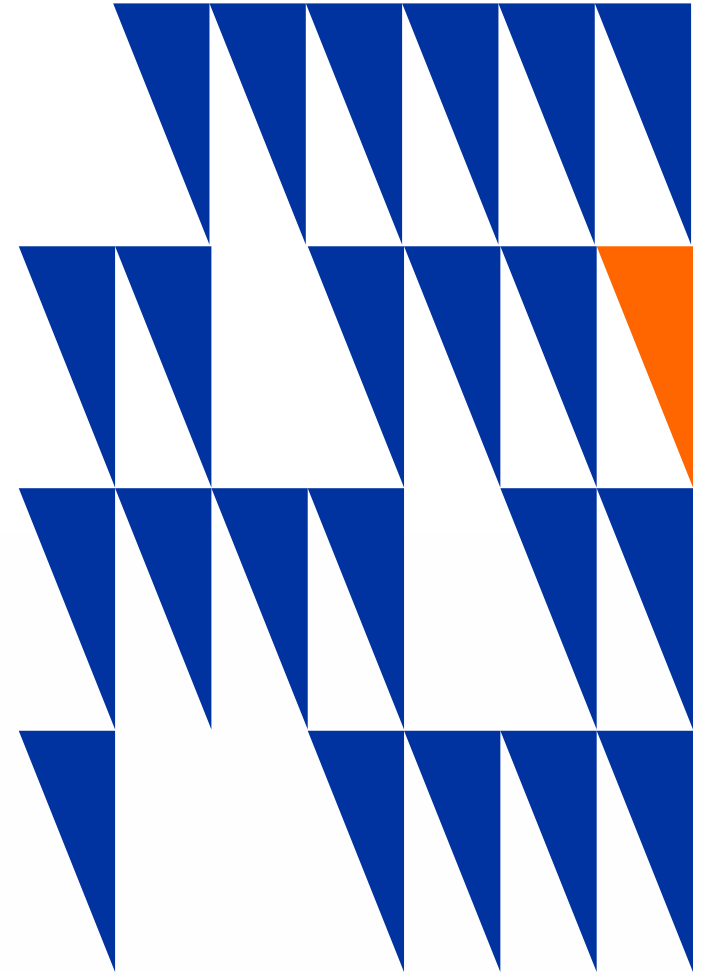


HE SAYS, SHE SAYS

THE ACQUISITION AND ABSTRACTION OF
SOCIAL MEANING



The background consists of a solid blue field on the left and a diagonal split with a solid orange field on the right. The split line runs from the top right towards the bottom left.

1. Theoretical background

2. Research aims

3. Hypotheses

4. Design & method

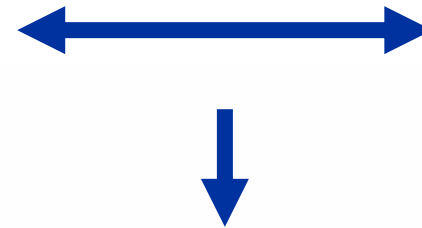
5. What's next?

THEORETICAL BACKGROUND

SOCIAL MEANING



LANGUAGE



SOCIAL CATEGORIES



- macrolevel
- microlevel

Acquisition?

THEORETICAL BACKGROUND

DEVELOPMENTAL SOCIOLINGUISTICS

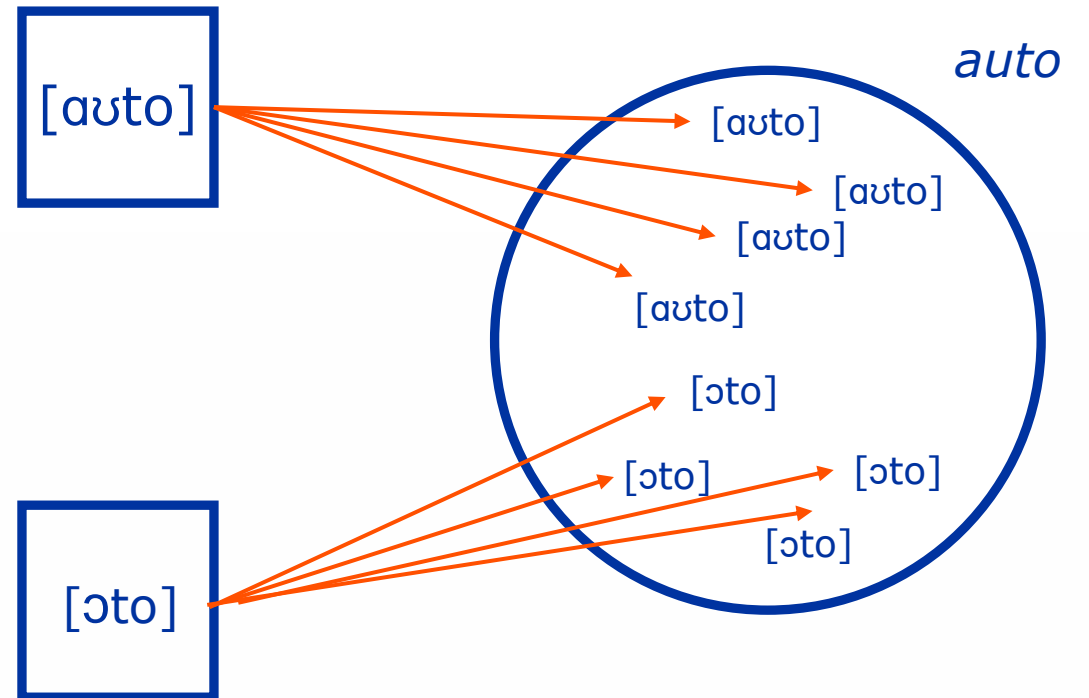
THEORETICAL MODELS:

