Co-occurrence, Extension, and Social salience: The Emergence of Indexicality in an Artificial Language

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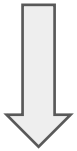
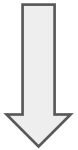
Contact



Exposure to new variation

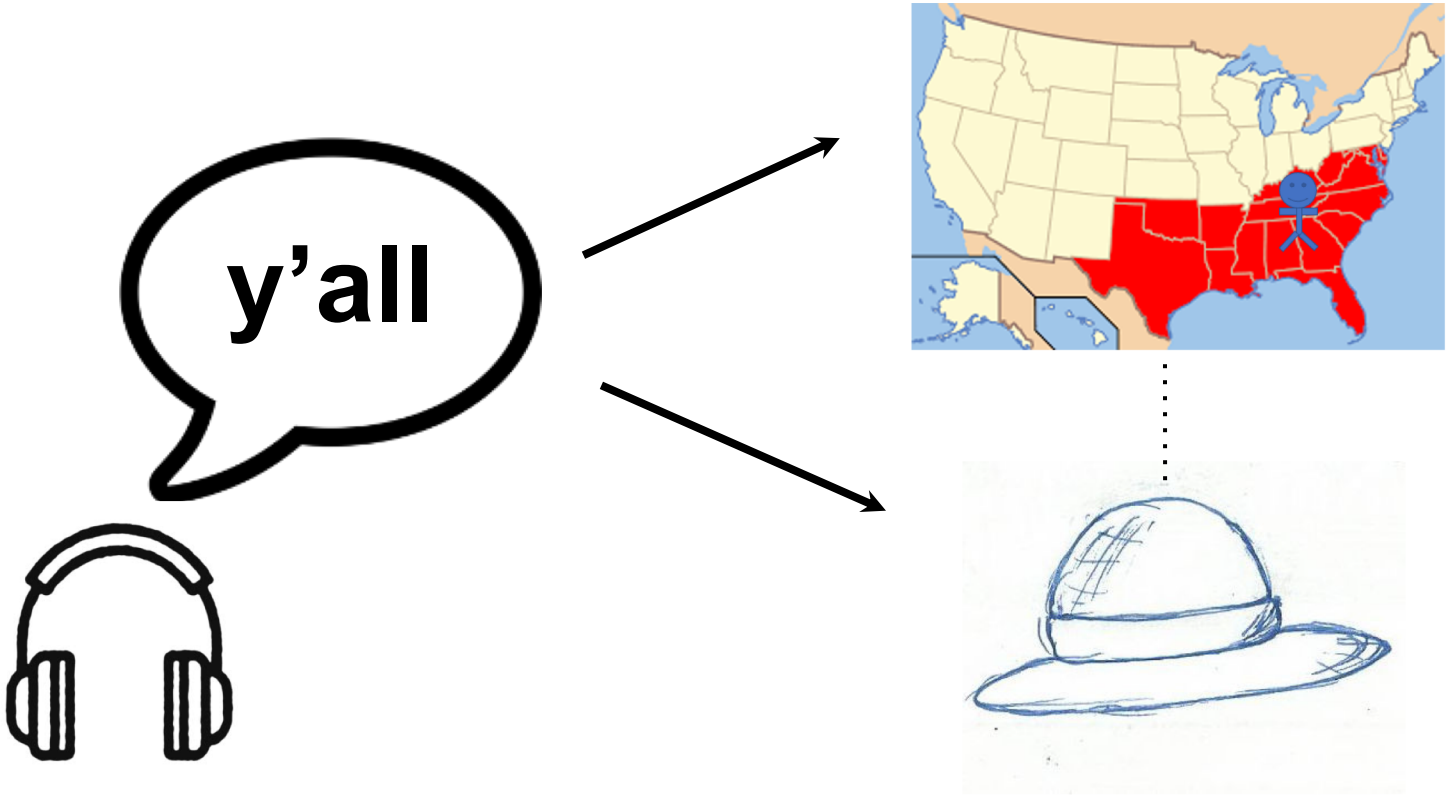


The enregisterment of new indexical associations

Indexicality

Speakers link linguistic features with social information

Indexicality



Indexicality

- Previous theoretical work on naturalistic data (e.g., Agha, 2007; Jaffe, 2009; Meyerhoff & Schleef, 2012;Pharao, Maegaard, Møller, & Kristiansen, 2014; Johnstone, 2016)

- **How does indexicality emerge?**

- Agha (2007): indexicality requires “functional **reanalysis** of ‘diverse behavioural signs’”

- Johnstone (2016): a sign possesses indexicality “by virtue of **co-occurring** with what it is taken to mean”

Indexicality

- To test these claims, we need an experimental paradigm where we can manipulate:

- what co-occurs with what without worrying about the associations people already have with different linguistic features

- How should we do this?
- Artificial language learning experiments!

