

# The Role of Social Meaning in the Emergence of Indexicality

Aini Li & Gareth Roberts

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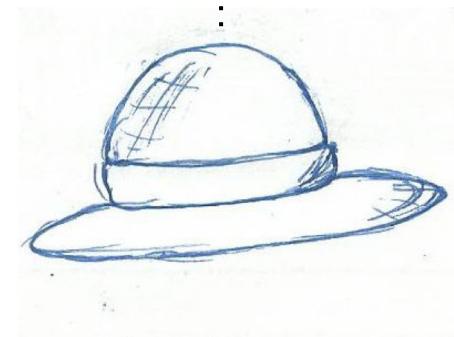
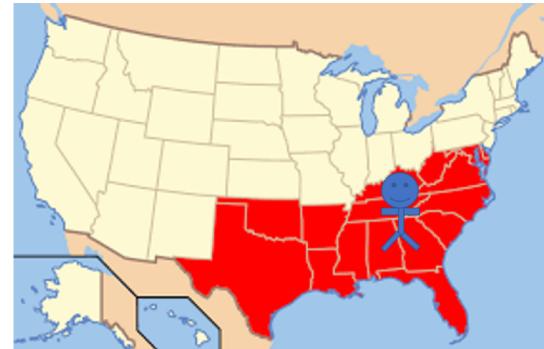
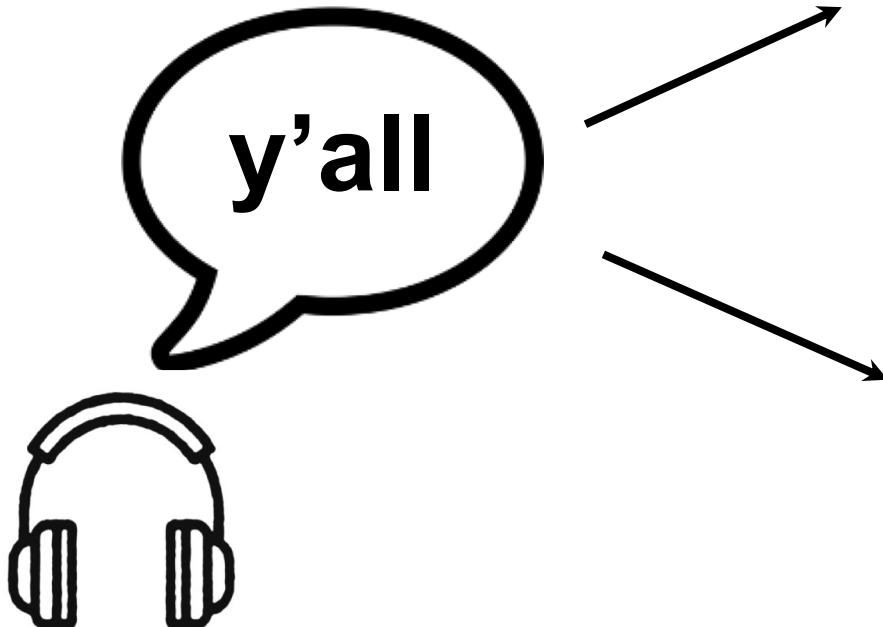


# Indexicality

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Speakers link linguistic features with social information

# Indexicality



# Indexicality

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- 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

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To extend further:

- Is mere co-occurrence of speakers, traits and linguistic variants sufficient? **Experiment 1**
- If co-occurrence is not enough, what else is needed?  
Extension to new users? **Experiment 2**
- Is all co-occurrence equal? Probably not. Indexicality also requires **social meaning** to be attached.  
**Experiment 3**

# Indexicality

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- 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!