- linguistic & social aspects in **one general learning mechanism:**
exemplar theory

THEORETICAL BACKGROUND

EXEMPLAR THEORY

- Utterance stored in acoustic detail (*exemplar*)
- similarity → clustering → activation



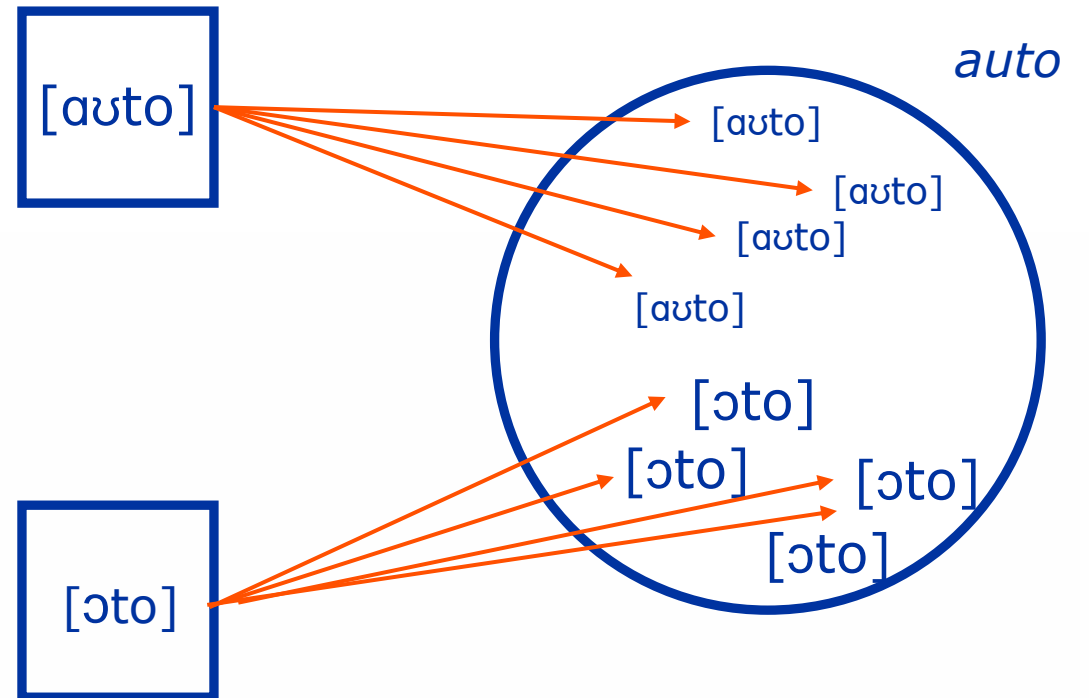
THEORETICAL BACKGROUND

EXEMPLAR THEORY



“Er staat nen **otto** voor onze deur.”

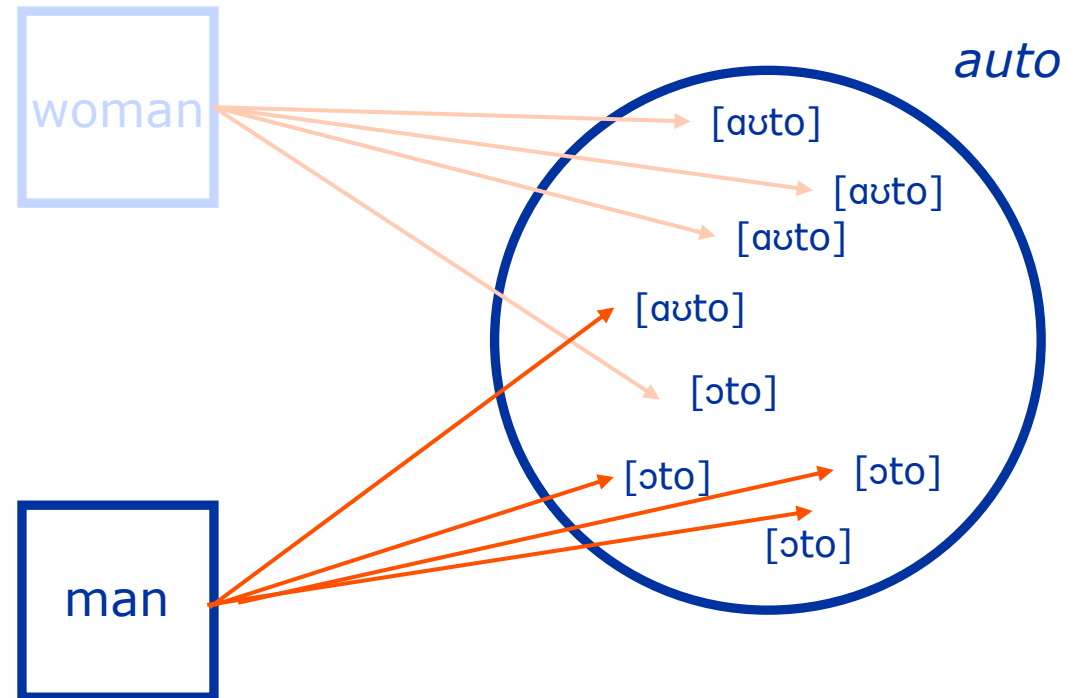
“There is a **car** in front of our door.”



