

PLIN0056 Semantics Research Seminar

Focus

Lecture 8 Additivity

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This lecture is based on [Donáti & Sudo 2025](#).

1 The existential analysis

What does *too* mean?

- (1) a. John_F, too, smiled.
 b. John_F smiled, too.

- (1) entails that there is someone other than John who smiled.
- Since the version of sentence without *too* doesn't entail that, one can assume that that's the meaning of *too*.
- It's arguably a presupposition (we omit the usual family-of-sentences test).
- The following analysis suggests itself, which we call the **existential analysis** (we ignore the presuppositions triggered in φ).

- (2) (1) presupposes that someone other than John smiled.

2 Kripke's arguments against the existential analysis

[Kripke 2009](#) raises two arguments against the existential analysis.

1. Disjointness inference
2. Out-of-the-blue infelicity

The first one is criticized by [Ruys 2015](#).

2.1 Disjointness

Both sentences in (3) have readings where the presupposition is ‘filtered out’ (i.e., the presupposition of the consequent is satisfied by the antecedent), and the conditionals do not carry additive presuppositions.

- (3) a. If Herb comes to the party, then [the boss]_F will come to the party, too.
 b. If Herb and his wife both come to the party, then [the boss]_F will come to the party, too.

With presupposition filtering, (3a) suggests that Herb is not the boss, and (3b) suggests that neither Herb nor his wife are the boss.

Kripke 2009 argues that while (3a) is as predicted by the existential analysis, (3b) is not.

- The consequent of (3a) presupposes that someone other than the boss comes to the party. The antecedent clause entails this presupposition, if Herb is not the boss.
- The consequent of (3b) similarly presupposes that someone other than the boss comes to the party. The antecedent clause can satisfy this presupposition if at least one of Herb and his wife is not the boss. This only predicts: either Herb is not the boss, or his wife is not the boss, or both.

Ruys 2015 argues that this argument is flawed, because the non-disjoint readings of (3b) are independently ruled out.

- (4) a. #If Herb and his wife come to the party, [Herb]_F will come to the party, too.
 b. #If Herb and his wife come to the party, [his wife]_F will come to the party, too.
- The likely reason for the infelicity of these examples is because they are trivially true.
 - Crucially, regardless of what explains the infelicity, it should also apply to (3b): If the boss is identical to Herb or to his wife, the resulting meaning will be infelicitous, similarly to (4).
 - The disjointness is therefore anyway required for (3b) to be felicitous, so it does not threaten the existential analysis.

To further reinforce this conclusion, Ruys 2015 points out that the disjointness effect obtains without *too* as well.

- (5) If Herb and his wife come to the party, the boss will come to the party.

In addition, in certain conversational contexts, this restriction is lifted, e.g., logic and math statements.

- (6) If all members of *A* are divisible by *x*, then [the smallest member of *A*]_F is divisible by *x* (too).

2.2 Out-of-the-blue infelicity

Kripke 2009 points out that uttering (7) out of the blue (in the evening) feels like presupposition failure, but that is not predicted by the existential analysis (we focus on the progressive reading).

(7) Sam_F, too, is having dinner in New York.

- The existential analysis predicts that (7) presupposes that someone other than Sam is having dinner in New York.
- This presupposition is satisfied by the common knowledge that there are many people in New York who are having dinner in the evening on any given day.

3 Ruys's existential analysis

Ruys 2015 proposes a way to save the existential analysis from Kripke's argument from (7):

- The most natural way of reading (7) involves de-accenting the VP *is having dinner in New York*.
- De-accenting in English requires contextual support.
- In fact, with the same prosody, the version of the sentence without *too* also feels like presupposition failure.

(8) Sam_F is having dinner in New York.

- With the constraint on de-accenting, (8) is no longer problematic for the existential analysis.

This explanation, however, is not without problems.

- De-accenting of the VP is not required. But the sentence is still odd out of the blue.

(9) Sam_F, too, is having dinner_F in New York.

- De-accenting can be licensed independently, but that doesn't make (7) felicitous out of the blue.

(10) A: Who is having dinner in New York?
B: Sam, too, is having dinner in New York.

More evidently, with VP ellipsis:

(11) Mary is not having dinner in New York right now, but Sam_F is, too.

