

PLING228 Semantics Research Seminar

Stalnaker vs. Neo-Kaplanians and why quantifier movement is not enough

1 Options

- Neo-Kaplanian views: contextually restricted relation R restricting what descriptions allow exportation. De re thought is always under a descriptive guise (though some subset may have a trivial description: i.e.
- Aloni: all quantification is quantification over individual concepts relative to a conceptual cover of the domain. We probably also need quantification over conceptual covers?
- Stalnaker: which singular propositions are accessible is determined by context of attribution not context of belief. De re quantification is just as it looks on surface. (Russellian can help himself to this).
- Pragmatic Naïve Russellian: Neo-Kaplanian but as pragmatics not semantics.

2 Stalnaker's Strategy

Some basic Stalnaker: (All work mentioned here is in *Context and Content*.)

Belief attribution is contextually dependent: when 'Ralph believes Ortcutt is a spy' can be used to successfully associate a proposition with Ralph depends on the context of attribution. So if we know of only one guise that Ralph is acquainted with Ortcutt under it may be true.

Suppose we are discussing Ralph's beliefs in a context in which it is mutually recognized that Ralph believes there are these two distinct individuals, one of which he sees on the beach, the other of which he has glimpsed in a brown hat, but

nothing is presupposed about what Ralph thinks about either of them being involved in espionage. In this case, the derived context set will contain possible situations in which both are spies, situations in which neither are, situations in which the first man is a spy and the second not, and situations in which the second man is a spy and the first not. These are the possible situations that might, for all that is presupposed, be compatible with Ralph's beliefs. The speaker's job, in (p.166) attributing a belief to Ralph, is to cut this set down in a determinate and correct way. It is clear that saying "Ralph believes Ortcutt to be a spy" just won't do the job, nor will saying "Ralph believes Ortcutt not to be a spy." It's not that Ralph isn't intimately enough acquainted with Ortcutt. Rather, the problem is that in the relevant context, no proposition is determined by applying the propositional function expressed by "is a spy" to the individual Ortcutt. [Stalnaker, 1988]

What is S saying:

- In this case 'Ralph believes Ortcutt is a spy' is false?
- In this case 'Ralph believes Ortcutt is a spy' is infelicitous (possibly truth-valueless)?

The latter seems slightly more plausible. (Since 'Ralph doesn't believe Ortcutt' is a spy seems no more true).

But note that if *we* (the belief-attributers) don't know about Ralph's relation to Ortcutt in another guise (or for some reason are ignoring it), then we can get truth-valued singular propositions describing Ralph. For this reason I claimed that which possible worlds Ralph's belief state is compatible with is dependent not just on facts about Ralph and his relation to the world, but also on the context of attribution. (See similar but different issues with epistemic modals, predicates of taste, etc, in relative/contextualism literature etc.)

Assertion: Stalnaker's treatment of assertion of 'Hesperus is Phosphorus.' This expresses necessary truth, so what is expressed is rather the diagonal proposition: in different worlds of common ground sentence expresses different proposition, what is expressed is proposition that sentence is true (this however, turns out to be an astronomical fact as well as a metalinguistic fact). [Stalnaker, 1978]

This account get's generalized for belief attributions, such as

- (1) Aristotle believes Hesperus is not Phosphorus.

Now we can no longer look at worlds in the common ground, but rather worlds that the attributers think John might think possible. Then we take the diagonal proposition (for attributer's language, not necessarily attributee's language) across these worlds.

Stalnaker suggests this may also apply to de re beliefs.

- (2) Daniels believes that I am Kaplan (said by van Fraassen)

What would the world be like if the belief that these statements seem to attribute to Daniels were true? It would be a world in which Daniels' use of the name Kaplan the particular use that in fact refers to David Kaplan, Professor of Philosophy at UCLA and author of a monumental but still unpublished manuscript on demonstratives referred instead to Bas van Fraassen. That is, it would be a possible world in which the correct historical explanation of Daniels' use of the name Kaplan (in cases where in fact it refers to David Kaplan) involves, in the relevant way, van Fraassen instead of Kaplan. We will get the proposition that is true in just those possible worlds if we diagonalize the propositional function concept for the predicate being Kaplan, and then predicate the result of van Fraassen. [Stalnaker, 1987]

This is a much more subtle strategy than it might seem as it allows for *two distinct kinds of referentially opaque contexts*. Situation, John who is blind is at the APA and talking to Stalnaker, who is wearing a sweatshirt, but thinks he is Kaplan. He does not know that Kaplan wrote 'Opacity' (as he only knows about *Demonstratives*) or that Stalnaker is wearing a sweatshirt.