Indexicality

To extend further:

- Is mere co-occurrence of speakers, traits and linguistic variants sufficient? **Experiment 1**
- If co-occurrence is not enough, one possibility is that indexicality may emerge through extension to new language users? **Experiment 2**
- Is all co-occurrence equal? Probably not. Indexicality also requires social salience to be attached? **Experiment 3**

Artificial Language Learning

- We created a miniature artificial alien language

- **Nouns:**

  kabuq, bupod, hasot, wejun,
  kenig, tulimur, petilet,
  ropuko, luragur, gunawul

kabuq

kabuqdem/kabuqgok

- Each noun refers to an object in the alien language
- Two plural suffixes: *-gok* and *-dem*

Artificial Language Learning

- This language is used by **two different alien species**

Nulus

Gilis

Artificial Language Learning

- The two different alien species are in **two different ceremonial outfits**

Nulus

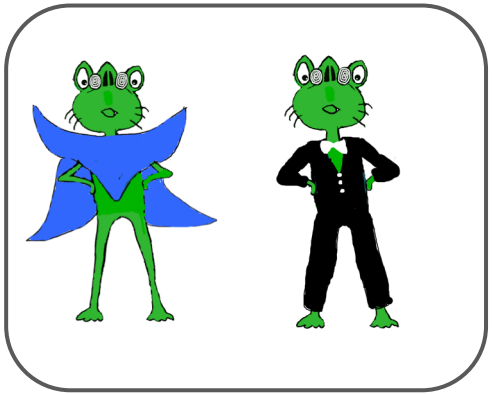
Gilis

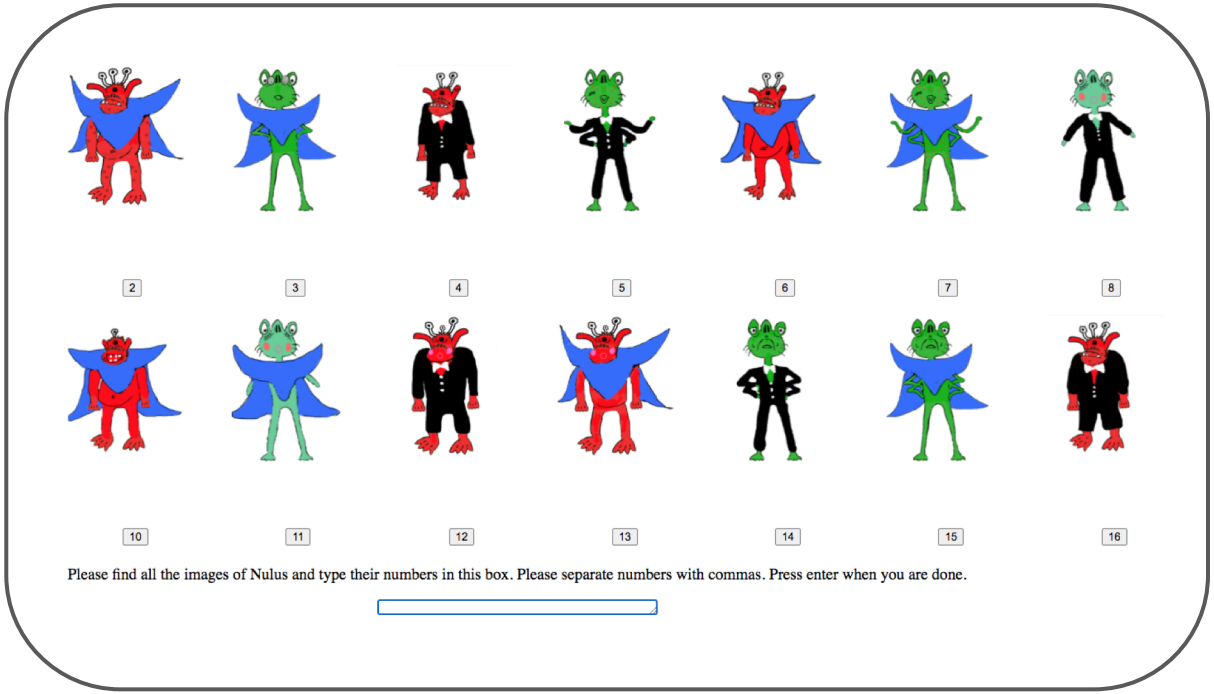
Artificial Language Learning

(1) Familiarization

Artificial Language Learning

(1) Familiarization

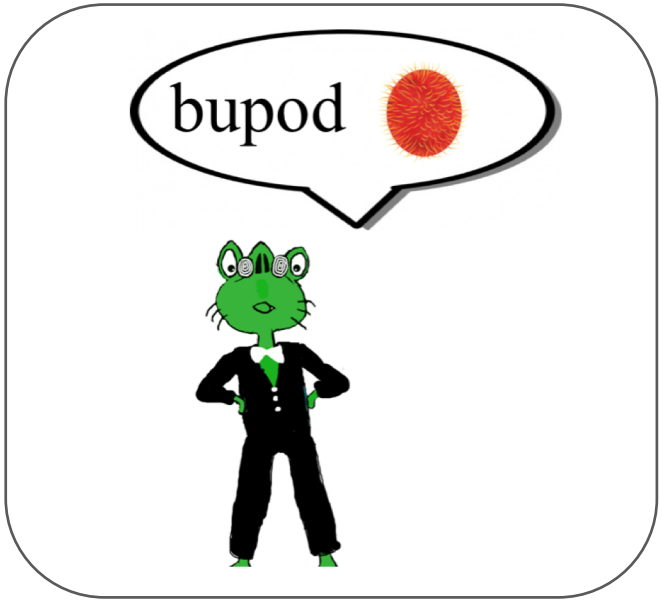




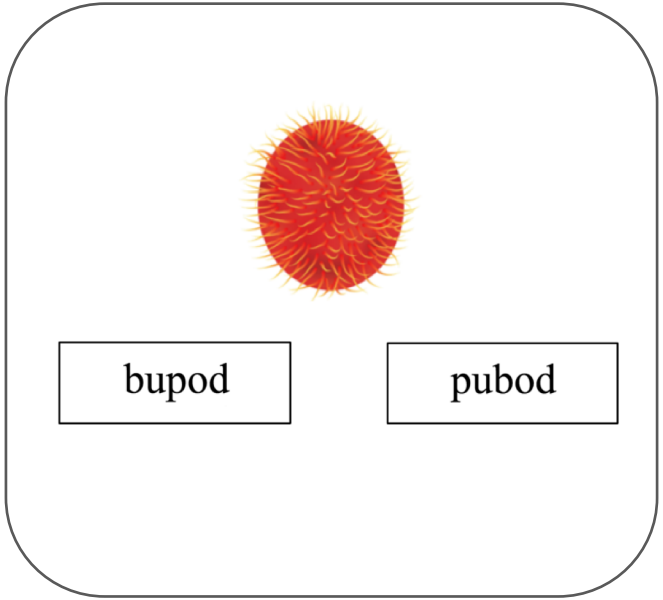
Artificial Language Learning

(2) Language training

Passive exposure



Forced-choice



Artificial Language Learning

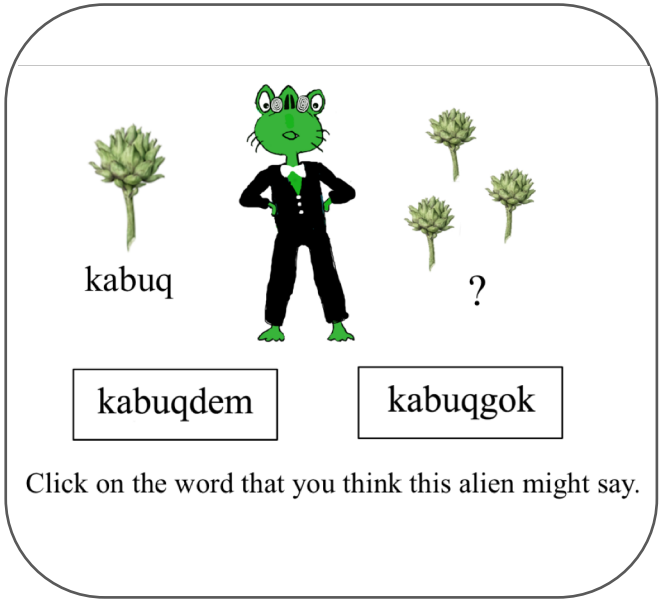
(3) Memory test

Have you seen this alien before?

