

Variable costs

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The plot

- Part 1: Taxonomy of meaning & Strong Contextual Felicity DIB
- Part 2: SCF & Variables KvF
- Part 3: SCF & Local Effect DIB
- “Summary” KvF

Part I: Taxonomy

Types of Meaning/Inference

- ordinary, at-issue content
- conversational implicature
- lexical presupposition (*know*, *stop*)
- appositives
- constraints on variables
 - *he*
 - *too*
 - implicit arguments
 - domain restriction

Projection

- Projectivity concerns conventionalized meanings which “jump” out of their local environment:

- (1) Mary stopped smoking
Mary didn't stop smoking
If Mary stopped smoking, she'll live longer

Which conventional meanings project?

- ~~ordinary, at-issue content~~
- ~~conversational implicature~~
- lexical presupposition (*know, stop*)
- appositives
- constraints on variables
 - *he*
 - *too*
 - implicit arguments
 - domain restriction

Strong Contextual Felicity (SCF)

- Suppose S contains an expression associated with an inference.
- The expression imposes the inference as an SCF constraint *iff* utterances of S are only felicitous in environments where the inference holds.
- (In other terms: SCF constraints are requirements that cannot easily be accommodated.)

See Tonhauser *et al*, *Toward a taxonomy of Projective Content*, Language, 2013

Do Factives (*know* etc.) have SCF constraints?

(2) [*Why isn't Mary here?*]

She knows that she won't finish her talk if she joins us.

- For *X knows P*, although *P* projects, it is not an SCF constraint.
- Spender (2002) showed that in corpora factive complements are typically (74%) discourse new information.

Change of state verbs (*stop* etc.)

(3) [*Who's your friend? He has a really healthy glow to him!*]
That's Kai... he stopped smoking a couple of years ago.

- Although the pre-state of a change of state verb projects, it is not an SCF constraint.

Appositives

- (4) Kai, the guy standing right behind you, is a semanticist.
- Far from being SCF constraints, appositive content is typically new.

Additives

(5) # Sam is having dinner in New York tonight too. Kripke 1990/2009

- The projective inference concerns salience of a New York eater other than Sam.
- Conclusion: this is an SCF constraint for the additive *too*.

Pronouns

- (6) [*Wow, I can't believe how hot it is in here.*]
Yes {#it / the air conditioning} is broken.
- Conclusion: salience of referent is an SCF constraint for pronouns like *it*.

Implicit arguments

- These cases are non-uniform.

(7) [*Why is Kai sitting over there?*]

He's eating (something).

He's applying *(for something).

He needs a mains outlet nearby (him).

He's nervous before *(his talk).

Domain restriction

(8) [*I just came from Kai's party.*]

Everyone (*of them) had a great time.

- Clearly if there are any SCF constraints for quantificational determiners, they are weaker than for pronouns.

SCF summary

Clear SCF constraints:

- *he, too*
- some implicit arguments (*apply, notice, before*)

No clear SCF constraints:

- lexical presupposition (*know, stop*)
- appositives
- domain restriction
- some implicit arguments (*eat, nearby, local*)

SCF questions

- What causes a trigger to impose an SCF constraint?
- Can this be lexically specified?
- Why can't SCF triggers be saved by accommodation?

Part 2: SCF & Variables

Free variables

- (9) He was in town for a conference.
- If the context does not help the hearer identify the referent of *he*, then the hearer cannot determine what proposition the speaker expressed; all that's left is bafflement ...

Free variables in context

- Free variables impose an SCF constraint
- SCF constraint not encoded in lexical meaning
- Requirement on context follows from “meta-semantics”

The meaning of pronouns

(10) $[[\text{he}_i]]^g = g(i)$ but only if $g(i)$ is male

- Nothing about contextual salience in the meaning of the pronoun!

Contextually determined variable assignment

The meta-semantics of Heim & Kratzer (1989: 243):

(11) Appropriateness Condition

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

(12) Truth and Falsity Conditions for Utterances

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

Determining an assignment

- How does a context determine an assignment to free variables?
- By there being a uniquely salient eligible referent for each free variable

Accommodation to the rescue?

Partially:

(13) [*David finishes an obviously unpleasant phone call by slamming down the phone*]:

She won't bother me anymore.

- Accommodation puts the finishing touches on the contextual assignment: we learn it's a female;
- but accommodation isn't what made the person David was talking to salient

A principled exception

Eavesdropping:

(14) [*In an elevator, you hear a stranger say to another:*]

He was in town for a conference.

