Jake Chandler

Department of Philosophy, University of Glasgow,

67-69 Oakfield Avenue, Glasgow G12 8QQ

✉ J.Chandler@philosophy.arts.gla.ac.uk

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GLASGOW

[9] Evolution and Philosophy of Mind

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0. Outline

1. **Success semantics meets biological function**
2. **Functions and evolutionary history**
3. **Troubles for teleosemantics**

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1. Success semantics meets biological function

- In the last lecture:

  - Success sem. is appealing insofar as it promises to explain why we care about truth (A: 'It helps us get what we want').

  - But it needs an independent account of desire satisfaction conditions, which, as we saw, is tricky to provide.

- Papineau [1993:71] has a suggestion:

  'Any theory of representation that explains truth by [(B*) and (B**)] must add something further… to explain satisfaction. I add teleology. I explain desire-satisfaction in terms of the results that desires are biologically supposed to produce and then, plugging this into [(B*) and (B**)], thus giving truth the biological purpose of satisfying desires. '

1. Success semantics meets biological function

- Papineau finds this to be a 'natural and satisfying answer'.

- To be fair, it does *seem* to yield some satisfactory verdicts:

  - a desire for sugary food presumably has the biological function of leading the subject to obtain sugary food

  - a desire for revenge has the biological function of bringing about revenge.

- Papineau also points out that, in addition to avoiding the pitfalls of the kinds of proposals considered by Whyte, this account has an edge over another unsuccessful candidate:

  the satisfaction condition of a desire *D* is *P* iff tokens of that desire-type typically cause *P*.

1. Success semantics meets biological function

- Two issues:

  - desires can have typical consequences that don't correspond to their satisfaction conditions (e.g. wanting ice-cream and expanding one's waistline).

  - desires can have satisfaction conditions that they don't typically bring about (e.g. wanting to be prime minister).

- The thought is that, by appealing to biological function, the teleosemanticist can get things right:

  - traits can have typical consequences that don't correspond to the effects that they have the biological function of producing (e.g. hooves leaving tracks on the ground).

1. Success semantics meets biological function

  - traits can have the biological function of producing effects that they don't typically bring about (e.g. very few acorns eventually grow into an oak sapling).

- Furthermore, this account of desire content, and its associated analysis of belief content, is 'naturalistic': it rests on a notion (biological function) that is an accepted part of scientific discourse.

- Finally, the account of truth conditions offered avoids a problem that plagues most competing naturalistic approaches to belief content: the *problem of misrepresentation* (aka the 'disjunction problem', see Fodor [1991]).

1. Success semantics meets biological function

- Example: 'indicator semantics' (e.g. Dretske [1981]).

- According to this kind of view, roughly (there are a number of variations on this theme):

    the truth conditions of a belief = those conditions which tokenings of beliefs of that type indicate (where states of type F indicate states of type G iff conditional on various relevant circumstances $\Pr(G|F)$ = high).

- Problem: to the extent that our beliefs do indicate anything, they often indicate something *far less specific* than what they are intuitively 'about'.

1. Success semantics meets biological function

- The upshot of this: the indicator theory yields beliefs that are (1) generally true (with truth conditions such that, by definition, error is unlikely) and (2) about the 'wrong' states of affairs.

- Example:

    - If I cannot tell my parsley from my coriander or basil, my belief that there is parsley growing in the garden will indicate, not the presence of parsley in the garden, but only the presence of parsley or coriander or basil.

    - According to the standard indicator account, I won't end up (generally mistakenly) thinking 'there is parsley growing in the garden' but rather, merely, (generally truthfully) thinking 'there is parsley, coriander or basil growing in the garden '

1. Success semantics meets biological function

- This is a *huge* problem for indicator theories (although there are attempts to build sophisticated indicator accounts that avoid this consequence – see Fodor [1990]).

- Papineau's account avoids the difficulty: there is nothing in his theory that implies that beliefs indicate the conditions that make them true.

- Beliefs may have the *function* of being present in certain desire-satisfaction-guaranteeing circumstances but as we have pointed out, functions can be had without being likely to be fulfilled.

- Of course, this isn't to say that all is rosy for the teleosemanticist.

- One set of worries emerges from the analysis of the concept of 'biological function' typically on offer…

2. Functions and evolutionary history

- Papineau, alongside the *vast* majority of other teleosemanticists (Millikan, Dretske, Price, Neander, …), subscribes to the orthodox analysis of function: the '*etiological*' theory.

- There are a number of different variants of this account, but the rough idea is that the function of a trait is that which it was 'designed' by natural selection to do.

- This talk of 'design' is metaphorical of course: natural selection has no plans or intentions. A less anthropomorphic proposal:

    (BF_1): Trait *T currently* has the function of producing outcome *O* in a population iff members of the population now have *T* because, *ancestrally*, there was selection for having *T* and *T* conferred a fitness advantage because it produced *O*.

2. Functions and evolutionary history

- Thus, on this view:

  - The function of the elongated morphology of the Jackrabbit is to facilitate the dissipation of heat, because in ancestral populations, there was selection for such morphologies and having such a morphology conferred a fitness advantage because it facilitated the dissipation of heat.