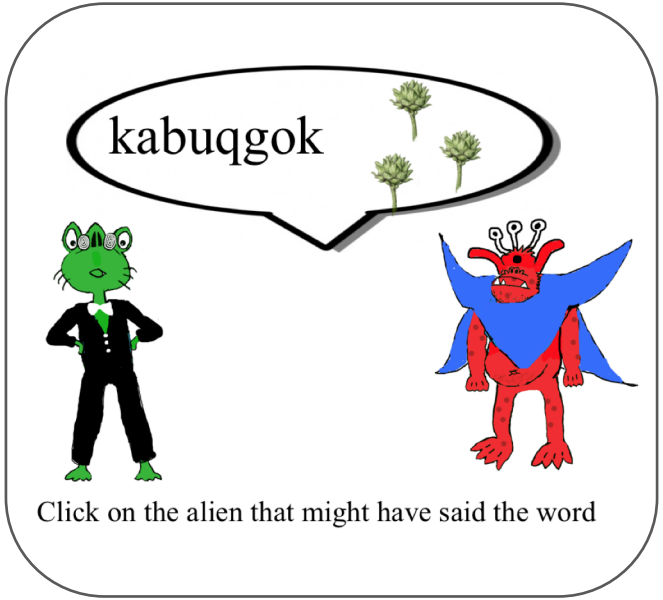
Artificial Language Learning

(4) Association test

Suffix selection



Alien selection



Artificial Language Learning

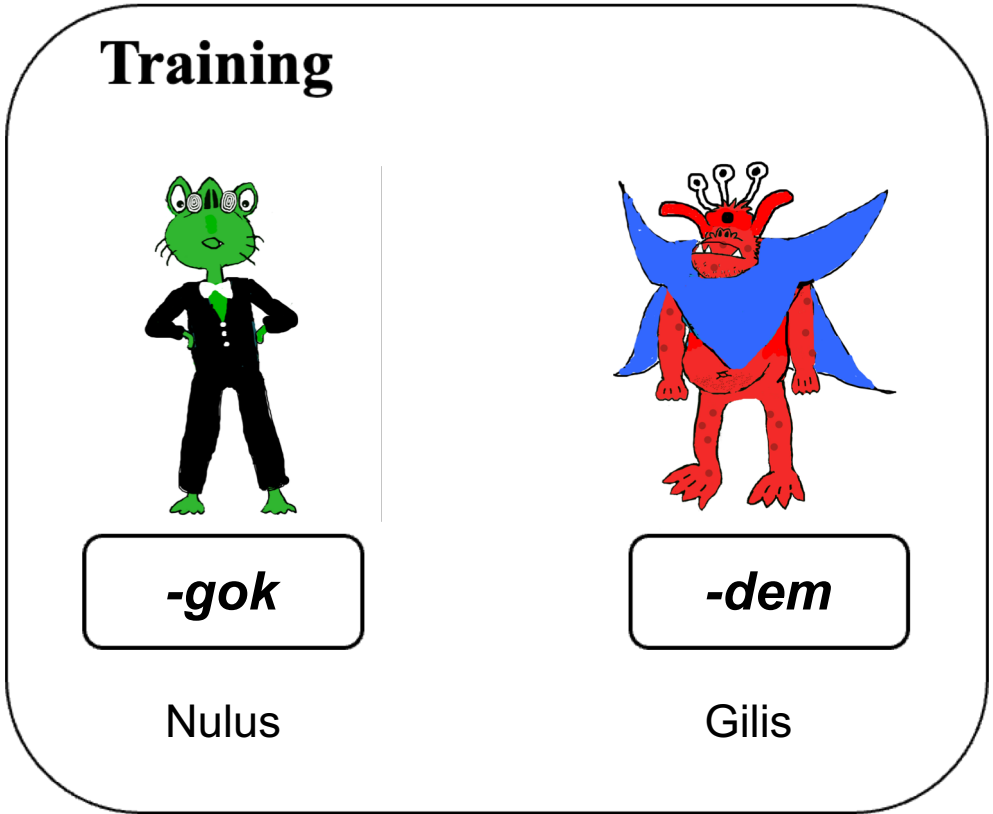
Quick recap of the experimental set-up

Back to the question of emergence of indexicality…

Experiment 1: Co-occurrence

Experiment 1: Co-occurrence

- **Conditions**