THEORETICAL BACKGROUND

EXEMPLAR THEORY

- socio-contextual information stored in **social exemplars**
- social exemplars linked to linguistic exemplars
- strength of the indexical link influences activation



THEORETICAL BACKGROUND

DISTRIBUTIONS

INPUT:

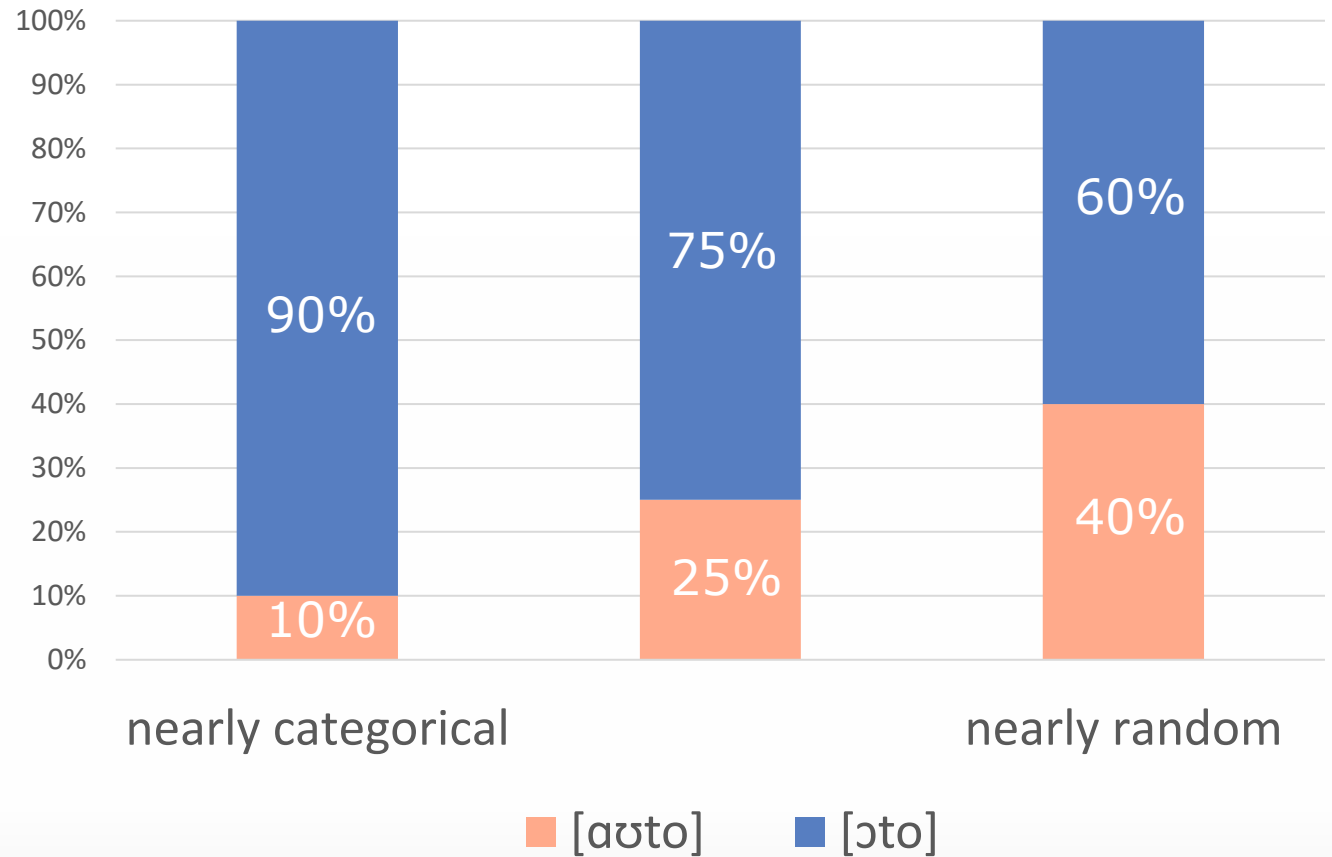
linguistic variant



how often?

