



# Defectiveness as a product of prescriptivism

A behavioural study

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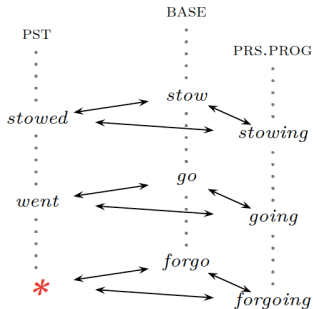
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# Introduction

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# Defectiveness

- A paradigm cell remaining **unfilled despite expectations** (Sims, 2015)



- FORGO lacks a past tense because of **uncertainty**: *forgoed* vs *forwent*
  - (other types of defectiveness exist, but this work does not focus on them)

# The puzzle with defectives

- **Speakers rate defective words differently** than non-defective ones - more negatively, with more uncertainty (Albright, 2003; Pertsova & Kuznetsova, 2015; Sims, 2006, 2009)
  - In comparison, in **wug tasks**, even forms produced at a low rate may be judged as relatively acceptable (Albright & Hayes, 2003)
  - Acceptability can also be high for **overabundant forms** (Bermel, Knittle & Russell, 2018)
- In corpora, **defective words don't reliably differ** from non-defectives in their frequency profiles (Copot & Bonami, 2020)
  - But there may be other detectable differences (Chuang et al. 2022)
- Only **known defectives** cause **defective felt sense**, but **nothing about their structural properties or frequency profiles reliably sets them apart**
  - Most strikingly: defectiveness vs overabundance

# Approaches to defectiveness

- Existing approaches focus on factors **internal to the grammatical system**.
- We propose that a missing component is an **attention to system-external factors**.

Could some types of defectiveness be the result of **stigmatisation of uncertain word forms?**

PARADOX OF GRAMMATICAL TABOOS (Vogel, 2019)

1. A **taboo** can only hold over a construction C if C exists. Thus, **C must be part of the language system.**
2. Because of the taboo over C, speakers who conform to the taboo nevertheless believe that **C should not and therefore does not exist in the system.**

What is the role of **linguistic prescriptiveness** in accounting for speakers' **felt sense of defectiveness**?



# Methodology

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- **French** speakers
  - Well-documented list of defective forms
  - Strong prescriptive culture
- **Acceptability judgement task**

Aujourd'hui j'ai raton laveur mes amis

*Est-ce que cet usage du mot est correct?*

Pas du tout correct  Parfaitement correct

**Normative Judgement** Could you find this word in a dictionary? Would a teacher mark it as correct?

Aujourd'hui j'ai raton laveur mes amis

*Est-ce que cet usage du mot est correct?*

Pas du tout correct  Parfaitement correct

**Possibility Judgement** Could you hear someone use this word? Might you catch yourself saying it, even if you might end up correcting yourself?

Aujourd'hui j'ai raton laveur mes amis

*Est-ce que cet usage du mot est possible?*

Totalement impossible  Tout à fait possible

- **Defectives:** verb forms marked as defective in at least two French dictionaries.
  - All cases where the explanation is uncertainty (*\*forgoed/\*forwent* rather than words only featured in fossilised expressions)
- **Slang:** grammatical taboos - Verlan verbs in use in informal French.
- **Subject agreement errors:** ungrammatical - the verb featured an incorrect agreement marker<sup>1</sup>

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<sup>1</sup>not homophonous with the correct option

If prescriptivism is what causes defectiveness, we expect defectives to...

- Be rated **higher in the possibility condition** than the normative condition
  - They are **used** in the language but are **stigmatised**
- Be rated **more variably** than the other two item conditions
  - Depending on how strong the **prescriptive pressure against using a given lexeme** is
  - Depending on the individual's **level of agreement with prescriptive norms and their knowledge of them.**

# Procedure

60 participants from Prolific.co



Administered a **prescriptiveness questionnaire** and collected demographic info



Assigned to a **participant condition**, given instructions for the kind of judgement required