- Additive particles are not entirely uninterpretable without a prior utterance. Ruys 2015 raises some such examples as support for the existential theory, but the accommodated additive presuppositions is never merely existential.
 - Suppose that it's common knowledge that you and some of your friends, including Sam, have submitted abstracts to GLOW, and that they are supposed to announce acceptance today. Sam comes to your office and asks:

(12) Did you_F get into GLOW, too?

The additive presupposition needs to be accommodated here. One can infer that Sam knows *of one of your friends* (possibly Sam himself) that he or she got into GLOW, rather than that Sam knows that there's a friend of yours who got into GLOW.

- (13) a. $CG(\exists x[GLOW(x)])$
 b. $\exists x[CG(GLOW(x))]$

- Similarly, suppose you overhear a conversation in a cafe. One person (Speaker) says “Sam_F has a PhD, too”. The presupposition is not that there is someone different from Sam who has a PhD. Rather, the inference is that for someone different from Sam, it is presupposed that they have a PhD.

- (14) a. $CG(\exists x[PhD(x)])$
 b. $\exists x[CG(PhD(x))]$

4 The anaphoric theory

Kripke 2009 proposes that the additive presupposition of *too* is anaphoric.

There are different implementations (see Ruys 2015, Grubic 2019 for overviews), but we will only discuss the following version (propounded by Heim 1990, 1992, Geurts & van der Sandt 2004; see Kripke 2009, Beaver & Zeevat 2007, Tonhauser et al. 2013 for other implementations)

- (7) a. Sam_F, too, is having dinner in New York.
 b. Sam_F is having dinner in New York, too.
- (15) (7) presupposes that *pro*, who is distinct from Sam, is having dinner in New York, where *pro* is a pronoun without φ -features.

This explains the out-of-the-blue infelicity of (7), based on the fact that pronominal antecedents cannot be accommodated.

- (16) She is having dinner in New York.

Furthermore, this explains the accommodation data.

- When you overhear someone uttering (16), you infer that they are referring to someone in particular.
- By the same token, when you overhear (7), you infer that there is a particular person different from Sam that the conversational participants commonly know is having dinner in New York.

The anaphoric theory has been very popular, in part its sole competitor, the existential theory, has clear empirical issues.

However, we argue that the constraints on out-of-the-blue uses of *too* cannot be reduced to the constraints on out-of-the-blue uses of pronouns, because **pronouns are more heavily constrained than additive particles**.

4.1 Indexical antecedents

As a matter of fact, additive particles can sometimes be felicitously used out of the blue.

Suppose that we are in a restaurant in New York right now, having dinner together. In such a situation (7) sounds much more felicitous.

(17) Sam_F, too, is having dinner in New York.

- The additive presupposition is about us (= the speaker + hearer).
- It could be just one of us, e.g., suppose that I'm talking to you on the phone, while having dinner in New York. (7) is acceptable. Similarly for when you are having dinner in New York.
- NB: This means that the context that Kripke 2009 had in mind for his original example was one where the speaker and hearer are *not* having dinner in New York themselves. In all cases, something is assumed about the context.

Generally, if the additive presupposition is *indexical*—i.e., it is about the conversational participants, location or time of the conversation, etc.—out-of-the-blue uses of additive particles are felicitous.

(18) Hey, that kitten has feelings too, you know! (Ruys 2015: p. 359)

(19) *Context:* Two women are standing at a bus stop on a rainy day. A car drives by, through a puddle, splashing one of the women with muddy water. To the splashed woman:

One splashed me_F this morning, too. (Grubic 2019: p. 173)

(20) a. I came here yesterday_F, too.

b. I was here [in the morning]_F, too.

(21) *Context:* Suppose that the speaker and hearer are in a very busy Italian restaurant, waiting for their food. The speaker says to the hearer, pointing at a Mexican restaurant on the other side of the street:

a. Look, there are a lot of people [in that Mexican restaurant]_F, too.

b. ??There are many people [in this restaurant]_F, too.

Under the anaphoric approach, one could pursue the idea that *pro* in the additive presupposition referring to an indexical element is felicitous out of the blue.

One could liken it to the fact that indexical pronouns like *me*, *you*, *here*, *now*, unlike third person pronouns, are perfectly felicitous out of the blue.

4.2 Non-indexical antecedents

Some cases of felicitous out-of-the-blue uses of additive particles are non-indexical. We observe that in such cases, pronouns are generally unacceptable.