Experiment 1: Co-occurrence

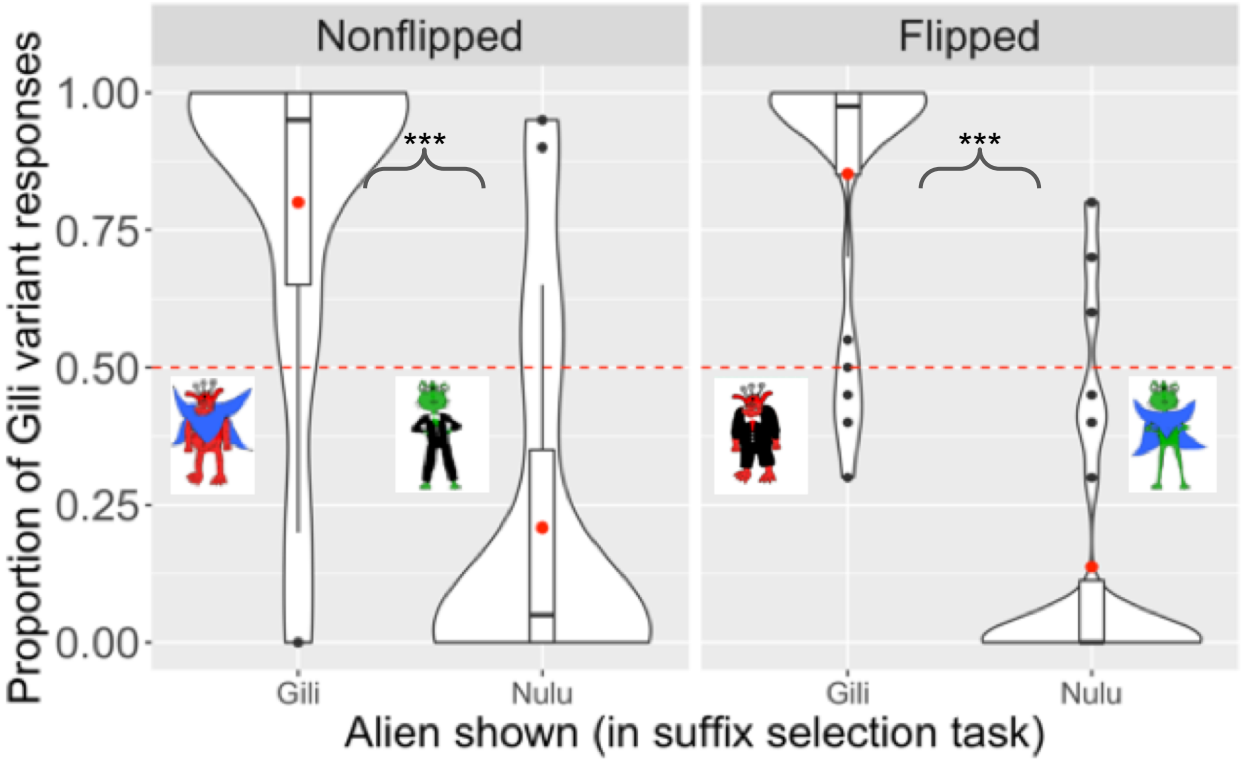
- **Conditions: Association test**

Nonflipped

Flipped

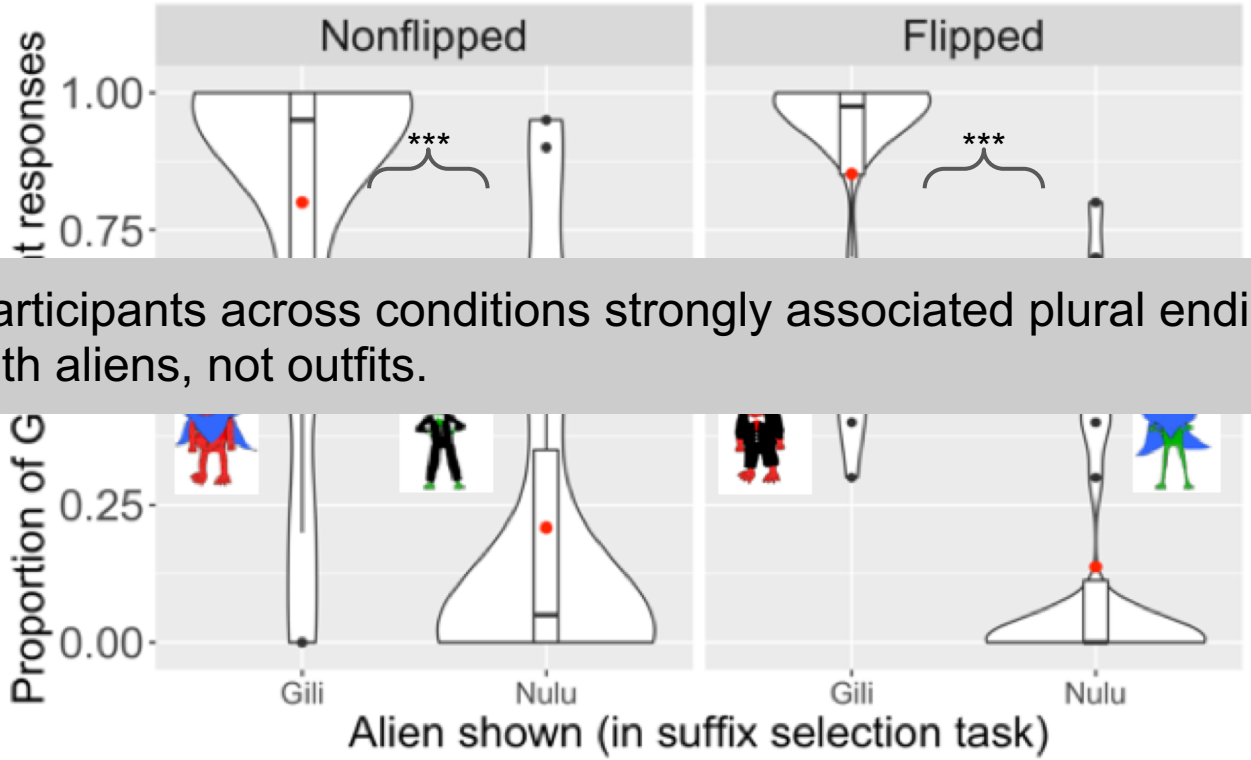
Experiment 1: Co-occurrence

Suffix selection



Experiment 1: Co-occurrence

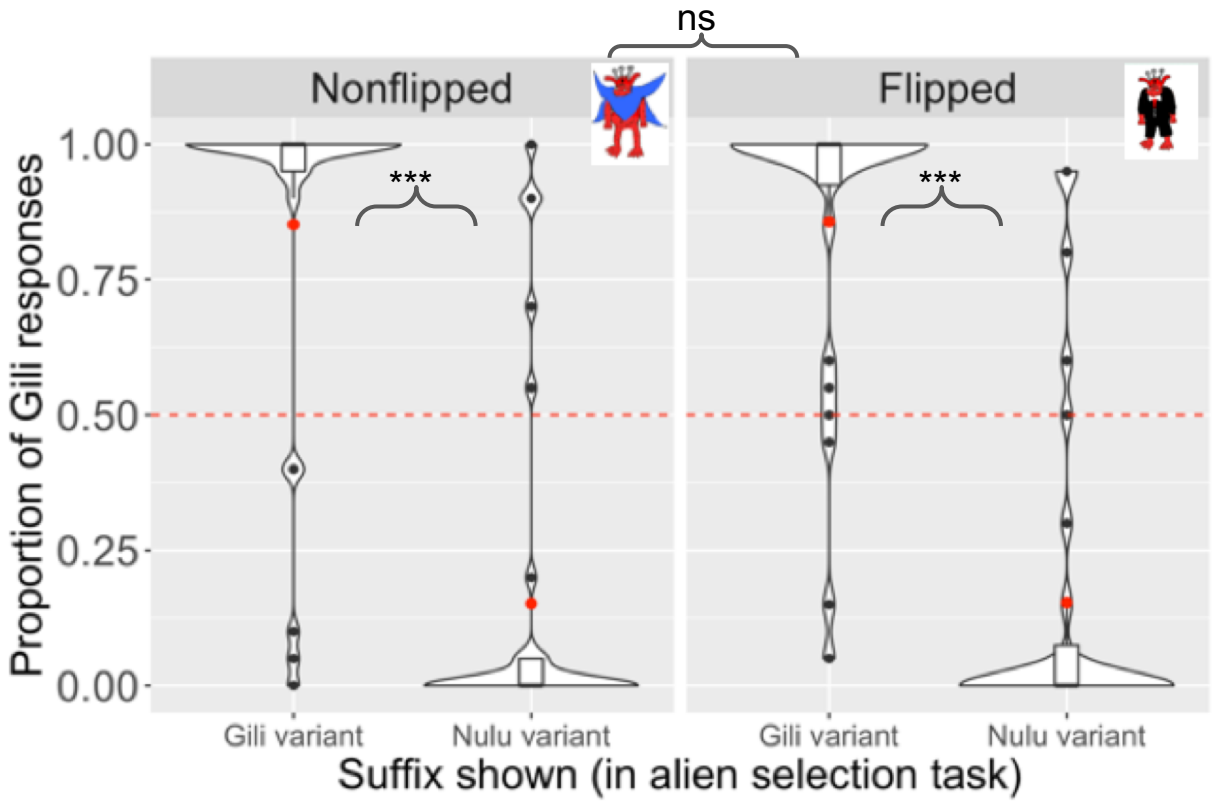
Suffix selection



- Participants across conditions strongly associated plural endings with aliens, not outfits.

Experiment 1: Co-occurrence

Alien selection



Experiment 1: Co-occurrence

- According to Experiment 1, participants primarily associate plural endings with aliens. But perhaps they have made secondary associations with outfits that did not show up in our task.

- If so, these associations may show up with new language users.

