

Consciousness

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There are two broad classes of empirical theories of consciousness, which I will call the *biological* and the *functional*. The biological approach is based on empirical correlations between experience and the brain. For example, there is a great deal of evidence that the neural correlate of visual experience is activity in a set of occipeto-temporal pathways, with special emphasis on the infero-temporal cortex.

The functionalist approach is a successor of behaviorism, the view that mentality can be seen as tendencies to emit certain behavioral outputs given certain sensory inputs. The trouble with behaviorism is that it did not allow that mental states were causes and effects, but functionalists do allow this. They characterize consciousness in terms of its causal role: the causal influence on it from inputs and other mental states, and its causal efficacy with respect to other mental states and behavior. The central idea of functionalism is a proposal about the *concept* of consciousness, but *scientific* functionalists have filled the view in with empirical details—the idea is that a representation is conscious if it is broadcast in a global neuronal workspace. (See the article by Dehaene in Dehaene, 2001.)

The functional approach says consciousness is a *role*, whereas the biological approach says consciousness is a realizer of that role. For example, one could take solubility to be a role—dissolving in certain circumstances—or, as with the biological view of consciousness, the physico-chemical configuration that has that role.

The key *empirical* difference comes down to the question of whether consciousness might sometimes exist without having its *normal* role or whether something *else* might in some circumstances play that role. There is some evidence for the first possibility. There are unusual circumstances in which the occipeto-temporal stream is activated at the level that is correlated with experience but in which the subject says he sees nothing. For example, there is a kind of brain-damage in which if objects are presented on both sides, the subject claims not to see one side, but the part of the occipeto-temporal stream stimulated by the “invisible” object is just as active as when it is seen. (See the articles by Kanwisher and by Driver and Vuillemer, in Dehaene, 2001). It seems *possible* that these patients have a phenomenal representation that they cannot properly access. If so, a phenomenal state needn't always have its characteristic behavior, and consciousness in one sense of the term—*phenomenality*--would not be captured by the functionalist theory.

Liss (1967) presented subjects with 4 letters in two circumstances, long, e.g. 40 msec followed by a “mask” known to make stimuli hard to identify or short, e.g. 9 msec, without a mask. Subjects could identify 3 of the 4 letters on average in the short case but said they were weak and fuzzy. In the long case, they could identify only one letter, but said they could see them all and that the letters were sharper, brighter and higher in contrast. This experiment suggests a *double dissociation*: the short stimuli were phenomenally poor but perceptually and conceptually OK, whereas the long stimuli were phenomenally sharp but perceptually or conceptually poor, as reflected in the low reportability.

The picture that emerges is that phenomenality and accessibility may vary somewhat independently and that there is one concept of consciousness keyed to the

former and another keyed to the latter. Phenomenality may be best thought of in biological terms, whereas accessibility is best thought of in terms of global neuronal broadcasting.

Bibliography

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