# Artificial Language Learning

- We created a miniature artificial alien language
  - **Nouns:**

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


  - 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*

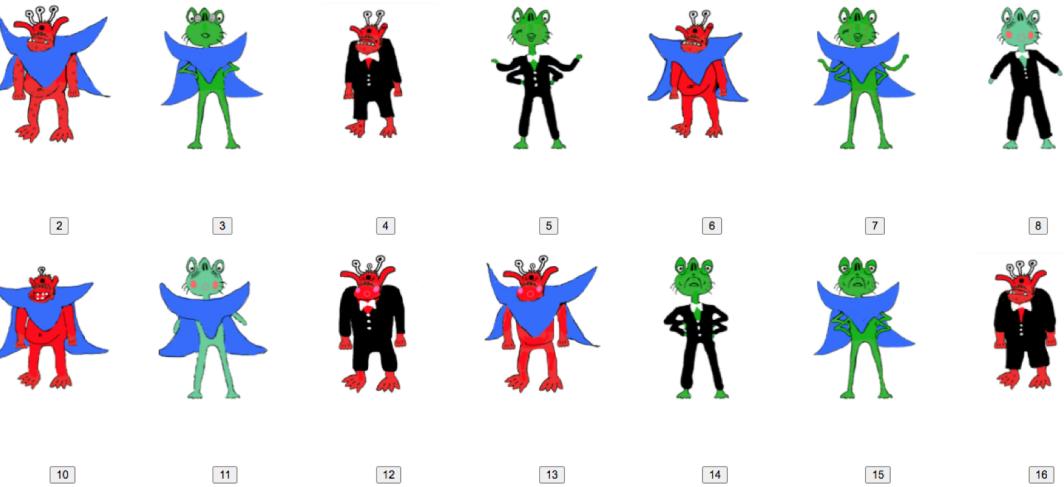
# Artificial Language Learning

(1) Familiarization



# Artificial Language Learning

## (1) Familiarization



Please find all the images of Nulus and type their numbers in this box. Please separate numbers with commas. Press enter when you are done.

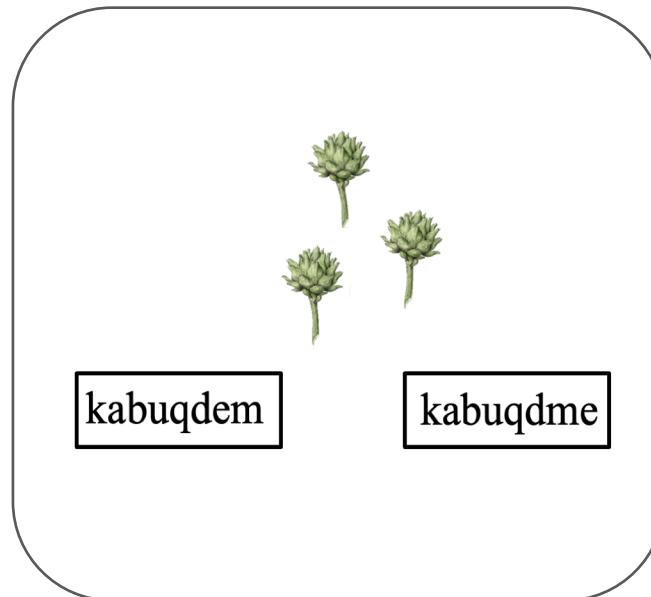
# Artificial Language Learning

## (2) Language training

### Passive exposure



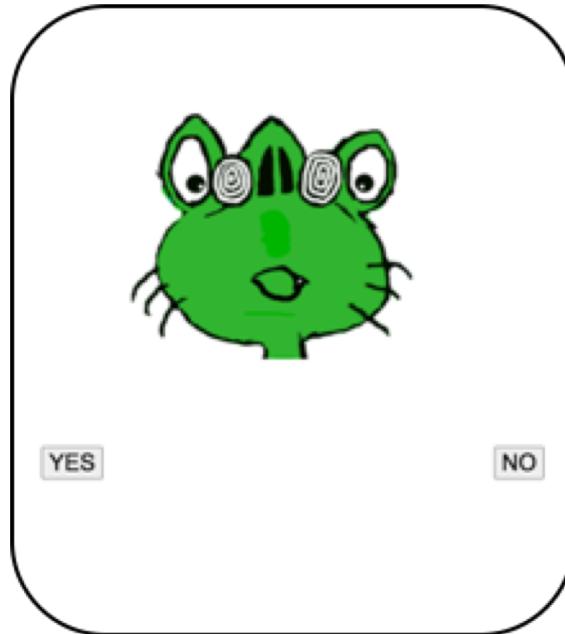
### Forced-choice



# Artificial Language Learning

## (3) Memory test

Have you seen this alien before?



# Artificial Language Learning

## Reminder

kabuqgok



kabuqdem



# Artificial Language Learning

## (4) Association test

### Suffix selection



kabuqdem

kabuqgok

Click on the word that you think this alien might say.