Experiment 2: Extension

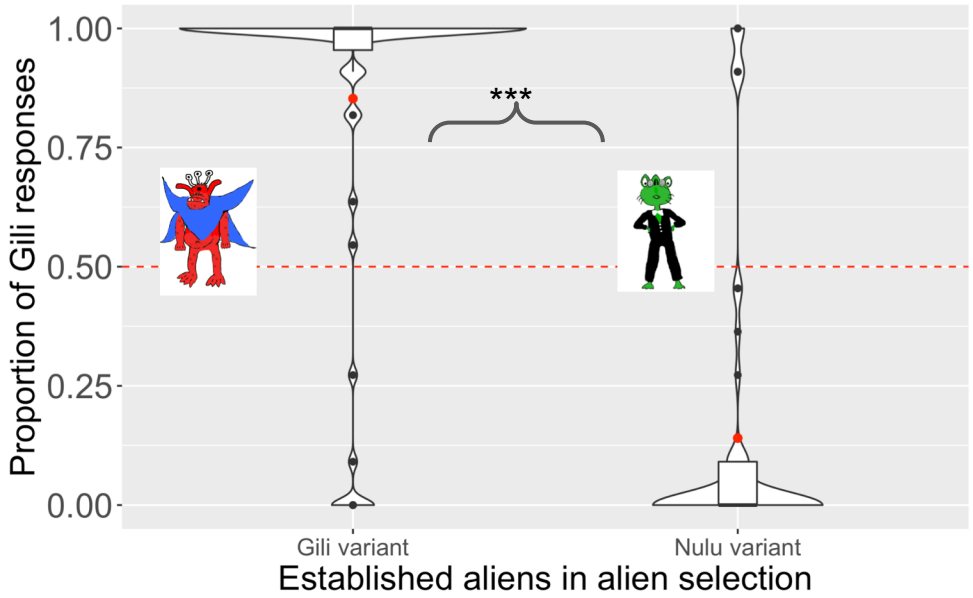
Experiment 2: Extension

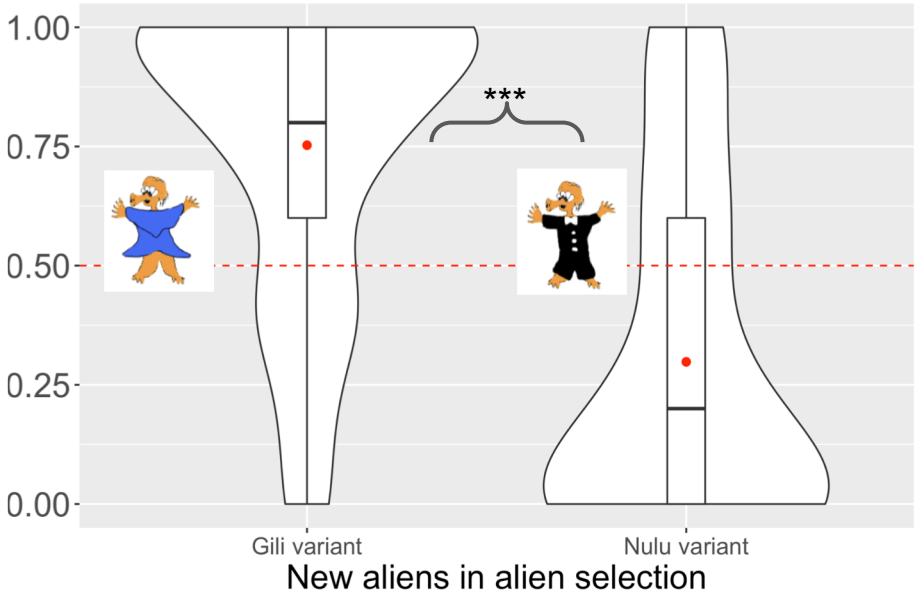
(a) (b)

Only in the association test phase!

