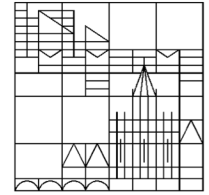


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# Sociolinguistic typology beyond morphology



**STARFISH**

SOCIOLINGUISTIC TYPOLOGY  
AND RESPONSIVE FEATURES  
IN SYNTACTIC HISTORY

**George Walkden**

Universität Konstanz

LAGB special session “Sociolinguistic Typology – Advances & Challenges”  
Anglia Ruskin University, Cambridge, 31<sup>st</sup> August 2023

# Sociolinguistic typology: advances and challenges



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SOCIOLINGUISTIC TYPOLOGY  
AND RESPONSIVE FEATURES  
IN SYNTACTIC HISTORY



SignMorph

**Sociolinguistic typology (Trudgill 2011):  
different types of sociohistorical setting  
have different effects on a language's structural profile.**

## **This special session:**

- What is complexity in language? How can it be measured?
- How, if at all, does complexity change in different social and historical settings?
- How do the core ideas of sociolinguistic typology fare when confronted with data from languages and communities outside the spoken WEIRD canon?
- Can the core ideas of sociolinguistic typology be fruitfully applied beyond morphology?  
(this talk)

# Sociolinguistic typology: advances and challenges



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## Talks in this special session:



SignMorph

- 14:00–14:30 George Walkden  
**Sociolinguistic typology beyond morphology**
- 14:30–15:00 John Hutchinson  
**When More Morphology Means Less Complexity**
- 15:00–15:30 Raquel Montero Estebarez  
**Internal and External Causes of Change:  
A Diachronic Corpus Study of Mood Variation**
- 15:30–16:00 Adam Schembri, Felicia Bisnath, Neil Fox, Marah Jaraisy, Hannah Lutzenberger, Katie Mudd, Heidi Proctor, Arjun Shrestha & Rose Stamp  
**Sociolinguistic typology and signed languages:  
the SignMorph Project**

# This talk



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- Sociolinguistic typology: a brief introduction
- Sociolinguistic typology **beyond morphology**:
  - phonetics & phonology (briefly)
  - semantics & pragmatics (briefly)
  - syntax (the STARFISH project)

# Sociolinguistic typology: the puzzle

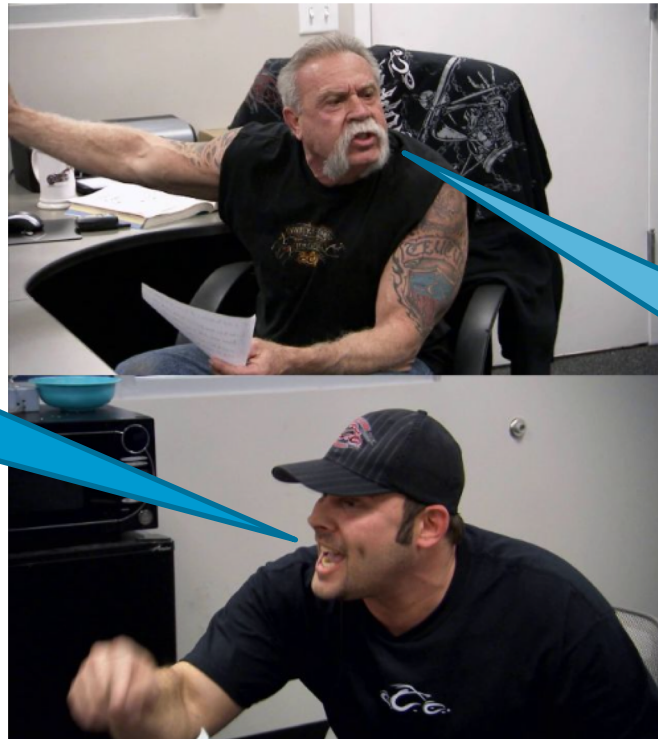


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What are the structural effects of language contact on the languages involved?