- (3) John believes the philosopher in the sweatshirt is the dude who wrote 'Opacity'.

The first position is a true de re, it just picks out Stalnaker. The second picks out Kaplan, but then uses that to get a diagonal propositional con-

cept for different belief worlds for John in which 'Kaplan' refers to different individuals, including one in which it picks out Stalnaker.

Prefiguring some topics we wish to get to later Stalnaker observes:

It is interesting to compare these last two examples with examples obtained by reversing subject and predicate in the complements. *Daniels believes that Kaplan is the man in the faded denim leisure suit*, and *Daniels believes that Kaplan is I*. Despite the symmetry of identity, these sentences seem clearly to say something different from the ones they were derived from. I think the first would normally be appropriate only if Daniels were present, and true only if he were aware of someone wearing the outfit described. I am not sure what the second sentence would be trying to say.

Hypothesis: what is going on here is that the true de re can only target the first position of the attitude attribution, the 'diagonal' de re is all we get for second place. This might also account for an observation of Cumming [2008], much discussed in recent literature:

Rosaline, Maria, and Katherine are going to a masked ball. Each lady anticipates (tepidly) the attentions of a different suitor, and each suitor has given his lady a favor to wear, by which he hopes to recognize her during the masque. The ladies, with malice aforethought, decide to swap favors and so cause the suitors to "woo contrary." The exchange of favors in this (counterfactual) version of *Loves Labours Lost* is represented in figure 2. [Figure 2: Rosaline → Katherine → Maria → Rosaline] At the first lavolta, Biron—Rosaline's swain—leads Katherine by the busk. Maria comments, (KR) Biron thinks Katherine is Rosaline. (KR) is true, yet the following is false: (RK) Biron thinks Rosaline is Katherine. Instead, (RM) is true: (RM) Biron thinks Rosaline is Maria. Note further that, despite the truth of (KR) and (RM), (KM) is false: (KM) Biron thinks Katherine is Maria.

It seems here that Stalnaker has exactly what you need to accomplish this: the first position in an 'identity' sentence is true de re, the second position

is what you get by diagonalizing with the name (as understood by speaker, but across worlds of attributer).¹

Do these resources allow a full explanation of the basic data about *de re* belief attribution.

Double Vision Stalnaker’s account of the Ortcutt case seems in a similar vein to the context dependent Kaplanian view in which there is no single sense in which it is true that both

(4) Ralph thinks Ortcutt is a spy.

(5) Ralph thinks Ortcutt is not a spy.

This doesn’t seem like such a bad thing. On the other hand, we have to buy the attributor relativity of belief-attributions, which might seem rather problematic for those not fully signed up for Stalnakerian metaphysics and epistemology of belief.

Quantified Hesperus/Phosphorus cases Stalnaker provides a pragmatic account (he even uses the term ‘Gricean’) of Hesperus/Phosphorus attributions based on his idea of diagonalization. This is Stalnaker’s *sole* strategy for inserting descriptive guises. But can this really work in all cases where we need guises?

(6) Everyone thought Ortcutt was a spy.

Cannot have different guises for different people, but perhaps just universal quantification of singular proposition.

(7) Every mother (who had a twin sister) was thought by each daughter to be the same person as her sister.

We have to diagonalize the function from individuals propositions? But how do we do that. Seems like we want quantification over guises:

(8) Every mother x , and each daughter y , is such that there is a guise G , and G denotes x ’s twin sister, y thinks x is G .

¹Note that Rieppel [2014] also argues that a proper understanding of the *de re* deals with Cumming’s examples, though he goes for a Neo-Kaplanian story.

Or there seem to be obvious cases where quantification over guises are necessary that are structurally just like H+P, cases, but without the kind of background information diagonalization would seem to require:

(9) There are two people in this town, Bill and Ted, and John thinks Bill is Ted.

If diagonalization is not sufficient for handling all cases of intentional identity, then we might wonder why we should have it at all.

3 Mixed readings

(10) John believes that someone in the room is guilty.
context: John believes that Daniel or Nathan or Yasu or ... is guilty (but has no idea about our current location).

(11) Mary wanted to buy a hat just like mine. (JD Fodor)
context: Mary wants a Red Sox hat, any Red Sox hat, but not necessarily to be like me.

Caution needed though that we aren’t dealing with peculiarities of desire: would we necessarily deny a (de dicto) sense in which ‘Mary wants to be like me’, in this context? Similar caution needed for belief – possibility that we’re dealing with ‘sloppy’ or overly charitable de dicto attribution?

