

# Bounded Meaning: Author Meets Critics [/ Fans]

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## 1 Five minute version

Modals, conditionals, and anaphora exhibit patterns which embed in surprising ways

### 1.1 Epistemic modals

- (1) #It's raining but it might not be.

This looks like a Moorean phenomenon, something about assertion, like (2):

- (2) # It's raining but I don't know it.

But sentences like (1) embed totally unlike Moore sentences:

- (3) a. #Suppose it's raining but it might not be.  
b. Suppose it's raining but I don't know that.

Yalcin 2007

### 1.2 Conditionals

Indicative conditionals are incoherent when their antecedent is ruled out:

- (4) I missed the concert yesterday but  
a. #if I was there, I loved it.  
b. if I had been there, I would have loved it.

And when  $p \vee q$  is accepted, so is  $\neg p >_i q$ , when  $\neg p$  is possible:

$>_i$  is the indicative conditional.

- (5) She rolled seven or thirteen.  
a.  $\Rightarrow$  So, if it's not seven, it's thirteen.  
b.  $\nRightarrow$  So, if it hadn't been seven, it would have been thirteen.

These can both be explained by the following:

Stalnaker 1975

*Indicative constraint:*  $p >_i q$  presupposes that the closest  $p$ -world to any world in the common ground is also in the common ground.

But again both phenomena embed in ways not predicted by this:

- (6) Every one of these plays might and might not have been written by Shakespeare.  
a. #Every play that was written by Shakespeare is bad if it wasn't written by him.

- b. Every play that was written by Shakespeare would have been bad if it hadn't been written by him.
- (7) Some people came to my party in black, some in orange, some in white.
- a.  $\Rightarrow$  Everyone who wore orange or black wore orange if they didn't wear black.
- b.  $\nRightarrow$  Everyone who wore orange or black would have worn orange if they hadn't worn black.

### 1.3 *Anaphora*

- (8) A farmer has a donkey. He loves it.

Coordination between the indefinite and definite looks like a pragmatic phenomenon: 'he' refers to the salient farmer, 'it' to his salient donkey.

But again, embeddings suggest there is something more going on:

- (9) Every farmer who has a donkey loves it.

This puzzle is much older, going back to some people who apparently couldn't even speak English

What's 'it'? The salient donkey? No, it has to covary with farmers.

Note that the particular structure of the indefinite is crucial here:

as Partee/Heim in particular brought out

- (10) ??Every donkey-owner loves it.

Actually the "pragmatic story" already has trouble without embeddings:

- (11) A bishop met a bishop. He blessed him.

Kamp 1981; Heim 1982

## 2 *Dynamic semantics and my alternative*

The standard dynamic semantic approach tries to take the pragmatic stories and "localize" them. In the book I motivate and then criticize this approach:

- it gives rise to a peculiar, very weak logic, which in turn leads to various empirical problems
- it predicts order asymmetries that do not seem to exist for modals/conditionals

I develop an alternative approach which also, in some sense, tries to localize these stories, but with a different architecture: we keep the "main" truth-conditional dimension broadly classical, accounting for all these phenomena in a secondary dimension—the "bounds", a dimension of requirements which are evaluated relative to a recursively calculated local context.

### 3 Modality

#### 3.1 Is this a purely pragmatic phenomena?

Everyone, I think, agrees it's not, since the *explanandum* is not just *incoherence* but *contrasts* that arise from different moods:

- (12) a. Suppose the coin landed heads but might have landed tails.  
b. #Suppose the coin will land heads but might land tails.
- (13) a. Suppose the coin landed heads but would have landed tails if it had been flipped a second later.  
b. #Suppose the coin landed heads but landed tails if it was flipped a second later.