### Alien selection



Click on the alien that might have said the word

# 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

## Training



*-gok*

Nulus

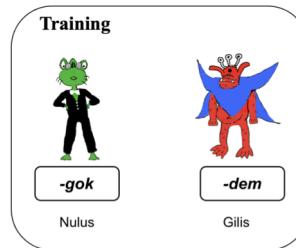


*-dem*

Gilis

# Experiment 1: Co-occurrence

- Conditions: Association test



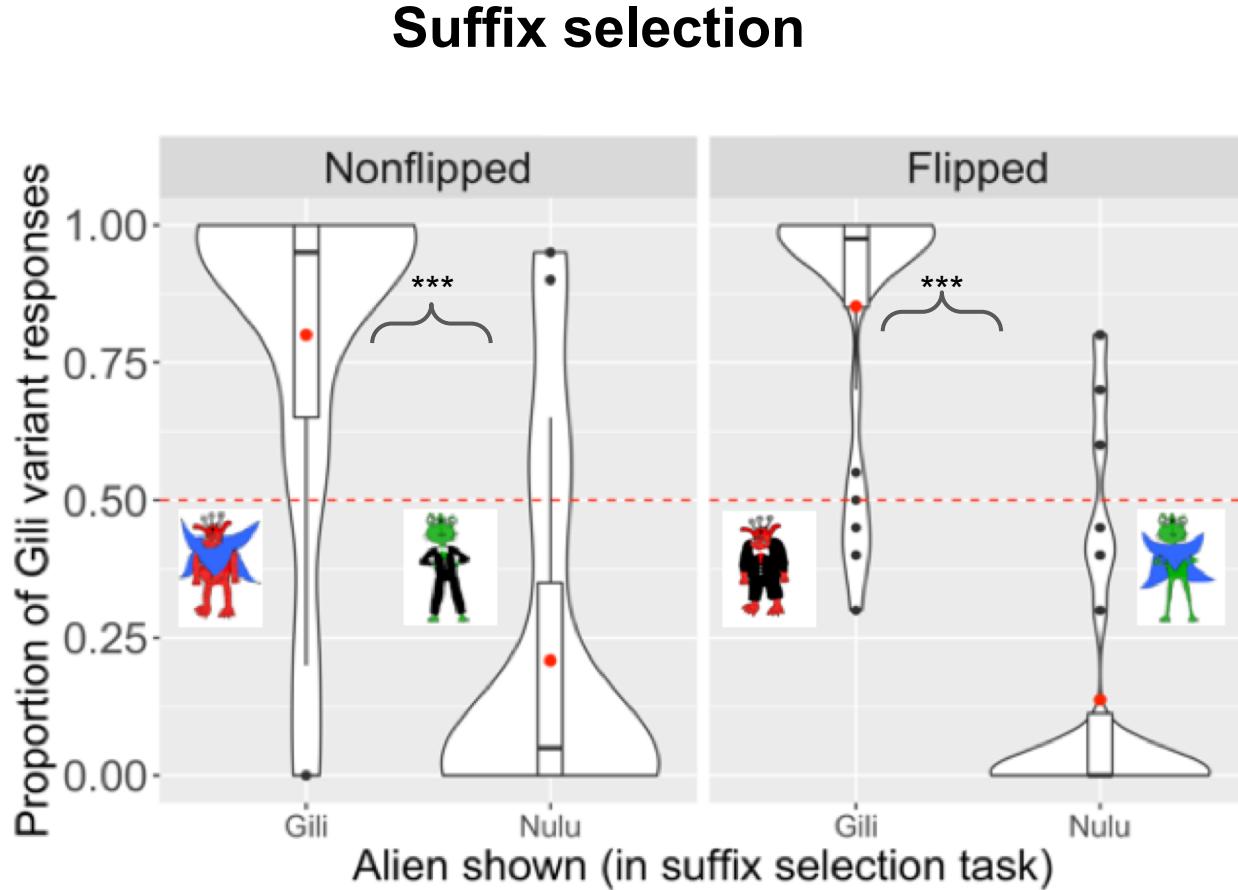
Nonflipped



Flipped



# Experiment 1: Co-occurrence



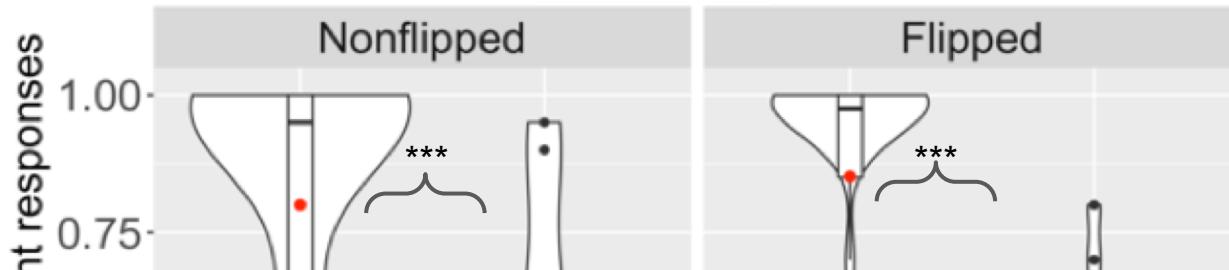
