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# Reconciling semantic dispositionalism with semantic holism

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## Abstract

Dispositionalist theories of mental content have been attacked on the grounds that they are incompatible with semantic holism. In this paper, I resist important worries of this variety, raised by Paul Boghossian. I argue that his objections can be avoided by a conceptual role version of dispositionalism, where the multifarious relationships between mental contents are grounded on the relationships between their corresponding, grounding dispositions.

## 1. Introduction

It is commonly maintained that semantic holism problematizes attempts to reduce contentful mental states to non-intentional episodes. One prominent argument to this effect is provided by Paul Boghossian (1989, 1991), who focuses on semantic dispositionalism.<sup>1</sup> According to semantic dispositionalism,

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<sup>1</sup>Boghossian’s (1989) original version of the argument reacts to the meaning scepticism that Kripke (1982) attributes to Wittgenstein. Similar reasoning is echoed by Boghossian (1991) in his criticisms of Fodor’s (1992) theory of mental content.

that one possesses a contentful mental state is to be disposed to (e.g.) exercise recognitional or discriminatory capacities under appropriate conditions. And according to semantic holism, the content of a mental state is determined, at least in part, by its relationships to a potentially infinite number of other contents. Boghossian argues that, in order to accommodate semantic holism, the semantic dispositionalist must cite appropriate conditions that include the absence of the near-infinite number of factors that could affect the content of a mental state. But citing such factors unacceptably employs circular reasoning. His concern is that, given the demands of semantic holism, it is misguided to emphasize the importance of appropriate conditions for an account of content.

I argue that Boghossian's objections do not succeed against a conceptual role version of dispositionalism, where the content of a thought is determined by the uses, under appropriate conditions, of the relevant expressions in the language of thought. But in replying to Boghossian's objections, I do not offer a full-fledged account of semantic dispositionalism. On this matter, three additional comments are in order. First, for brevity's sake I focus only on dispositional accounts of mental content, leaving accounts of linguistic meaning aside.<sup>2</sup> Secondly, though other objections to semantic dispositionalism are well-deserving of attention, I shall ignore them for present purposes—this includes any other objections raised by Boghossian. Finally, I leave aside other

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<sup>2</sup>The considerations that problematize the determinacy of meaning (and hence semantic dispositionalism), originally raised by Kripke (1982), apply equally to a public language and the language of thought.

objections to semantic holism, as well as other objections to conceptual role semantics. My primary concern is to argue that, contrary to Boghossian's efforts, semantic holism does not, as a *general* matter, problematize semantic dispositionalism (of the variety that relies on content-bestowing conditions).

In the next section, I offer an initial characterization of semantic dispositionalism as well as how it is taken to be problematized by semantic holism.

## 2. Semantic dispositionalism or holism

Quite generally, *semantic dispositionalism* is the thesis that having a mental state with a particular content depends on possessing the relevant disposition—e.g., a disposition of a recognitional, discriminatory, or inferential variety. However one characterizes (or otherwise qualifies) the relevant disposition, such an account succeeds only if it satisfies two requirements: first, the account adequately describes one's mental states (accommodating the essential properties of intentional states) and, secondly, it does so without appealing to intentional facts. The first requirement voices the need for descriptive adequacy, where an appeal to one's dispositions successfully fixes that about which one is thinking, e.g., the account properly fixes the extensions of the constituents of a contentful mental state. (Saul Kripke (1982) famously argues that no dispositional account can satisfy this requirement because doing so involves distinguishing correct from incorrect instances of a contentful mental state, and dispositions are inadequate to this task.) The second re-

quirement signals the need for a non-circular account of content: since semantic dispositionalism is aimed at explaining intentional facts such as mental content in non-intentional terms, appealing to other intentional facts—some other representative medium—would defeat its original purpose.

The above requirements are arguably satisfied by a version of the thesis where dispositions to establish *symbol-world* relationships are essential. (For the sake of argument, I assume that the relevant symbols are those belonging to a language of thought.) That one has a mental state about magpies, for instance, is reducible to one's being disposed, under appropriate conditions, to apply a particular term in the language of thought to all and only magpies. The following highlights the essential features of any such account. For a subject  $S$ :

(SW)  $S$  has a mental state with content  $F$  if and only if  $S$  possesses a corresponding disposition  $x$ , manifested under conditions  $C$ , to apply an expression  $e$  (in the language of thought) to all and only  $F$ 's.