social attribute

Example of a probabilistic distribution



THEORETICAL BACKGROUND

DISTRIBUTIONS

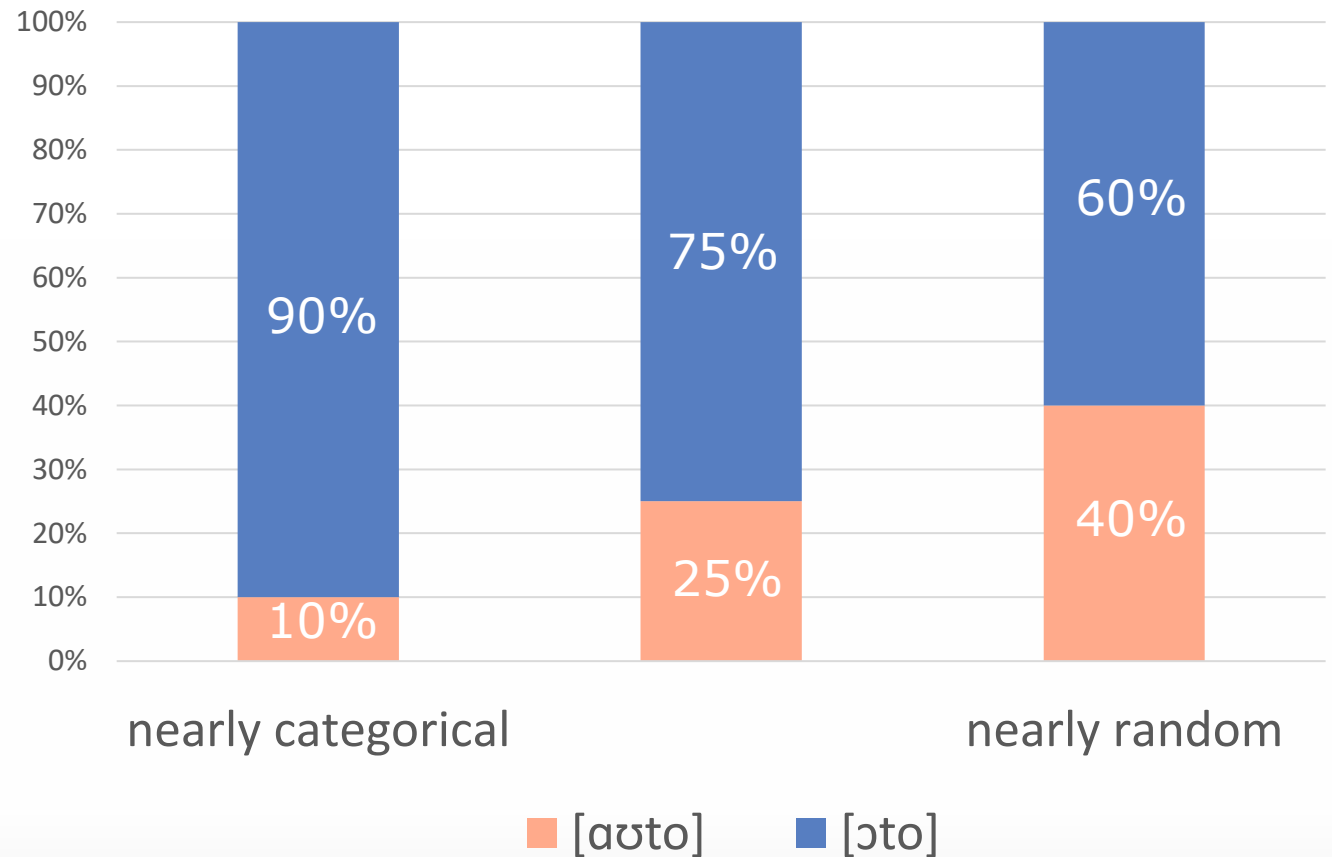
EXPLORATORY STUDIES:

categorical variation



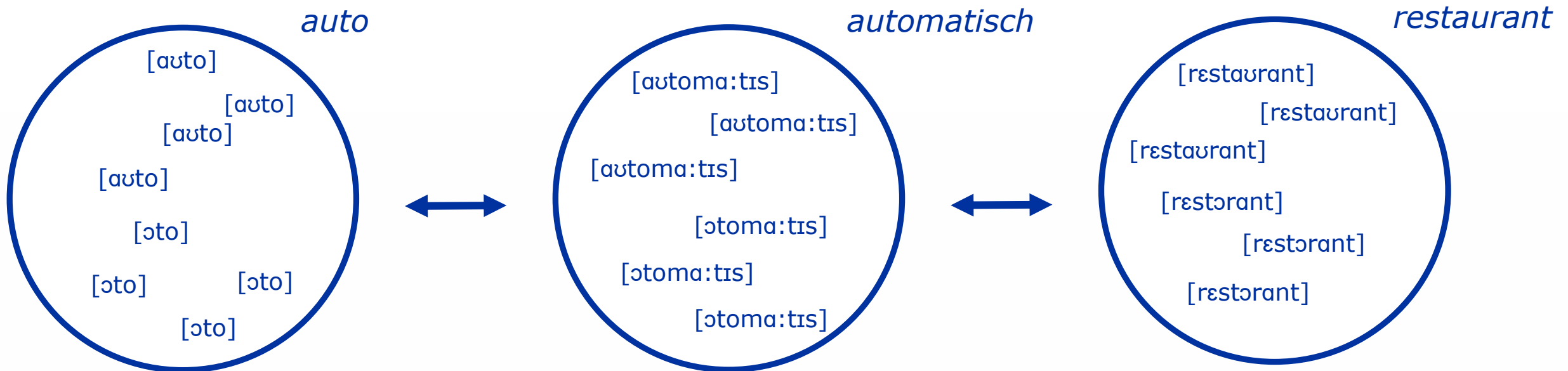
highest success at acquisition

Example of a probabilistic distribution



THEORETICAL BACKGROUND

ABSTRACTION



THEORETICAL BACKGROUND

METHODOLOGICAL PARADIGM

CONCEPTUAL QUESTION

How do listeners learn the link
between language variation and
social categories?