# Experiment 1: Co-occurrence



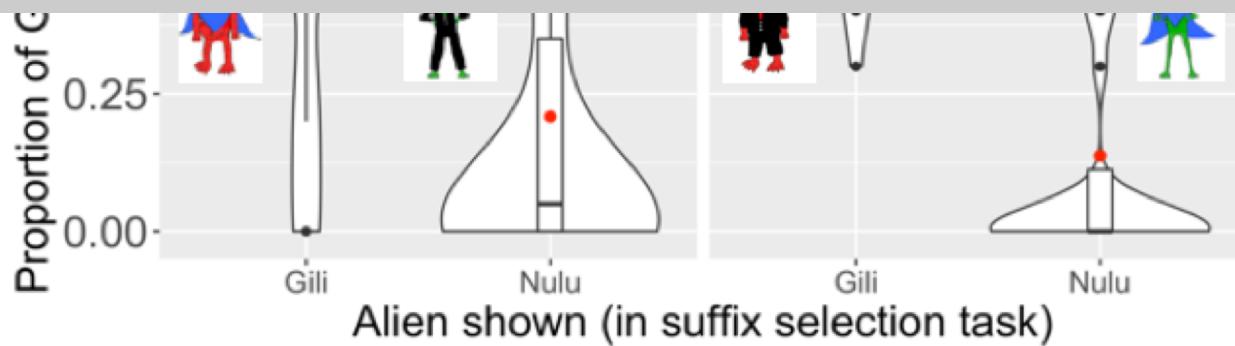
kabuqdem

kabuqgok

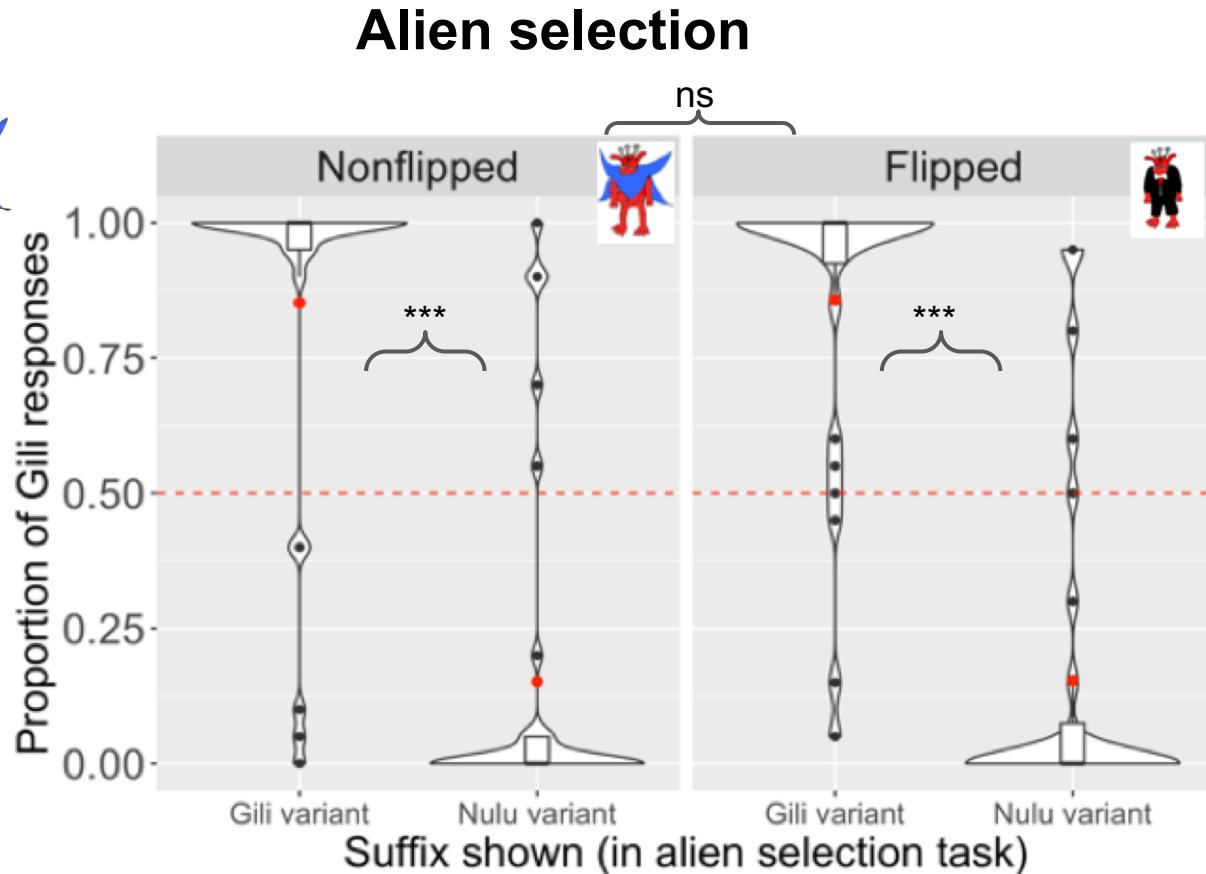
## Suffix selection



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



# Experiment 1: Co-occurrence



# Experiment 1: Co-occurrence

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- 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, one reasonable possibility is that these associations may show up with new language users.

