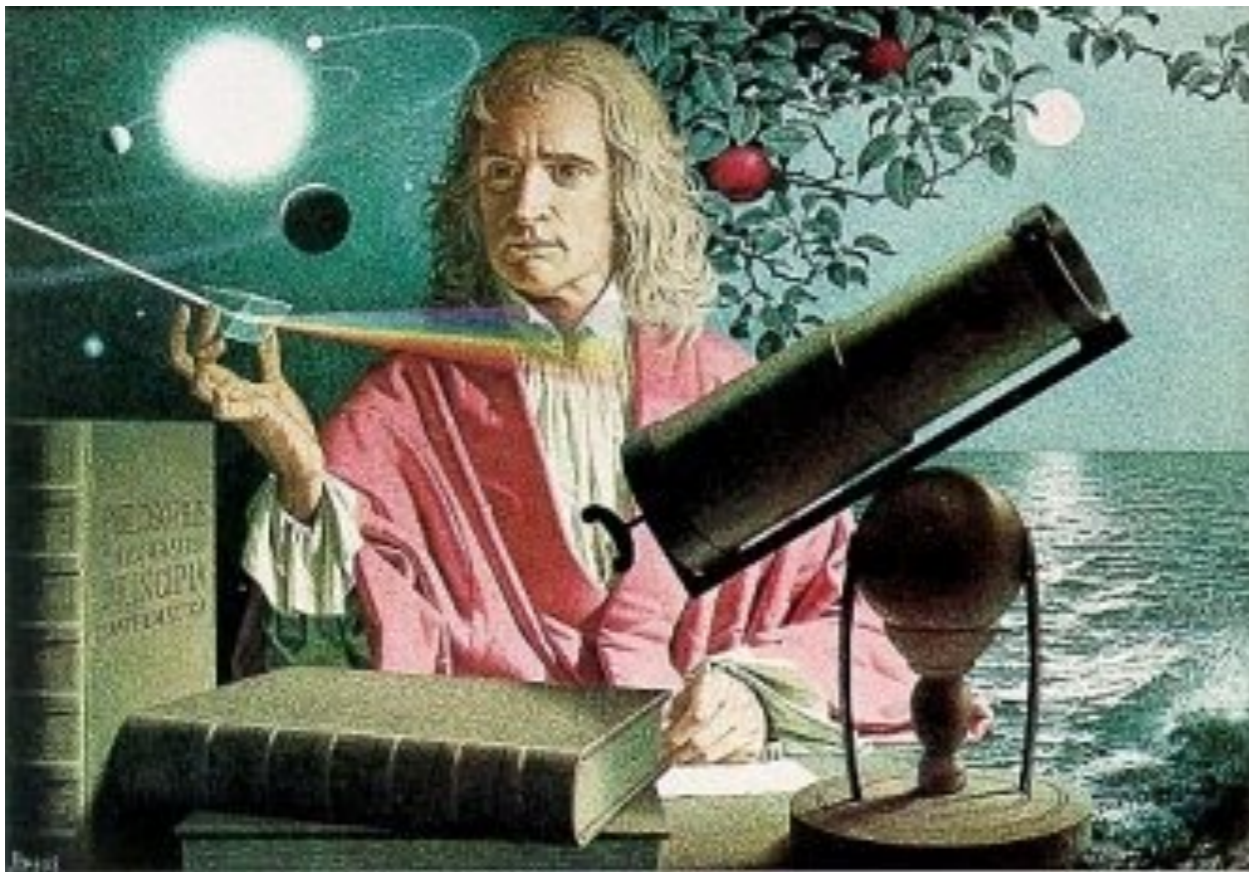
10/10 agree that it is **physically** impossible to say "No" to this face.

