GREEBLES Greeble greeb

On reduction in speech and gesture in repeated references

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Introduction

It is known that repeated references lead to speech reduction:
- in speech quantity:
  in the number of words that people use (e.g. Clark & Wilkes-Gibbs 1986; Brennan & Clark 1996)
- in speech quality:
  in the articulatory precision of these words (e.g. Bard et al. 2000)

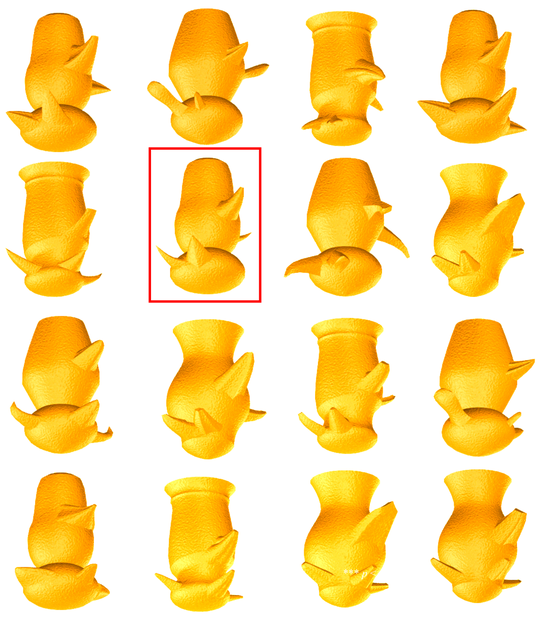
RESEARCH QUESTIONS **1) Is there reduction in the *semantics* of repeated references?**

2) Is there reduction in the *gestures* produced in repeated references?

Repeated references in speech and gesture: Production and perception

Experiment I: Production

Stimuli



Director describes “Greeble”, matcher picks corresponding card.

Several Greebles have to be described more than once during the experiment.

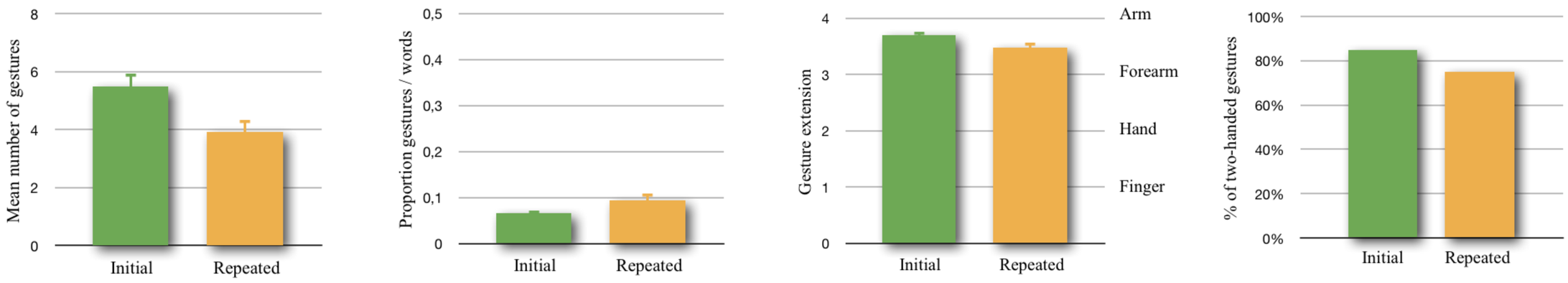
Speech results

	Initial *(SD)*	Repeated *(SD)*
Duration ***	42.5 (*1.5*)	27.2 (*1.9*)
Words***	91.9 (*3.4*)	59.8 (*5.2*)
Attributes***	9.4 *(.3)*	7.4 *(.3)*

*** p < .001

Procedure

Gesture results

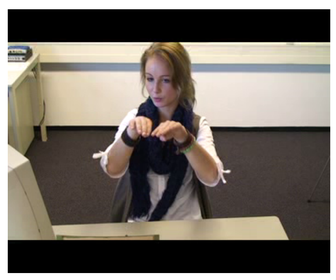


Experiment II: Perception

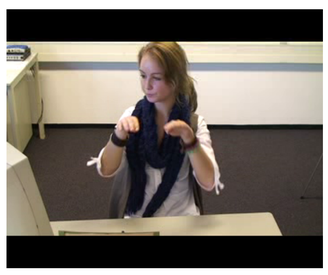
Stimuli

66 pairs of video clips from the production experiment. One video clip shows a gesture from an initial description, the other video clip shows the same director gesture about the same object in a repeated description.

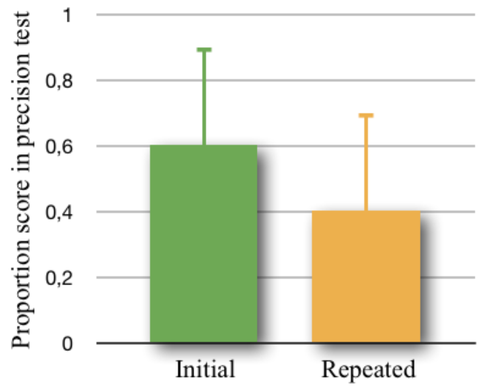
Which gesture do you think is the most precise?



A



B



Conclusion

There is reduction in repeated references, both in their semantics and in their gestures:

In repeated references, people
1) take less time
2) use fewer attributes
3) use fewer words and fewer gestures
4) use proportionally *more* gestures

Gestures in repeated references are
1) smaller
2) less often two-handed
3) considered to be less precise

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