## **Experiment 2: Extension**

# Experiment 2: Extension



(a)

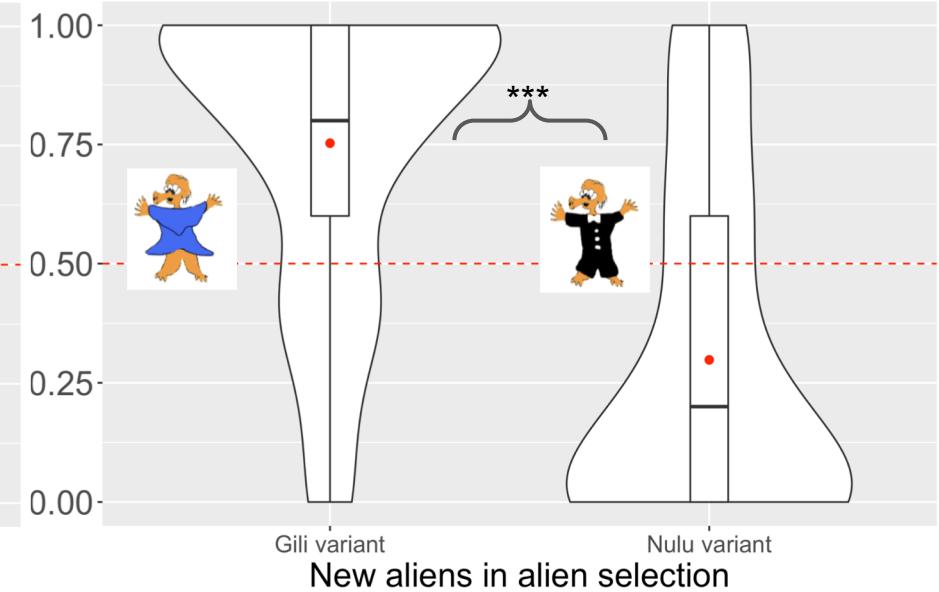
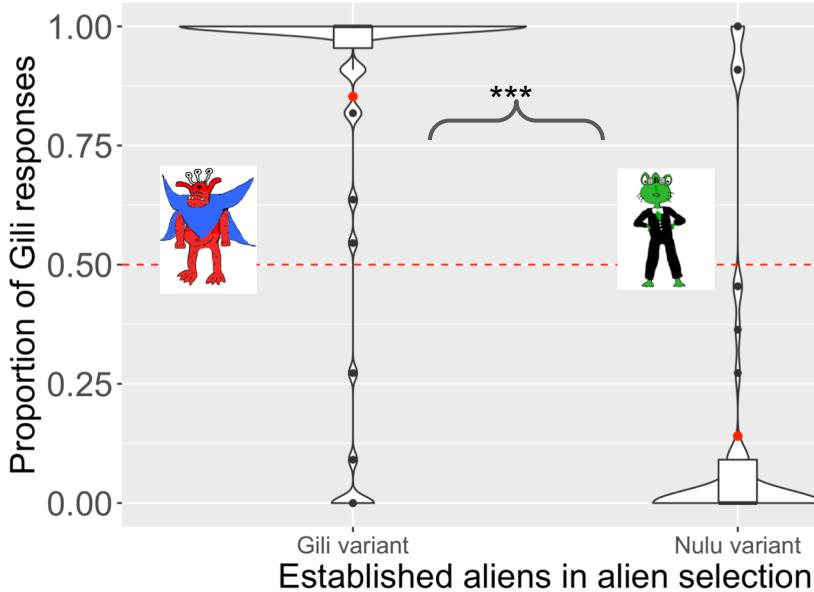


(b)