In broad strokes, the first requirement (above) is met by appealing to  $S$ 's disposition  $x$  to apply an expression, say, to a particular kind of thing or state-of-affairs; the content of  $F$  is given by the information expressed by  $S$ 's disposition  $x$ . But not just any disposition to apply  $e$  will serve to fix the content of a mental state, though, for some applications of  $e$  might be erroneous. To accommodate this sort of concern, (SW) cites  $S$ 's dispositions that manifest under *appropriate conditions*  $C$ : under  $C$ ,  $S$  cannot mistakenly apply  $e$ . In this respect,  $x$  serves as the basis for the correct usage of  $e$ ,

and hence fixes the content of  $F$  (e.g., Forbes, 1984, Millikan, 1989, Pettit, 1999).<sup>3</sup> However one cashes out appropriate conditions, the second requirement (above) for an adequate dispositionalist approach is also satisfied, so long as the content of any given mental state is determined by one's dispositions and the conditions appropriate to their manifestation, where these facts are themselves characterized without appeal to intentional facts.

Jerry Fodor (1992) has lodged complaints against appeals to such content-bestowing conditions, as cited in (SW), targeting that they do not lend to appreciating the *robustness* of content: thoughts about, say, magpies are caused by many things besides magpies while still being thoughts about magpies. According to Fodor, this point is not accommodated by appeal to content-bestowing circumstances, because according to any such an account, tokenings of a symbol can have only one sort of cause (i.e., the kind of cause that fixes its content). But again, a tokening of magpie symbols can be caused by many things besides the presence of magpies under appropriate conditions.

While I have doubts about the strength of Fodor's particular criticisms, Boghossian raises a version of this concern—based on the holistic nature of belief fixation—which appears especially troubling. According to *semantic holism*, the content of any given mental state is determined, at least in part,

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<sup>3</sup>Conditions  $C$  are oftentimes referred to as 'Type 1 Conditions' in order to distinguish between two kinds of conditions: those under which one acts correctly and those conditions under which one acts mistakenly. In part for stylistic reasons, I shall often use the expression 'appropriate conditions' (or a variation of this) to mean 'Type 1 Conditions.' In any case, for present purposes, I remain agnostic as to the best theory of such conditions.

by its relationship to other mental states.<sup>4</sup> For example, while the belief ‘Lo, magpies’ is directly prompted by the presence of magpies, this belief could be prompted by a great many other factors as well. Beliefs about the appearances of various birds could do so. Indirect evidence, such as the season and location, or even the presence of bird droppings might prompt the belief. Much more distant factors, such as making a strange association, could even play a role in determining that one believes that magpies are nearby. In this respect, the dependence of the content of one belief on the contents of other mental states is *arbitrarily robust*: the content of a mental state is dependent on the contents of an open-ended number of other mental states, perhaps even a near-infinite number of such configurations.<sup>5</sup> As Boghossian puts the matter:

Since... there looks to be a potential infinity of such mediating background clusters of belief, a non-semantically, non- intention-

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<sup>4</sup>Mental contents may be understood as being holistically governed in either of two respects. First, mental states might be holistic as a matter of *interpretation*—of attributing propositional attitudes to someone—in that understanding what someone is thinking about requires making sense of their actions or utterances against a larger pattern. Secondly, mental states might be holistic as a matter of *constitution*, in that the content of a mental state is *determined*, at least in part, by its relationship to other mental states. Boghossian is clearly interested in this second sense.

<sup>5</sup>Boghossian is concerned with the arbitrary robustness of mental states, at least insofar as possessing one belief can be affected by holding others. There is reason to think, though, that the emphasis on belief fixation is just one instance of content-determination. For Boghossian’s (1989) worry is raised for dispositionalist attempts to fix the content of mental states (as well as fix the meaning of expressions in a public language). That one belief might affect possessing another belief, according to the semantic holism, plays a role in *determining the content* of each of the beliefs involved. As such, I make no significant distinction between speaking of belief fixation and of determining the content of a mental state; the former is just an instance of the latter.

ally specified optimality situation is a non- semantically, non-intentionally specified situation in which it is guaranteed that none of this potential infinity of background clusters of belief is present. But how is such a situation to be specified? What is needed is precisely what a dispositional theory was supposed to provide: namely, a set of naturalistic necessary and sufficient conditions for being a belief with a certain content.... [I]f there is to be any sort of reductive story about meaning at all, it cannot take the form of a dispositional theory. (1989, p. 539)

The semantic dispositionalist can accommodate this arbitrary robustness only if she eliminates (or otherwise explains) the effects of these indirect factors. And doing so requires citing the absence of a near-infinite number of factors (that could affect picking out  $F$ 's) in the specification of  $C$ . Otherwise, we would not be able to isolate those factors pertinent to the content of one's belief about magpies.

