

## Logical Behaviorism, Armstrong's Topic-Neutral Analysis, and Lewis' Analytical Functionalism

### 1. Logical behaviorism

1. Crude logical behaviorism: mental states are identical to physical behavior. There is nothing more to a subject's being in a mental state like pain than for him to exhibit characteristic pain behavior (e.g., crying and wincing).

- Armstrong's objection: a subject can be in a mental state—say, pain—without exhibiting characteristic pain behavior. It should also be noted that a subject can exhibit characteristic pain behavior without being in pain: just consider the case of actors.

2. Refined logical behaviorism

- The basic idea: mental states are *bare* dispositions to behavior.

- Bare dispositions: for an object to have a bare disposition is simply for certain subjunctive conditionals to hold true of it. So, on a view that treats fragility as a bare disposition, there is nothing more to an object's fragility than for the following subjunctive conditional to hold true of it: if it were to be struck with a hard object, it would shatter. Similarly, according to refined logical behaviorism, there is nothing more to a subject's believing that Bush is President than for subjunctive conditionals like the following to hold true of him: if S were asked "Is Bush president?" S would respond by saying, "Yes."

- Refined logical behaviorism characterized:

**(RLB)** For a subject to be in a mental state is simply for salient subjunctive conditionals to hold true of him.

- Questions: How does refined logical behaviorism escape Armstrong's objection to crude logical behaviorism?

3. Armstrong's objections to refined logical behaviorism:

i. My being in a mental state cannot simply be a matter of certain subjunctive conditionals holding true of me. To be sure, certain subjunctive conditionals do hold true of me when I am in pain. For instance, when I am in pain from a kidney-punch, it is true of me that if I were to be hit again, I would wince a second time. But this does not fully characterize what it is for me to be in pain. When I am in pain, *there is something going on in me*.

ii. The explanatory priority objection: mental states are *causes* of behavior. More generally, mental states are causally responsible both for our actual behavior and for our bare dispositions to behavior. I am disposed to answer "Yes." in response to question "Is Bush President?" *because* I believe that Bush is president. Thus, my believing that Bush is president cannot simply be a matter of certain salient subjunctive conditionals holding true of me. Refined logical behaviorism cannot account for the fact that our mental states are causally responsible for both our behavior and our bare dispositions to behavior.

### 2. Functionalism

- The functionalist dictum: what makes a mental state the state that it is is its causal role—that is, what it is apt (or liable) to cause and what it is apt (or liable) to be caused by. So, to take an example, what makes a particular mental state the state of pain is that it is liable to be caused by a kidney-punch (among other things) and it is liable to cause wincing (and other forms of characteristic pain behavior).

- Functionalism is *by far* the dominant materialist approach in contemporary philosophy of mind.

- The accounts of mental states offered by Smart and Lewis are both functionalist accounts.

### 3. Armstrong's topic-neutral analysis of mental states

• According to Armstrong, every mental state admits of an analysis that takes the following form:

(F) Mental state M is the state (whatever it's nature) that occupies the M causal role.

Furthermore, according to Armstrong, these analyses are claimed to be *conceptual truths*. This is, of course, quite general, but the basic idea is clear enough. Take our concept C of any mental state.

Armstrong's basic claim is that C is the concept of a state that has certain characteristic causes and effects.

• Thus, according to Armstrong, the sensation of nausea has an analysis of form (F):

(N) Nausea is the state (whatever it's nature) that occupies the nausea causal role.

Or, to fill this out with a bit more detail:

(N') Nausea is the state (whatever it's nature) that is likely to be caused by the smell of rotten food...and is likely to cause one to puke....

Again, a fully fleshed-out version of (N) is claimed by Armstrong to be a conceptual truth.

• Armstrong's account of mental states is known as a "topic-neutral analysis." This is because Armstrong's analyses of mental states are neutral between materialism and substance dualism. They entail neither the truth of materialism nor the truth of dualism, and are consistent with both. If it turns out that the state that is likely to be caused by the smell of rotten food (and so forth) and is likely to cause puking (and so forth) is in fact some sort of modification of an immaterial substance, then nausea is simply a particular type of modification of an immaterial substance and substance dualism is correct.

