

Stalnaker vs. Monsters

A supplement to “Monsters and the theoretical role of context”*

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Kaplan (1989) famously claimed that *monsters*—operators that shift the context—do not exist in English and “could not be added to it”. Several recent theorists have pointed out a range of data that seem to refute Kaplan’s claim, but Stalnaker (2014) has offered a principled argument that monsters are impossible. In our paper “Monsters and the theoretical role of context” (forthcoming) we aimed to interpret and resolve the dispute. We argued that: (i) the interesting notion of a monster is not an operator that shifts some formal parameter, but rather an operator that shifts parameters that play a certain theoretical role; (ii) one cannot determine whether a given semantic theory allows monsters simply by looking at the formal semantics; (iii) theories which forbid shifting the formal “context” parameter are perfectly compatible with the existence of monsters (in the interesting sense).

Although we took issue with Stalnaker’s case against monsters, we took one thread of Stalnaker’s case to be essentially correct. This thread focuses on what plays the role of *content*. To expand on Stalnaker’s point here we looked at two related cases: Santorio’s (2012) semantics for “might”, which he claims is monstrous, and Cumming’s (2008) semantics for attitude verbs, which he claims isn’t monstrous. We argued that Stalnaker is right that Santorio’s seemingly monstrous examples involving epistemic modals are not monstrous in Stalnaker’s preferred framework.

Stalnaker’s view of content and its ability to explain away various putative monsters rest on a number of controversial claims about the metaphysics of modality and its role in an account of communication. We initially developed

*Rabern and Ball (forthcoming) “Monsters and the theoretical role of context”, *Philosophy and Phenomenological Research*.

Stalnaker’s basic point by considering a related, but much simpler, Stalnakerian view. The aim of this supplement is to present Stalnaker’s actual view, and the way it attempts to block monsters, in more detail.¹

Explaining Stalnaker’s view of content will require some further theoretical background. We begin by describing the view and its motivation. We then show how it can be used to resist the claim (made by Santorio) that epistemic modals are monsters. We conclude by arguing that the strategy does not generalise: though Stalnaker’s account of what is said gives a natural response to the claim that Santorio’s examples are monstrous, the response cannot be extended to other cases (such as quantifiers) given the constraints that Stalnaker puts on an account of content.

Stalnaker’s view of assertion focuses on the effect of assertion on what is mutually presupposed by the parties to a conversation. Stalnaker views propositions as sets of worlds. The set of propositions mutually presupposed is the *common ground* of a conversation; the intersection of the common ground is the *context set*, the set of worlds that are live options in the conversation. The essential effect of an assertion is to add a proposition – the proposition asserted – to the common ground, and hence (when the assertion is informative) to remove worlds from the context set.

Classic content – what Stalnaker calls the *horizontal proposition* – is not well suited to be the proposition asserted in Stalnaker’s system. One simple reason is that the horizontal of informative utterances is sometimes the necessary proposition (the set of all possible worlds); and by Stalnaker’s lights, asserting the necessary proposition can never be informative, since it can never remove worlds from the context set.

Stalnaker is primarily interested in the effect of an assertion on the context set; and within the worlds of the context set, his preferred notion of assertoric content is the *diagonal proposition*.² (We will return to the question of how

¹We are still not presenting Stalnaker’s view in its entirety, since we omit the role of multiply-centered worlds in Stalnaker’s system (see Stalnaker (2014, 121-3)). As far as we can tell, this has little bearing on Stalnaker’s view of monsters.

²In “Assertion” (1978), Stalnaker suggests that the horizontal is normally what is asserted, and that the diagonal is asserted only when the horizontal is for some reason unsuitable. (See Stalnaker (1999, 14-15): “I suggested, in ‘Assertion,’ that in some cases (where a specific pragmatic rule was apparently violated) one should identify what was said with the diagonal proposition of the propositional concept determined by the context [...] in these special cases, the horizontal propositions of the propositional concept do not themselves represent what is said: they represent what is said *according to the normal semantic rules* as they are in the relevant possible world. In such a case, the normal

to extend assertoric content beyond the context set.) The intuitive idea is that the diagonal proposition expressed by an utterance is the proposition that what is said by the utterance is true. Focusing on the example of “I am Bob”, the idea is that David can learn that “I am Bob”, as uttered by his interlocutor, expresses something true; so the proposition he learns is the set of worlds in which he is speaking to someone who can express a truth by uttering “I am Bob” – in other words, the set of worlds in which the person he is speaking to is Bob. To a first approximation, Stalnaker’s view is that this is the content of Bob’s utterance.

