

Summary

- Question: can co-speech gestures, such as in (1), ever make at-issue contributions?



(1) John might order a beer^{LARGE}.

- Answer: for most people at-issue readings of co-speech gestures under contrastive focus are degraded, but there is a lot of variation.

Background

Table 1: Existing analyses of co-speech gestures

analysis	gist	at-issue readings
supplemental (Ebert (& Ebert))	Co-speech gestures are supplements akin to appositives. Local accommodation is unavailable.	not possible
obligatory presupposition (Schlenker)	Co-speech gestures obligatorily trigger presuppositions. Local accommodation is available, cost depends on trigger strength.	possible, with cost
optional presupposition (Schlenker (version))	Co-speech gestures optionally trigger presuppositions in the right circumstances. Non-generation is possible at no cost.	possible, w/o cost
mixed behavior (Esipova)	Co-nominal gestures can be (presupposition-triggering) NP-level modifiers or DP-level supplements.	possible, with or w/o cost

- Tieu et al.: inferences contributed by co-speech gestures (in (2a)) project from embedded environments significantly more than contributions of control at-issue modifiers (in (2b)):

(2) a. The boy will not use the stairs^{DOWN}.
b. The boy will not use the stairs in this direction^{DOWN}.

- But Tieu et al. don't take into account the role of focus. In (2b) the modifier PP is focused, and thus necessarily at-issue, while in (2a) focus doesn't have to associate with the gesture.

Selected references

Ebert & Ebert. 2014. Gestures, demonstratives, and the attributive/referential distinction. Ebert. 2017. Co-speech vs. post-speech gestures. Esipova. 2017. Co- and post-speech gestures: a prosody/syntax approach. Schlenker. To appear. L&P. Tieu et al. 2017a. Glossa 2(1). Tieu et al. 2017b. Co-speech gesture projection: Evidence from inferential judgments. Zlogar & Davidson. 2017. Effects of linguistic context on the acceptability of co-speech gestures.

Goals of the study

- Primary goal: compare acceptability of target examples in which focus makes the at-issue interpretation of the gestures the only one possible (Gestural Contrast) to control examples (Verbal Contrast):



(3) John might order a beer^{SMALL}...



a. ...or a beer^{LARGE} (Gestural Contrast)



b. ...or a cocktail^{SMALL} (Verbal Contrast)

- Secondary goal: see whether type of content encoded by the gestures (Shape vs. Size) or emphasis on the gesture (Emphatic vs. Non-Emphatic) can affect the acceptability of the target examples.

Results

- Contrast: Verbal > Gestural; no main effect of Content or Emphasis
- minor Contrast/Content interaction: Shape Verbal > Size Verbal; no Contrast/Emphasis interaction
- a lot of variation across speakers and examples (the latter result is in line with Zlogar & Davidson)

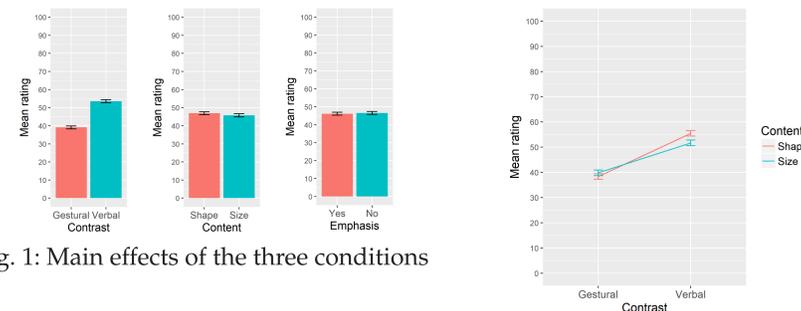


Fig. 1: Main effects of the three conditions

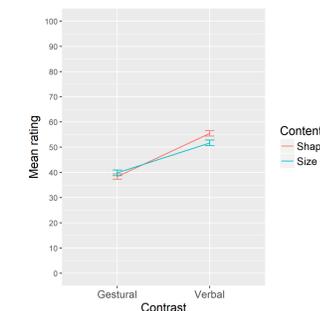


Fig. 2: Contrast/Content interaction

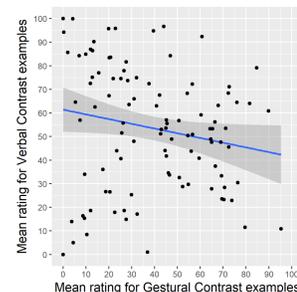


Fig. 3: Individual mean ratings for Gestural vs. Verbal Contrast

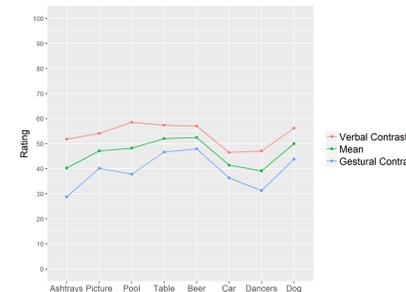


Fig. 4: Variation across sets of examples

Methods

- Procedure: MTurk participants ($N = 104$) rated two different continuations of the same sentence (Gestural Contrast vs. Verbal Contrast, as in (3)) on a pseudo-continuous scale (0–100).

Table 2: Experimental design

Content	Emphasis	Contrast	
		Gestural	Verbal
Shape	Emphatic	4	4
	Non-Emphatic	4	4
Size	Emphatic	4	4
	Non-Emphatic	4	4

Hypotheses tested

- Contrast:
 - optional cosupposition (null): Verbal = Gestural (categorical)
 - obligatory cosupposition: Verbal > Gestural; absolute value of Gestural Contrast depends on trigger strength (gradient)
 - supplemental: Verbal > Gestural; low absolute value of Gestural Contrast (categorical)
 - mixed behavior: Verbal \geq Gestural, depending on further assumptions (gradient or categorical)
- Contrast/Content:
 - null: no interaction
 - non-null: Shape Gestural < Size Gestural
- Contrast/Emphasis:
 - null: no interaction
 - non-null: Emphatic Gestural > Non-emphatic Gestural

Discussion

- Primary question:
 - Ignoring variation: the data are compatible with the supplemental, obligatory cosupposition (with gestures as strong triggers), and some versions of the mixed behavior analyses.
 - Taking into account variation:
 - We exclude the supplemental analysis.
 - We can't assign a uniform trigger strength to gestures.
 - We raise the question of how the amount of variation correlates with the level of linguistic integration of certain content.
- Secondary questions:
 - Content: the results are inconclusive (variation across example sets, world knowledge potentially intervening).
 - Emphasis: the results suggest emphasis on the gestures doesn't affect the acceptability of at-issue interpretations, but the reasons for the null effect are unclear.