• However, Armstrong claims that natural science gives us good reason to believe that the state which in fact plays the nausea causal role is not some sort of modification of an immaterial substance, but rather a neural state or process. Thus, Armstrong has the following argument for materialism about nausea, and analogous arguments for materialism about other mental states:

(1) Nausea is the state (whatever it's nature) that is likely to be caused by the smell of rotten food...and is likely to cause one to puke.... [Conceptual truth]

(2) The state that is likely to be caused by the smell of rotten food...and is likely to cause one to puke is in fact a neural state. [Empirically supported by natural science]

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(3) Nausea is a neural state.

• Thus, Armstrong claims that materialism is a contingent truth. It is true in the actual world, but false in possible worlds where modifications of immaterial substances play the salient causal roles.

• A problem for Armstrong's account: Does Armstrong get our mental concepts right? Are our concepts of phenomenal states (e.g., sensations) really concepts of states that occupy specific causal roles? Or, rather, are they concepts of states that *feel a certain way* (i.e., that have a *distinctive qualitative feel*)? If the latter, it should be possible to conceive of a subject who experiences nausea—that is, who has a sensation with the distinctive qualitative feel of nausea—but who is *not* in a state that is likely to be caused by the smell of rotten food...and who is *not* likely to puke.... If such an individual is possible, then Armstrong's analysis of nausea cannot be correct. If (1) is a conceptual truth, then it must be a necessary truth. Such an individual would be a counterexample to the claim that (1) is a necessary truth.

### 4. Lewis's analytical functionalism

• A madman is a human with a central nervous system who experiences pain, but who is not in a state that occupies the pain causal role. A Martian is someone without a central nervous system, but who is in a state that occupies the pain causal role. According to Lewis, it is a basic condition of adequacy on any adequate account of pain that it is compatible with both mad and Martian pain.

• Lewis offers the following analysis of pain. Unlike Armstrong's analysis, it is relativized to a population: (P) Pain in S is the state (whatever it's nature) that occupies the pain causal role in S's population.

Or, fleshing this out slightly:

(P') Pain in S is the state (whatever it's nature) that, in S's population, is likely to be caused by punches to the kidney...and is likely to cause wincing....

• As with Armstrong, (P') is claimed to be a conceptual or analytic truth. (This is why Lewis is referred to as an "analytical functionalist.") Again, like Armstrong, Lewis' analysis is neutral between materialism and dualism, but yields an argument for materialism about pain when supplemented with an empirically supported premise.

• Questions about Lewis's account: how does Lewis account for mad pain, Martian pain, and mad Martian pain?

#### 4. Lewis's analytical functionalism (cont.)

- "Pain might not have been pain." writes Lewis. In claiming this, Lewis is *not* affirming that the state that plays the pain causal role in human's—say, C-fiber firings—might not have been identical to itself. He is claiming that our concept of pain picks out C-fiber firings only *contingently*. Though C-fiber firings occupy the pain causal role in the actual world, there are possible worlds where they fail to do this. Lewis is not committed to denying the law of necessity of identity (NI).
- A problem for Lewis' account: Does Lewis get our concept of pain right? Is our concept of pain really the concept of a state that occupies a distinctive causal role? Or, rather, is it the concept of a state that has a *distinctive qualitative feel* (i.e., that *feels painful*)? If the latter, we can construct a problem case along the same lines that may cut against Armstrong's account. Try to conceive of the following: an individual who feels pain, but who is not in the state that occupies the pain causal role for his population. If such an individual is possible, then (P') cannot be necessary truth, and thus cannot be a conceptual truth. Question: Can we work up a counterexample to Lewis' account based on these considerations?
- The major worry about Lewis and Armstrong: though we correctly believe that phenomenal states (like pain and nausea) occupy distinctive causal roles, our concepts of these states are *not* concepts of states that occupy such causal roles. Rather, they are concepts of states that have a distinctive qualitative feel.