contact leads to  
simplification

**Sociolinguists**  
(e.g. Trudgill 1986,  
Milroy 1992)



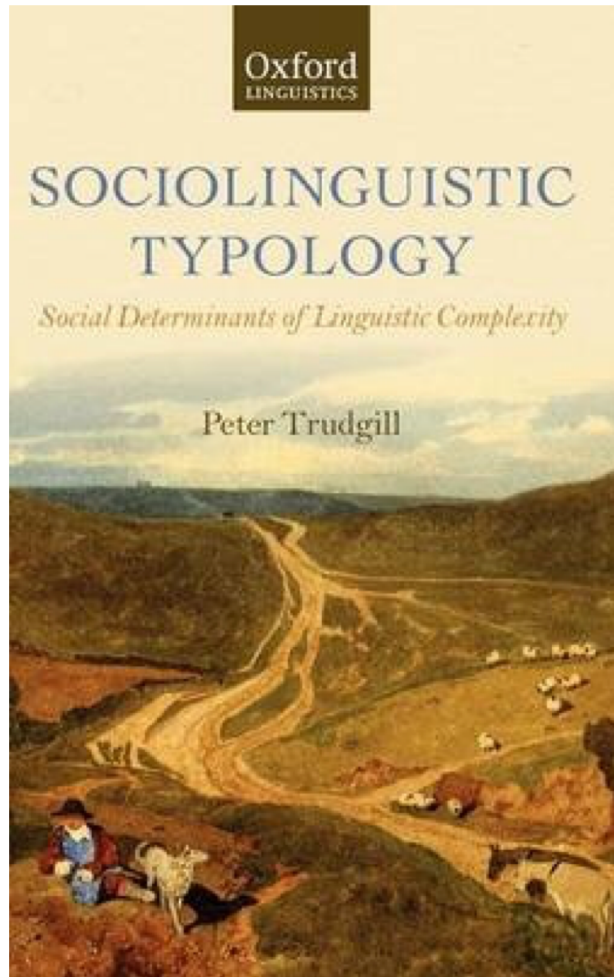
contact leads to  
complexification

**Typologists**  
(e.g. Nichols 1992,  
Comrie 2008)

# Sociolinguistic typology: the solution



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“all the examples that support the claim that interference leads to simplification are of course counterexamples to the opposite claim”  
(Thomason 2001: 65)

**Trudgill (2011):**

**Different types of language contact situation may give rise to different types of change.**

- short-term adult (L2+) language contact tends to lead to **simplification**
- long-term, co-territorial language contact tends to lead to **additive complexification**
- isolation tends to lead to **spontaneous complexification**

# Defining simplification and complexification



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## Simplification

- the **regularisation** of irregularities
- an increase in lexical and morphological **transparency**
- the loss of **redundancy** (syntagmatic and paradigmatic)

Example: loss of morphological distinctions in verb forms in Nubi Creole Arabic, spoken in Kenya & Uganda (Owens 1997, 2001)

## Complexification

- irregularisation
- decrease in transparency
  - additional redundancy
  - can be **additive** or **spontaneous**

**Additive:** development of case marking and 5-way evidential system in Amazonian language Tariana under the influence of Tucano (Aikhenvald 2003)

**Spontaneous:** exaptation of –y ending for intransitive infinitives in dialects of the south-west of England (Ihalainen 1991)

# The driving force: acquisition types



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“it is very much a matter of *who does the learning, and under what circumstances*”  
(Trudgill 2011)