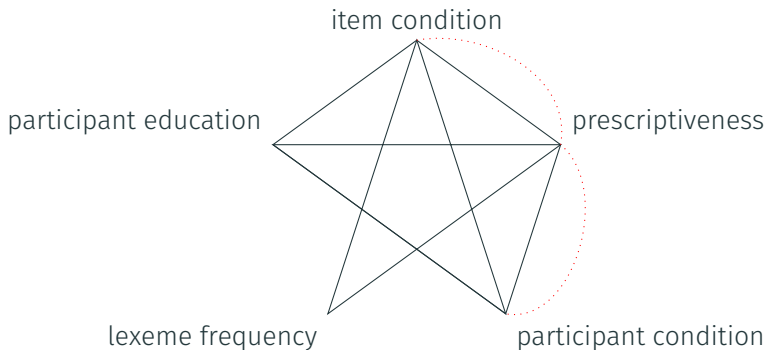
14 items for each of the three item conditions in a randomised order, no distractors



Verification of **lexeme knowledge**

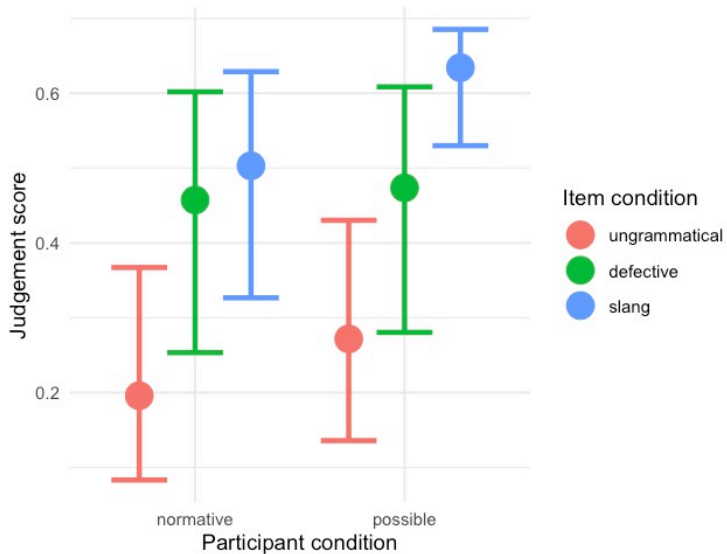
# Analysis

A bayesian **zero-and-one-inflated beta regression** was fitted to participant judgements.



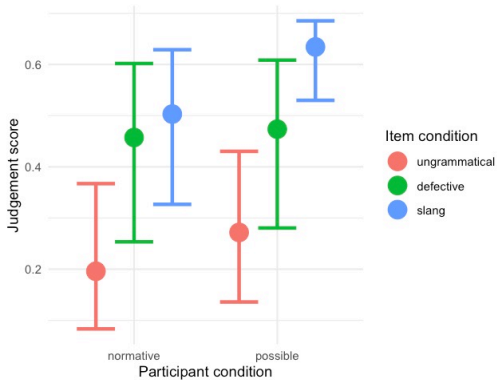
**Random intercepts for participant and item**, all relevant fixed effects are random slopes over each (maximal model)

