Negating depictive modifiers in sign language and in co-speech gesture

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Modifiers (e.g. *yellow*, *big*) can enter semantic composition either *at-issue*, targeted by other sentential operators like negation (1), or *not-at-issue* (2), leading to e.g. different truth conditions for (1) vs. (2).

(1) She didn't find her troll that was yellow/big. ***restrictive relative clause***

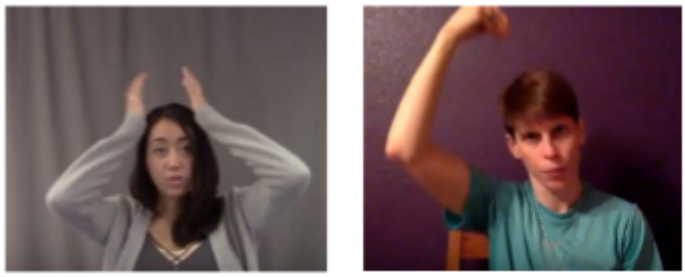
(2) She didn't find her troll, which was yellow/big. ***non-restrictive relative clause***

Interestingly, one class of phenomena that generally seem to be *not-at-issue* are depictive co-speech gestures (3).

(3) She didn't find her troll_[said while gesturing the size ("big")] ***co-speech gesture***

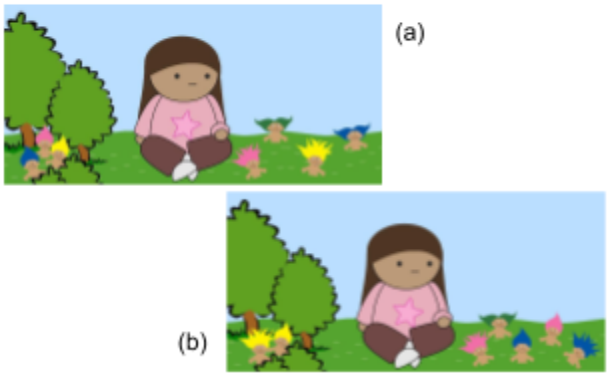
Noting the similarity between (2) and (3), Ebert & Ebert (2014) analyze depictive co-speech gestures as supplements (Potts 2005), while Schlenker (2017a) argues they are closer to presuppositions based on a variety of (quantificational and other) contexts; crucially, under both analyses they are unable to be targeted by semantic operators like negation. Here, we ask *why*: what general property of co-speech gestures makes them not-at-issue? One possible answer is the differing modalities of the gesture from the rest of the sentence (visual vs. auditory), or the related fact that gestures can share a timeslot with auditory content (Schlenker 2017b). Another possibility is that there is a compositional clash between a binary operator like negation and a depictive/analog element. The goal of this work is to **directly compare the negation of co-speech gestures in English** (Fig 1a) **with the negation of classifier predicates in American Sign Language** (Fig. 1b)**,** which (like gesture) are analog/depictive but (unlike gesture) share the same mode as other sentential operators and have their own time slot, in order to test these hypotheses.

Figure 1: Video screen-grabs of the "single point" troll hairstyle depictive modifiers for (a) English and (b) ASL.



(a) (b)

Figure 2: Two scenes used to elicit judgments, where the toy trolls "hidden" in the bushes all have the same (a) hairstyle, or (b) hair color.



(a)

(b)

We created scenes (e.g. Fig 2) that show a girl and her toy "trolls", some of which she can't find because they're "hidden"; these all had either the same hairstyle (Fig 2a) or the same hair color (Fig 2b). We asked consultants to judge the truth, given a scene, of utterances containing a negation that targets a modifier, either a *depictive modifier* — a co-speech gesture (4) or classifier predicate (5), illustrating a particular troll hairstyle — or a *non-depictive modifier* — a color word, (6) and (7).

(4) Sasha did**n't** find her trolls_[said while gesturing **HAIRSTYLE**]. (English, depictive, Fig 2a)

(5) fs-SASHA_A IX_A **NOT** FIND HER fs-TROLLS **CL:FLAT O**. (ASL, depictive, Fig 2a)

(6) Sasha did**n't** find her **yellow** trolls. (English, non-depictive, Fig 2b)

(7) fs-SASHA_A IX_A **NOT** FIND HER **YELLOW** fs-TROLLS. (ASL, non-depictive, Fig 2b)

English speakers judged the gesture example (4) to be false in such scenes but the non-depictive example (6) to be true. By contrast, ASL signers judged both the depictive example (5) and the non-depictive example (7) to be true. We conclude that there does seem to be a difference in the ability of ASL classifier predicates to be negated vs. English co-speech gestures, suggesting that the inability of negation to target depictive content in English is due to the interaction of the two different modalities rather than a compositional clash in the semantics.