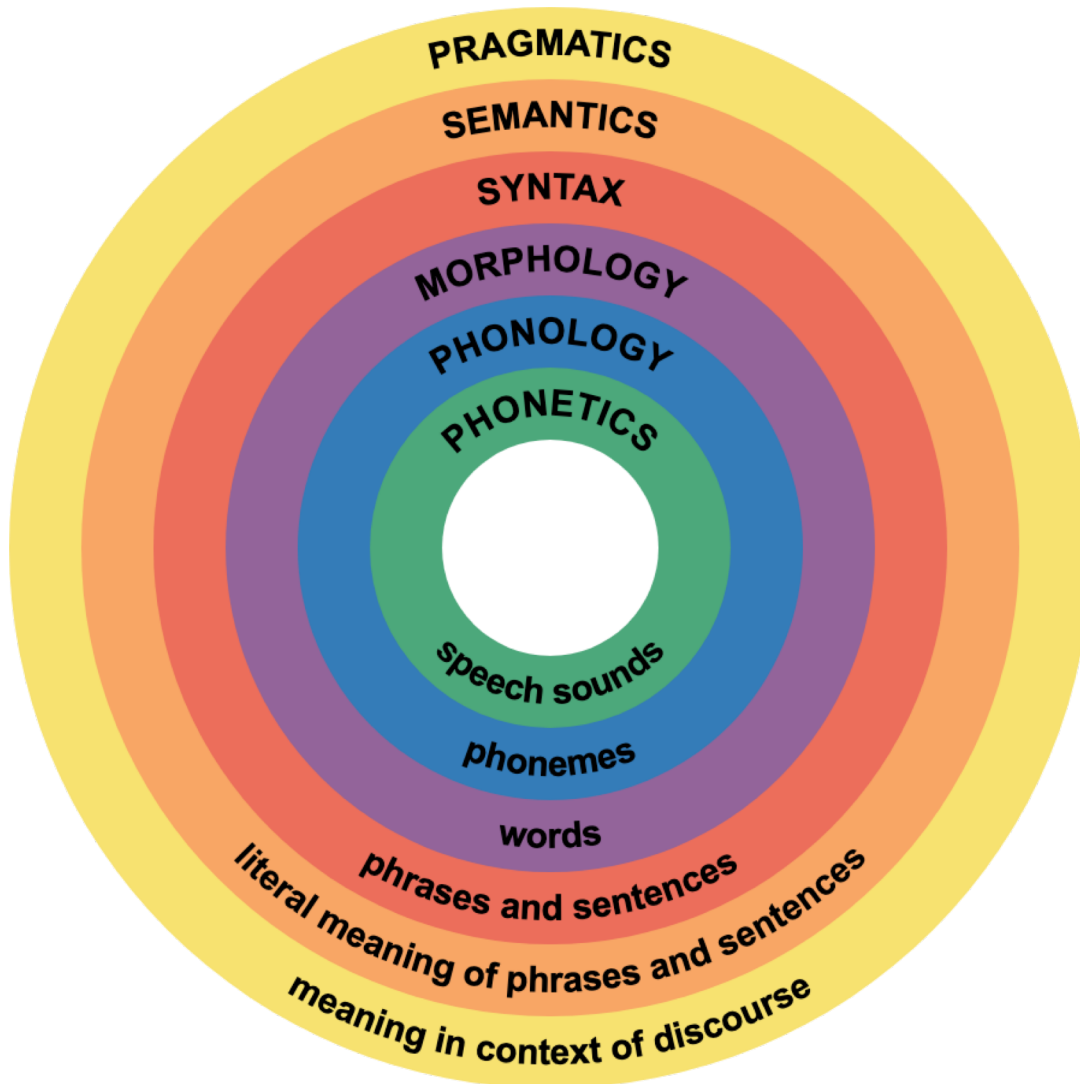
“while small children learn languages perfectly, the vast majority of adults do not, especially in untutored situations”



# Beyond morphology?



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The vast majority of work in sociolinguistic typology (and on differential complexity more generally) has focused on morphology.

What about:

- phonetics & phonology?
- semantics & pragmatics?
- syntax?

# Phonetics & phonology



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In phonology “simplification has to an extent to be defined rather differently”

(Trudgill 2011: ch. 5)

Chapter 5 deals primarily with phoneme inventory size (smaller = simpler).

- **Simplification:** e.g. Bislama: 5 vowels compared to ~20 of English English
- **Additive complexification:** Rivierre (1994): spread of voiceless aspirated consonants in Austronesian languages of New Caledonia
- **Spontaneous complexification:** San languages of southern Africa have very large consonantal inventories
- Problem: many isolated Polynesian languages, e.g. Hawaiian, have small phoneme inventories – but perhaps this is complexification after all (memory load)

“it is ... difficult to see that any significant predictive generalisations can be made”

# Semantics & pragmatics



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## **Kuteva (2009): grammatical categories can be more or less semantically elaborate.**

- Semantic elaborateness usually pertains to the lexicon, not to grammar
- Examples of elaborate categories:
  - Avertives: ‘was on the verge of V-ing but did not V’
  - *Lest*-clauses
- Nature of semantic elaborateness remains somewhat vague (in terms of “semantics of use”), and isn’t really measured in the paper
- There has been no attempt (as far as I know!) to relate this to type of society, or to sociohistorical scenarios
- There is no work at all (as far as I know!) linking pragmatics with sociolinguistic typology

# Syntax: uninterpretable features



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**Interpretability Hypothesis** (Hawkins & Hattori 2006; Tsimpli & Dimitrakopoulou 2007)

Uninterpretable features are not accessible to adult acquirers.

In Minimalist syntactic theory, **uninterpretable** features:

- are present only within the syntax
- have no interpretation at the interfaces (i.e. no semantic content)

**Applied to diachrony: Walkden & Breitbarth (2019), building on Trudgill (2011), predict that, in sociohistorical situations in which adult learners are dominant, uninterpretable features will typically be lost over time.**

- STARFISH investigates this hypothesis (and related ideas).
- Methodology: fine-grained investigations of historical corpora.
- Testing grounds: negation, case, grammatical gender...