**Only in the association test phase!**

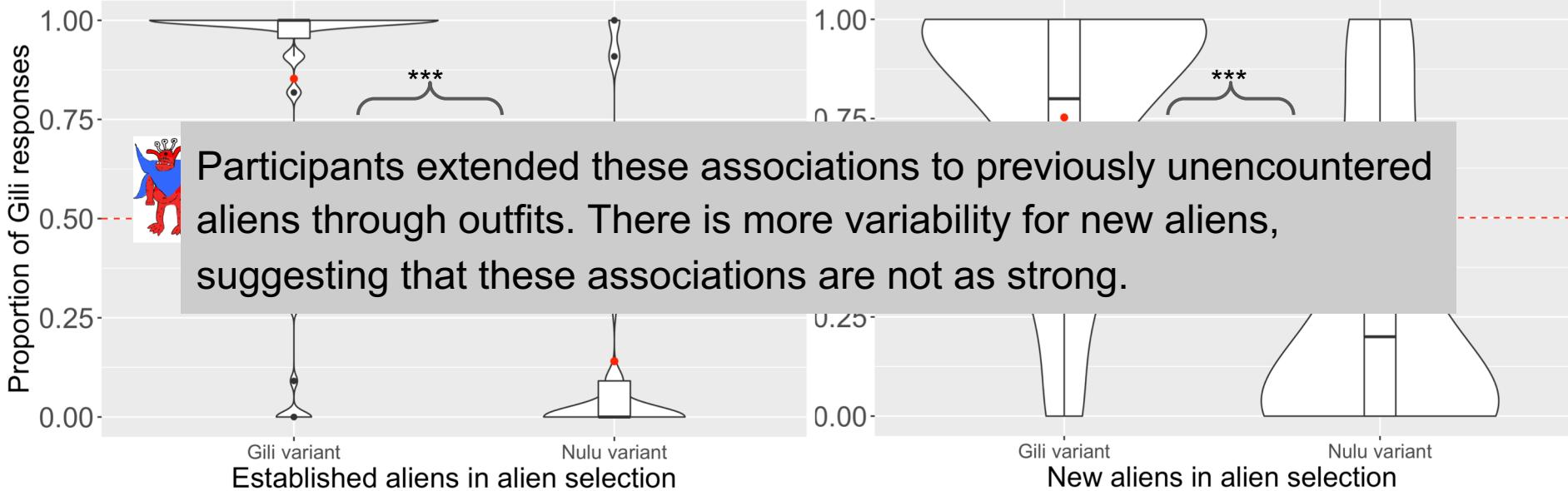
# Experiment 2: Extension

## Alien selection



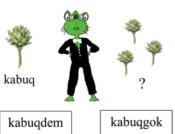
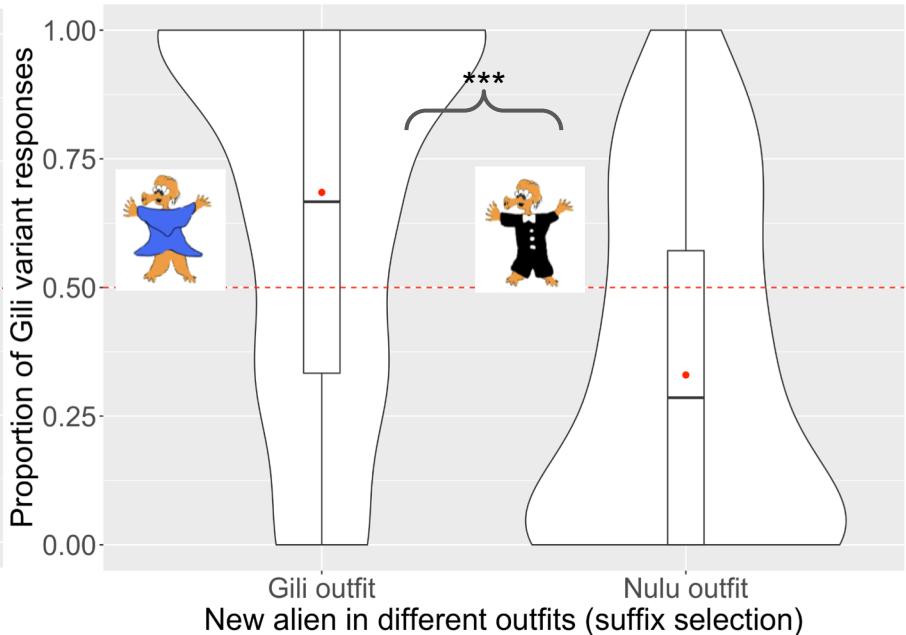
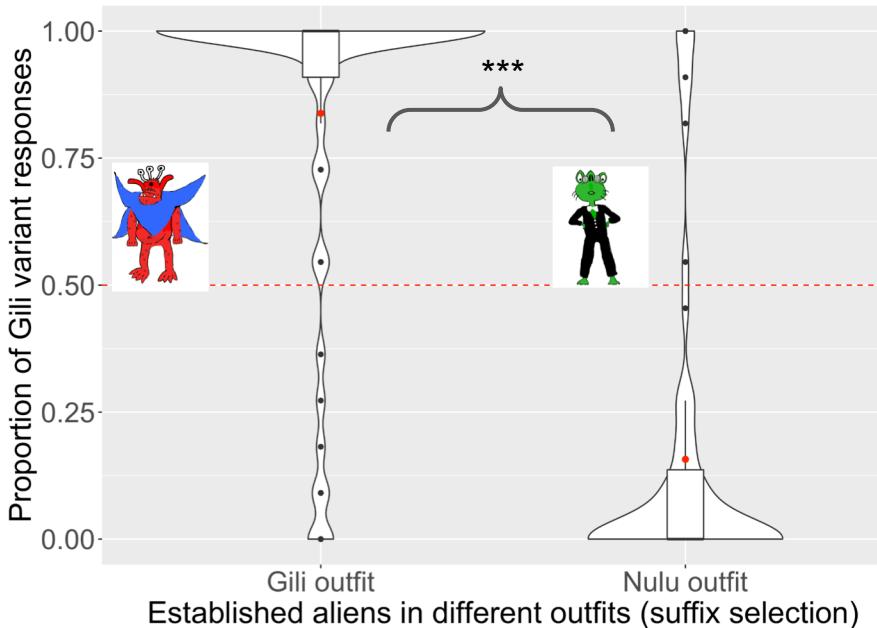
# Experiment 2: Extension

