

On Putnam

Michael Maynard

Hilary Putnam has made major contributions to philosophy of mind and philosophy of language. In philosophy of mind, he developed the theories of multiple instantiability and functionalism. In philosophy of language, a major contribution of his is semantic externalism. This paper will give a very brief overview of multiple instantiability and functionalism, and then describe semantic externalism, the associated causal chains of reference, and the twin earth and brain in a vat thought experiments.

Philosophy of Mind

Before the idea of multiple instantiability came to prominence, the prevailing view within philosophy of mind was type-identity theory, which was the theory that a given mental state had a one to one correspondence with a given physical state. For example, one could be said to be in pain if and only if one's c-fibers were firing. Multiple instantiability is the theory that there are multiple physical states which can give rise to a given mental state. The physical to mental relation is then many to one rather than one to one.

Functionalism is the idea that a mind consists essentially of functional states – that is, states which are defined entirely by their functional roles in relation to other functional states and the outside world. In the view of functionalism, two systems with the same states with the same functional relations are precisely the same mentally, no matter how they are implemented. Thus, a Turing Machine, a human brain, and a system of cardboard tubes can all be identical mentally.

Philosophy of Language

Putnam's Semantic externalism seems a somewhat unique theory in philosophy of language, relating to where syntax gains semantics. Whereas many theories place whatever process gives rise to semantics within the head(internalism), semantic externalism extends this process outside(external to) the head(externalism). The twin earth thought experiment demonstrates the view of semantic externalism, and the brain in a vat thought experiment shows an interesting implication.

Putnam postulated that the meaning of any given term in language consists of a vector of four values¹:

1. The referent itself
2. The terms stereotypically associated with the given term(“big”, “small”, “green”, etc.)
3. Semantic indicators(“natural kind”, “liquid”)
4. Syntactic indicators(“concrete noun”, “mass noun”)

What is interesting is that Putnam includes the referent itself in the meaning of a term – the meaning of the word “tiger” isn't defined simply by our shared conceptions of what a tiger is, but by what a tiger actually is. The referent is the primary component of a term's meaning, the meaning of a term can change only if its referent changes.

Along with semantic externalism comes Putnam et al.'s causal theory of reference, the theory of how a given term comes to be associated with the referent from which it derives its meaning. A term is seen to gain its referent through a chain of causation terminating at the referent itself. For example, I have never seen the pyramids in Egypt, but I still have a concept of them and I can still refer to them with language. The reason this is the case is because I acquired the term through interactions with others who in turn had interactions with others who in turn, . . . etc. who have had first hand experience

with the pyramids. The referent that the term “Egyptian pyramids” has when I use it follows that chain back to the original pyramids, and thus I can refer to the actual pyramids without ever having seen them.

The twin earth thought experiment is as follows^{1,2}: Say there is in actuality not one, but two earths, perhaps in parallel universes. Say that on earth1 what we refer to as “water” is in actuality H₂O, whereas on earth2, “water” is in actuality XYZ. Earth1 and earth2 are taken to be identical in every respect other than the H₂O/XYZ difference. Now, consider Bob1, who lives on Earth1 and Bob2 who lives on Earth 2. Bob1 and Bob2 lead identical lives, and both live a thousand years or so ago, during a time when there was no knowledge of the chemical composition of what we call water. Say it is a very hot day and both Bob1 and Bob2 say “I would like some water”, are they referring to the same thing? In a literal sense it seems that they are not referring to the same thing, Bob1 would like some H₂O whereas Bob2 would like some XYZ. This is in spite of the fact that the mental states of Bob1 and Bob2 are identical. The fact that their mental states are identical yet they apparently mean different things when they say “water” implies that the term “water” does not gain its meaning solely from what is inside of Bob1's or Bob2's heads. The implication is then that the meaning of the word “water” is defined by the world, specifically by what water actually is (H₂O or XYZ). Thus, this thought experiment demonstrates the impetus for adopting a view of semantic externalism - the view that terms gain meaning from their referents.

In countering the twin earth thought experiment it has been argued that both Bob1 and Bob2 do in fact mean the same thing when they say “I would like some water”. What Bob1 and Bob2 mean when they say “water” is simply something that presents a “water-like” sensation to the senses, including the sensation of quenching thirst. It doesn't matter that water on earth1 is H₂O and water on earth2 is XYZ, all Bob1 and Bob2 mean by “water” is something which, for all intents and purposes, is indistinguishable from “water” (H₂O/XYZ). “Water” on earth1 and earth2 would only come to have different meanings a thousand years later when chemical composition was incorporated into the definitions. This counter-argument denies the validity of semantic externalism.

The brain in a vat thought experiment^{1,3} shows an interesting implication of semantic externalism and causal chains of reference. Consider Bob3, Bob3 lives in a system analogous to the system in which humans lived in the film “The Matrix”. That is, the mind of Bob3 does not interface at all with his physical body or the rest of the physical world, the inputs and outputs of Bob3's mind interface solely with a virtual world – Bob3 is a brain in a vat. The world in which Bob3 lives is much like our own, and in this world Bob3 has come across an intriguing possibility - he could, in fact, be a brain in a vat living in a virtual world. Bob3 asks himself, “Am I a brain in a vat?”

Now, according to semantic externalism and causal chains of reference, when Bob3 uses the terms “brain” and “vat” they gain their meanings through referents, and they gain their referents through causal chains. But, everything Bob3 has interacted with is virtual in nature, and everyone in the world in which Bob3 lives is just as restricted to this virtual world. Thus, the referents at which the causal chains of reference terminate are virtual in nature. So, when Bob3 says “brain” he does not mean a physical brain, he means a virtual brain, and when he says “vat” he doesn't mean a physical vat, he means a virtual vat. (Having never had any experience with the physical, or having had access to causal chains terminating in the physical, Bob3 is unable to refer to anything in the physical). Thus, translating the query of Bob3 into our language we get “Am I a virtual brain in a virtual vat?”. If he asks “Am I living in a virtual world?”, the meaning is actually “Am I living in a virtual virtual world?”. Thus, from the view of semantic externalism, a virtual entity such as Bob3 has no way of expressing the possibility that it may in fact be a virtual entity.

Putnam put forth this argument as an argument against metaphysical realism. Like virtual entities such as Bob3 have no way of referring to the physical, physical entities such as us have no way of referring to the metaphysical. In the same way that Bob3's talk of possibly being a brain in a vat was entirely inconsistent, the talk in our world of a possible metaphysical reality is entirely inconsistent.

But the argument is interesting because it shows an implication of semantic externalism which would seem to go against intuition. Intuitively, the notion that one could be a brain in a vat is not impossible to express coherently.

Conclusion

Hilary Putnam has made significant contributions to philosophy of mind and of language. In philosophy of mind he contributed the theories of multiple instantiability and functionalism, in philosophy of language he produced the theory of semantic externalism and helped develop the idea of causal chains of reference. Semantic externalism has an appeal from the perspective of the Twin Earth thought experiment, but some of its implications may not seem correct to the intuitions of some, as was demonstrated with the brain in a vat thought experiment.

Sources:

- [1] http://en.wikipedia.org/wiki/Hilary_Putnam
- [2] http://en.wikipedia.org/wiki/Twin_Earth_thought_experiment
- [3] http://en.wikipedia.org/wiki/Brain_in_a_vat