Giving a more precise account of the diagonal will require understanding one other commitment of Stalnaker’s view. Stalnaker takes ordered triples of a world, time, and individual – *centered worlds* – to play the role of Lewisian contexts: they represent concrete situations in which an utterance might take place, and thereby play what we call the *content-generating* role. Stalnaker claims in particular that each centered world will determine a common ground (the common ground of the conversation that an utterance by the individual at the time in the world would be contributing to). Centered worlds are used (most notably by David Lewis 1979) to model *de se* or self-locating information: information about who, where, and when a given agent is. Ordinary possible worlds propositions are no good for this purpose, Lewis claims, because one might know all of the objective facts about a world, and so know exactly which world is actual, without knowing who, when, and where one is in that world. Perhaps the most famous example designed to show this is Lewis’s case of the two gods:

semantic rules are overridden...”) But in more recent work, Stalnaker’s view seems to be that *as long as we restrict our attention to the context set*, content is always the diagonal. (See Stalnaker (2014, 216-7): “... if we want to identify a proposition that is the *assertoric content* of an utterance, which of these [i.e., the horizontal or the diagonal] should it be? [The] diagonal proposition comes closest to what we want for the following reason: the role of assertoric content, according to the general pragmatic theory that I am promoting, is to determine which are the possibilities that are to be eliminated from the context set when an assertion with that content is accepted. [...] In cases where the diagonal and horizontal propositions [...] differ (for possible worlds in the relevant context set), it is intuitively clear that the point of the assertion is to rule out those possible worlds in which the diagonal proposition is false.”) However, this does not represent a major departure from the “Assertion” view, since in cases where no identity confusion is at issue, the diagonal and the horizontal typically coincide in the context set. So it is compatible with the view that the diagonal is always asserted (restricting our attention to the context set) that the horizontal is asserted in many cases.

They inhabit a certain possible world, and they know exactly which world it is. Therefore they know every proposition that is true at their world. Insofar as knowledge is a propositional attitude, they are omniscient. Still I can imagine them to suffer ignorance: neither one knows which of the two he is. They are not exactly alike. One lives on top of the tallest mountain and throws down manna; the other lives on top of the coldest mountain and throws down thunderbolts. Neither one knows whether he lives on the tallest mountain or on the coldest mountain nor whether he throws manna or thunderbolts. (Lewis 1979: 520-1)

Lewis claims that we cannot represent the two gods' states of knowledge and ignorance if we take propositions to be sets of possible worlds, since there is only a single world compatible with what each knows, so there are no possibilities for them to rule out, and hence nothing for them to learn; but we can represent it if we take propositions to be sets of centered worlds, since there are multiple centered worlds $\langle w, t, a \rangle$ which are such that for all each god knows, he is a at t in w – $\langle w, \text{now}, \text{the god on the highest mountain} \rangle$ and $\langle w, \text{now}, \text{the god on the coldest mountain} \rangle$ – and so possibilities that he still needs to rule out, and hence something for him to learn.

Stalnaker agrees that centered worlds are useful for representing states of knowledge and ignorance. But he disagrees with a crucial aspect of Lewis's view. For Lewis, if an agent does not know who, where, or when she is, there will be multiple centered worlds compatible with what she believes that differ only in their agent or time coordinate; that is, there will be some $\langle w_1, t_1, a_1 \rangle$ and $\langle w_2, t_2, a_2 \rangle$ compatible with what she believes which are such that $t_1 \neq t_2$ or $a_1 \neq a_2$, but $w_1 = w_2$.

Stalnaker denies this possibility: “It will be an assumption of the model that the centered worlds that are epistemic or doxastic alternatives will have different centers only if they are also different worlds. The assumption is that if you don't know where you are in the world, then (in all cases) you also do not know what world you are in” (Stalnaker 2014: 115). Stalnaker (2008: ch. 3, 2014: 115-8) justifies this assumption by defending the idea that there are distinct but qualitatively indistinguishable worlds – in other words, that there can be purely haeccectistic differences between worlds. In the case of the two gods, Stalnaker thinks, we can see this if we imagine one god naming himself “Castor”. Then there are two possible worlds – not just two centered worlds – compatible with what the god knows: w_1 , in which the god on the

tallest mountain is Castor, and w_2 , in which the god on the coldest mountain is Castor. w_1 and w_2 are qualitatively alike, but they are nonetheless distinct. The gods' ignorance about who they are corresponds to an ignorance about what world they are in. So for Stalnaker, no two centered worlds compatible with what an agent believes share a world coordinate; that is, there is no $\langle w_1, t_1, a_1 \rangle$ and $\langle w_2, t_2, a_2 \rangle$ compatible with what any agent believes which are such that $t_1 \neq t_2$ or $a_1 \neq a_2$, but $w_1 = w_2$.³