# Case study: null subjects in Latin American Spanish

(McCarley forthcoming)



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- **Spanish is a null subject language (NSL):**

Spanish [consistent NSL]:	( <b>Nosotros</b> ) <i>queremos ir a la playa</i>
English [non-NSL (NNSL)]:	*( <b>We</b> ) <i>want to go to the beach</i>

- **In Latin American Spanish (LAS) overt pronouns are being used at higher rates** (e.g. Dominican Spanish: Toribio 2000)
- **Moving through cycle toward becoming a NNSL?** (Camacho 2013)
- **Null subject licensing involves an Agree relation with a left-peripheral operator** (Frascarelli 2007), hence an extra uninterpretable feature
- **Null subjects are harder to acquire, particularly for adult acquirers** (Bini 1993, Pérez-Leroux & Glass 1999, Margaza & Bel 2006)

# Null subjects in Latin American Spanish



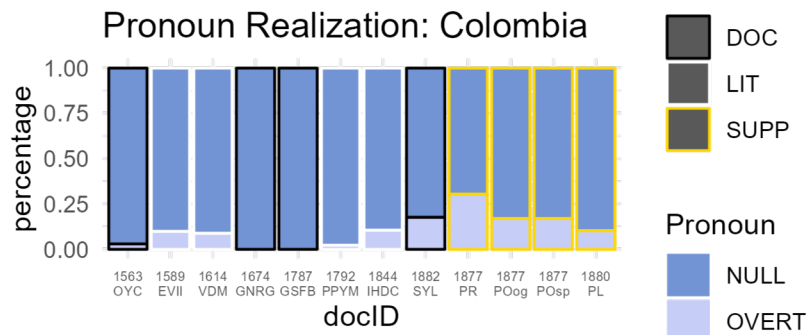
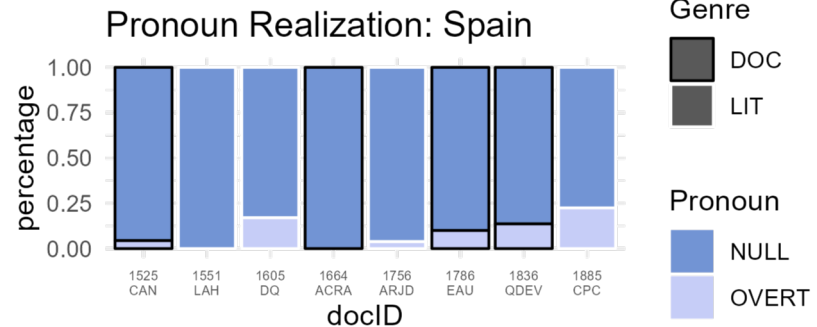
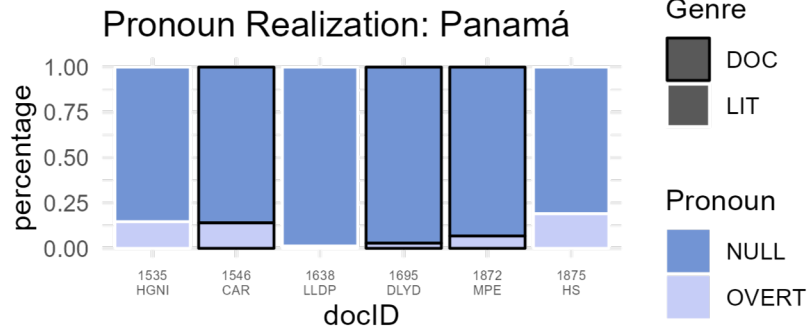
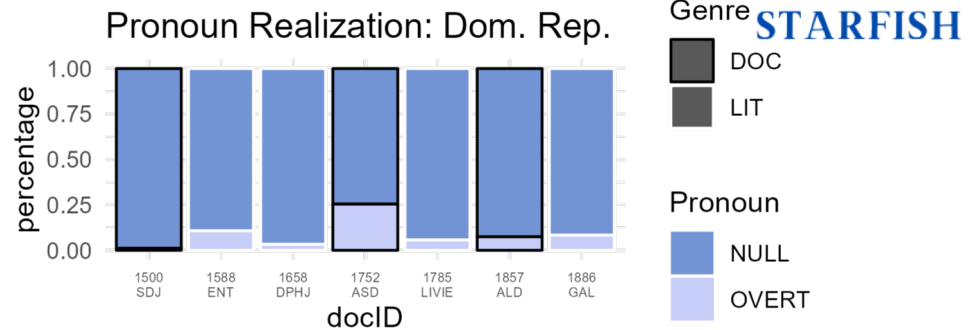
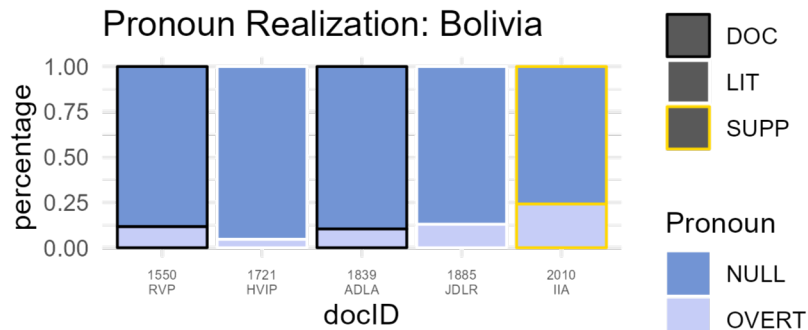
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- Following Trudgill (2011), short-term, loose-knit, adult language learning → loss of L2-difficult features
  - Exact context for African learners of Spanish in colonial Latin America
  - These adult learners of L2+ Spanish might have struggled acquiring the L2-difficult null subject system, preferring overt pronouns
  - Their children would then have nativized this system
- This is exactly the scenario Sandro Sessarego (2013) proposes for Latin American Spanish where AHLAs (Afro-Hispanic Languages of the Americas) are these nativized varieties
  - They reflect the kind of change predicted: specifically overuse of overt subject