METHODOLOGICAL FRAMEWORK

How do we investigate this?

THEORETICAL BACKGROUND

METHODOLOGICAL PARADIGM

CONCEPTUAL QUESTION

How do listeners learn the link
between language variation and
social categories?



METHODOLOGICAL FRAMEWORK

How do we investigate this?



1. Theoretical background
2. Research aims
3. Hypotheses
4. Design & method
5. What's next?

RESEARCH AIMS

QUESTIONS



DISTRIBUTION

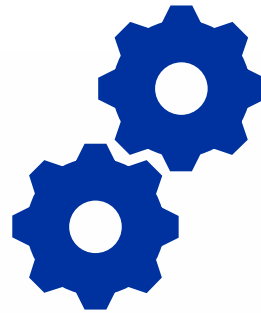
- Is the distribution of a sociolinguistic variable a **threshold** for acquisition of that variable?

RESEARCH AIMS

QUESTIONS



DISTRIBUTION



ABSTRACTION

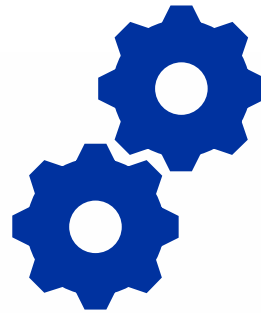
- To what degree do listeners **generalise** newly learned social meanings, and how does this relate to the distribution of a sociolinguistic variable?

RESEARCH AIMS

QUESTIONS



DISTRIBUTION



ABSTRACTION

- How do we **fine-tune** the methodological framework?

1. Theoretical background
2. Research aims
3. Hypotheses
4. Design & method
5. What's next?

HYPOTHESES

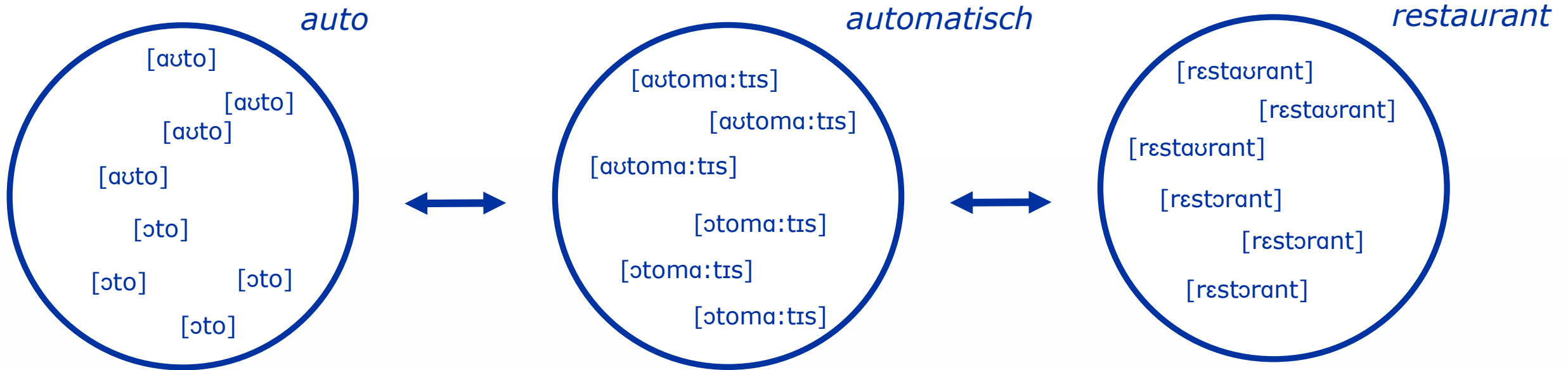
DISTRIBUTIONS

HYPOTHESIS:

Strong frequency distributions of a sociolinguistic variable will lead to most successful learning across participants of that variable.

