

Lecture 7

Part Two:
Operationalizations, NCC's, and
Qualitative Experience

Anxiety

- Suppose you want to study something along the lines of ‘how xx affects anxiety’
- You will need to start out by operationalizing (providing a measure) of anxiety
 - Nail biting
 - Fidgeting
 - Physiological arousal
 - Verbal report e.g., ‘I feel anxious’
- Since you want your experiment to be replicable you want inter-rater reliability (other scientists to agree with your scoring)

Consciousness

- Suppose you want to study something like ‘the effects of xxx on conscious experience’
- You will similarly need to start out by operationalizing (providing a measure of) consciousness
 - Verbal report
 - Effects on behavior
 - Effects on activity in neural regions

Problems with Operational Definitions

- It can be unclear how well operationalizations measure what they are intended to measure
- If different research groups operationalize differently it can be unclear how much they are measuring the same thing
 - E.g., physiological measures of anxiety in rats, reports of feeling anxious in people etc

Indirect Measures

- Behaviorists objected to studying conscious states because conscious states (in others) are unobservable
- They thought that in order to do science we needed to refocus on behavior (including verbal report)
 - Other sciences (e.g., physics) use indirect measures, however
- We kind of do this in focusing on measures of behavior and verbal report
 - It is just that we take the behavioral measures to provide indirect evidence of conscious states

Neural Correlates

- The search is on to find the neural correlates of consciousness (NCC's)
- We have already considered that it is problematic to conclude an identity from the discovery of a correlation, however
- Even if the correlates of consciousness are found there is more work to do in showing the relation to be one of identity

Zombies

- Last time we considered that the POSSIBILITY of zombies would undermine materialism
- Some people strongly have the intuition that there is no logical contradiction in there being a physical duplicate of this world that is not a phenomenal duplicate
 - This is just to say that what it is like for your zombie counter-part is just like what it is like for you when you are in a dreamless sleep

Spectrum Inverts

- The possibility of spectrum inverts is similarly meant to undermine materialism
- When you look at an object you have learned to call 'red' you have a qualitative experience with a certain character '(p)red'
- When you look at an object you have learned to call 'green' you have a qualitative experience with a certain character '(p)green'

Spectrum Inverts

- A spectrum invert has inverted qualitative experiences to you
- When your spectrum inverted twin looks at things they learned to call 'red' they consciously experience (p)green and vice versa
- Of course a spectrum inverted twin learned to say 'I'm experiencing red' in response to (p)green

- If it is possible that a physical duplicate world could have a counter-part of you with either:
 - No conscious experience
 - Inverted conscious experience
- Then this shows that whether a being has conscious experience or not (and the character of the conscious experience that it has) are not determined by, do not supervene on, and cannot be identified with material states

Impasse

- Materialists must say that inverted spectra and the lack of phenomenal consciousness in a physical duplicate world isn't possible
- This is because phenomenal experience and the character of the phenomenal experience are logically determined by the state of the physical world and the physical laws
- Dualists deny this. They say that there is no logical contradiction in a physical duplicate world that contains either zombies or spectrum inverters

Proceeding with the Science

- Even if you think that zombies or spectrum inverters are possible (that there is no contradiction)
- You might still think that there is a point to learning about the actual neural correlates of consciousness (or learning more about the functional roles that conscious states play in the actual world)
- It is just that you think that we aren't entitled to infer an identity from the correlation