



## Summary

**Big question:** How do content-bearing gestures, such as in (1), integrate into the rest of the utterance at various levels of representation, and how does that constrain their interpretation?

(1) Zoe is bringing her dog<sup>LARGE</sup> 

**Case study:** Constraints on non-projecting interpretations of gestural adjuncts under focus, as compared to spoken adjuncts.

**Answer:** Gestural adjuncts integrate into the compositional structure in the same way as spoken adjuncts. Modality-specific effects arise in phonology and its interfaces, but not in syntax or semantics proper.

## Key data

**Scenario:** We are going on a group tour and want to rent a car.

**Projecting:** Lucy says that Zoe, who has two pets—a small cat and a large dog—is planning to bring along one of her pets. Uma:

(2) I don't know which one of Zoe's pets is coming with us, but if she's bringing...

- a. her [dog]<sub>F</sub><sup>LARGE</sup> *co-speech gesture*
- b. her large [dog]<sub>F</sub> *adjective*
- c. her [dog]<sub>F</sub>, a large beast *appositive*  
..., we should get a van.  
a, b, c: → Zoe's dog is large.

**Non-projecting restricting:** Lucy says that Zoe, who has a pug and a Great Dane, is planning to bring along one of her dogs. Uma:

(3) IDK which one of Zoe's dogs is coming with us, but if she's bringing...

- a. her [dog]<sub>F</sub><sup>LARGE</sup>
- b. her [large]<sub>F</sub> dog
- c. \*her dog, a [large]<sub>F</sub> beast  
..., we should get a van.  
a, b: ↗ Zoe's dog is large.

**Non-projecting non-restricting:** Lucy says that Zoe is planning to bring along her only dog. Uma:

(4) IDK how big Zoe's dog is, but if she's bringing...

- a. \*her [dog]<sub>F</sub><sup>LARGE</sup>
- b. \*her [large]<sub>F</sub> dog
- c. \*her dog, a [large]<sub>F</sub> beast  
..., we should get a van.  
Intended: '...if (she's bringing her dog and her dog is large)...'

	projecting	non-projecting	
		restricting	non-restricting
co-speech gestures	✓	✓	✗
adjectives	✓	✓	✗
appositives	✓	✗	✗

## Selected references

Ebert & Ebert. 2014. Gestures, demonstratives, and the attributive/referential distinction. (talk)  
Esipova. 2018. Gestures at the interfaces. (talk) Leffel. 2014. PhD thesis. Schlenker. 2018. *L&P*.

## On adjectives and appositives

**Adjectives:**

- Adjoin to NPs<sub>et</sub>, not DPs<sub>(et,t)</sub>; are modifiers, i.e., always restrictive.
- Can be **non-restricting** (vacuous restriction), so (2b) is good.
- When focused, have to be **restricting** (Leffel 2014), so (4b) is bad.

**Appositives:**

- Adjoin to DPs<sub>(et,t)</sub>; are always **non-restrictive**, so (3c) is bad.
- Typically have to project, so (2c) is good but (4c) is bad.

## Existing analyses of co-speech gestures

**Supplemental analysis (Ebert & Ebert 2014)**

**Claim:** Co-speech gestures are supplements akin to appositives.

**Predictions:**

- ✓ Since appositives typically have to project, (4a) should be bad.
- ✗ Since appositives can't be restrictive, (3a) should be bad.

**Cosuppositional analysis (Schlenker 2018)**

**Claim:** Co-speech gestures trigger assertion-dependent presuppositions, *cosuppositions*:

- Cosupposition of  $[[S]^G]$ :  $S \Rightarrow G$  ( $\Rightarrow$  is generalized entailment).
- Projection:  $c' \Rightarrow [S \Rightarrow G]$  ( $c'$  is the local context of  $[[S]^G]$ ).
- Local accommodation:  $S \& G$  ( $\&$  is generalized conjunction).
- $c', S, G$  have to be of the same type, so it matters where  $G$  adjoins.

