

LSU PHIL 4941 / Spring 2016 / John Protevi

<http://www.protevi.com/john/PhilMind>

Classroom use only.

Hilary Putnam, "The Nature of Mental States," in Chalmers 2002, 73-79. Originally 1973.

Here we discuss functionalism, whereby mental states are individuated by causal relations of input (sensation), other states of the system, and output (behavior).

For the functionalists, identity theories are humanly chauvinist as they identify mental states / processes with neural states / processes. But why privilege brains? Why not have mental states individuated by their causal role in a functional system? So that "pain" does not necessarily = "C-fibers firing" but "damage detection, avoidance initiation, and call for help." Thus "pain" could be instantiated by the computer processes that detect overheating, that turn on the fan, and that turns on a red light that appeals to a user to intervene. This bypassing of the sole neural identity theory is called "multiple realizability."

IDENTITY QUESTIONS

IS PAIN A BRAIN STATE?

FUNCTIONAL STATE VERSUS BRAIN STATE

FUNCTIONAL STATE VERSUS BEHAVIOR DISPOSITION

METHODOLOGICAL CONSIDERATIONS

IDENTITY QUESTIONS

Here Putnam is clearing the ground for what he wants to say in his own voice later in the piece.

He starts by stating that the "implicit rules" of analytic philosophy discourse of the time require two conditions for identity statements: 1) restriction to meaning of terms, and 2) reduction of one term to the other.

Putnam distinguishes 1) properties (representable by predicates: "being in pain, being in brain state X, having a behavioral disposition") and 2) concepts (that which can be identified with "synonymy-class" of an expression: concept of *temperature* is identical with synonyms of the word "temperature").

Now we can't say that properties are identical if their terms are synonyms, as this collapses "concept" and "property."

So while you can say the concepts of "pain" and "brain state S" are not the same, you can't rule out that pain is a brain state. (This is the sense / reference distinction we've seen before.)

There follows a series of objections and replies; then Putnam announces his position: you can have an identity statement between non-synonymous terms if you can find "empirical and methodological grounds" for accepting such a statement.

IS PAIN A BRAIN STATE?

For HP, pain is not a brain state, because there is another more plausible hypothesis: pain is "a functional state of the whole organism."

A probabilistic automaton is like a Turing machine, except the transition between states is probabilistic.

Turing machine description (adapted from SEP):

At any time a Turing machine is in any one of a finite number of states. Instructions for a Turing machine consist in specified conditions under which the machine will transition between one state and another.

1 A Turing machine has an infinite one-dimensional *tape* divided into cells. Each cell is able to contain one symbol, either '0' or '1'.

2 The machine has a *read-write head* which is scanning a single cell on the tape. This read-write head can move left and right along the tape to scan successive cells.

The action of a Turing machine is determined completely by (1) the current state of the machine (2) the symbol in the cell currently being scanned by the head and (3) a table of transition rules, which serve as the "program" for the machine.

Putnam wants to replace the tape machine with a sensory input / internal states / motor output machine.

A Description of S where S is a system, is any true statement to the effect that S possesses distinct states S₁, S₂, . . . S_n, which are related to one another and to the motor outputs and sensory inputs by the transition probabilities given in such-and-such a Machine Table. The Machine Table mentioned in the Description will then be called the Functional Organization of S relative to that Description, and the S_i such that S is in state S_i, at a given time will be called the Total State of S (at the time) relative to that Description. (Putnam 1975, 434).

The mental state that can be multiply realized is fully specified or individuated as the "Total State" of the system. It is an individuated pain state (to use Putnam's example), whether it is realized in wetware or hardware, in terrestrial carbon-based life or in some other material.

Putnam then spells out some aspects of his hypothesis, and claims it is actually far less vague than the physical-chemical states that mind-brain identity theorists talk about.

FUNCTIONAL STATE VERSUS BRAIN STATE

Putnam will say that his functionalism is not incompatible with dualism; a body-soul hybrid could be a probabilistic automaton.

The mind-brain identity theorist has a heavy burden: specify a physical-chemical state such that an organism is in pain iff 1) it possess a brain of such and such a structure, and 2) its brain is in the specified state. So that state has to be a possible state of a mammalian, reptilian, molluscan, etc, brain, and it cannot be the state of the brain of a creature unable to feel pain. But it's not just pain; every psychological predicate has to be correlated with one and only one brain state.

The functionalist by contrast has it easier: we classify organisms as being in a psychological state (e.g. in pain) by their behavior (avoidance / call for help). Now if we see similar behaviors we have a reason to suspect similar functional organizations (avoidance behavior implies damage detection and minimization are functions of the organism). But we aren't really justified in suspecting similar structures (the damage detections nerves of a cat might be quite differently arranged from that of a human).

Now we might be able to find non-species-specific psychological laws and hence non-species-specific functional organizations, but it's hard to see how the identity theorist can hope for non-species-specific neurological laws.

FUNCTIONAL STATE VERSUS BEHAVIOR DISPOSITION

The problem here is we tend to identify the behavior disposition identical with "pain" as "the disposition of the organism to behave as if it were in *pain*" (the concept, that is, the synonym-class of expressions for "pain" the term).

The key is that functionalists will say that the inputs are evaluated in relation to the state of the system. Thus the high disvalue of sensory inputs from tissue damage which might in state 1 trigger avoidance or appeals, might be over-ridden in state 2, if state 2 includes a high value of staying put relative to a goal of the system.

Plus, even if you could specify behavior dispositions without using "pain" wouldn't you want to identify being in pain with a functional state that explains the behavioral disposition? So pain is not just "disposition to avoidance behavior" but "being in a state that assigns a high value to avoiding further damage."