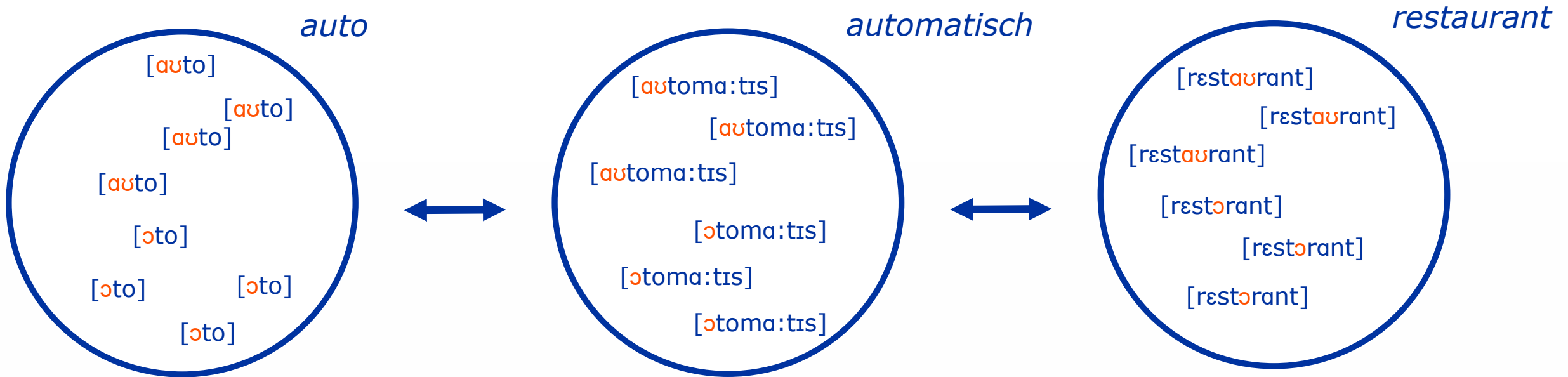
HYPOTHESES

ABSTRACTION



HYPOTHESES

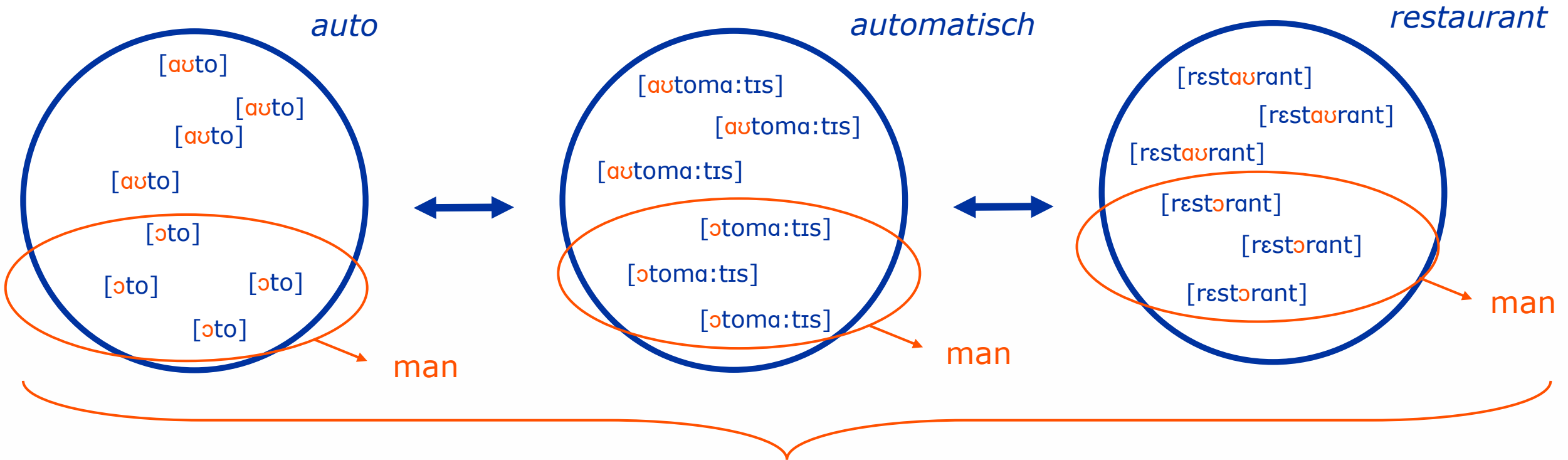
ABSTRACTION



$$[aʊ] = [\ɔ]$$

HYPOTHESES

ABSTRACTION



$[aʊ] = [ɔ]$ used by men

HYPOTHESES

ABSTRACTION

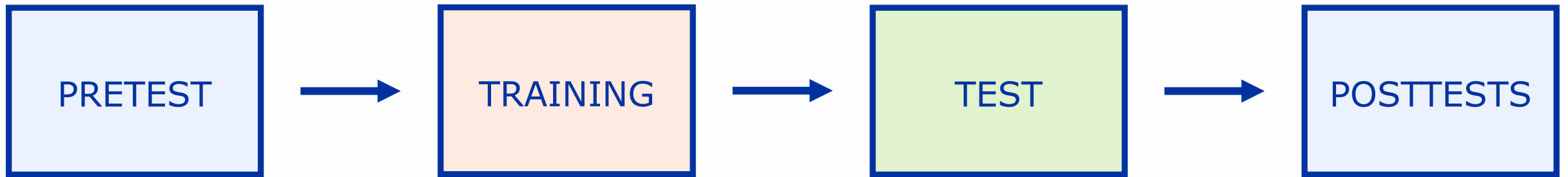
HYPOTHESIS:

Strong frequency distributions of a sociolinguistic variable will result in more participants generalising its social meaning to novel lexical items.