(12) It could have been the case that everyone who is rich was poor.
“there is counterfactual possibility in which Bill Gates, Oprah, etc. are all poor”

Quantificational force below modal/attitude verb, but quantifier restriction (or part thereof?) is interpreted “de re”: does not factor directly into determining belief content/what is said to be possible, substituting co-referring expressions does not affect truth.

(13) If everyone who is inside were outside, the room would be empty.

Question: double vision for examples like (10)? (And if so, by way of individual guises or something else?) More on this next time.

3.1 Background

First discussed by J.D. Fodor, Cresswell, Bäuerle (see ref. in H&vF), analogues in temporal domain were noted earlier by Prior, then Kamp, possibly related example famously noted by Russell in *On Denoting*.

- (14) Someday every living person will be dead.
 “There will come a day when everyone alive **now** is dead”.

Methodological note: $\forall < \exists$ entails the putative mixed reading; cf. also (12).

- (15) I thought that your yacht was longer than it is.
 might just be normal de re reading (for some expression $\approx$ “the height your yacht is”)?

Fodor called the mixed reading “non-specific de re”; H&vF use terminology “restrictor de re”.

3.2 Intensional semantics

- On most neutral reading, POSSIBLE WORLDS are complete points in logical space.
- Expressions have a semantic value only relative to a possible world; e.g. “the President of the USA” would be associated with a particular (possibly partial) function from possible worlds to extensions (the individual who is US President in that possible world), or an INTENSION.
- As such, compositional rules determine truth values for sentences relative to worlds. Stating these is a straightforward for a language like predicate logic, obviously more complicated for English/once more restrictive assumptions are made about allowable composition rules. See H&vF.
- Modal operators shift evaluation world; different types of modality involve quantification over different classes of worlds. E.g. Hintikka proposed treatment of believe as a universal modal ($\Box$) quantifying over worlds the worlds that the agent thinks he might be in (“doxastic alternative”)

Crucially modals shift evaluation world for everything in their scope, so apparently neither possibility works to represent mixed reading of (10) (hence “scope paradox”)

$$(16) \quad \begin{array}{l} \Box \exists x (Rx \wedge Gx) \\ \exists x \Box (Rx \wedge Gx) \end{array}$$

A caveat is needed about indexicality: as Kamp/Kaplan observed tense logics (which are structurally analogous) need to be enriched with a designated time parameter to track “now”, since it is not shifted by temporal operators: e.g. the following lacks a tautological reading:

- (17) It will always be the case that the person now speaking is speaking.

Similar points were made about the word “actually” (see refs. in §8.5 of H&vF) in the context of modal logic.

- (18) It could have been the case that everyone actually rich was poor.
 $\neq \Diamond \forall x (Rx \rightarrow Px)$

An actuality operator can be introduced into intensional system to pick out a world designated as actual (call it w_0) analogously to “now”. For example in modal predicate logic:

$$\mathcal{A}\phi \text{ is true in } w \text{ iff } \phi \text{ is true in } w_0 \text{ (for any } w \text{).}$$

It seems then that the mixed readings we have seen can be represented without scope paradox, with (covert) actualisation. For example for (12)

$$(19) \quad \Diamond \forall x (\mathcal{A}Rx \rightarrow Px)$$

However: Cresswell 1990 has argued that restrictors need not be fully indexical: rather, intermediate readings are possible. (Possibly others had made this point before, and certainly Kamp did for analogous examples involving temporal operators):

- (20) Mary believes that (only) Daniel, Nathan, and Yasu are in the room that John believes that someone in the room is guilty.

Can attribute Mary mistaken belief in the kind of thing expressed by (10).

- (21) John might be an author who is rumoured to have stolen everything that he wrote. (Cresswell)
- (22) If it might have been that everyone rich was poor then the economy would have been in bad shape. (Cresswell, 1990, p. 38)

Further assumptions or enrichments thus seem to be needed. (Notice that ‘actually’ can probably appear in the relevant places above with the intermediate reading still arising; i.e. it’s not clear that ‘actually’ is indexical.)

Here are some options H&vF discuss.

