

What do listeners expect when the speaker is disfluent: Something unfamiliar or something hard to name?

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Disfluencies

• Arnold, Hudson Kam & Tanenhaus (2007): a disfluency biases listeners to expect that the speaker will refer to an unfamiliar object.



• They argue that the unfamiliarity bias arises from listeners' assumptions that unfamiliar objects are harder to name.

• These results cannot distinguish whether disfluencies bias towards:

- (i) objects that are **less familiar** because listeners have less experience with them;
- (ii) objects that require **longer referring expressions**;
- (iii) objects that are **harder to name**.

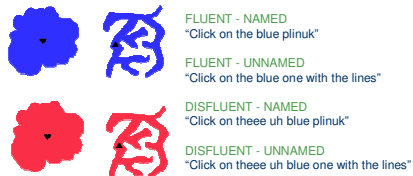
Artificial names

4 groups of novel shapes (72 easy-to-group shapes in each group).



Test displays

(Instructions were cross-spliced up to the noun to avoid early cues of length)



Predictions

- **Familiarity** (i) predicts that a disfluency will bias listeners to unnamed shapes, because they have less experience with them.
- **Length** (ii) predicts that a disfluency will bias listeners to unnamed shapes, because they require descriptions which are longer.
- **Ease of naming** (iii) predicts that a disfluency will bias listeners to named shapes, because novel names are harder to retrieve than the lexical items required for descriptions.

Experiment 1: Moderate Name Training

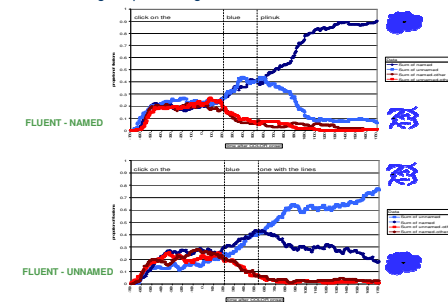
Training

- **Comprehension with two-shape displays.**
 - Participants heard the name of a shape and had to click on one of two shapes.
 - Only named shapes appeared.
 - Feedback was given: the correct answer stayed on the screen.
 - Participants had to perform at 100% on a block of 18 trials.
- **Comprehension with four-shape displays.**
 - Same procedure, with all 4 shapes.
 - Both named and unnamed shapes appeared.

Results (28 subjects)

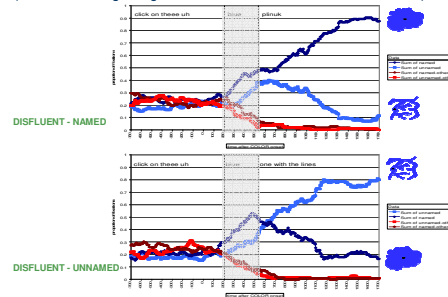
FLUENT conditions

No bias during the processing of the color.



DISFLUENT conditions

Bias towards the named shape during the processing of the color (before disambiguating information from the noun is encountered).



Experiment 2: Extensive Name Training

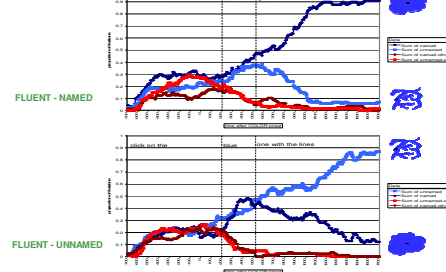
Training

- **Comprehension with two-shape displays.**
- **Comprehension with four-shape displays.**
- **Naming.**
 - Participants had to name a single shape on the screen.
 - No feedback was given.
 - Only named shapes were displayed, 5 instances per shape.
- **Producing instructions for test-like displays.**
 - The intended referent was marked.
 - No feedback was given.
 - Both named and unnamed shapes were referred to.
 - 4 displays per shape.

Results (22 subjects)

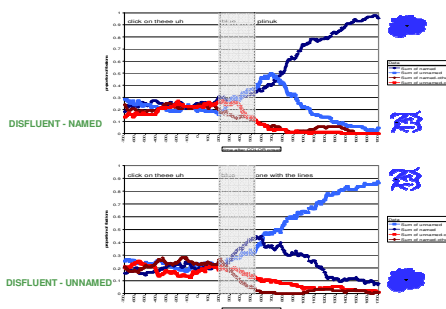
FLUENT conditions

No bias.



DISFLUENT conditions

No bias!



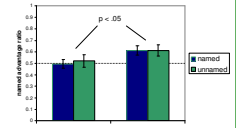
Named-Advantage Ratio Analysis

during the COLOR region: 200 - 520ms.

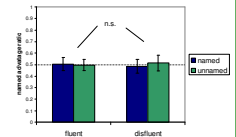
looks to named shape

looks to named shape + unnamed shape

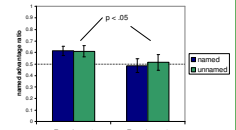
Experiment 1. Main effect of disfluency: naming the shape is perceived as more difficult than producing a description.



Experiment 2. No effect of disfluency: the disfluency does not bias towards the named or the unnamed shape.



Comparing DISFLUENT conditions in experiment 1 and 2. Training as a between subjects factor.



Chance (.5) is marked on the graphs

Conclusions

- Disfluencies are attributed to a **difficulty the speaker is having** (cf. Arnold et al. 2007).
- **Retrieving a new name** is perceived as harder than coming up with a longer description or referring to a less familiar shape. Reducing the perceived difficulty with the names eliminated the bias.
- The effect seems to be driven by **listeners' perceived difficulty**, and not by the listener's attribution about the source of the speaker's disfluency. In both experiments, post-experimental debriefings indicated that participants believed that the speaker produced more disfluencies for the shapes without names.