1. Theoretical background
2. Research aims
3. Hypotheses
4. Design & method
5. What's next?

RESEARCH AIMS

EXPERIMENT: PROCEDURE



RESEARCH AIMS

SEMI-ARTIFICIAL LANGUAGE LEARNING

SEMI-ARTIFICIAL LANGUAGE:

- **isolation** of specific aspects of the acquisition process
- minimised **associations** with existing variation
- **cognitive processing** similar to natural languages
- longstanding **precedent** in language acquisition research

RESEARCH AIMS

SEMI-ARTIFICIAL LANGUAGE LEARNING

SEMI-ARTIFICIAL LANGUAGE

new type of variation

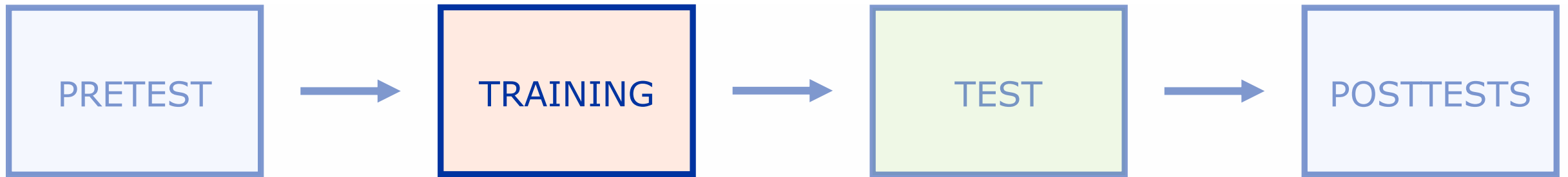


existing social category

association to be learned

RESEARCH AIMS

EXPERIMENT: PROCEDURE



DESIGN & METHOD

TRAINING PHASE

+



“Ik zie een lopat.”



DESIGN & METHOD

TRAINING PHASE

PSEUDOWORDS:

CV**CVC** → bilabial stop consonant

Ik zie een **lobat**. → voicing

Ik zie een **lopat**. → devoicing

Ik zie een **soret**. → filler

+



“Ik zie een lopat.”



DESIGN & METHOD

TRAINING PHASE

SOCIAL ATTRIBUTE:

- speaker gender identity
(male vs. female speaker)

+



“Ik zie een lopat.”



DESIGN & METHOD

TRAINING PHASE

CONDITIONS:

- 90/10%
- 75/25%
- 60/40%
- 25/75% → mirrored

+

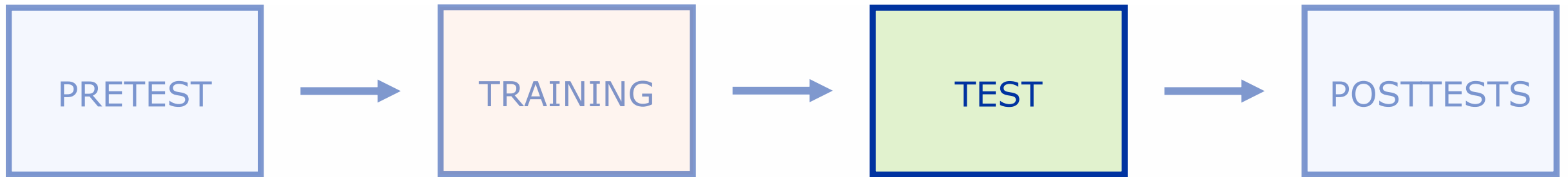


“Ik zie een lopat.”



RESEARCH AIMS

EXPERIMENT: PROCEDURE



DESIGN & METHOD

TEST PHASE

- input: a voice produces 2 variants
 - "Ik zie een **lopat.**"
 - "Ik zie een **lobat.**"
- assessment of associations: rating scale
- seen + novel items

The screenshot shows a test interface on a grey background. At the top, a blue speech bubble contains the text "Ik zie een ...". Below it, the question "Wat zou de spreker het meest waarschijnlijk zeggen?" is displayed. A horizontal timeline is shown with two vertical tick marks labeled "Woord 1" and "Woord 2". A blue circle is positioned on the timeline between the two words. Speaker icons are located above each tick mark. At the bottom right, there is a blue button labeled "Doorgaan".

1. Theoretical background
2. Research aims
3. Design & method
4. Hypotheses
5. *What's next?*

WHAT'S NEXT?

STIMULI & RECORDINGS

IN THE COMING WEEKS:

- finalise the stimuli
- record the speakers
- pretest the stimuli on discriminability (voiced – voiceless)
- recruitment of participants

WHAT'S NEXT?

ADDITIONAL FACTORS OF ACQUISITION

AND AFTERWARDS...

- **factors** influencing the effect of distributions on learning:
 - hearer age
 - type of linguistic feature
- transition from first- to **higher-order** indexical meanings
- **retention** of social meanings

THANK YOU!

Contact: Moira.Van.Puyvelde@vub.be

REFERENCES

Dasgupta, N. & Rivera, L. M. (2006). From Automatic Antisocial Prejudice to Behavior: The Moderating Role of Conscious Beliefs About Gender and Behavioral Control. *Journal of Personality and Social Psychology, 91*(2): 268-80.