3.3 Possible accounts of mixed readings

3.3.1 Go extensional

Move qualification over worlds from meta to object language; n -place predicates become $n + 1$ -place predicates taking a world argument, where $P(t_1, \dots, t_n)$ is true at w (in old system) iff $P(t_1, \dots, t_n, w)$ (in new system).

$$(23) \quad \forall w \in \text{Dox}(j, w_0) \exists x (R(x, w_0) \wedge G(x, w))$$

(variable w_0 reserved the global world of evaluation, $\text{Dox}(j, w) =$ ‘ w is a doxastic alternative for j ’, written as subscript on quantifier as shorthand for relevant formula achieving restriction)

Issues:

- (1) covert variables being assumed in logical forms, though most comfortable with this
- (2) increase in expressive not all of which seems to be attested: for example (10) can’t obviously mean

$$(24) \quad \forall w \in \text{Dox}(j, w_0) \exists x (R(x, w) \wedge G(x, w_0))$$

Suppose the guilty people are in fact the Italian students, and John believes: there is an Italian student in the room. There seems to be no true reading of (10) in this scenario, which means an “indexing” like (23) needs to be ruled out. (Though caution is needed about acquaintance... more next week). Jury still out on what exactly the constraints are and whether they are motivated in any interesting way. (For Percus: locality constraint – world argument of main verb has to get bound by nearest possible binder. Also Keshet, Schwarz. More in coming weeks)

Further examples alleged to lack mixed reading:

$$(25) \quad \text{John believes that someone in the room who is wearing red is guilty.}$$

$$(26) \quad \text{John believe that there is someone in the room who is guilty.}$$

“Equivalent” formulation is possible using multiple, indexed actuality operators (Cresswell 1990, though discussed earlier by e.g. Prior & Fine; cf §8.5 of H&vF), which can cause an expression to be evaluated outside the scope of the nearest modal operator, but within the scope of another.

Constraints on application of (covert versions of) such operators would also be needed. Similarly for the options, though importantly the constraints might take a different form and thus receive or not receive different kinds of empirical support.

3.3.2 Partial scope: quantify in restrictor

“Way 2” §8.3.2 of H&vF. Give wide scope to restrictor only. Can see the thought here using 2nd order logic?

$$(27) \quad \exists Y ((Yx \leftrightarrow Px) \wedge \Box \exists x (Yx \wedge Gx)) \quad ((10))$$

Crucially, second order variable has a world independent values just like first order ones so we end up saying that across the belief worlds, there’s an individual who is guilty in the world and in the set of of things that P is actually true of.

3.3.3 Quantify in quantifier extensions?

“Way 1” §8.3.2 of H&vF. I think it would look like this taken out of their type theoretic setting? Treat quantifiers as predicates of predicates. ‘Someone in the room’ will in be, in a world w , true of sets that have a non-empty intersection with the set of people in the room in w ; to abstract away compositional details let us write this as a predicate of predicates $\mathcal{Q}$.

$$(28) \quad \exists \mathcal{X} \forall X ((\mathcal{X}(X) \leftrightarrow \mathcal{Q}(X)) \wedge \Box \mathcal{X}(G))$$

Not much different here aside from ascent to higher types; since ‘some’ is a logical constant it makes littler difference whether it’s quantified in. along with restrictor. Ways to differentiate these views on linguistic grounds?

3.3.4 Keshet ‘Split Intensionality’

More or less (?) argues for the view immediately above (over going extensional). However, the compositional setting and assumptions are such that the quantifier need not, syntactically, be outside the scope of the attitude verb.

$$(29) \quad \text{Believes}_{s,t} [[\text{Someone in the room}]_{\langle e, \langle s, t \rangle \rangle, \langle s, t \rangle} [\text{t is guilty}]_{\langle e, \langle s, t \rangle \rangle}]$$

Basic trick is to treat the believe context as fundamentally extensional; a type shift is therefore required to get a proposition (type $\langle s, t \rangle$), but the shifting can happen at the level of the propositional function created by (locally) quantifying in, i.e. to the exclusion of the quantifier. The verb phrase has as semantic value the function that pairs an individual to the proposition that he is guilty; the quantifier basically maps this function to a proposition – the proposition that it yields truth for at least one individual actually in the room.

Keshet’s argument is that while a classical movement account obviously does not yield mixed readings, paradoxically there is evidence for movement.

(30) NP complement:

- a. Mary believes that theres a nasty rumor going around that A is a man. (E.g., she believes that A is a woman.)

- b. #Mary believes that theres a nasty rumor going around that a man in my class is a man.

NP complements are generally scope islands (cf. ‘Someone heard a rumour that everyone is high’). This is stronger evidence against the extensional theory than its requiring apparently ad hoc restrictions: it does not predict a correlation of availability of mixed readings with general constraints on movement. Keshet’s system derives this because the quantifier can’t be moved high enough to escape being in the semantic scope of the propositional type shift.

References

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