(22) Sam used to be really poor, which made him feel ostracized and lonely. But now that Sam has struck it rich, he no longer feels alone. Now he too can drive a Mercedes, and have dinner in fancy restaurants in New York.

(Ruys 2015: fn. 18, p. 356)

(23) Sam used to be really poor, which made him feel ostracized and lonely. But now that Sam has struck it rich, he no longer feels alone. #Now he hangs out with *them* in Manhattan all the time.

- (24) Dean of students: Do PhD students even have families to take care of?
Student rep.: Yes, PhD students have families, too. (Ruys 2015: p. 359)
- (25) Dean of students: Do PhD students even have families to take care of?
Student rep.: Do you think only *they* have families?
- (26) a. Your ‘Fresh’ Fish Was Probably Frozen, Too.
b. Your ‘Fresh’ Fish Was Probably lying net to it.

These cases clearly show that pronouns are more heavily constrained than additive particles, so the felicity/infelicity of out-of-the-blue uses of additive particles cannot be explained in terms of those of pronouns.

5 The focus theory

Proposal: *Too* is focus sensitive, and it can be used felicitously only if:

- some contextually salient set C of alternatives can be identified; and
- the additive presupposition computed based on C is satisfied, or else can be accommodated.

(7) Sam_F, too, is having dinner in New York.

Assuming the structural theory of alternatives:

(27) $C \subseteq \{ \text{‘}\alpha \text{ is having dinner in New York’} \mid \text{‘}\alpha \text{’ is a referring expression} \}$

We analyze the additive presupposition to be the following:¹

(28) There is at least one $\psi \in C$ such that it is presupposed that ψ is true.

To simplify, let’s assume that *is having dinner in New York* has no presupposition.

- The additive presupposition of (7) says of some $\psi \in C$, that ‘ α is having dinner in New York’ is true.
- Note that this is stronger than a mere existential presupposition.

5.1 Out-of-the-blue infelicity

Suppose that someone uttered (7) in a ‘Kripkean context’ where the conversational participants are not having dinner in New York, and nothing in particular about other people are assumed.

- The hearer needs to find out a value of C such that the the additive presupposition is satisfied or can be accommodated.

¹More formally, assuming the partial function theory of presuppositions:

- (i) $w \in \text{dom}(\llbracket \varphi_{\sim C}, \text{too}_C \rrbracket_o^g)$ iff
- $w \in \text{dom}(\llbracket \varphi \rrbracket_o^g)$, and
 - for some alternative $\psi \in g(C)$, $w \in \text{dom}(\llbracket \psi \rrbracket_o^g) \wedge \llbracket \psi \rrbracket_o^g(w) = 1$; and
 - $g(C) \subseteq \llbracket \varphi \rrbracket_f^g \wedge \llbracket \varphi \rrbracket_o^g \in g(C) \wedge |g(C)| > 1$

- This amounts to the requirement that we can at least accommodate, *of a particular person*, that they are having dinner in New York.
- By assumption, there is no such person.
- Even if the speaker had a particular person in mind, it would not be reasonable to expect the hearer to know who it is.
- Therefore, #.

5.2 Out-of-the-blue felicity

Suppose now that the context is one where the conversational participants are having dinner in New York.

- Given the conversational context, the hearer can easily guess that the intended *C* contains 'We are having dinner in New York' (or maybe with I or you), because with that, the additive presupposition is satisfied.
- The speaker can expect the hearer to identify this alternative from the conversational context, the focus structure of the sentence, the linguistic knowledge about what structural alternatives are permissible and likely.

In this example, the additive presupposition is simply satisfied in the conversational context.

There are cases where the additive presupposition needs to be accommodated:

- (29) *Context:* It's common knowledge that today is the day of notification of acceptance for SALT. It is common knowledge between you and Katie that in the department, you and Katie have submitted a single-authored abstract each to SALT, and only you two did. She comes to your office and asks you:

Did you get into SALT, too?

- Given the context, the only plausible alternative is 'I got into SALT'.
- The additive presupposition that this alternative is true is not satisfied, but can easily be accommodated.
- The speaker can assume that the hearer can both identify the alternative and accommodate the additive presupposition.

5.3 Indexical vs. indexical cases

Generally, indexical cases involve contexts that contain a lot of cues that the intended additive presupposition is indexical. Furthermore, indexical expressions are (crosslinguistically) highly frequent and structurally simple, so are good candidates for relevant alternatives.

Non-indexical cases need a bit more cues, but basically possible.