Docherty, G., Langstrof, C. & Foulkes, P. (2013). Listener evaluation of sociophonetic variability: probing constraints and capabilities. *Linguistics, 51*(2): 355-80.

Drager, K. (2009). *A Sociophonetic Ethnography of Selwyn Girls' High*. University of Canterbury dissertation.

Drager, K. & Kirtley, J. (2016). Awareness, salience, and stereotypes in exemplar-based models of speech production and perception. *Awareness and Control in Sociolinguistic Research*. Cambridge: Cambridge University Press, pp. 1-24.

Eckert, P. (2005). Variation, convention, and social meaning. *Annual Meeting of the Linguistic Society of America*. Oakland, CA, USA.

Ettlinger, M., Morgan-Short, K., Faretta-Stutenberg, M. & Wong, P. C. M. (2015). The relationship between artificial and second language learning. *Cognitive Science, 40*: 822-47.

Foulkes, P. (2010). Exploring social-indexical knowledge: a long past but a short history. *Laboratory Phonology, 1*(1): 5-39.

Foulkes, P. & Docherty, G. (2006). The social life of phonetics and phonology. *Journal of Phonetics, 34*(4): 409-38.

REFERENCES

Glick, P. & Fiske, S. T. (1996). The Ambivalent Sexism Inventory: Differentiating Hostile and Benevolent Sexism. *Journal of Personality and Social Psychology*, 70(3): 491-512.

Glick, P. & Fiske, S. T. (1999). The Ambivalence Toward Men Inventory. Differentiating Hostile and Benevolent Beliefs About Men. *Psychology of Women Quarterly*, 23(3): 519-36.

Goldberg, A. E. (2006). *Constructions at Work: The Nature of Generalization in Language*. Oxford: Oxford University Press.

Hicks, K. L., Foster, J. L. & Engle, R. W. (2016). Measuring Working Memory Capacity on the Web with the Online Working Memory Lab (the OWL). *Journal of Applied Research in Memory and Cognition*, 5(4): 478-89.

Labov, W. (2001). *Principles of Linguistic Change: Social Factors*. Malden, MA & Oxford: Blackwell.

Lai, W., Rácz, P. & Roberts, G. (2020). Experience With a Linguistic Variant Affects the Acquisition of Its Sociolinguistic Meaning: An Alien-Language-Learning Experiment. *Cognitive Science*, 44(4): e12832.

Pierrehumbert, J. (2001). Stochastic phonology. *GLOT*, 5(6): 1-13.

Samara, A., Smith, K., Brown, H. & Wonnacott, E. (2017). Acquiring variation in an artificial language: Children and adults are sensitive to socially conditioned linguistic variation. *Cognitive Psychology*, 94: 85-114.

REFERENCES

Sidhu, D. M. & Pexman, P. M. (2015). What's in a Name? Sound Symbolism and Gender in First Names. *PLoS ONE*, 10(5): e0126809.

Sidhu, J., Pexman, P. M. & Saint-Aubin, J. (2016). From the Bob/Kirk effect to the Benoit/Éric effect: Testing the mechanism of name sound symbolism in two languages. *Acta Psychologica*, 169: 88-99.

Tomasello, M. (2003). *Constructing a Language: A Usage-Based Theory of Language Acquisition*. Cambridge & London: Harvard University Press.

Trudgill, P. (1972). Sex, covert prestige and linguistic change in the urban British English of Norwich. *Language in Society*, 1(2): 179-95.

Walker, A., García, C., Cortés, Y. & Campbell-Kibler, K. (2014). Comparing social meanings across listener and speaker groups: The indexical field of Spanish /s/. *LVC*, 26(2): 169-89.

Wonnacott, E. & Newport, E. L. (2005). Novelty and Regularization: The Effect of Novel Instances on Rule Formation. In A. Brugos, M. R. Clark-Cotton & S. Ha (Eds.), *BUCLD 29: Proceedings of the 29th Annual Boston University Conference on Language Development*. Somerville, MA: Cascadilla Press.

Wonnacott, E., Newport, E. L. & Tanenhaus, M. K. (2008). Acquiring and processing verb argument structure: Distributional learning in a miniature language. *Cognitive Psychology*, 56(3): 165-209.

DESIGN & METHOD

TEST PHASE

AWARENESS:

- verbalisation:
 - open text box in experiment software
 - post-test interview

Hoorde je een verschil tussen de woorden in dit experiment? Indien ja, leg dat verschil dan uit.

Druk op ENTER om je antwoord in te dienen.

|

DESIGN & METHOD

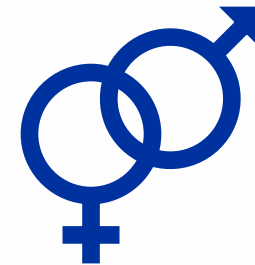
PRE- & POSTTESTS

PRETESTS



Working memory test

POSTTESTS



**Gender stereotypes
survey**

DESIGN & METHOD

PARTICIPANTS

STUDENTS:

- 80
- KU Leuven
- no background in linguistics/psychology

DESIGN & METHOD

TEST PHASE

- rating scale
- items:
 - seen words
 - new words with bilabial stop consonant (b/p)
 - new words with alveolar stop consonant (d/t)

