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## [10] Evolution and Philosophy of Mind

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*DARWIN IN PHILOSOPHY*

### 0. Outline

1. Troubles for teleosemantics (ctd)
2. Are functions really selected effects?

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*DARWIN IN PHILOSOPHY*

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## 1. Troubles for teleosemantics (ctd.)

- In the previous lecture:
  - Teleosemanticists seem to invariably defend an account of biological function that makes functional facts depend on facts about history of selection.
  - This commits them to the apparently implausible claim that Swampman has no beliefs or desires (or at least no contentful beliefs or desires)
- How do they respond?
- Papineau [1993] makes one suggestion (later dismissed):
  - (i) Our intuitions that Swampman has beliefs and desires is based on lingering intuitions that content must be 'narrow'.

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(note: content is generally said to be 'narrow' iff it supervenes on intrinsic properties of the cogniser's brain – i.e. iff meaning is 'in the head')

(ii) However, various thought experiments (e.g. Putnam's Twin Earth case) have demonstrated that these intuitions are mistaken.

- But this doesn't pan out, even granting (ii):
  - (a) The most convincing pro-externalist thought experiments establish at best that some content supervenes on *present* external circumstances, not *past* external circumstances.

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(b) More importantly, none of these experiments demonstrate that *all* content is broad, which is what the teleosemanticist affirms.

- Another suggestion from Papineau [1993]: are we *really, really* sure that when we carry out the thought experiment, we are imagining a replica that wasn't the product of selection?

(Note: alternatively one could ask whether we are really, really sure that we are imagining a replica that has genuine beliefs and desires)

- I'll let you judge this line of response yourselves...
- Papineau's ultimate reply to accidental replica cases hinges on a distinction between two types of definition...

## 1. Troubles for teleosemantics (ctd.)

- Papineau [1993] and Millikan [1993] have both argued the following:
  - (i) The teleosemantic theory of mental content should be understood as offering a '*theoretical definition*' (Papineau: 'theoretical reduction') rather than a '*descriptive definition*' (Papineau: 'conceptual analysis').
  - (ii) Speaker intuitions (e.g. our intuitions about the mental life of swampman) only arguably carry decisive weight with respect to the latter, but not the former
- So what precisely is the distinction between 'theoretical definition' and 'descriptive definition'?

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- A ‘descriptive definition’ = a definition that attempts to capture the intuitions of speakers with respect to the applicability of terms in various circumstances.
- According to Millikan: it is a description that ‘describe[s] marks that people actually attend to when applying terms’.
- Providing a ‘descriptive definition’ is sometimes seen as the traditional goal of philosophical analysis (‘conceptual analysis’).
- What about ‘theoretical definitions’?
- Millikan tells us that they ‘do something else, exactly what is controversial, but the phenomenon itself, the existence of this kind of definition, is evident enough’.

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- She introduces the term ostensively:  
‘[It is] the sort of thing the scientist gives you in saying that water is HOH, that gold is the element with atomic number 79, or that consumption was in reality several varieties of respiratory disease, the chief being tuberculosis’ (Millikan [1993])
- Papineau similarly cites as a ‘theoretical definition’ the identification of ‘liquid’ with ‘state of matter in which... molecules cohere but form no long-range order’.
- Clearly here, the theoretical definition  $\neq$  the descriptive definition: certain lay intuitions concerning the applicability of the terms are violated (e.g. on the theoretical def. glass is a liquid).

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- Papineau also suggests that theoretical definitions *should lead us to revise* our intuitions concerning the applicability of the terms, to the extent that these diverge.
- Indeed, he suggests: once we see that the teleosemantic theoretical definition of mental content is a correct theoretical definition, we should revise our intuitions about swampman.
- But (i) what determines whether or not a theoretical definition is correct in the first place, and (ii) why should we revise these intuitions about applicability accordingly?
- This isn't quite obvious, partly because Papineau doesn't really offer a *definition* of 'theoretical definition'.

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- Perhaps Papineau could suggest:
  - A descriptive definition of 'X' will provide us with information concerning the conditions under which *we are disposed to sincerely assert* sentences that include the term 'X'.
  - A theoretical definition of 'X' will provide us with information concerning the conditions under which sentences that include the term 'X' are *true*.
- We have already seen (see discussion of 'disjunction problem') that, according to teleosemantics, the truth conditions for beliefs and the conditions under which we are disposed to hold these beliefs come apart.

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- Furthermore, it is obvious that on this account of theoretical definition, theoretical definitions should *correct* our intuitions about applicability of terms.
- On this view then, Papineau's teleosemantic 'theoretical definition' of mental content has the following consequence:

Beliefs whose content involves facts about beliefs and desires (e.g. my belief that you want me to come to the party) are beliefs that cause actions whose success conditions (i.e. conditions that are minimally sufficient for the satisfaction of the relevant desires by those actions) involve facts that pertain to evolutionary history.

- But is this plausible?