- (26a) Your 'Fresh' Fish Was Probably Frozen, Too.

5.4 Pronominal alternatives

The relevant alternative may contain a third person pronoun, in which case the analysis resembles the anaphoric theory.

The following example would require such an alternative (modeled after an examples from Grubic 2019: p. 188).

- (30) Philip goes out for breakfast alone. Nobody is talking to him. But he doesn't care, since he_F, too, has a newspaper.

We analyze this with the following alternative, which contains a pronoun.

- (31) They have a newspaper

As Grubic 2019 point out, the lead-in sentences enable pronominal anaphora to *nobody's* domain of quantification.

- (32) Philip goes out for breakfast alone. Nobody is talking to him. They are all looking at their newspapers. (Grubic 2019: p. 188)

So (31) can mean that something like everyone at the cafe has a newspaper.

5.5 Differences from pronominal anaphora

Following Rooth 1985, 1992, we assume (at least for now) that C is a free variable and is assigned a value relative to an assignment function g in the semantics, similarly to unbound pronouns.

The pragmatics of g is essentially a blackbox, but if the same mechanism, g , is used for both C and free pronouns, we need to somehow explain the difference in difficulty in resolving them in out of the blue contexts.

- Pronouns carry φ -features, which can be used as cues for the intended referent. It's not entirely impossible to use them out of the blue, e.g., "Don't touch it!"
- C has more cues, especially, the focus structure and the knowledge about what can be alternatives to what (although as we discussed in Lecture 6, we don't have a complete theory of alternatives).

Alternatively, maybe different mechanisms are behind the resolution of C and resolution of pronominal anaphora.

6 Other focus particles

On our analysis, out-of-the-blue uses of additive particles are infelicitous, when an appropriate value of C cannot be found.

We expect then that such infelicity arises with other focus sensitive particles too.

6.1 Only

- (33) Only Sam_F is having dinner in New York.

This seems to be more or less ok out of the blue, definitely better than (7).

- But notice that *only* negates alternatives, rather than asserting they are true.
- Assuming that the interlocutors are *not* having dinner in New York, the utterance is compatible with the only negated alternative being an indexical one:

(34) We are having dinner in New York

- Now assume that the interlocutors are in fact having dinner in New York. Then (33) is infelicitous, similarly to (7) in a Kripkean context.

In cases where the alternatives are obvious, out-of-the-blue uses are generally fine.

- (35) a. Only some of the students are smart.
b. Only three students are in my seminar.

6.2 *Even*

Even in English is often associated with additivity, and unsurprisingly, an out-of-the-blue utterance of (36) sounds infelicitous, if the speaker and hearer are not having dinner in New York themselves.

(36) Even Sam_F is having dinner in New York.

Some languages have non-additive *even*, e.g., Japanese *-desae* (vs. *-mo*), Italian *addirittura* (vs. *anche*). (37) sounds better than (38), out of the blue against a Kripkean context.

(37) Samu-desae Nyuu Yooku-de yuuhan-o tabeteimasu.
Sam-even New York-in dinner-ACC is.eating
'Even Sam is having dinner in New York.'

(38) Samu-mo Nyuu Yooku-de yuuhan-o tabeteimasu.
Sam-too New York-in dinner-ACC is.eating
'Katie, too, is having dinner in New York.'

Without additivity, the indexical alternative, (39), can generate a reasonable scalar inference that Sam having dinner in New York is more surprising than us having dinner in New York.

(39) We are having dinner in New York

6.3 *At least*

(40) At least Sam_F is having dinner in New York.

An out-of-the-blue utterance of (40) is:

- infelicitous, if the speaker and hearer are having dinner in New York.
- felicitous, if they are not having dinner in New York.

(40) has two readings:

- Concessive reading: There's an alternative that is known to be false, but would have been better, had it been true.
- Epistemic reading: The prejacent is the alternative whose truth the speaker is most certain about.

If the speaker and hearer are having dinner in New York, indexical alternatives like (41) are clearly not intended, under either reading, as it is clearly known to be true.

(41) We are having dinner in New York

As before, the hearer cannot find an appropriate value for *C*.

If the speaker and hearer are not having dinner in New York, the indexical alternative (41) will generate a coherent concessive reading, at least.

In this case too, *at least* with inherently scalar expressions is generally acceptable out of the blue.

- (42) a. At least some of the students are smart.
b. At least three students are in my class.

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