

## Lecture 5: Consciousness as a Natural Kind

When and on what basis should we ascribe consciousness to others?

### Vegetative State

Vegetative state is usually caused by brain injury (trauma or hypoxia). Unlike coma patients, vegetative state patients have normal sleep-wake cycle, with eye movement. The signs for vegetative states are negative:

- no evidence of awareness of self or the environment
- no responses to external stimuli of the kind that would exhibit intention (i.e. different from reflexes)
- no evidence of language expression or comprehension

The vegetative state is classified as permanent, once there is no chance of recovery (typically 12 months after traumatic injury).

Might patients in a vegetative state still be phenomenally conscious? Note that the clinical criteria do not preclude this.

Empirical evidence: fMRI study of 23 year old victim of car accident who had been in a vegetative state for 5 months. In the first trial, the patient was asked to imagine playing tennis. In the second, she was asked to visit every room in her house. In both cases she was asked to “just relax” after 30 seconds. The blood oxygen level-dependent signal from those brain areas preferentially involved in motor imagery and spatial navigation was indistinguishable from that seen in 34 healthy volunteers.

The authors of the study draw the following conclusion:

The results confirm that [...] this patient retained the ability to understand spoken commands and to respond to them through brain activity, rather than through speech or movement. Moreover, her decision to cooperate with the authors by imagining particular tasks when asked to do so represents a clear act of intention, which confirmed beyond any doubt that she was consciously aware of herself and her surroundings. (Owen et. al.)

Note that the patient’s being conscious is compatible with her consciousness being abnormal in important ways. We should not think of it like consciousness of a locked-in syndrome patient.

This study raises general questions about how we ascribe consciousness to others, particularly in contested cases.

### The Standard Approach

Think about our pre-theoretical markers of attributing consciousness to each other:

1. Reportability of our own conscious experience,
2. Various kinds of voluntary behavior.

Reportability is typically the gold standard for ascriptions of consciousness. Is the patient able to report her experience? We don’t have any evidence for thinking so.

What about voluntary behaviour? What needs to be shown here is that the response that the patient exhibit was not just an automatic response to the stimuli, similar to what happens in cases of semantic priming, for example. Thus, Levy points out that there is a large literature in social psychology about how actions can occur independently of consciousness. For example, automatic mirroring.

But there's a difference between automatic, overlearned actions and less familiar ones. The case of the vegetative state patient does not seem to fall within the former category.

Second, even if the actions themselves may be unconscious, the stimuli to which the agent responds typically are conscious. (E.g. the driver is conscious of the road, she is just not conscious of adjusting her steering in response to it.)

Third, the argument here is only about what the evidence supports, not what it conclusively supports. To make progress it would be helpful to have some additional evidence on hand.

### **Natural Kinds**

We distinguish nominal kinds from natural kinds. Take dirt: there is no underlying nature to it and generally, if it looks like dirt, it is dirt. Dirt is a nominal kind.

In contrast, hepatitis C is a natural kind; its underlying nature goes beyond the superficial properties with which we associate it. We could diagnose hepatitis C even before being able to decisively tell that the patient was infected with the hepatitis C virus.

Often when there is a cluster of everyday signs, there may be a natural kind property that gives rise to it. And in that case it might be possible to discover instances of that natural kind property even if we cannot test for it using our ordinary pre-theoretic criteria.

When we discover a natural kind property, we gain a new way to characterize the phenomenon. We can now pick out the phenomenon in new ways.

The suggestion: this is how we should investigate consciousness, too. How do we do this? We collect a wide variety of evidence for the target property across a range of different cases. We try to discover "nomological clusters" in this evidence.

Shea and Bayne characterize nomological clusters as follows:

A set of evidential properties form a nomological cluster iff:

- (1) they are instantiated together better than chance (given background theory), and
- (2) observing subsets of the cluster supports induction to other elements of the cluster.

The conception of natural kind properties that underlies this methodology is one on which natural kind properties are those that support induction as a result of nomological principles or natural kinds. Properties can do so to different degrees. So being a natural kind property is a matter of degrees.

Shea and Bayne suggest that present consciousness research contains many different tests that can be combined in the search for nomological clusters.

The methodology has two consequences. First, once developed it gives us tests for consciousness that go beyond the superficial ones with which we began. Second, once these tests are developed, our pre-theoretic tests lose their privileged epistemic status. (Just as in the case of hepatitis C.)

Examples that are relevant for vegetative state patients:

- Delay versus trace conditioning
- Ignition effect

### **Should we treat Consciousness as a Natural Kind?**

The natural kind methodology is standard in science but it hasn't been applied to the study of consciousness. Are there any principled reasons for resisting that approach?

Our ordinary notion of consciousness is too messy and confused between different phenomena. Perhaps, but that still leaves it open that we could study phenomenal consciousness as a natural kind.

Other objections:

- Reportability and voluntary action are constitutive of consciousness. Unclear.
- Consciousness comes in degrees. Yes, as do other natural kind properties.
- Consciousness is multiply-realizable. That may be so but it seems unlikely that it will be multiply realized within human beings.
- Doesn't treating consciousness as a natural kind threaten our first-personal authority with respect to it? Unclear why it would. Natural kind properties need not always be a matter of microstructure.

### **Readings**

Owen, et al. (2006) Detecting Awareness in the Vegetative State. *Science*.

Shea and Bayne (2010). The Vegetative State and the Science of Consciousness. *British Journal for the Philosophy of Science*.