Experiment 2: Extension

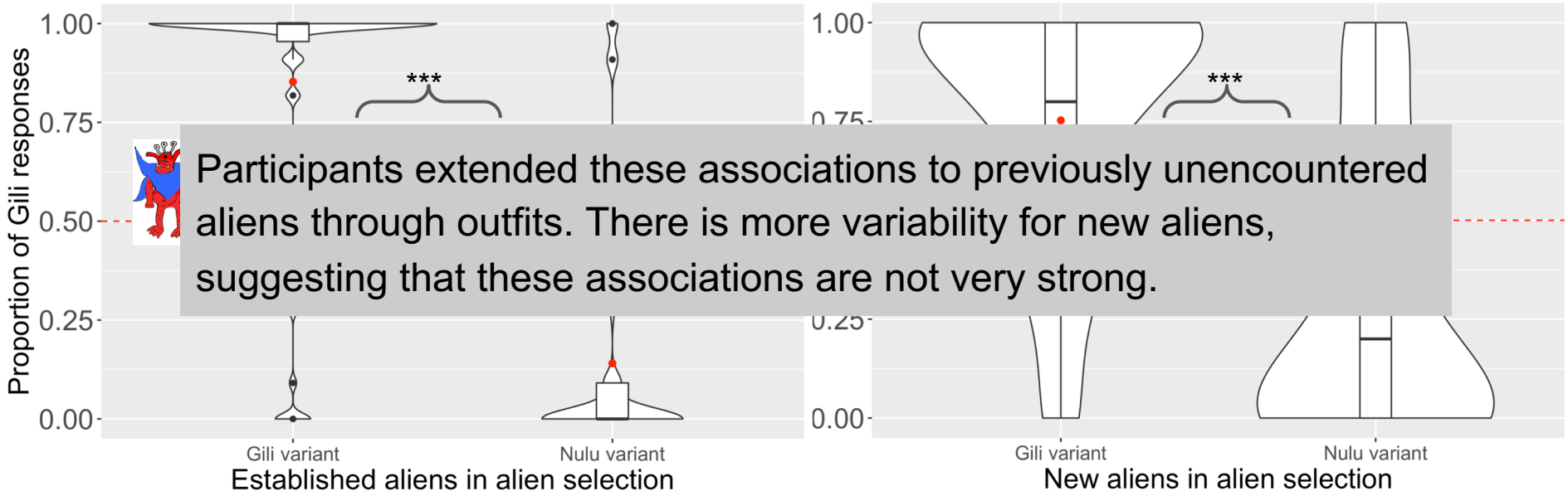
Alien selection





Experiment 2: Extension

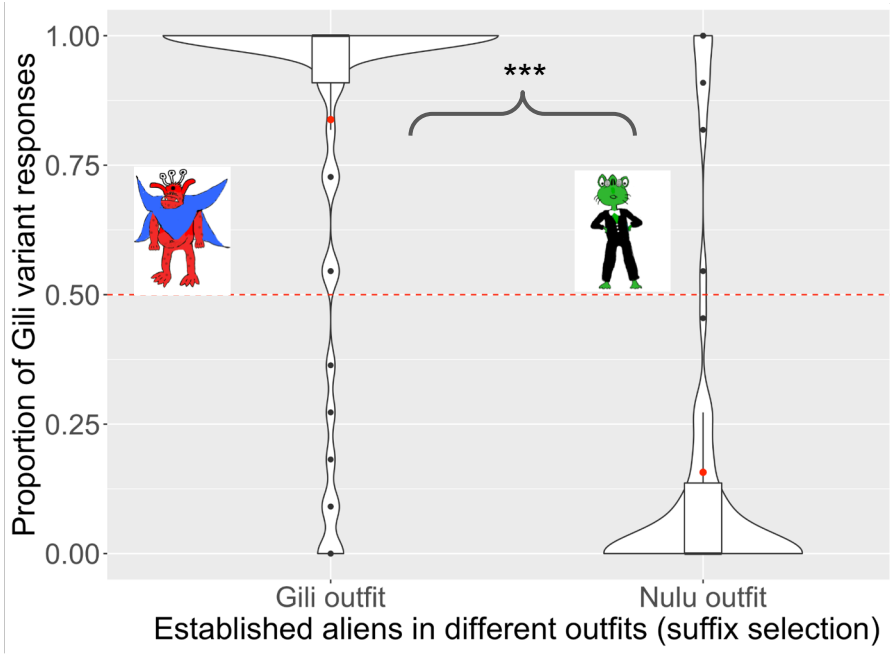
Alien selection

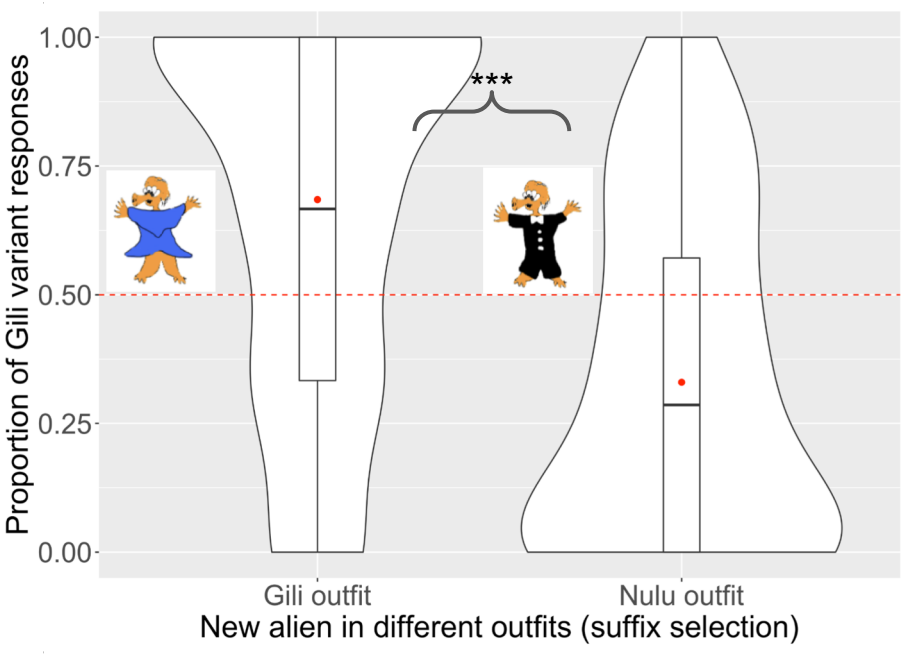


Participants extended these associations to previously unencountered aliens through outfits. There is more variability for new aliens, suggesting that these associations are not very strong.

Experiment 2: Extension

Suffix selection





Experiment 2: Extension

- While participants acquired strong higher-order associations between suffixes and alien species, they extended these associations **via clothing** to previously unencountered aliens.

- Participants must have established some latent secondary association with clothing. **Now**, would this association become strengthened if it were given more social importance?