#### 3.2 Stalnaker's alternative picture?

Let's say you agree with me that what distinguishes epistemic modals / indicative conditionals is some element of their meaning that ties their interpretation to a local context parameter. My proposal in particular is:

- $\Diamond p$  is satt at  $\kappa$  only if  $\forall w \in \kappa : R(w) \subseteq \kappa$
- $p >_i q$  is satt at  $\kappa$  only if  $\forall w \in \kappa : f(p, w) \in \kappa$

'satt' means 'has its bounds satisfied'

This is coupled with a recursive projection mechanism for bounds, e.g.:

- $p \wedge q$  is satt at  $\kappa$  iff  $p$  is satt at  $\kappa^q$  and  $q$  is satt at  $\kappa^p$
- $\lceil S \text{ believes } p \rceil$  is satt in  $\kappa$  iff  $\forall w \in \kappa : p$  is satt in  $B_{S,w}$ .

Ignoring anaphora/assignments.  $\kappa^p$  is the set of points in  $\kappa$  where  $p$  is true and satt, relative to  $\kappa$

I think Stalnaker is essentially arguing for a more pragmatic conception of bound projection, along the following lines:

*Stalnakerian alternative:* a sentence is assertable only if every clause of the sentence has its bounds satisfied, relative to its local context

where local contexts are not determined compositionally. I will argue against this approach.

#### 3.3 Pragmatic (?) local contexts

A first, simple thought is that local contexts are, roughly, the salient bodies of information for a given a clause. So a matrix modal is attached to the global context, while a modal embedded under 'Suppose' is attached to the suppositional context. This doesn't seem to suffice for further observations like this:

- (14) #Either the coin landed heads and might have landed tails, or it landed tails and might have landed heads.

We can say the salient information in the right conjunct is the global information plus the left conjunct. But what about the reverse order?

- (15) #Either the coin might have landed tails and it landed heads, or it might have landed heads and it landed tails.

We can say the salient information in the *left* conjunct is the global information plus the right conjunct. But this symmetric notion of salience is starting to look peculiar and not very predictive. And what about quantified cases?

- (16) #Every cat might be a dog.  
 (17) #Every play written by Shakespeare was bad if it wasn't written by him.

“Information” no longer seems like the right notion here since the type of the thing in question needs to be predicative.

### 3.4 Parsing-based local contexts

However, Schlenker (2008) has shown how to characterize local contexts in general in a precise *global* way: the (symmetric) local context for  $q$  in  $p \frown q \smallfrown r$  is the strongest  $s$  which you can replace  $q$  with which won't change the meaning of the sentence at any world in the common ground ( $cg$ ), no matter what else is added to that slot as a conjunct.

On this approach the local context for  $p$  in ‘S believes  $p$ ’ in  $cg$  is

$$\bigcup_{w \in cg} B_{S,w}$$

where  $B_{S,w}$  is the set of worlds compatible with S's beliefs in  $w$ .

Does requiring bounds to be satisfied relative to this conception of local context deal with our motivations? Some, *but not all*. If ‘S believes  $p$  or  $q$ ’ is accepted, then we can infer ‘S believes if not  $p$ ,  $q$ ’. Likewise, if ‘S believes  $p$ ’ is accepted, then ‘S believes might not  $p$ ’ will ascribe incoherent beliefs to S.

However, this isn't enough. Embedded or-to-if is also *probabilistically valid*:

- (18) Sue may believe the die came up three. But she probably thinks it came up one or two (and leaves open both possibilities).  
 a.  $\Rightarrow$  Sue probably believes the die came up two if it didn't come up one.  
 b. #And she probably thinks it came up three if not one.

This contrast won't follow on the present approach since *the local context for the conditional includes worlds where the die came up three*.

Similar points can be made with modals and incoherence. E.g., intuitively (19) and (20) both ascribe incoherence to Sue, while (21) asserts that she probably has incoherent beliefs.

- (19) Sue believes it's raining. Also, she believes it might not be.

These seems to be in line with what Stalnaker is thinking: ‘Here the derived context set is... (very roughly) a set compatible with what, for all the attributor is presupposing, might be compatible with the believer's beliefs’

- (20) Sue believes it might not be raining. Also, she believes it is raining.  
 (21) Sue probably believes it's raining, and she certainly believes it might not be raining.

But only (19) is predicted to do so by this approach.