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- There is of course another possible response to accidental replica cases: jettison the etiological theory of function ( $BF_1$ ).
- Papineau considers this option explicitly in Papineau [1987:73-74].
- This may be a good move *independently* of the issue of mental content: for instance, ( $BF_1$ ) yields the seemingly counterintuitive result that Replica-Davidson's organs have no biological function (see Boorse [1976:74] and Bigelow & Pargetter [1987:188] for complaints of this kind).

(Question: do *you* think that replicas have traits with functions?)

- But what could we put in its place? There are a large number of alternative proposals...

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- Some of these also make function hinge on history, e.g.:
  - *ID-based accounts*: analyse functions in terms of what effects organisms were designed by an agent to produce by virtue of having the relevant trait (e.g. Plantinga [1993]).
- Of course, this proposal won't be attractive here:
  - It makes biological function contingent on the truth of a debatable empirical hypothesis (*ID*).
  - When coupled with a teleosemantic theory of mental content, it
    - makes mental content hinge on the truth of *ID*, and
    - leaves us with a circular account of mental content.

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- Others, however, are ahistorical, e.g.
  - *Homeostasis-based accounts* (e.g. Nagel [1977]): analyse functions in terms of dispositions to contribute to the maintenance of an attractor-state of the system.  
  
Example: the production of high (low) levels of anti-diuretic hormones by the pituitary gland has the function of increasing (decreasing) the permeability of the tubules in the kidney, as this is the effect that it produces that contributes to the maintenance of a stable water concentration in the bloodstream.

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- *Value-based accounts* (e.g. Bedau [1991], Sorabji [1964]): analyse functions in terms of dispositions to bring about outcomes that are good for an agent.
- Both these proposals face objections:
  - Homeostasis-based accounts: both (i) too liberal (many non-functional features have dispositions to bring about outcomes that contribute to homeostasis in some system) and (ii) too strict (many traits have the function of bringing about outcomes that don't contribute to homeostasis). See Bedau [1991] for an in-depth discussion.
  - Value-based accounts: non-naturalistic.

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- One perhaps more promising alternative candidate: Bigelow & Pargetter's [1987] '*dispositionalist*' account of function.
- They say:

“A character or structure has a certain function when it has a propensity for selection in virtue of that character or structure having the relevant effects.”
- A (little) more precise way of putting this:

**(BF<sub>2</sub>)**: Trait *T* currently has the function of producing outcome *O* in a population iff *T* has a disposition to produce *O* and this disposition currently positively contributes to the fitness of its bearers.

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Example: the elongated morphology of the Jackrabbit has the function of facilitating the dissipation of bodily heat, because having such a morphology currently positively contributes to the fitness of its bearers by virtue of facilitating the dissipation of bodily heat.

- On this account of function: no problem wrt granting functions to the traits and content to the mental states of instant replicas.
- Also respects the same relevant important intuitions regarding functions as (BF<sub>1</sub>), for similar reasons:
  - traits can have typical consequences that don't correspond to the effects that they have the biological function of producing

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- traits can have the biological function of producing effects that they don't typically bring about
- The dispositional account has however come under fire (mainly from proponents of the etiological theory).
- *Criticism (1)*: (BF<sub>2</sub>) fails to account for the inherent explanatory aspect of function attributions.
- As we saw earlier, (BF<sub>1</sub>) offers a straightforward account of the appropriateness of the following exchange:
  - Q: 'Why do snakes have forked tongues?'
  - A: 'The snake's forked tongue has the function of enabling chemosensory tropotaxis'

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- According to (BF<sub>1</sub>), A should be read as a statement regarding the evolutionary history of the snake's tongue's morphology.
- (BF<sub>1</sub>) seems to have the upper hand here...

## Reference

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- Bigelow, J. and R. Pargetter [1987]: 'Functions', *The Journal of Philosophy* 84(4): 181-196.
- Boorse, C. [1976]: 'Wright on Functions', *The Philosophical Review* LXXXV(1): 70-86.
- Millikan, R.G. [1993]: 'In Defence of Proper Functions', in her *White Queen Psychology and Other Essays for Alice*. Camb. Mass.: MIT Press.
- Nagel, E. [1977]: 'Teleology revisited: goal-directed processes in biology.' *Journal of Philosophy* 74: 261-301.

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- Papineau, D. [1987]: *Reality and Representation*. Oxford: Blackwell.
- Papineau, D [1993]: *Philosophical Naturalism*. Oxford: Blackwell.
- Plantinga, A. [1993]: *Warrant and Proper Function*. Oxford: OUP.
- Sorabji, R. [1964]: 'Function', *The Philosophical Quarterly* 14: 289-302.

## Next lecture: 'Evolution and Philosophy of Mind (ctd.)'

- Reading:
  - Bigelow, J. and R. Pargetter [1987]: 'Functions', *The Journal of Philosophy* 84(4): 181-196.
- Further reading:
  - Mitchell, S.D. (1998) 'Function, Fitness and Disposition', in C. Allen, M. Bekoff and G. Lauder (eds.) *Nature's Purposes: Analyses of Function and Design in Biology*. Cambridge MA: MIT Press, 395-415