Experiment 3: Social salience

Experiment 3: Social salience

- **Introducing a new familiarization task**

Diplomatic gathering

Experiment 3: Social salience

- **Conditions**

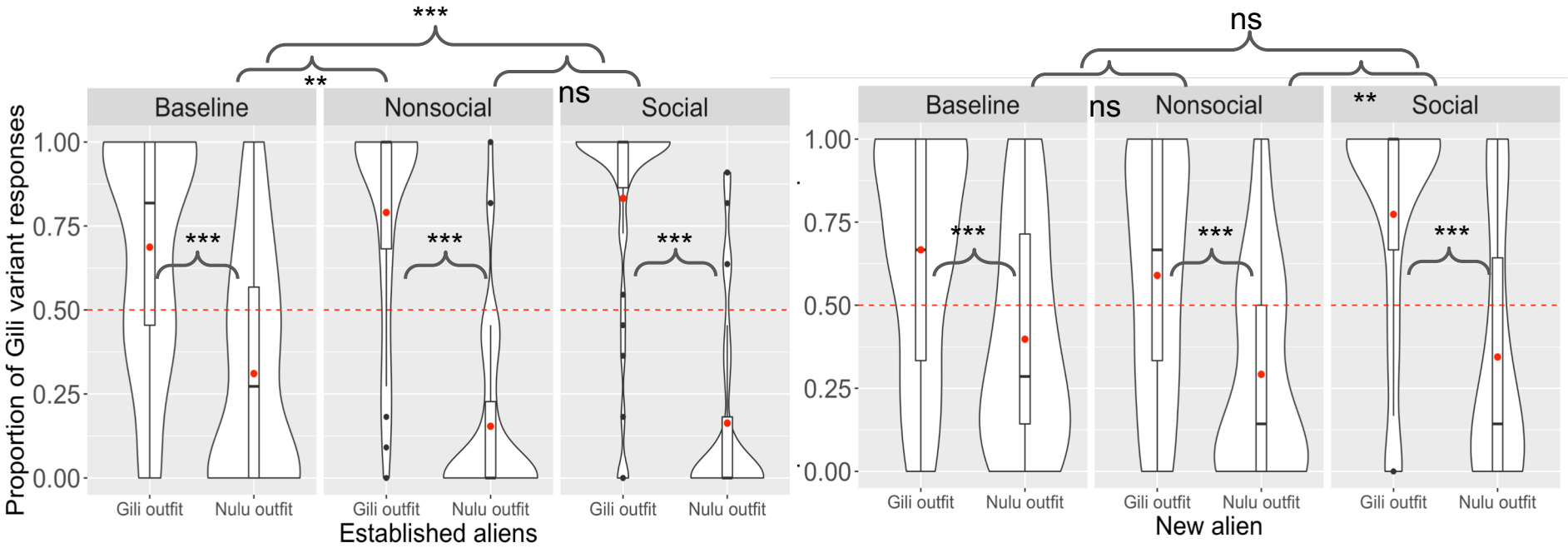
Social condition: "**clothing is socially important** and aliens will be offended if you do not have an equal number of each color outfit".

Nonsocial condition: "**clothing is aesthetically important** and the party will not succeed if you do not have an equal number of each color outfit".

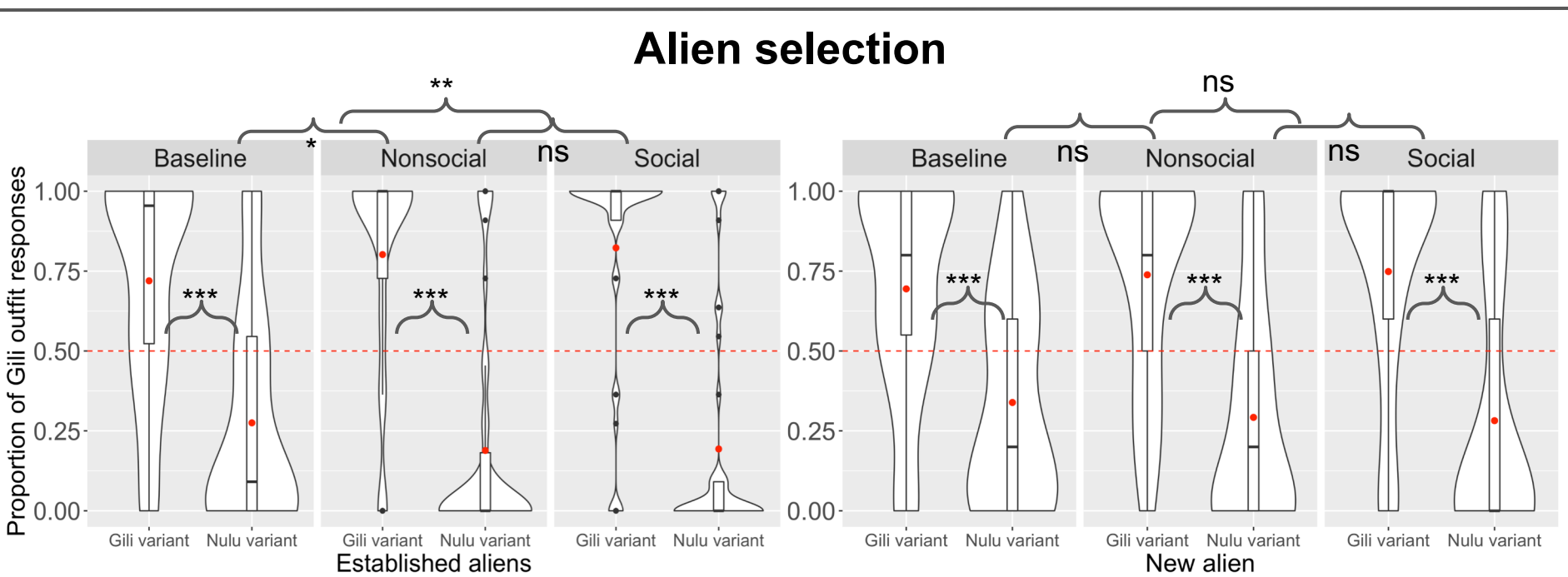
Baseline condition
Same grouping activity as Experiment 1 and 2

Experiment 3: Social salience

Suffix selection



Experiment 3: Social salience



Conclusion

We found that indexicality seems to arise partly through:

- Exposure to **co-occurring** socially salient and contrastive **variation**.
- Extension to **new contexts** in which the indexed trait is dissociated from the originally observed bearers.
- Modulated by the perceived **practical importance** of the trait in question.

Thank you!

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Contact us for further questions:
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