This means that we can move back and forth between thinking of propositions as sets of centered worlds, and thinking of them as sets of possible worlds. And this is important for Stalnaker, because he thinks that centered worlds are ill-suited to represent mutually held attitudes such as those represented by common ground. (In a normal conversation, in which it is common knowledge that all parties know who they are, then the individual parameter of every world compatible with what I believe will be me, and the individual parameter of every centered world compatible with what you believe will be you, so there will be no centered worlds compatible with what we both believe.) So on Stalnaker's view, the context set is a set of possible worlds. But for each party to a conversation, each possible world in the context set will correspond to a centered world, which represents who and when that party takes themselves to be in that open possibility. Similarly (and importantly for our purposes), when an utterance u takes place, each world w in the context set will correspond to a centered world $\langle w, t, a \rangle$, in which a is the person that the parties to the conversation take to be making u in w , and t is the time at which the parties to the conversation take u to be occurring in w .

Let's introduce some notation to represent these relations more efficiently. Suppose that an utterance u is made in a context c . Since on Stalnaker's view, centered worlds (in their role as content-generating contexts) determine a common ground and hence a context set, for any centered world c (i.e., any ordered triple $\langle w_c, t_c, a_c \rangle$), let C_c be the context set determined by c . For any world w in a context set C , let c_w be the centered world $\langle w, t, a \rangle$, in which a is the person that the parties to the conversation take to be making u in w , and t is the time at which the parties to the conversation take u to be occurring in w . We assume that each context c determines an assignment g_c .

We can now state Stalnaker's (2014: 218) official definition of the diagonal:

³See Weber (2015) for a detailed discussion and critique of Stalnaker's view, focusing on his view of mental content.

Stalnaker Diagonal. $\dagger\psi\dagger^c = \{w \in C_c : \llbracket\psi\rrbracket^{c_w, g_{c_w}, t_{c_w}, w} = 1\}$

Note that the diagonal is only defined for worlds in the context set. Stalnaker in fact takes what is said to extend beyond the context set, and this will be crucial to our discussion. But we can get the idea of how the diagonal works by focusing on the definition above.

Consider the utterance of “I am Bob” described above. A world w in the context set determined by c is a member of $\dagger\text{I am Bob}\dagger^c$ just in case the person at the center of c_w is Bob (under g_{c_w} , at t_{c_w} , in w – but since the claim that a given person is Bob is either true at all indices or false at all indices, we suppress this in what follows). For example, suppose that there are only two worlds in the context set C_c : w_1 , in which Bob is speaking to David, and w_2 , in which Saul is speaking to David. c_{w_1} is centered on Bob; so $a_{c_{w_1}}$ is Bob, and so $w_1 \in \dagger\text{I am Bob}\dagger^c$. But c_{w_2} is centered on Saul; so $a_{c_{w_2}}$ is not Bob, and so $w_2 \notin \dagger\text{I am Bob}\dagger^c$. So $\dagger\text{I am Bob}\dagger^c = \{w_1\}$. Asserting this proposition in c will remove w_2 from the context set. So if the diagonal plays the content role, an utterance of “I am Bob” can be informative, which was the desired result.

On this view of content, in each world w in the context set, “I” will pick out the individual that the parties to the conversation take to be speaking in w (i.e., a_{c_w}). So, on this view of content, “I” will be non-rigid in cases where there is uncertainty about who the speaker is. For example, it was essential to our discussion in the previous paragraph that in Bob’s utterance of “I am Bob” in c , “I” picks out Bob in w_1 but Saul in w_2 .

With this in mind, it is easy to see how Stalnaker can handle Santorio’s examples without monstrosity. To a first approximation, the idea will be that ‘might ϕ ’ says that the diagonal of ϕ is true in some world in the context set. “Might”, on this view, is not a content monster, since the diagonal plays the content role; and Santorio’s data is accommodated because “I” can pick out different individuals with respect to different worlds.

In order to develop the idea in a way that avoids formal monsters, it will be necessary to work with a semantics for “I” on which the semantic value of “I” at a context and an index is given by the index (rather than the context, as in Kaplan’s system). One natural possibility – not exactly what Stalnaker suggests, but a notational variant – would be to adopt Santorio’s semantics for “I”, according to which $\llbracket\text{I}\rrbracket^{c, g, t, w} = g(1)$, where it is assumed that the assignment determined by a context c maps 1 to the individual at the center of c (i.e., $g_c(1) = a_c$); and let’s follow Santorio in adopting a similar view for

all context-sensitive vocabulary (so that the c parameter is playing a purely post-semantic role (fixing the values of the g, t , and w parameters of the index).)