**Yo** no tengo plata, **yo** no quiere comprá.  
I no have-1.SG money I no want-3.SG to buy  
'I do not have money, I do not want to buy.' (Sessarego 2021: 107)

- Next step: look into the diachronic trajectory of pronoun realization in LAS

# Null subjects in LAS: corpus findings



- 33 main texts + 5 supplemental texts from Bolivia, Panama, Colombia, Dominican Republic, and Spain
- 1500-1899
- Genre: literary vs. non-literary

# Null subjects in LAS: model



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- **Mixed-effects model: glmer from lme4 package in R**
- **Variables:**
  - Dependent: pronoun realization
  - Fixed: Year (z-scored), Genre
  - Random: document ID
- **Year = significant,  $p < 0.003$**
- **Country was originally included but found insignificant**
  - Excluded because the AIC was better without it
- **Disclaimer: this trend seems to be generally accurate, but an orality effect complicates the picture (McCarley, this conference)**

```
Generalized linear mixed model fit by maximum likelihood (Laplace
Approximation) [glmerMod]
Family: binomial (logit)
Formula: sub_POS ~ scale(Year) + Genre + (1 | docID)
Data: binary_null

           AIC          BIC      logLik deviance df.resid
 2557.6      2582.5     -1274.8   2549.6     3769

Scaled residuals:
   Min       1Q   Median       3Q      Max
-0.5647 -0.3913 -0.3188 -0.2095  7.2557

Random effects:
 Groups Name      Variance Std.Dev.
 docID (Intercept) 0.5348   0.7313
Number of obs: 3773, groups: docID, 37

Fixed effects:
              Estimate Std. Error z value Pr(>|z|)
(Intercept)  -2.5533     0.2253  -11.333 < 2e-16 ***
scale(Year)   0.4524     0.1510   2.996  0.00274 **
GenreLIT      0.2190     0.2883   0.760  0.44755
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:
              (Intr) scl(Y)
scale(Year)  -0.020
GenreLIT     -0.755 -0.033
```



# Conclusions



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**Sociolinguistic typology provides a promising way of thinking about the relations between linguistic structure, society, and history.**

**Applying sociolinguistic typology beyond morphology is still in its infancy – much remains to be done!**

**STARFISH is exploring the idea that uninterpretable features are L2-difficult (=complex) in historical corpora.**

**Thanks for  
your attention!**

**Thanks to the team: Henri Kauhanen,  
Gemma McCarley, Raquel Montero,  
Molly Rolf and Sarah Einhaus**

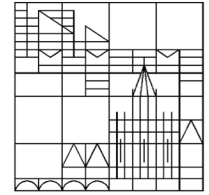
<https://www.ling.uni-konstanz.de/en/walkden/starfish/>

<https://twitter.com/KonstanzLing>



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# Modelling the dynamics



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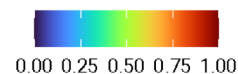
Foucault's pendulum  
(image from Wikimedia Commons)

How many adult acquirers do there need to be for them to have a diachronic effect?