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

Free variable questions

- Do all free variables impose an SCF constraint?
- Are all SCF constraints due to free variables?

In general:

- What conditions do free variables impose on the context, and how and why?

Wouldn't it be nice?

- Prediction: since SCF follows from the general meta-semantics, all free variables should impose the same costs on the context

Three natural assumptions about free variables

1. speaker needs to know what referent is intended
2. hearer needs to know what referent is intended
3. it needs to be common ground what referent is intended

Result: free variables always give rise to strong contextual felicity effects

Free variables everywhere

- pronouns, *too*
- referential theory of tense (Partee 1973)
- implicit arguments of predicates
 - *local*
 - *noticed, apply*
- quantifier domain restrictions
- semantic glue:
 - nominal compounds (*apple juice seat*, Downing 1977)
 - genitives (*John's team*, Partee 1984)
- ...

Diagnostic for free variables: anaphoric use

- (15) I met my old friend Joe last night. **He** was in town for a conference.
- (16) I left the house around noon. I **didn't** turn off the stove.
- (17) I was in Pittsburgh last week. **A local** bar had a cheese steak special.
- (18) The party last night was a rousing success. **Everyone** had a great time.
- (19) Every seat had a drink in front of it. The **apple juice seat** was the least coveted one.
- (20) 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

[cf. Partee 1973]

Three uses of tense

- (21) [*Half hour down the highway after leaving home:*]
I didn't turn off the stove.
- (22) I left the house around noon. I didn't turn off the stove.
- (23) Whenever I left the house in those days, I didn't turn off the stove.

Three uses of domain restriction

- (24) [*Walking into a lively party:*]
Everyone seems to be having a great time.
- (25) The party last night was a rousing success. Everyone had a great time.
- (26) Whenever Hans throws a party, everyone has a great time.

Three uses of *local*

- (27) [*Arriving in Geneva. David tells me:*]
A local bar is having a wine tasting. Wanna go?
- (28) I was in Pittsburgh last week. A local bar had a cheese steak special.
- (29) Whenever David visits a European city, he becomes a regular at several local bars.

Three uses of compounding

- (30) [*Arriving at a soft drink taste test:*]
The apple juice seat is reserved for a special guest.
- (31) Every seat had a drink in front of it. The apple juice seat was the least coveted one.
- (32) [bound use?]

“Exceptions” to the triad

- semantic glue variables seem impossible to bind
- *before* can't be deictic:

(33) Jill visited Madison two years before.

- maybe pure indexicals are an edge case (only deictic)

Not all free variables impose SCF constraints

Partee 1973:

- (34) They haven't installed my telephone yet.
they = "whoever it is that's supposed to install the phone"
- (35) John went to a private school.
past = "whenever it was that John went to school"

Schwarzschild 1999:

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:

(36) Alex: Which syntacticians did you meet?

Otto: I only met Stowell.

Otto doesn't know what he is saying, at least not in the way that Alex does, and Otto is aware that his statement is being interpreted in this more specific way.

The tension

- The meta-semantics is expected to be insensitive to the nature of the free variable: if you're a free variable, then the context needs to provide a uniquely salient value
- But not all free variables seem to trigger SCF

Option A: Not free variables?

- Maybe these aren't free variables after all
- But then: how to explain deictic/anaphoric uses?

Option B: More meta-semantics

Alternative interpretive strategies

- the “secret” context
- existential closure
- clouds of candidates propositions
- diagonalization/supervaluation/ballpark
- default values

When do free variables give rise to SCF constraints?

(37) He was in town for a conference.

(38) Bill noticed.

- Why do *some* free variables give rise to SCF constraints?
- Because they allow none of the alternative interpretive strategies.
- Well, then *why do some* free variables not allow any of the alternative interpretive strategies?

So ...

- Do all free variables impose SCF constraints?
- Are all SCF triggers of the free variable type?

So ...

- Do all free variables impose SCF constraints? **No** surprising!
- Are all SCF triggers of the free variable type?

Honorifics

(39) [*Answering a phone call. Caller ID is inclusive.*]

Was willst Du?

- Quite rude, since it assumes the context is such that I'm on familiar terms with the person calling me.

So ...