Since context is no longer playing a semantic role, our previous definition of the diagonal is equivalent to:

Stalnaker Diagonal. $\dagger\psi\dagger^c = \{w \in C_c : \llbracket\psi\rrbracket^{c, g_{c_w}, t_{c_w}, w} = 1\}$

Now say that a world is an epistemic possibility in a context just in case it is a member of the context set. Then we can give the following semantics for “might”:

- (1) $\llbracket\text{might } \phi\rrbracket^{c, g, t, w} = 1$ iff $\exists w'$ such that w' is an epistemic possibility in c ; and $\llbracket\phi\rrbracket^{c, g_{c_{w'}}, t_{c_{w'}}, w'} = 1$

On this account, “might” is not a content monster with respect to the diagonal; (1) is just equivalent to (2):⁴

- (2) $\llbracket\text{might } \phi\rrbracket^{c, g, t, w} = 1$ iff $\exists w'$ such that $w' \in \dagger\psi\dagger^c$

So Stalnaker can handle Santorio’s examples without appealing to either formal monsters or content monsters. But is this a recipe for avoiding any kind of monster? Does Stalnaker’s strategy generalise? We will now argue that it does not.

The diagonal is defined only within the context set. But Stalnaker thinks that a complete account of content must extend beyond the context set: “If informative conversation is to have any lasting effect, conversational participants must be able to take information away from the contexts in which they acquired the information” (2014: 65). More specifically, “We want to be able to detach information we have been told from the immediate context in which we were told it, and we want at least in some cases to be able to assess statement (as true or false) in a retrospective context that is different from the one in which the statement was made. So it is important for my general view that the assertoric content expressed in a speech act be defined, at least in some cases, for a wider range of possibilities” (2014: 221). There is no simple recipe for extending content beyond the context set, but in many cases, Stalnaker thinks, it is obvious what we need to do; for example, “In

⁴It is perhaps worth noting that epistemically modalised utterances are never informative on Stalnaker’s account: they are true at every world in the context set (if true at all). So they cannot play the same sort of role as typical assertions. See Stalnaker (2014, ch. 6) for discussion.

contexts where the identity of the speaker is not ‘at issue’, (which is the normal case) the relevant I-concept will be the ordinary rigid concept, picking out the actual speaker in all possible worlds” (2014: 221).⁵ This makes sense given that what we want to give an account of is the information that someone might take away from a conversation; if Bob says, “I was born in Dubuque” and I know who is speaking, it is plausible that what I learn is that *Bob* was born in Dubuque, so that when I take this information to other contexts, I rule out worlds in which Bob is born elsewhere (and I do not on the basis of this utterance rule out worlds based on where people other than Bob are born).

Similar considerations apply to other indexicals. If it is clear to all parties that I am speaking of Bob, then the diagonal of my utterance of “He is mortal” will be true in all and only those worlds in the context set in which Bob is mortal; and when we extend this proposition beyond the context set to give a complete account of content, we should let “he” be rigid and the content be the proposition that is true in a world just in case Bob is mortal in that world. So in this kind of case, Stalnaker’s view is that the content is just the classic content, i.e., $\{w : \llbracket \text{He is mortal} \rrbracket^{c,g,t_c,w} = 1\}$.

But now we encounter a problem. What happens when we embed “He is mortal” in the scope of a quantifier, as in (3)?

(3) Every man_1 is such that he_1 is mortal.

The semantics for “Every man is such that” provided in Rabern and Ball (forthcoming) shifts the assignment parameter.

$$\llbracket \text{Every } \text{man}_1 \text{ is such that } \phi \rrbracket^{c,g,t,w} = 1 \text{ iff } \forall x \in \text{man}, \llbracket \phi \rrbracket^{c,g[1/x],t,w} = 1$$

But – in this case – the assignment is a content-fixing parameter on Stalnaker’s view. So he should regard “Every man is such that” as a content monster.

We claimed in Rabern and Ball (forthcoming) that if content is the diagonal, then there can be no monsters. We have now argued that (on plausible assumptions) Stalnaker’s view commits him to monsters. It is also true in a sense that Stalnaker endorses the claim that content is the diagonal. But there is no contradiction here. Stalnaker claims that content is the diagonal

⁵So Stalnaker would reject the simplified account of diagonal content that we described in the main text, not only because it takes content to be a set of centered worlds (rather than a set of uncentered worlds), but also on substantive grounds.

within the context set. But Stalnaker's view that content is what is taken away from a conversation to other contexts strongly suggests that content is not to be identified with the diagonal outwith the context set; on the contrary, content is often to be identified with the horizontal, in cases where the diagonal and horizontal coincide in the context set. It is this commitment that makes monsters difficult to avoid.

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