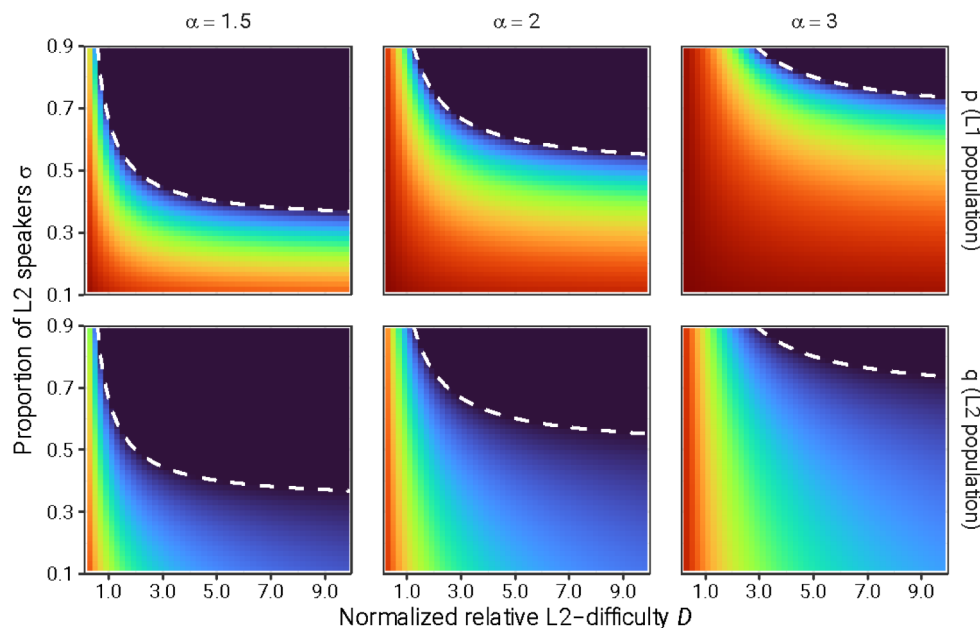
Heat maps from Kauhanen (2022) showing interaction of L2-difficulty and proportion of L2 speakers in population.

Change away from L2-disfavoured features occurs when **L2-difficulty** (x-axis) and/or **proportion** of L2 users (y-axis) are high.

darker blue = more use of L2-disfavoured option



darker red = more use of L2-favoured option



(Kauhanen 2022)

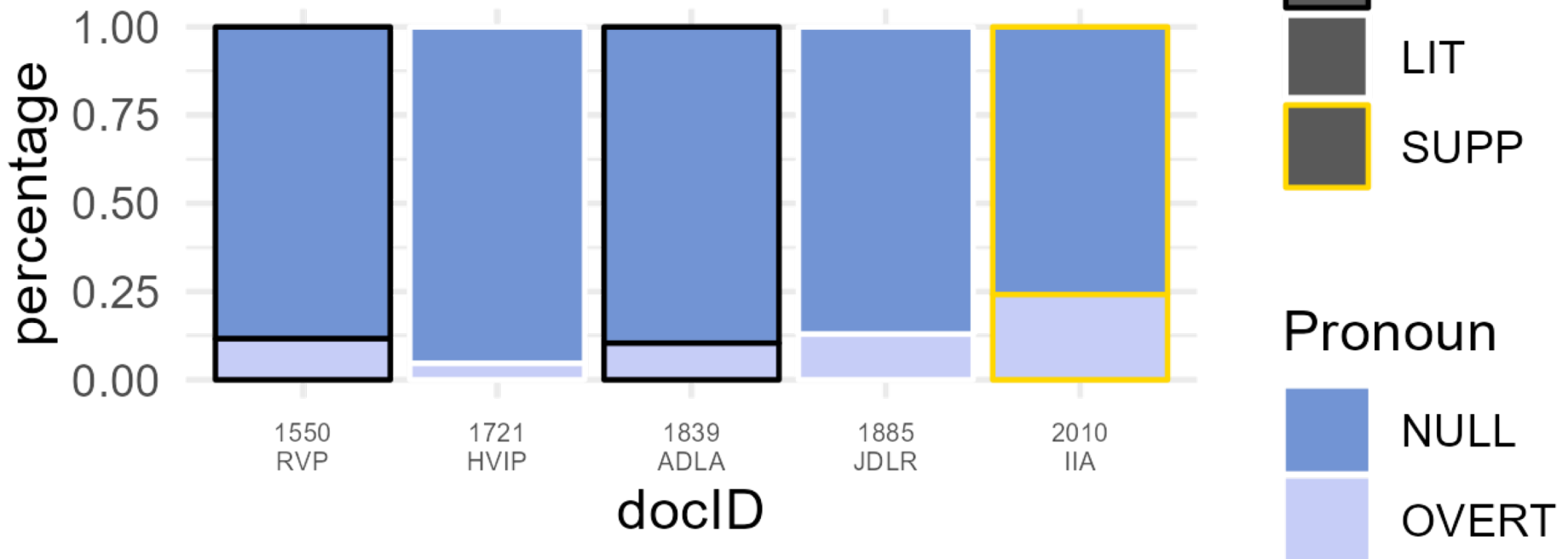


# Null subjects in LAS: Bolivia



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## Pronoun Realization: Bolivia