- Do all free variables impose SCF constraints? **No** surprising!
- Are all SCF triggers of the free variable type? **Maybe not**

What's next

- We need to understand the meta-semantic options better
- We need to figure out if and exactly how different free variable expressions are associated with different meta-semantic strategies
- We need to figure out what distinguishes SCF-imposing free variables from other free variables

For today: is there anything else that SCF triggers have in common?

Part 3: SCF & Local Effect

What are local effects?

- Some aspects of meaning contribute directly to the ordinary compositional semantics, and some don't. (cf. Karttunen & Peters 1979; Potts 2005)
- An inference associated with an expression has a *local effect* if it contributes directly to compositional interpretation (cf. Tonhauser *et al* 2013).
- This can be gauged when the expression is embedded under an attitude predicate: does the inference contribute to the proposition targeted by the attitude?

Local effect for factives

- (40) It's raining, and Mary thinks Bill knows it's raining. But Mary doesn't know it's raining.
- The factive complement of *knows* holds in all worlds targeted by *thinks*.
 - In general: factive complements always have local effect.

Local effect for pronouns

- (41) Bill is happy, and Mary thinks that he is rich. But she doesn't know we're talking about him.
- (42) Mary thinks that he [*pointing*] is rich. But she doesn't know I'm pointing at him.
- The holder of the attitude (Mary) need have no knowledge of the utterance situation of the speaker/addressee.
 - Conclusion: inferences from the use of a pronoun about the discourse situation do not have local effect.

Local effect and SCF

- Salience requirements of pronouns have SCF but no local effect, while factive implications have local effect but no SCF.
- This suggests two questions:
 - Q1: Does SCF always imply no local effect?
 - Q2: Does lack of local effect always imply SCF?

Summary of local effect data

Local effect

- ordinary, at-issue content
- lexical presupposition (*know*, *stop*)
- existential inferences for *eat*, *apply*, *notice*, *before*

No local effect

- conversational implicature
- appositive inferences
- salience requirements for pronouns
- salience requirements for quant. dets.
- salience requirements for *apply*, *notice*, *before*

Q2: Does lack of local effect always imply SCF?

- Appositives provide a negative answer to Q2:
- (43) Mary thinks that John, the guy sitting behind her now, is a spy. She'll get a real surprise if she finds out he's behind her!
- That “the guy is sitting behind her” has no local effect and no SCF.
 - Clearly lack of local effect does **not** imply SCF.

Q I: Does SCF always imply no local effect?

- Tonhauser et al (2013) present a class of potential counterexamples.
- These are cases that apparently involve both SCF and local effect.

(44) # He is rich. [+SCF]

(45) Kai is happy, and Mary thinks that he is smart. #But she doesn't think there are any smart males. [+local]

Again: Does SCF always imply no local effect?

- Hypothesis: whenever a projective inference has both SCF and local effect, it should be analyzed as the conjunction of two underlying inferences one of which has local effect, and the other SCF.
- E.g. pronouns: the combination of SCF and local effect results from a conjunction of a salience inference (+SCF, -local) and an existential inference (-SCF, +local).
- In that case QI could be answered positively: lack of local effect always implies SCF.

Summary: The relation between free variables, SCF, and local effect

- Free variables receive values only if the context satisfies some condition(s), leading to SCF (depending on what the conditions are).
- Free variables contribute their value to the local content.
- They do not (typically) contribute the conditions to the local content (no local effect).
- NB: as we saw in Part 2, not all free variables impose SCF.
- How do free variables without SCF behave wrt local effect?

Another question

Cross-linguistic variation?

Guaraní too (Tonhauser, Beaver, Roberts, Simons 2013):

(46) [*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.'

Matthewson 2006 on lack of SCF constraint with *also* in St'át'imcets:

(47) [*Addressee has no knowledge of anyone planning a trip to Paris.*]

A: nas t'it áku7 Paris-a kw s-Haleni lh-klísmes-as

go also DEIC Paris-DET DET NOM-Henry HYP-Christmas-3CONJ

'Henry is also going to Paris at Christmas.'

B: o áma

oh good

But there are SCF effects with some other items:

(48) 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."

- Guaraní *too* is [+SCF], St'át'imcets *also* is [−SCF]
- How can that be?

Research program

- How much, if any, idiosyncrasy (within and across languages) is there in free variable expressions?
- If there is idiosyncrasy at all, how can be accounted for?
- What is the precise range of meta-semantic options for interpreting free variables?
- What is the relation between SCF effects and the theory of accommodation?

Es gibt viel zu tun; packen wir's an!

or:

There's lots to do; let's take a nap!

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