There is some ambiguity as to the difficulty facing the semantic dispositionalist at this stage in the argument. Alexander Miller (1997) admirably disambiguates the situation by interpreting Boghossian as offering two distinct objections, both of which proceed from the above considerations. The first objection shall be called the *Infinity Objection*.<sup>6</sup> The worry is that the factors built into  $C$  are potentially infinite in number, so that semantic dispositionalism succeeds only if one can cite all of the factors contributing to  $C$ .

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<sup>6</sup>Miller (1997) attributes the Infinity Objection to Boghossian 1991.

But such a task is untenable; the prospect of specifying  $C$ , and thereby adequately describing one's mental states in terms of dispositions, might appear as nothing more than an article of faith.<sup>7</sup>

The second objection shall be called the *Circularity Objection*.<sup>8</sup> The worry is that we can only specify the appropriate conditions  $C$  under which one is disposed to believe, say, 'Lo, magpies' by building the absence of a near-infinite number of interfering beliefs into  $C$ . But doing so requires appealing to intentional facts (e.g., other *beliefs*) which are not allowed to the semantic dispositionalist since the proponent of such an account aims to reduce intentional states such as contents and beliefs to non-intentional states. In other words, the only way to avoid the Infinity Objection is to employ circular reasoning, thereby inviting the Circularity Objection.<sup>9</sup>

Admittedly, Boghossian raises what appears to be compelling charges against semantic dispositionalism. In the next section, I argue that these charges are not as sweeping as originally supposed.

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<sup>7</sup>It has been argued by McManus (2000) that the Infinity Objection makes the same basic assumption as any other *ceteris paribus* clause: namely, that any such clause is essentially open-ended. According to McManus, the strength of the Infinity Objection relies on this more general problem for a disposition qualified under a *ceteris paribus* clause, and is not uniquely motivated by holism. The success of my reply to the Infinity and Circularity Objections in §3 (below), though, suggests otherwise.

<sup>8</sup>Miller (1997) attributes the Circularity Objection to Boghossian 1989.

<sup>9</sup>Though Miller (1997) takes the Infinity and Circularity objections to remain somewhat independent, I disagree, especially for the presentation of the argument in Boghossian 1991.



### 3. Semantic dispositionalism and holism

The Circularity and Infinity Objections, as I shall argue, can be answered by explaining the relationships between the content of various mental states by appeal to the relationships between the dispositions, manifested under appropriate conditions, grounding those mental states. We can answer the Infinity Objection without employing circular reasoning, and thereby avoid the Circularity Objection. That is, I shall argue for the failure of Boghossian's *general point* that no appeal to dispositions under appropriate conditions will suffice to satisfy the semantic holist. This is best demonstrated by way of a version of semantic dispositionalism that stresses the uses to which expressions (in the language of thought) are put: namely, a variety of conceptual role semantics.

According to conceptual role semantics, the content of a mental state is determined by the various uses to which it is put in one's mental economy—e.g., the ways in which any given expression features in inferences, the roles it plays in perception, or the other uses to which it is put in the language of thought. In particular, we shall assume a version of the thesis that also cites appropriate conditions. In doing so, we enjoy the same benefits as (SW)—e.g., distinguishing between proper and improper uses of an expression, arguably allaying Kripke's worries about normativity. For such an account:

(CR)  $S$  has a mental state with content  $F$  if and only if  $S$  possesses a corresponding complex of dispositions  $x_1\dots x_n$ , manifested under conditions

$C$ , to use an expression  $e$  (in the language of thought) in various ways, each of which serves a role in  $S$ 's mental economy.

Boghossian's concern is that no appeal to a single disposition under appropriate conditions can ground the near-infinite relationships that a contentful mental state bears to other such states; we cannot feasibly build the absence of the near-infinite factors that determine the content of a mental state into a specification of the conditions appropriate to the manifestation of any given disposition. But as expressed by (CR), for a conceptual role version of dispositionalism, the content of a mental state is determined by the various uses to which its constituent symbols (in the language of thought) are put. This suggests that, rather than ground any given contentful mental states by appeal to a *single* disposition under appropriate conditions, we should ground any given content by appeal to a *complex* of dispositions under appropriate conditions, each member of which grounds a particular sort of use to which a symbol is put. As such, I suggest explaining the phenomenon of any given mental state affecting any other mental state by appeal to the near-infinite relationships between the many dispositions that ground one's network of contentful mental states.