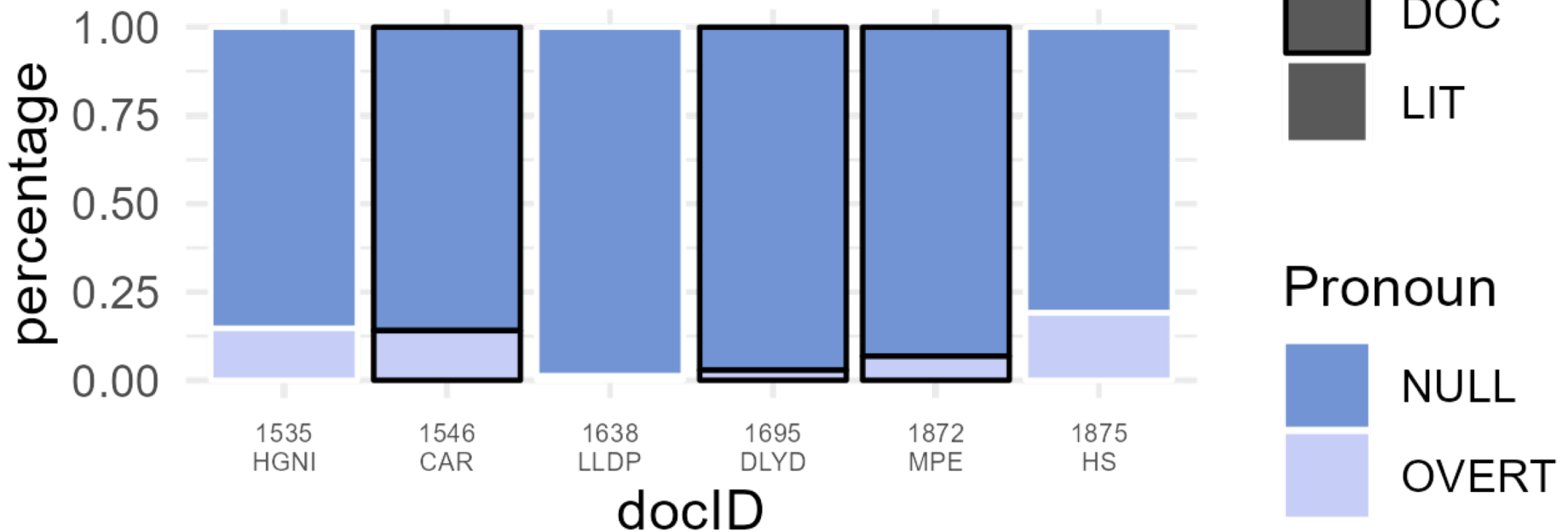


# Null subjects in LAS: Panamá



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## Pronoun Realization: Panamá

