Lecture 5

Part Two
Mind as Meatware

Preview

- The Role / Realizer Distinction
- Multiple Realizability
- Software / Hardware
- Mindware / Wetware

Roles vs Realizers

- We have seen that functionalists think that mental states are functional role states
- The functional role that is thought to be relevant depends on the version of functionalism (whether it is given by common-sense, computational specification, or by the empirical biological sciences)
- It is only IN VIRTUE of the state playing the relevant functional role that the state counts as being a mental state, however

Roles vs Realizers

- Functionalists identify mental states with **the functional role being filled** rather than with **whatever it is that happens to fill the role**
- NOTE: That is different from the view that mental states are whatever happens to realize the role (e.g., that they are brain states or immaterial states)
- Despite this… Some theorists do identify mental states with whatever happens to fill the functionalist role (thus we get token-token identity theory)

Roles vs Realizers

- Consider a doorstop. A doorstop (let us suppose) is whatever plays the doorstop role
- A shoe, bag, rolled up newspaper etc isn't a doorstop…
- **Except insofar as it is playing (realizing or instantiating) the doorstop role**
- Though you might think that if the shoe is playing the doorstop role then the shoe is a doorstop (token-token identity theory).
- NOTE: It isn't type-type identity insofar as the claim is not that types of shoes are types of doorstops

Multiple Realizability

- While the **role** of the states can be specified by their **inputs**, **internal relations to each other**, and **outputs**
- The **realizers** (particular things) that fill or instantiate the role can be glass, copper, tin, plastic, immaterial souls etc
- Thus functionalism (strictly speaking) avoids the pendulum by remaining **neutral** or **agnostic** on the nature of the realizers.
- The realizers could be neural states or silicon states of a computer or nitrogen states of aliens or immaterial states of a cartesian soul…
- Mental states are thus **multiply realizable**
- We can have a science of the mind / cognition without worrying about neurons or hardware!

Mind is to the Brain as
Software is to Hardware

Software / Hardware

- The intuitive idea is that the same software program (e.g., microsoft word) can run on different hardware (e.g., PC, mac)
- Though they allow that hardware constrains software (e.g., you can't run microsoft word on water)
- We can consider features of the microsoft word program abstractly enough so that the different hardware is irrelevant…
  - Critics maintain that differences in hardware make important differences to relevant features of the software (e.g., processing time)

Mindware / Wetware

- Similarly, while some cognitive psychologists maintain that the mind program can be studied in abstraction from the neural implementation…
- They allow that the neural basis does impose some constraints (e.g., on processing time) but they don't think the constraints are particularly relevant for understanding the mind
  - Critics maintain that neurological differences will turn out to be crucially important and they cannot be ignored

Multiple Realizability and Types

- So while multiple realizability is typically thought to be a **feature** of functionalism
- Critics maintain that it doesn't hold up
- It is hard to know how the science will go…

Types of States

- There is an issue around what types of mental states there are
  - E.g., folk psychology considers ‘memory’ a type but cognitive psychology considers ‘iconic visual sensory register’, ‘semantic memory’, ‘episodic memory’ etc to be different types of mental state
- There is an issue around what types of brain states there are
  - E.g., activation or a more particular kind of activation? Averages of activity across a localized (modular) population?
- Maybe if we got both of those right there would be type-type correlations

To come:

- There are issues around whether a computer programmed to follow syntax could ever **represent**, **have content**, or **understand**
- And even if it could, could it have **conscious experience** (e.g., feel pain?)
  - Is it any more surprising that **meat** could represent, have content, understand and have conscious experience?
- When we resume we will look at consciousness to see whether it poses a special problem
- then return to the issue of machine intelligence