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# Variable costs

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The variable costs that variable expressions impose on the context.

(I) She is smart

is infelicitous in a context in which a unique female is not salient.

# Strong Contextual Felicity

Tonhauser et al. (2013):

*Strong contextual felicity* refers to a particular condition on the felicitous use of a trigger, namely, that it can be used felicitously only if some implication associated with the trigger is established in the utterance context.

# Not just in English

Guaraní:

(2) *Context: The children in a sociology class have to give presentations about their families. Marko is up first and he starts with:*

a. #Ha'e chokokue.

#PRON.S.3 farmer

#'S/he is a farmer.'

b. Che-ru réra Juan. Ha'e chokokue.

BISG-father name Juan PRON.S.3 farmer

'My father's name is Juan. He is a farmer.'

(Tonhauser et al. 2013)

# Not just in English

St'át'imcets:

(3) *ti nk'yáp-a áts'x-en-as*  
DET coyote-DET see-DIR-3ERG

'The coyote saw him/her/it.'

*Consultant's comment: "Who? Incomplete."*

(Matthewson 2006)

# Examples of SCF and non-SCF

- (4) a. **She** is very smart.  
b. John is having dinner in New York tonight **too**.  
c. Jane ate a HAM sandwich.  
d. John is **indeed** having dinner in New York.
- (5) a. *Why isn't Mary here?*  
She **knows** that she won't finish her talk if she joins us.  
b. *Who's your friend? He has a really healthy glow to him!*  
That's Kai...he **stopped** smoking a couple of years ago.  
c. Kai, **the guy standing right behind you**, is a semanticist.  
d. I'm sorry I'm late. I had to take **my daughter** to school.



# SCF Taxonomy

## Clear SCF constraints:

- *he, too*
- narrow focus
- *indeed*
- (short) names

## No clear SCF constraints:

- factives (*know*)
- change of state (*stop*)
- relational definites (*my daughter*)

# Pure indexicals can show SCF

One sometimes reads that pure indexicals like *I* are guaranteed to succeed in getting a referent in any context. Not so:

(6) *A multi-authored paper:*

We argue that variables come with variable cost (although I have my doubts this is the full story).

# Accommodation

We know that presuppositional constraints can be satisfied via accommodation: “the process by which the context is adjusted quietly and without fuss to accept the utterance of a sentence that puts certain requirements on the context in which it is processed” (von Stechow 2008)

Since SCF violations are bad, this means that accommodation cannot rescue them.

# Caveat 1 and 2

(7) *David is on the phone. I don't know who he is talking to. He slams the phone down (it's an old-fashioned phone).  
She's a piece of work.*

⇒ A referent can become salient non-verbally.

⇒ The referent is salient but their gender can be accommodated.

# Caveat 3

Eavesdropping:

- (8) *In an elevator, you hear a stranger say to another:*  
She's in town for a conference.

You don't interrupt the conversation all baffled. You simply assume that *there is a salient woman that they're talking about* and go about your business.

Why do SCF cases arise at all?

Why no accommodation?

# Three proposals

Beaver & Zeevat (2007) discuss three proposals:

- insufficient content (van der Sandt)
- blocking by non-presuppositional alternatives (Blutner)
- the discourse record cannot be changed (Beaver & Zeevat)

# Insufficient content?

Some SCF triggers provide plenty of content:

(9) Jane ate a HAM sandwich.

⇒ need to accommodate that what's an issue is what kind of ham sandwich Jane ate.

Some perhaps don't:

(10) She's very smart.

⇒ need to accommodate that the speaker is talking about a particular female, but which one?



# Blocking

Perhaps a use of *she* that would depend on accommodation is blocked when there's a non-presuppositional alternative (*some woman I know?*) that would express the same content.

B&Z: this would overpredict SCF.

- (11) a. John managed to open the door.
- b. John opened the door.

# The discourse record

- Accommodation fills in information that is consistent with the context.
- The context was agnostic on whether I have a daughter and so that I in fact have a daughter can be accommodated when I presuppose it.
- On the other hand, in an out-of-the-blue context there is no salient female, so accommodating that one is salient would contradict the previous context.
- Similarly, whether it is an issue in the context what kind of sandwich Jane ate is a matter of record.

This seems on the right track.

# Stipulation?

Question/worry:

- Does it make sense to stipulate the dependence on the discourse record in the semantics of SCF expressions?
- Does *she* mean “the female we’re talking about/attending to”?