## Alien selection



# Experiment 2: Extension

## Suffix selection



# Experiment 2: Extension

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- While participants acquired strong first-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 meaning**

# Experiment 3: Social meaning

- Introducing a new familiarization task

Diplomatic gathering



# Experiment 3: Social meaning

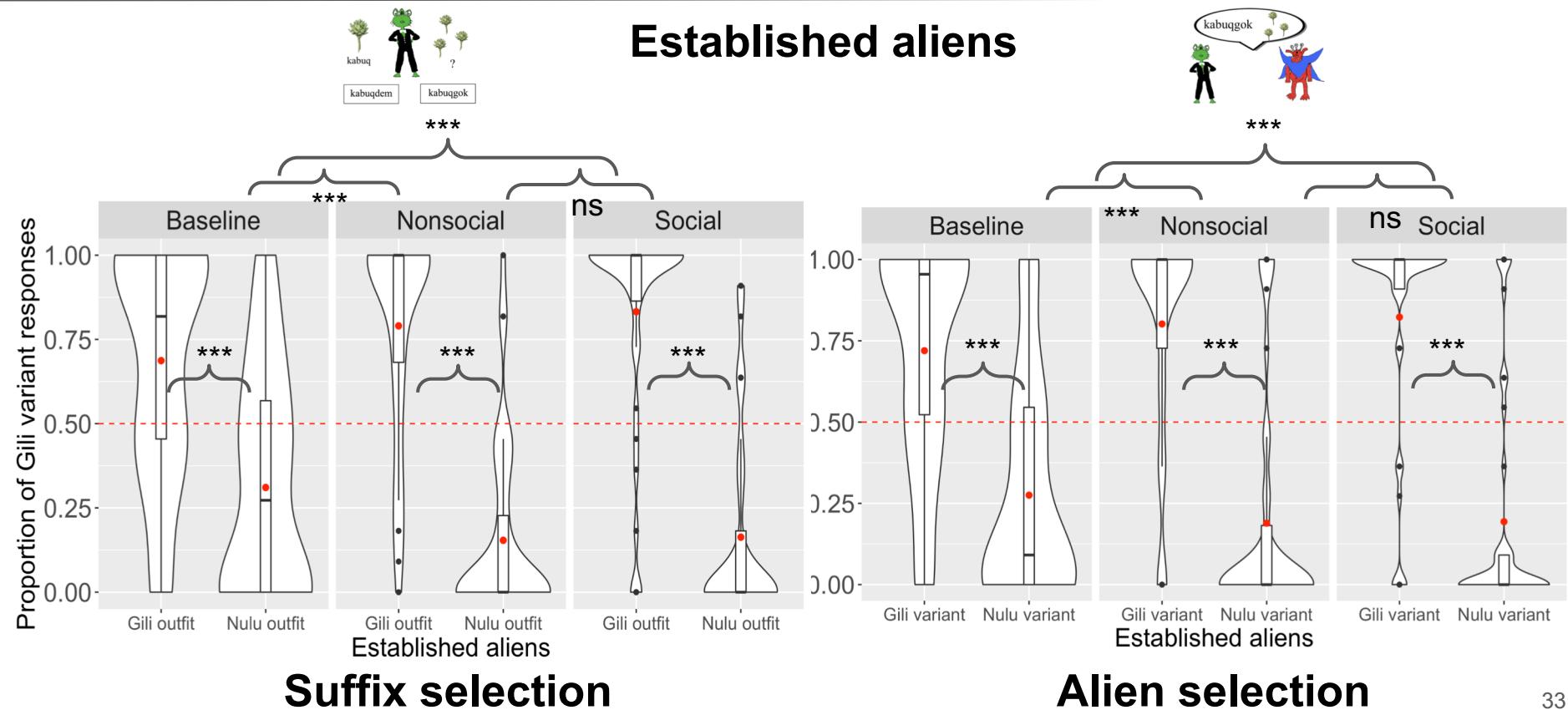
- **Conditions**

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

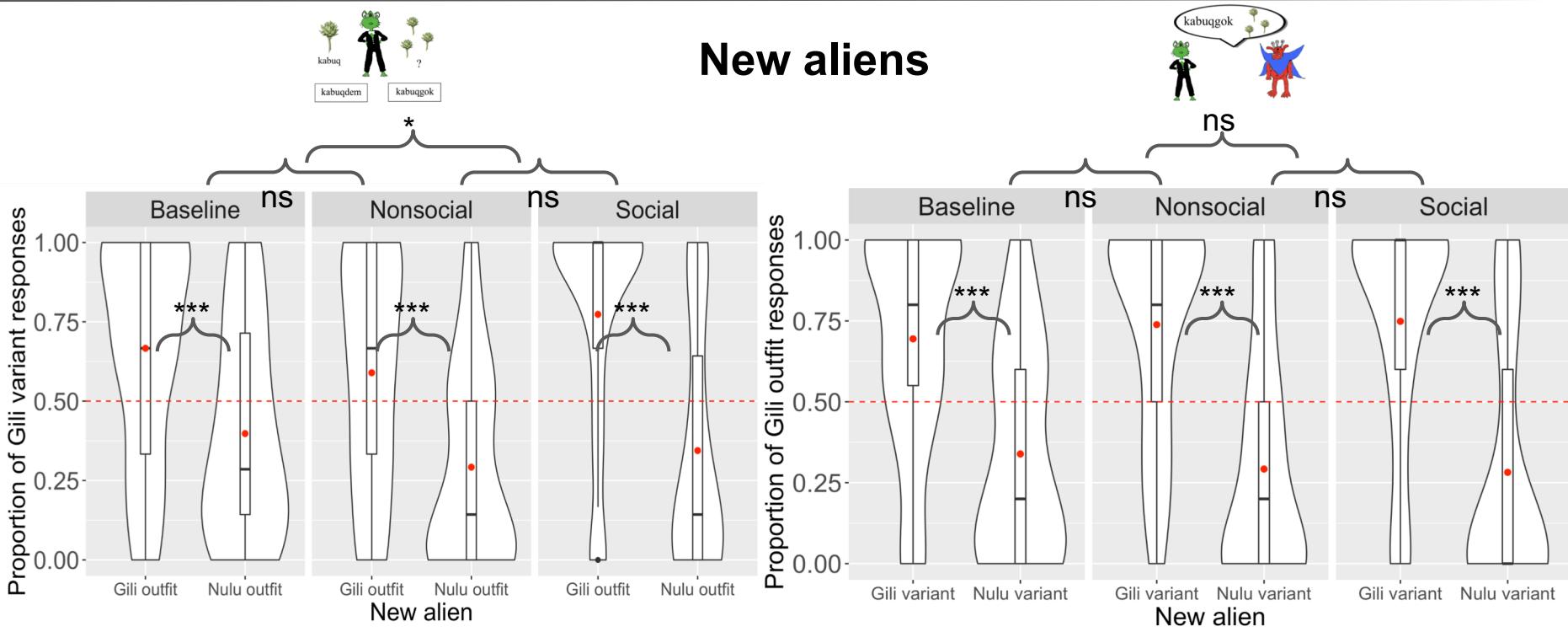
**Nonsocial condition:**  
**clothing is aesthetically important** and the party will not succeed if you do not have an equal number of each color outfit.

**Baseline condition**  
Same grouping activity as Experiment 1 and 2

# Experiment 3: Social meaning



# Experiment 3: Social meaning



# Conclusion

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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!

## Acknowledgements:

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Contact us for further questions:

Aini Li: [liaini@sas.upenn.edu](mailto:liaini@sas.upenn.edu) & Gareth Roberts: [gareth.roberts@ling.upenn.edu](mailto:gareth.roberts@ling.upenn.edu)