  - The function of the Javanese Leaf Insect's leaf-life appearance is to avoid predation because in ancestral populations, there was selection for such appearances and having such an appearance conferred a fitness advantage because it enabled predator-avoidance.

- The putative historical facts do seem sensible to postulate…

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2. Functions and evolutionary history

- (BF_1) also seems to yield the right results wrt to the two aforementioned intuitions concerning functions:

  - traits can have typical consequences that don't correspond to the effects that they have the biological function of producing (e.g. hooves leaving tracks on the ground: there was selection, in ancestral populations, *of* track-producing hooves but not *for* track-producing hooves).

  - traits can have the biological function of producing effects that they don't typically bring about (e.g. very few acorns eventually grow into an oak sapling: there can be selection for properties that only rarely produce beneficial effects, so long as the benefit of success is high and the cost of failure is low).

2. Functions and evolutionary history

- Note: most proponents of the etiological account want to allow for 'defective' traits (e.g. malformed or atrophied hearts, lungs, etc.) to have the same kinds of functions as their 'non-defective' counterparts (e.g. pumping blood, etc.).

- This isn't allowed by (BF_1): malformed hearts are presumably not currently present in the population due to prior selection for malformed hearts.

- Millikan [1984:25] offers a clever way round this difficulty.

- We sadly don't have time to go into this, I refer you to her rather terse chapter for the details.

2. Functions and evolutionary history

- Now one crucial thing to note is that according to (BF_1):

  functional properties are *historical* properties - they hinge on properties of *ancestral* populations and environments.

- One central reason why proponents of this view seem to think this should be the case: requests for explanations of the presence of a particular trait in a population are often met by the citing of a function of that trait.

- Example:

  - *Q*: 'Why do snakes have forked tongues?'

  - *A*: 'The snake's forked tongue has the function of enabling chemosensory tropotaxis'

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2. Functions and evolutionary history

- According to (BF_1) the conversational felicity of *A* is easily accounted for…

- The exchange just gets translated as:

  - *Q*: 'Why do snakes have forked tongues?'

  - *A*: 'Snakes have forked tongues because, in ancestral snake populations, there was selection for having forked tongues and having a forked tongue conferred a fitness advantage because it enabled chemosensory tropotaxis'

- Before moving on to the next section, a final few quick things to note about (BF_1), just to get things clear.

2. Functions and evolutionary history

- According to (BF_1), note that:

  - A trait can have the function of bringing about *O* in spite of its lacking any capacity whatsoever to bring about *O* in the population's current environment.

  - A trait can have a function of bringing about *O* in spite of the fact that, in the population's current environment, having a disposition to bring about *O* would have no impact, or even a negative impact, on fitness.

  - A trait can lack the function of bringing about *O* in spite of the fact that, in the population's current environment, that trait currently enhances its bearers' fitness by having a disposition to produce *O*.
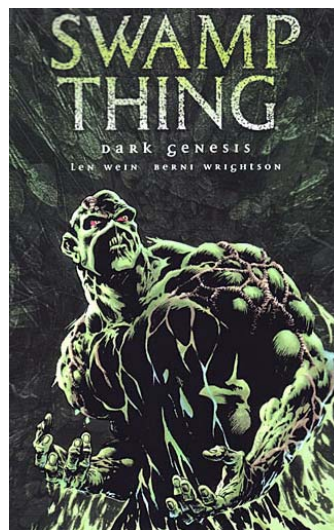
3. Troubles for teleosemantics

- So, philosophical orthodoxy has it that the functions of traits hinge on their evolutionary past.

- But assuming that orthodoxy has it right (more on this issue later), those committed to analysing mental content in terms of biological functions are therefore committed to claiming the following:

  mental content is partly determined by facts about the evolutionary past.

- Is this really reasonable?

- Consider…

3. Troubles for teleosemantics

- '…Suppose lightning strikes a dead tree in a swamp; I am standing nearby. My body is reduced to its elements, while entirely by coincidence (and out of different molecules) the tree is turned into my physical replica. My replica, the Swampman, moves exactly as I did; according to its nature it departs the swamp, encounters and seems to recognise my friends, and appears to return their greetings in English. It moves into my house and seems to write articles on radical interpretation…' (Davidson [1987])

3. Troubles for teleosemantics

- If Papineau and others are right in holding that mental content is determined by facts about evolutionary history, the following seems to hold:

    Swampman would have no desires, no beliefs, no hopes, no grudges, and no pet hates or hobbies (assuming that one cannot have mental states without content).

- Many – including defenders of teleosemantics themselves- have found this apparent consequence difficult to stomach.

- There have been a number of responses on the teleosemanticist's behalf…

Reference

- Davidson, D. [1987]: 'Knowing One's Own Mind', *Proceedings and Addresses of the American Philosophical Association* 60: 441-458.

- Dretske, F. [1981]: *Knowledge and the Flow of Information.* Cambridge MA: MIT Press.

- Fodor, J. [1990]: *A Theory of Content and Other Essays*. Cambridge MA: MIT Press.

- Millikan, R.G. [1984]: *Language, Thought and Other Biological Categories*. Cambridge MA.: MIT Press.

- Papineau, D [1993]: *Philosophical Naturalism*. Oxford: Blackwell.

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

- Take a look at some of the reading I set for the essay.