# Textbook semantics

The textbook semantics for pronouns:

- (12) For any variable assignment  $g$ :  
     $\llbracket \text{she}_i \rrbracket^g = g(i)$  but only if  $g(i)$  is female.

NB: no mention of prior context or the like, semantic value simply specified relative to a variable assignment

# Textbook meta-semantics

Heim & Kratzer (1998, p.243):

(13) *Appropriateness Condition*

A context  $c$  is appropriate for an LF  $\phi$  only if  $c$  determines a variable assignment  $g_c$  whose domain includes every index which has a free occurrence in  $\phi$ .

(14) *Truth and Falsity Conditions for Utterances*

If  $\phi$  is uttered in  $c$  and  $c$  is appropriate for  $\phi$ , then the utterance of  $\phi$  in  $c$  is true if  $\llbracket \phi \rrbracket^{g_c} = 1$  and false if  $\llbracket \phi \rrbracket^{g_c} = 0$ .

Unless the context *determines* a variable assignment for all free variables, it will not be appropriate.

# Meta-semantic questions

- Glanzberg 2009: “Not all contextual parameters are alike”
- King 2012: “The metasemantics of contextual sensitivity”

⇒ How does the context determine a value for a particular variable?

⇒ Do all contextual elements require the same kind of determination of a variable?

These are not quite our questions today. But they're part of the same enterprise.

# SCF explained

- The idea would be that SCF requirements follow from the meta-semantics that requires that the context **determines** a variable assignment for all free variables.
- No need for stipulations about the context in the **semantics** of the relevant expressions.



But the textbook meta-semantics is  
hopelessly simplified and naïve!

# Free variables everywhere

In addition to the cases already mentioned:

- tense
- implicit arguments
- domain restrictions (nominal, adverbial, modal quantifiers)
- semantic glue (possessives, compounds, free adjuncts)
- partitions (questions, plurals)
- ...

# Anaphoric free variables

- (15) a. I met my old friend Joe last night. **He** was in town for a conference.
- b. I left the house around noon. I **didn't** turn off the stove.
- c. I was in Pittsburgh last week. A **local** bar had a cheese steak special.
- d. The party last night was a rousing success. **Everyone** had a great time.
- e. Every seat had a drink in front of it. The **apple juice seat** was the least coveted one.
- f. Each child was given a minor league team to write about. **John's team** was from his home town.

# The Partee triad

Many variable expressions have three uses:

- deictic
- anaphoric
- bound

(Partee 1973)

# Three uses of tense

- (16) a. *Half hour down the highway after leaving home:*  
I didn't turn off the stove.
- b. I left the house around noon. I didn't turn off the stove.
- c. Whenever I left the house in those days, I didn't turn off the stove.

# Three uses of *local*

- (17) a. *Arriving in Geneva. David tells me:*  
A **local** bar is having a wine tasting. Wanna go?
- b. I was in Pittsburgh last week. A **local** bar had a cheese steak special.
- c. Every sports fan in the country was at a **local** bar watching the playoffs.

# Missing bound readings

Some free variable expressions do not seem to allow true bound readings.

- How would you bind the relation variable in *apple-juice seat*?
- Some apparent bound uses are arguably indirect!

(18) In every room in John's house, he keeps every bottle in the corner. (Stanley & Szabó 2000)

⇒ The quantifier *every room* binds not the domain variable but the argument to a function from locations to things in that location. The function variable itself is not bindable.

Not (nearly) all free variable expressions give rise to SCF at all times.



# Partee 1973

*The Past tense often seems to be much vaguer in its reference, and is perhaps to be compared to some uses of the pronoun they. Compare the pronoun in (5) with the tense in (6).*

- (5) *They haven't installed my telephone yet.*
- (6) *John went to a private school.*

*These are not picking out particular referents in the way we generally think of deictics doing; but they are certainly not generic or anaphoric either. 'They' in (5) seems to be referring to whoever it is that's supposed to install the telephone, and Past in (6) seems to refer to whenever it was that John went to school. I haven't any more to say about this nonspecific deictic use, except to point out that again the pronouns and tenses are parallel.*

# (Evasive) Strategies

1. Leave it to an expert
2. Doesn't matter ( $\approx$  supervaluation)
3. Ballpark ( $\approx$  diagonalization)
4. Special language games (e.g. “Your choice”)
5. Default value
6. Trivial value

[1–3 due to Schwarzschild 1999]

