

Does repair affect the emergence of structure in language?

An investigation of talk-in-interaction and language evolution



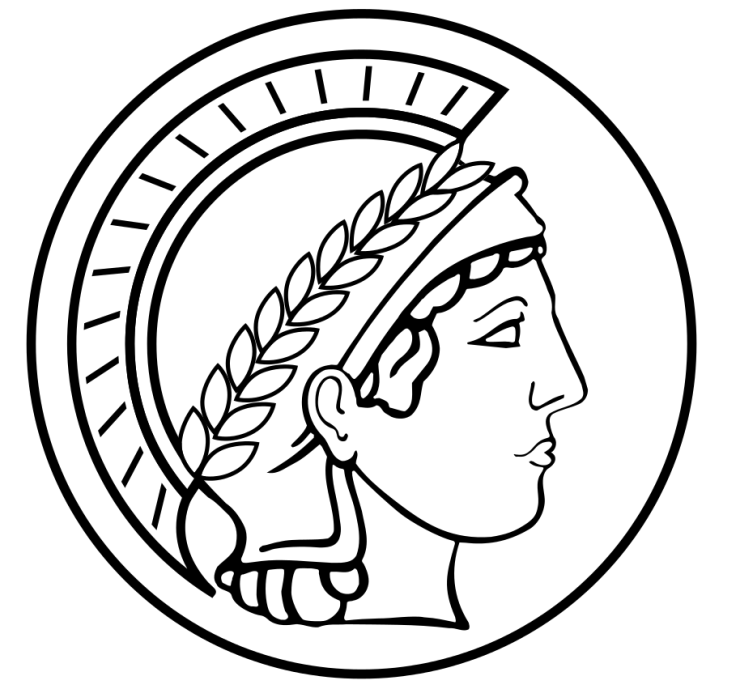
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Introduction

Language is shaped by being repeatedly learned, transmitted and used in interaction. While the roles of learning and transmission in cultural evolution have been explored effectively, foundational aspects of interaction such as sequence organization and repair have been largely overlooked in experimental research. We present an experiment that helps exploring these issues.

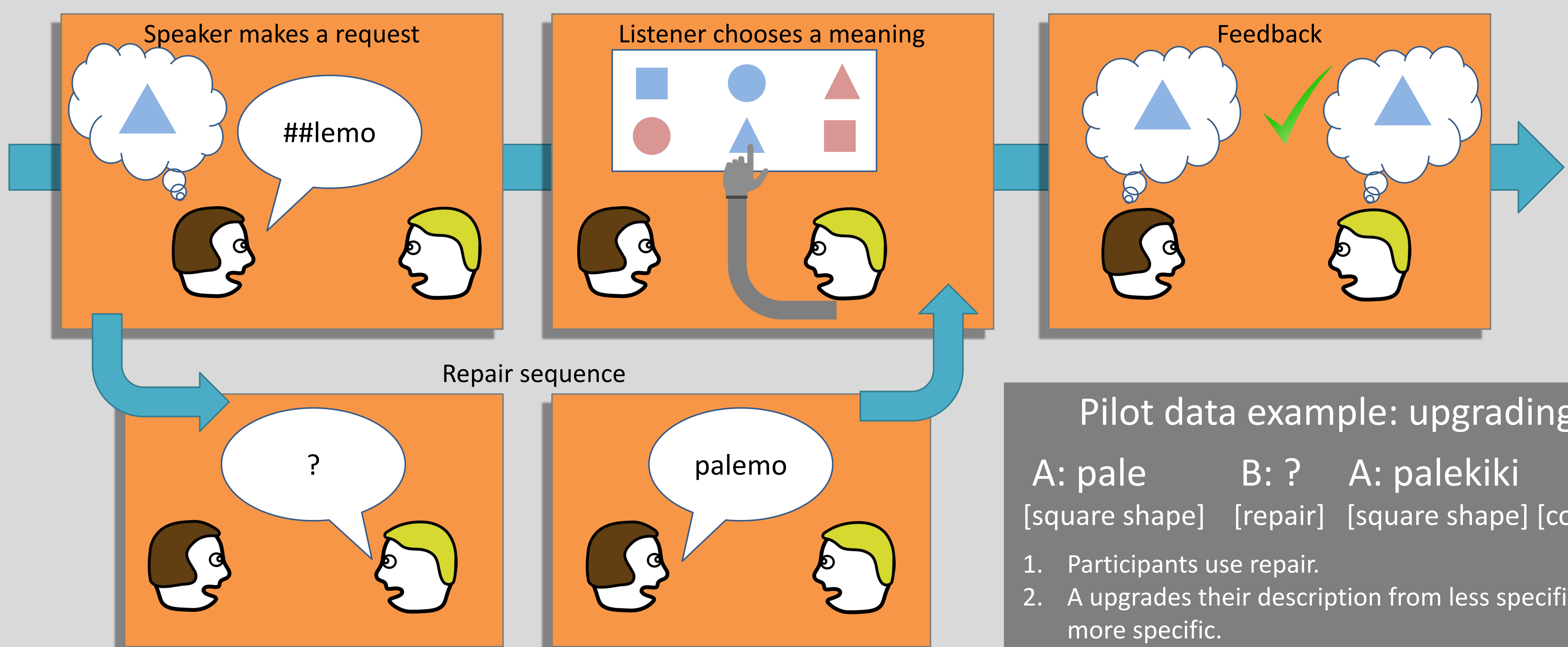
Iterated learning paradigm

- Linguistic structure can emerge as a natural consequence of the mechanisms of cultural evolution (e.g. Kirby, Cornish & Smith, 2008)
- Cultural evolution of language:
 - learners acquire a language;
 - speakers transmit the language to the next 'generation' of learners;
 - next generation learns from this input and repeats the procedure.
- Over generations, languages change according to selective pressures:
 - a pressure for languages to be easy to learn > languages become more compressible;
 - a pressure for effective communication > languages become expressive;
 - if both pressures apply > systematic structures arise.

Exploring interaction with iterated learning

- Iterated learning experiments constrain:
 - sequence organization – each participant being assigned a sequential role (e.g. questioner or answerer, Kendrick et al., 2014);
 - turn taking – one participant acting at a time (Levinson, 2006);
 - noise – signal disruption and a source of communicative troubles;
 - repair – practices used by participants to manage troubles in speaking, hearing, and understanding (Dingemanse & Enfield, 2015).
- These can be manipulated to explore their impact on linguistic evolution.
- Noise increases the pressure for maximally distinct signals and the bias against compressible languages, which should drive languages towards being less systematic.
- Repair negates the effects of noise, which should drive languages towards being more systematic.

Experimental study: communication game



References

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