Interlocutors preserve complexity in language

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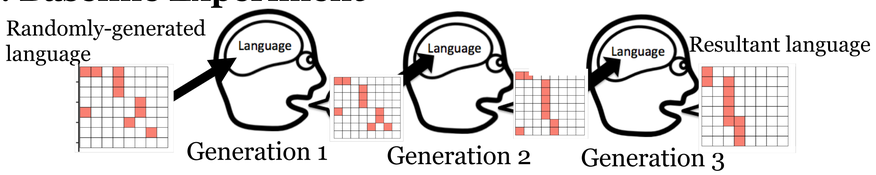
Background

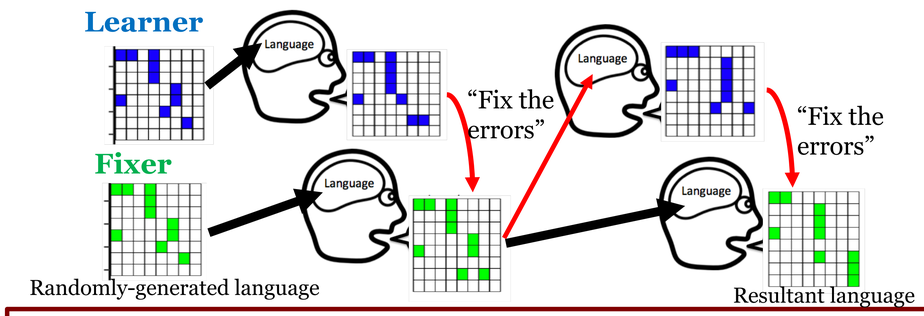
- Why do languages change and evolve, aside from acquiring new vocabulary?
- **Transmissibility** pressure: the language needs to be **learnable,** and therefore **simple.**
- Early language learners have potentially greater pressures towards **transmissibility –** what protects against oversimplification?
- Language learning is an active, social process: involving feedback from those who are more knowledgeable in the language (e.g. parents).
- We predict that the the influence of these knowledgeable speakers, by way of implicit or explicit correction, protects against oversimplification in the language-transmission process.