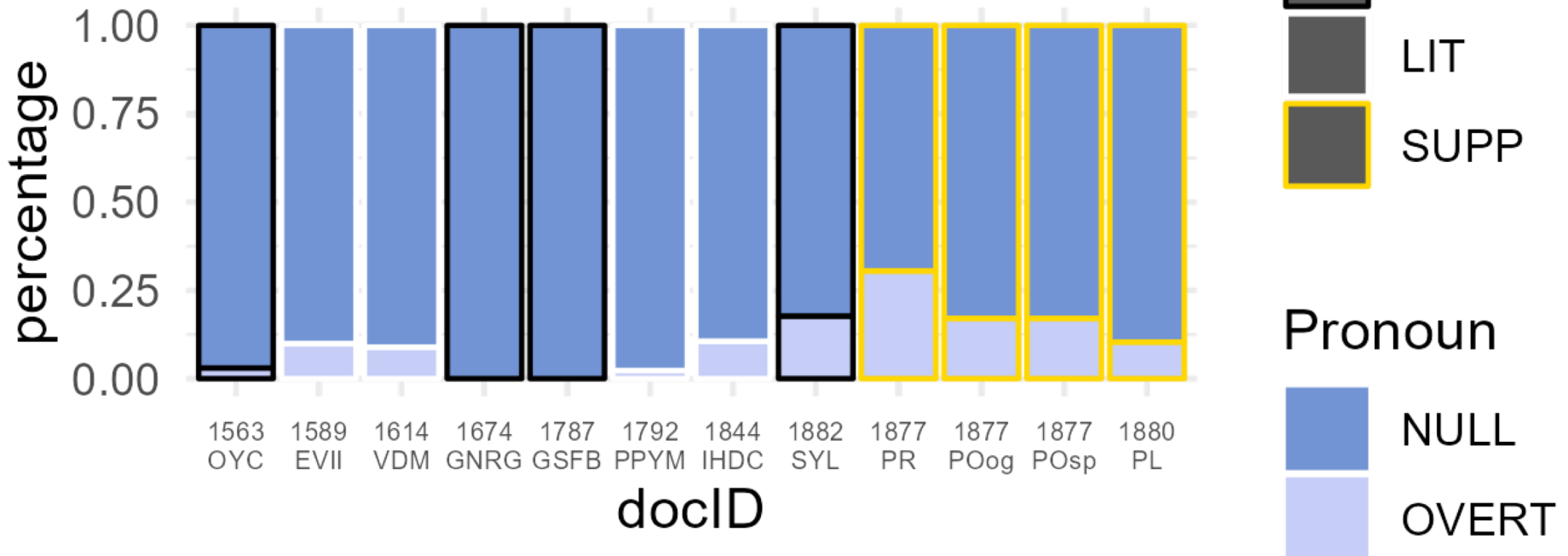


# Null subjects in LAS: Colombia



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## Pronoun Realization: Colombia

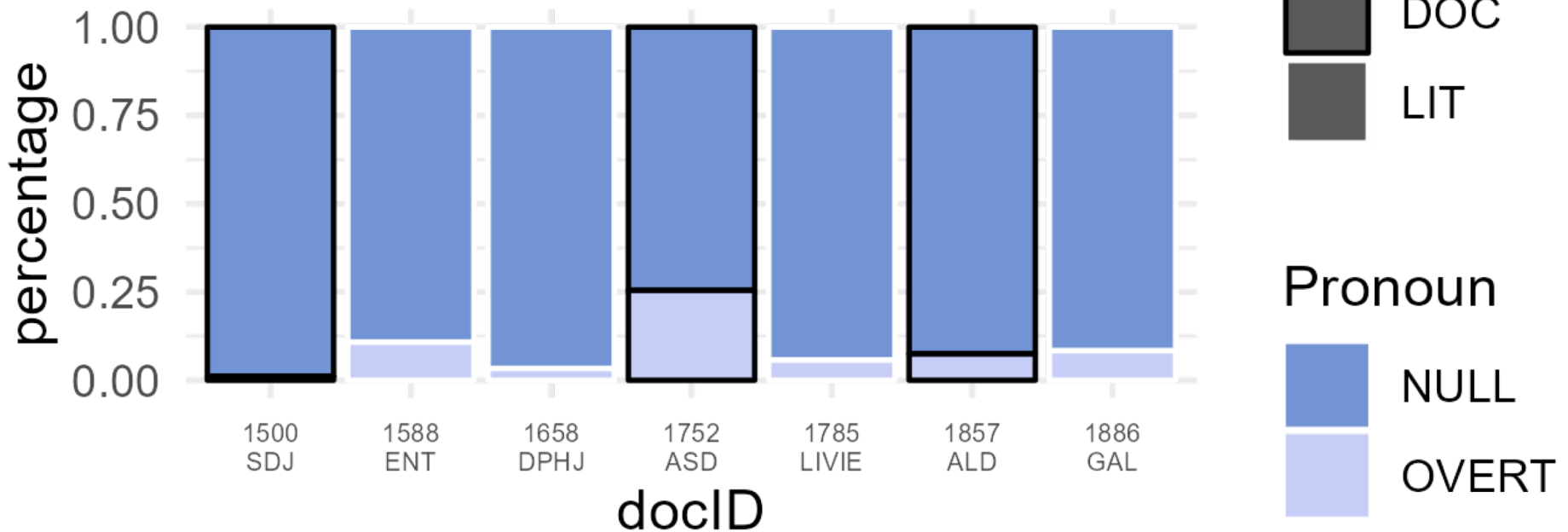


# Null subjects in LAS: Dominican Republic



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## Pronoun Realization: Dom. Rep.



# Null subjects in LAS: Spain



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## Pronoun Realization: Spain