We should say that particular (content-constituting) dispositions, pertaining to the use of any given expression in the language of thought, are those dispositions to use  $e_i$ , in the language of thought, on various sorts of occasions. The total complex of (content-constituting) dispositions, comprised of particular dispositions to use  $e_i$  in various ways, supplies a complete

specification of the use of  $e_i$ , and hence its total conceptual role. For example, suppose that  $S$ , under appropriate conditions, is disposed to infer an expression  $e_1$  from  $e_2$ ; and infer  $e_2$  from the conditional  $e_3$  *only if*  $e_2$ , and  $e_3$ ; and infer  $e_3$  from the disjunction  $e_3$  *or*  $e_4$ ; and so on. Each of  $S$ 's dispositions contribute to a network of dispositions, where the symbols  $S$  is disposed to use serve as its nodes. The complete characterization of the conceptual role of  $e_2$ , for instance, can be read off those dispositions to use  $e_2$  in (e.g.) inferential liaisons. In this simplified case, two separate dispositions contribute to the total conceptual role of  $e_2$ .

We might include, amongst one's particular dispositions contributing to the total specification of a conceptual role, those dispositions to use symbols in the manner of symbol-world relationships. For (CR) is compatible with the one-factor approach espoused by Harman (1999), and the two-factor approach championed by Block (1987). In the former case, we should expect some of the particular dispositions cited in (CR) to be of the *long-armed* variety, so that the uses to which an expression are put involve 'reaching out' into the world, much in the manner of determining the denotation of a term. And in the latter case, we should expect the particular dispositions grounding content to be accommodated, in part by those cited in (SW), and in part by those dispositions to use expressions cited in (CR). In short, various (e.g.) inferential or symbol-world liaisons might count as the particular dispositions to use  $e_i$ ; and taken together, all of the conceptual roles pertaining to  $e_i$  make for the total complex of dispositions fixing the content of the relevant mental

state.

That (CR) avoids the Circularity Objection should be evident. It does so by stressing that the near-infinite factors affecting a mental state's content are explained at the level of the dispositions—and, importantly, the relationships holding between them—that ground one's mental contents. Notice that (CR) respects the dispositionalist's sentiment that, whatever the particular property that determines the content of a mental state, it pertains to one's dispositions. At the same time, that (CR) respects this sentiment is not incompatible with the holist's thesis that the content of a mental state is determined by relational properties that it bears to other contents. For the dispositions to use expressions in the language of thought (manifested under appropriate conditions) bear various relationships to one another, and it is in virtue of these relationships that some dispositions serve as those grounding the content of a mental state. So again, we can do the relevant explanatory work at the level of the dispositions grounding mental states, and thereby avoid the circularity motivating Boghossian's charge.

Having answered the Circularity Objection, we have in hand the materials for solving the Infinity Objection. Boghossian's worry about the arbitrary robustness of mental content is that possessing a belief with a particular content might be based, not (solely) on possession of a particular disposition in the presence of a particular set of circumstances, but rather based on possessing some other contentful mental states—perhaps a near-infinite number of them. But with the emphasis placed on one's dispositions (*qua*

conceptual roles) and the relationships holding between them, we can explain how the content of one mental state is affected by others by appreciating the relationships between the dispositions grounding that mental state and the relationships it bears to the dispositions grounding other mental states. That is, the near-infinite ways in which the content of one mental state might be affected by others is dependent on the various relationships between the dispositions grounding each mental state. The work of determining the content of any given mental state is distributed over the various dispositions (manifested under appropriate conditions) that comprise the total complex of dispositions to employ an expression in the language of thought.<sup>10</sup>

Consider how (CR) bears on the matter of belief fixation, as one contributing factor to determining the content of a mental state. We should expect semantic holism to remain a plausible thesis on the condition that it provides an account of the relationships between expressions in the language of thought. The account I offer provides just such a story, and it does so in terms of dispositions under appropriate conditions. I assume, with Boghossian, that possessing any belief might affect one's possessing any other belief. But on my account, the phenomenon that one's holding a particular belief

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<sup>10</sup>Miller (1997) argues that the Infinity Objection undermines a Lewis-inspired dispositionalism along with Boghossian's original target. Though such an account is a variety of functionalism—and hence resembles conceptual role semantics in one respect—one might plausibly wonder whether a Lewis-style approach can avoid the Infinity Objection in much the way that I have suggested. It is not implausible to think that a sufficiently augmented account could avoid Boghossian's concerns. But a Lewis-style approach fails in an additional respect. As Miller argues, such an approach requires citing platitudes from our folk theory of mind in order to specify the functional roles characterizing contentful mental states, and the Infinity Objection recurs for the task of specifying such platitudes.

could affect one's holding another belief is explained by way of the relationships between the dispositions grounding each mental state. For example, suppose that an agent's disposition to apply 'Lo, magpie' is triggered indirectly by way of her manifested disposition to apply 'If magpie-droppings are found, then there are magpies about, and lo, there are magpie-droppings.' In this case, the two dispositions that one possesses are related because of their ranging over the same symbol; and the manifestation of one disposition might very well prompt the manifestation of the other. Though this is a fairly simple case, we should expect the same point to hold for more complicated cases as well—only with many more intermediary dispositions serving in the explanation of the relationship between two beliefs.