[pic.twitter.com/h6OD2Jx2gl](http://pic.twitter.com/h6OD2Jx2gl)

 Expand

← Reply ↻ Retweet ★ Favorite ... More

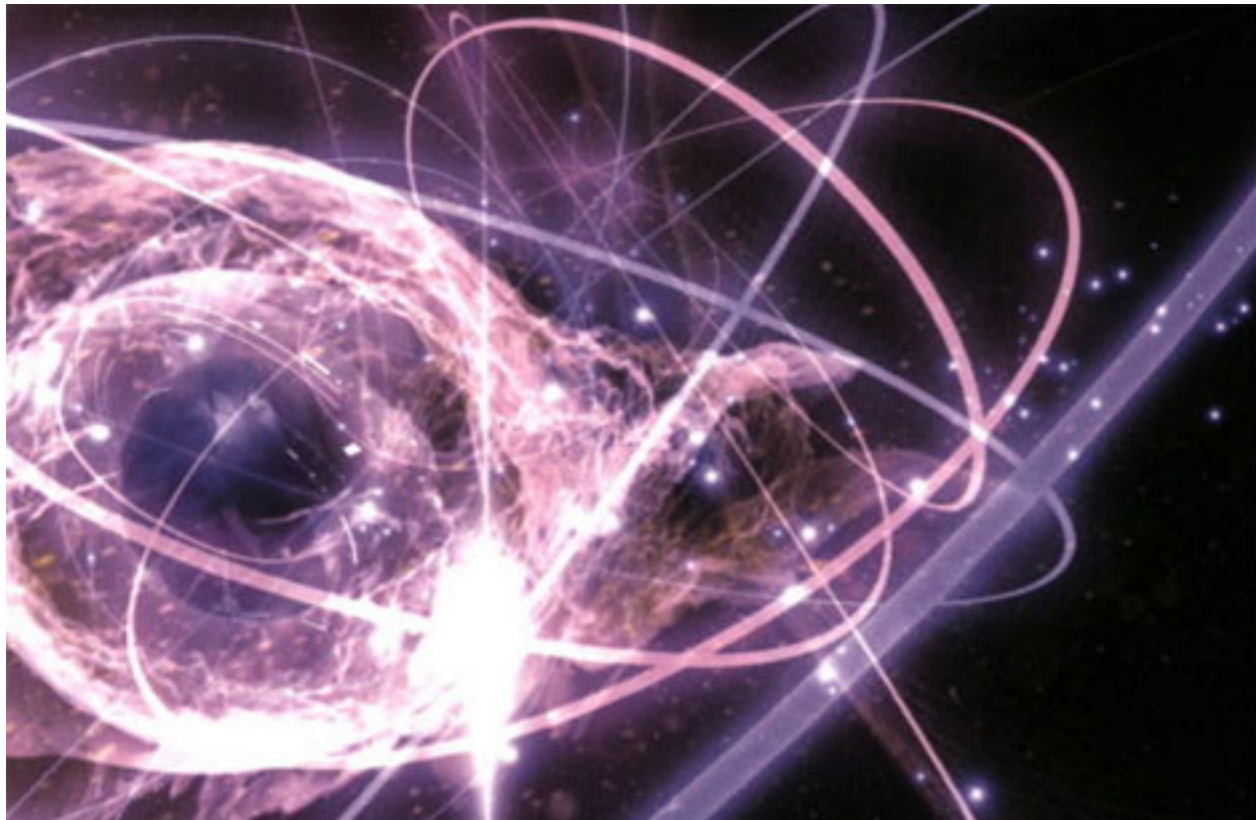
# Newtonian Physics



The physics of Newton is great for describing how masses move.

It is not much use for discussing minds, or even life.

# Modern Physics



Modern physics describes things and processes very far removed from everyday experience.

It too is not much use in discussing the mind

# We may have to agree to differ sometimes!

Science does not have a single story to tell here, and scientists often do not agree on some very basic issues, such as what the words “physical” and “mental” mean.

Learning to do science here includes learning how others may use words differently from you!

# Cognitive Science is necessarily interdisciplinary