**Predictions:**

✓ Good for NP-level gestures (type *et*), given the right assumptions:

- (5) Zoe is bringing her [[dog]]<sub>F</sub><sup>LARGE</sup>.  
*projection* :  $\forall x. [\text{bring}(z, x) \wedge \text{poss}(z, x)] \rightarrow [\text{dog}(x) \rightarrow \text{large}(x)]$   
*local accommodation* :  $\lambda x. \text{dog}(x) \wedge \text{large}(x)$

✗ If DP-level gestures are of type  $\langle et, t \rangle$ , we overgenerate, e.g.:

- (6) Zoe is bringing [[her dog]]<sub>F</sub><sup>LARGE<sub>i</sub></sup>.  
*projection* :  $\forall P. [\text{brought}(z, \iota x. \text{dog}(x) \wedge \text{poss}(z, x)) \wedge P(\iota x. \text{dog}(x) \wedge \text{poss}(z, x))] \rightarrow \text{large}(\iota x. \text{dog}(x) \wedge \text{poss}(z, x))$   
*local accommodation* (unattested) :  $\lambda P. P(\iota x. \text{dog}(x) \wedge \text{poss}(z, x)) \wedge \text{large}(\iota x. \text{dog}(x) \wedge \text{poss}(z, x))$

## A ban on DP-level gestures?

**Suggestion:** Adnominal co-speech gestures never adjoin at the DP-level; they are always NP-level modifiers (like adjectives).

**Problem:** DP-level gestures do exist; prosodically independent gestures can be interpreted as appositives (observed in Schlenker 2018; see also Esipova 2018):

(7) (<sub>IP</sub> Zoe is bringing her dog) (<sub>IP</sub> LARGE).

So, the ban would have to be on *linearizing* DP-level gestures as co-speech. But how would one motivate that?

## Proposed approach

**Claim (strong version):**

- Syntax and compositional semantics are modality-blind. The same adjunction sites and interpretation strategies are available for gestures as for spoken expressions—and only those.
- Modality-specific effects arise elsewhere, e.g., during prominence assignment or prosodic grouping.

**Specifics:**

- Adjunction, cross-modally:
  - Modification (restriction) is possible up to a certain level; after that another interpretation strategy is required.
  - In the nominal domain the distinction is at the NP vs. DP level.
- NP-level adjuncts, cross-modally:
  - Are modifiers, thus **restrictive**, but can be **non-restricting**.
  - When focused, have to be **restricting**.
- DP-level adjuncts, cross-modally:
  - Are not modifiers, thus, **non-restrictive**.
  - Typically have to project.
- Bias for projection in co-speech gestures? Modality-specific effects, e.g.: hard for prosodic prominence to target co-speech gestures → hard to focus them → **non-restricting** interpretations preferred.

**Question:** Gestures that seem to adjoin to several constituents?

(8) (<sub>IP</sub> They jump) (<sub>IP</sub> and they hang on to the treads).

UP-GRAB! \_\_\_\_\_!



(from a TV show)

**Option 1:** Weaken the claim above: gestures can use all the strategies available to spoken expressions—and then some.

**Option 2:** Such gestures aren't integrated with the spoken utterance compositionally. (8) is two overlapping utterances in two modalities.

**Option 3:** There are several gestural constituents in examples like (8); they are only merged into one string in phonology.

## Extending the approach?

Can we apply the same approach to spoken and gestural “features”?

**Scenario:** Zoe's a stuntwoman. The crew filmed a scene in which Zoe was punching an extra while the film director Uma was away. Uma:

(9) If she punched her<sub>i</sub>, that's OK, but if she punched him<sub>\*i/j</sub>, we'll have to reshoot the scene.

- ✓ Uma wanted Zoe to punch extra *i*, not extra *j*.
- ✗ Uma wanted for the extra to be female, not male.

(10) If she punched him<sup>PUNCH-HIGH</sup>, that's OK, but if she punched him<sup>PUNCH-LOW</sup>, we'll have to reshoot the scene.

- ✓ Uma wanted Zoe to punch the extra in the face, not the ribs.
- ✗ Uma wanted for the extra to be tall, not short.