This looks fatal for the Stalnakerian alternative idea that there is a single “local context” relative to which we can, globally, check constraints of embedded modals/conditionals. Instead we need a constraint that is statable recursively, in a world-relative way:

- $\ulcorner S \text{ believes } p \urcorner$  is *satt* in  $\kappa$  iff  $\forall w \in \kappa : p$  is *satt*  $B_{S,w}$

This is sad. I originally pitched the bounded theory via an “explanatory” theory of local contexts in the way Stalnaker suggests. But it doesn't seem to work.

#### 4 Anaphora

Partee sequences are easy cases for a pragmatic explanation, since in all of these many examples, it is clear why the contrast in wording makes a difference for the availability of an anaphor for a pronoun. . . For the more complicated constructions involving quantifiers and pronouns. . . the explanations will be less obvious, and depend on different features that the discourse context makes available.

I think ‘less obvious’ rather understates the difficulties here. Donkey sentences show that it just *cannot be* the case that a quantificational fragment has roughly the meaning ascribed to it on a classical theory, since then (22) could only be interpreted as ‘It [this salient thing] is loved by everyone who owns a donkey’.

- (22) Everyone who owns a donkey loves it.

Something *must* change in the theory of meaning here. Indeed, to my knowledge, no one has ever given an account that doesn't make some pretty fundamental changes to the theory of meaning.

Even “conservative” e-type theories have to renovate pretty much every part of classical truth-conditional semantics. Dynamic semantics has well-known problems I discuss with disjunction and double negation:

- (23) Either there's not a bathroom or it's upstairs.

As for the first point, of course I agree entirely that the following is a bad argument form:

Assertions of  $p$  and  $q$  have different effects, so  $p$  and  $q$  mean different things.

This should be common ground in post-Gricean semantic theory.

But this wasn't my argument against a pragmatic account; the decisive argument against a pragmatic approach comes from embeddings.

One could still look for other pragmatic approaches, which don't advert to local contexts. Dorr and Hawthorne (2013) is the best-developed such approach, in my opinion. I have concerns about it, particularly about *order* and the *boundaries of attitude predicates*, but won't develop them here.

the foundational semantic tools, the treatments of quantifiers, connectives, pragmatics, etc.

Even setting aside embeddings, I don't know of any satisfying pragmatic account of the contrast. Of course we can all agree that it's clear *to us* 'why the contrast in wording makes a difference for the availability of an anaphor for a pronoun' since we speak English and hence know that one but not the other establishes a discourse referent. But I don't think there's an extant pragmatic *theory* of the contrast, or even any pragmatic theory out there.

It's true that the context update after an assertion of 'Susie is a parent' vs. 'Susie has a child' are different, and everyone should acknowledge that, as Stalnaker has long pointed out, since it becomes common ground what was said. But it's also true that on a "classical" theory these mean the same thing, and that is *also* common ground, and it's just not obvious why one makes available Susie's child while the other doesn't for subsequent anaphora.

Saying 'Well, the second makes her child more salient' doesn't help: (i) we want to explain *why* this is; and (ii) as embeddings and indistinguishable participants show, salience is not explanatorily important

i.e., in 'Everyone who has a child loves her', coreference cannot be explained by the salience of the child (whose?)

- (24) A: Sue has a child.  
B: [Well, now it's common ground she has a child, *plus*, she said 'Sue has a child']
- (25) A: Sue is a parent.  
B: [Well, now it's common ground she has a child, *plus*, she said 'Sue is a parent']

Where do we go from here? Maybe somewhere, but it's not clear where, and I want to emphasize that the following is *not* an explanation:

Well, in the first case, we can tell that A wants to talk about Sue's child, whereas in the second, we can tell that A wants to talk about Sue.

This is simply a restatement of the facts we are trying to explain.

My proposal: an indefinite like 'a woman<sub>x</sub> arrived' is true in *w* iff a woman arrived, and *satt* in *w*, relative to *g*, iff *g*(*x*) is a woman who arrived *if any woman arrived*. Definites check their local contexts for familiarity. I think this is the best way to account for facts about anaphora on top of a broadly classical substrate which yields a reasonable logic and (hence) reasonable predictions about disjunction and double negation.

## References

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