Iterated Learning Paradigm

1. Baseline Experiment

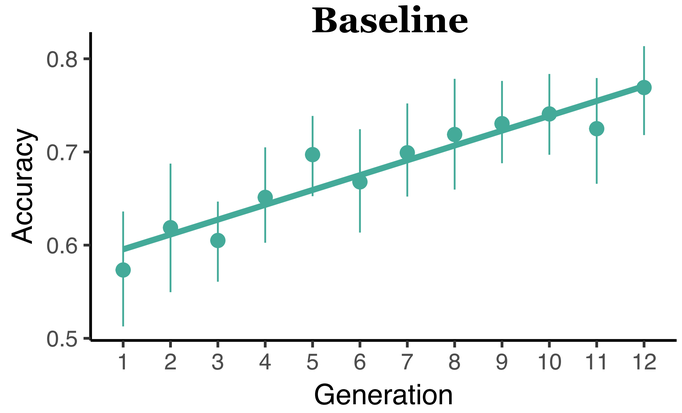


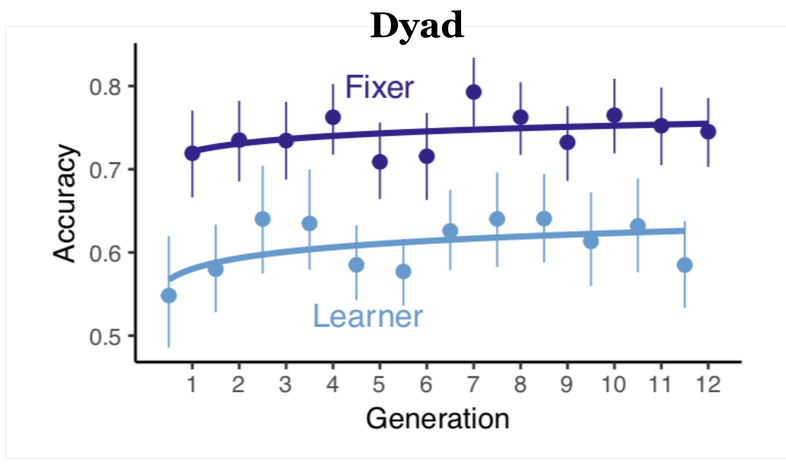
2. Dyad Experiment

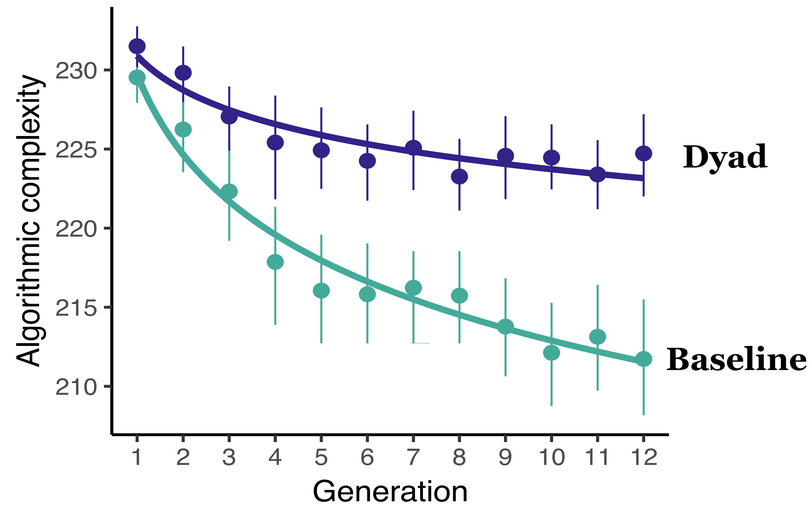


Results

The addition of a corrective element in a novel language-learning task allows a higher degree of complexity to be retained while retaining a consistent level of percent accuracy.

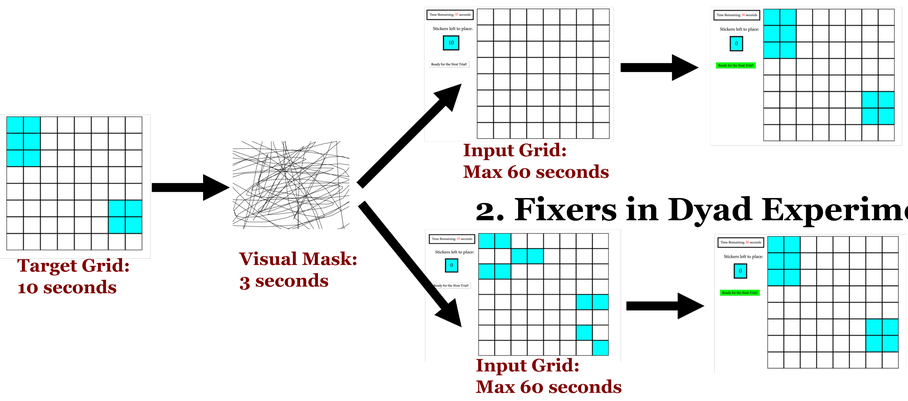






Method

1. Baseline Experiment & Learners in Dyad Experiment



Adult Baseline Experiment:
Replication:
- 480 U.S. adults on Amazon Mechanical Turk
- 40 chains of 12 generations each

2. Fixers in Dyad Experiment

Adult-Adult Dyad Experiment:
Replication:
- 960 U.S. adults on Amazon Mechanical Turk
- 40 chains of 12 generations each

Conclusions & Future Work

- Adding a corrective element into the language learning process—like feedback from a teacher—allows a higher degree of descriptiveness to be retained in language
- Vertical language transmission may be the mechanism by which languages are protected from degeneration
- Three measures of pattern complexity had strikingly similar results
- Results replicated original work by Kempe et al. (2015)
- Data collection is ongoing with children ages 6-8 at the Museum of Science and Industry in Child Baseline and Child-Adult Dyad conditions