# Leave it to an expert

- (19) A landscape designer is describing a house:  
In front of the house was a small garden, leading to a substantial lawn, which was surrounded by trees. An isolated space was formed. Only the HOUSE was visible from the trees.  
(Glanzberg 2002)

# Doesn't matter

- (20) *Otto goes to a party and meets Tim Stowell and learns from him what a syntactician is. Otto doesn't meet any other linguists, only art critics:*  
Alex: Which syntacticians did you meet?  
Otto: I only met Stowell. (Schwarzschild 1999)

# Doesn't matter

Incomplete definite descriptions:

(21) The table is buried in junk.

cf. Buchanan & Ostertag 2005

# Ballpark

(22) The prisoners spoke to each other.

(Schwarzschild 1999)

# Your choice

von Fintel & Gillies 2011:

(23) The keys might be in the car.

# Your choice

Chris Potts, p.c. to von Stechow & Gillies 2011:

(24) Where are you from?

The granularity of the question partition is left up to the addressee's choice.



# Default value

(25) Roger is at a nearby cafe.

⇒ near the discourse location

# How to think of the strategies

- object language operators
- ways of deriving emergency propositions (cf. Stalnaker on diagonalization)
- ...

# SCF vs. Non-SCF

- SCF triggers do not allow accommodation
- SCF triggers do not allow evasive strategies
- But other variable expressions do not give rise to SCF (allow accommodation and/or evasive strategies)

Why this difference?

# Wait a minute, is it really so?

Can evasive strategies apply to singular pronouns?

(26) Watch out he's trying to shoot you! (van Deemter 1998)

(27) *We are watching an air race with binoculars. Planes are copiloted with each pilot having equal time piloting the plane. We notice smoke coming from one of the planes.*  
He's in trouble. (King 2012)

# Options

- Only SCF items like pronouns really are variable-like and SCF-ness follows from a simple meta-semantics. Variable/context-dependent analyses of non-SCF items are wrong.
- We need a new sophisticated meta-semantics that can predict which variable expressions give rise to SCF and which don't (because they predictably allow accommodation and/or evasive strategies).
- We need to stipulate somehow that SCF items put requirements on the discourse record.

A possible direction

# A trip down memory lane

- How can uses of pronouns be unified?
- Karttunen (1969): discourse referents
- Kamp (1981), Heim (1982): it's discourse referents all the way down (no “variables”!)

# Partee's marbles

Partee (p.c. to Heim 1982):

- (28) a. I dropped ten marbles and found all of them, except for one.  
It is probably under the sofa.
- b. ?I dropped ten marbles and found only nine of them. It is  
probably under the sofa.

⇒ SCFish behavior of pronouns has been noted for a long time



What hasn't always been clear is that different variable expressions place different constraints on context:

(29) It was a great party. Everyone (\* of them) had a great time.

# Suggestion

- It's a mistake to conflate all variable expressions.
- Some expressions contain *discourse variables*, others may contain variables that are not constrained to be discourse variables.

# An implementation

- Variable indices are integers, positive or negative
- Discourse variable indices are positive integers
- $\llbracket \text{She}_i \text{ is smart} \rrbracket^g = 1$  iff  $IQ(g(i)) > g(j)$   $[i > 0]$

- The meta-semantics will also need to be distinguished.
- It must involve tighter constraints on how context determines values of discourse variables than other variables.

# A positive contribution

- So, pronouns **are** variables!
- There is some lexical stipulation.
- Some variable expressions are constrained to involve discourse variables, others are not so constrained.
- Side remark: potentially, there could be cases where a variable expression is constrained *not* to be a discourse variable.

# Evidence for stipulation?

Guaraní:

(30) *Malena is eating her lunch, a hamburger, on the bus going into town. A woman who she doesn't know sits down next to her and says:*

#Ñande-chofeur o-karu empanáda avei.

#AIPL.INCL-driver A3-eat empanada too

#'Our bus driver is eating empanadas, too.'

(Tonhauser et al. 2013)

# Cross-linguistic variation?

St'át'imcets:

(31) *Addressee has no knowledge of anyone planning a trip to Paris.*

A: *nas t'it áku7 Paris-a kw s-Haleni*  
go also DEIC Paris-DET DET NOM-Henry  
*lh-klísmes-as*  
HYP-Christmas-3CONJ  
'Henry is also going to Paris at Christmas.'

B: *o áma* (Matthewson 2006)  
oh good

Josh will now clarify everything.