#### 4. Objections and replies

In what follows, I anticipate (as well as dispense with) two objections to my use of (CR) to defend semantic dispositionalism.

*Objection (1):* One might be concerned that, while on (CR) the content of a mental state is determined by a complex of dispositions, for any particular disposition belonging to that complex, the relationships it bears to other dispositions must be built into the conditions appropriate to its manifestation. But the manifestation of dispositions not belonging to this complex might nevertheless contribute *indirectly* to the manifestation of those dispositions belonging to this complex. Moreover, we should expect a near-infinite

number of dispositions to indirectly affect the manifestation of any other disposition belonging to the same network of dispositions. It appears, then, that when specifying the conditions appropriate to the manifestation of any particular disposition to use an expression, we should cite the absence of interference of (a near-infinite number of) indirectly related dispositions. So it appears that the Infinity Objection arises for any particular disposition contributing to the determination of the content of a mental state.

*Reply to (1):* This concern is based on a misunderstanding. For as already argued, appealing to the relationships between particular dispositions to use expressions (in order to make for a total complex of dispositions) serves as the basis for solving the Circularity Objection; and by solving *that* problem, we have in hand the means for solving the Infinity Objection. So we may grant that, when specifying the conditions appropriate to any disposition to use an expression, that we should include its relationships to other dispositions to use expressions and the absence of their interfering influences. Granting this point, though, does not invite the Infinity Objection anew, since we have in place a reductive account in virtue of which we can appreciate how one mental content might be affected by a near-infinite number of others. That is, the key point is that we have in hand such a story, one that explains the relationships between mental contents in terms of non-intentional facts.

*Objection (2):* One might worry that (CR) appears to avoid Boghossian's concern only by relegating the importance of appropriate conditions  $C$  to a place of unimportance in determining the content of a mental state. That

is, whereas (SW) construes  $C$  as content-bestowing, (CR) lets the dispositions cited (rather than the conditions appropriate to their manifestation) fix the content of any mental states. And since the Infinity and Circularity objections are aimed against versions of dispositionalism which make essential appeal to  $C$ , and (CR) does so only incidentally, (CR) does not serve as a genuine counterexample to Boghossian's general thesis.

*Reply to (2):* Like the first concern raised, this one is based on a misunderstanding. In this case, it makes the same sort of appeal to appropriate conditions as (SW). For the point of any such appeal is to establish that some dispositions serve as the basis for *correct* action, be it the correct applications of symbols to objects or states-of-affair, or the correct use of symbols in relation to other symbols. And unless (CR) cites such conditions appropriate to the manifestation of the relevant dispositions, there is no means available for settling which dispositions fix the content of a mental state and no basis for appreciating falling into error. So again, the concern raised fails to hold.

## 5. Conclusion

We are left, then, with a version of semantic dispositionalism immune to Boghossian's holism-inspired concerns. This seems to suggest that the appeal to appropriate conditions is not the weakest link in a naturalistic approach to content. Rather, any dispositionalist account that insists on nothing more than symbol-world relationships proves insufficient to account for the seman-



tic holist's insights. But this is not terribly surprising, since we should expect relationships between different symbols to serve as the basic components of the holist's semantic machinery; the plausibility of semantic holism appears to rely on symbol-symbol (rather than symbol-world) relationships. It is no wonder that (SW) falls to Boghossian's attacks. An account of content which admits of both symbol-world and symbol-symbol relationships (much as one which admits only of symbol-symbol relations), though, is not vulnerable to Boghossian's objections.

Though I have provisionally favored an account of dispositions related to symbols in the language of thought and their conceptual roles, the same point can presumably be made for similar accounts. Nevertheless, whether a fully fleshed-out dispositional account can answer traditional objections to semantic dispositionalism (other than the ones raised by Boghossian) depends on the details of that account, and presumably does not turn on the materials I have introduced. Though many of the criticisms raised by Kripke (1982) against semantic dispositionalism might apply quite generally without regard to the variety of thesis used as an immediate target, the same cannot be said for Boghossian's objections entertained here. It appears, then, that Boghossian overgeneralizes the effects of objections from one version of semantic dispositionalism to another—from an informational version such as (SW) to a conceptual role version such as (CR)—at least in respect to the importance of semantic holism.

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