## Conditional effects - item x participant



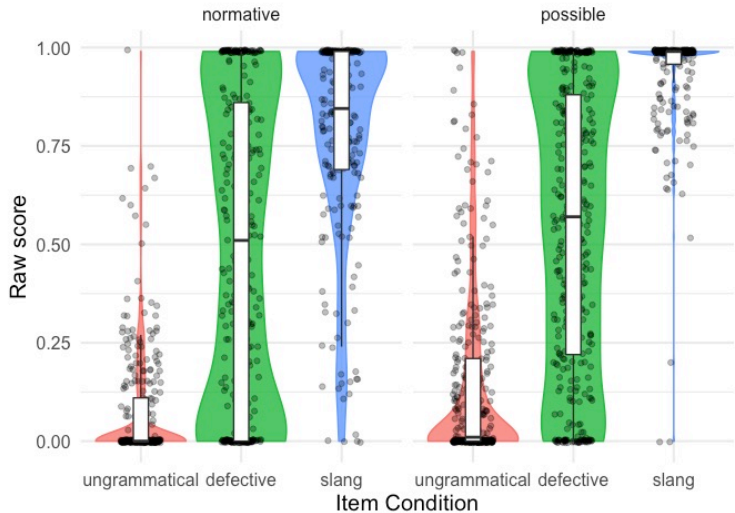


# Conditional effects - item x participant

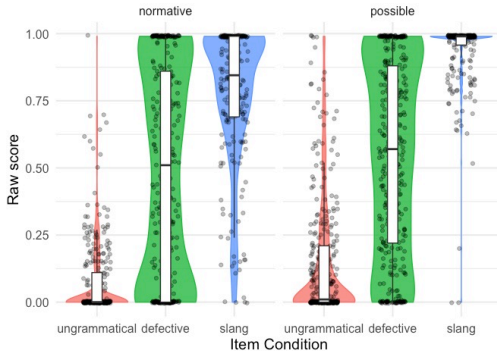


After taking into account other variables, **slang and defectives don't have different posterior means in the normative condition.**

# Raw Results



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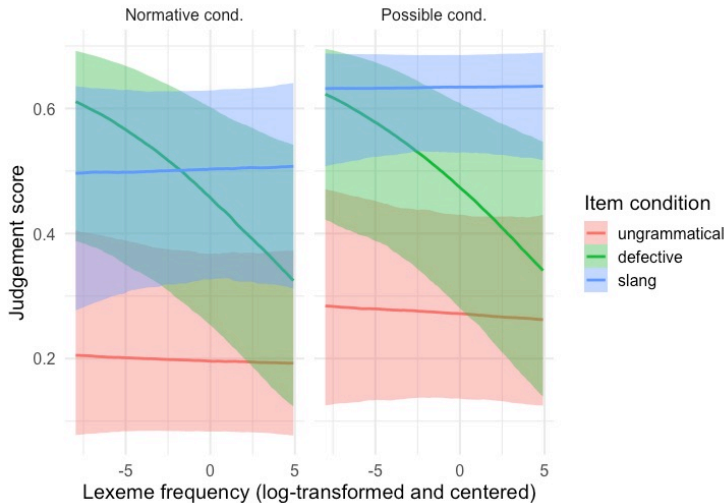


**Defectives are rated more variably** than slang or ungrammatical words

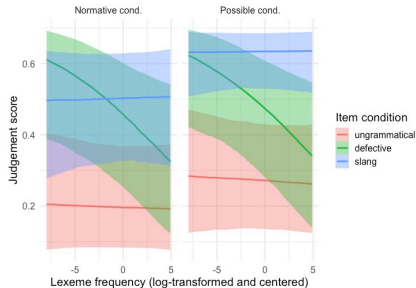
	ungrammatical	defective	slang
median std.dev by participant	0.07	0.32	0.07
median std.dev by item	0.18	0.34	0.19

They also show pronounced **bimodality in the normative condition**

# What explains the bimodal treatment of defectives?



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Only **high-frequency defectives** get the **low rating** we expect. Low-frequency defectives get rated as acceptable<sup>2</sup>. A **salience** effect? speakers are more likely to have explicit negative evidence of their infelicitousness from prescriptive media

<sup>2</sup>lexeme frequency counts from a lemmatised version of FrCoW (Schäfer, 2015)

# Defectiveness vs Overabundance

- Both are linked to **uncertainty** about word form
- Hypothesis: key factors for differentiation are **lexeme frequency + type of prescriptive policy** (PP)

PRESCRIPTIVE POLICY	SALIENT LEXEME	NON-SALIENT LEXEME
no PP	overabundance	overabundance
Optionality-tolerant PP (Estonian)	overabundance	overabundance
Optionality-intolerant PP (French)	<b>defectiveness</b>	overabundance

- Findings are consistent with and preliminary evidence for **defectiveness felt sense being the result of a grammatical taboo**
- **Defectives** are rated more variably than the other two item conditions
  - Speakers **disagree** about which words are defective and the degree to which they are infelicitous
- **High-frequency defective lexemes** are more likely to be rated **low**
  - A **salience** effect: speakers are more likely to have explicit negative evidence of their infelicitousness from prescriptive media

- Albright, Adam (2003). “A quantitative study of Spanish paradigm gaps”. in *West Coast Conference on Formal Linguistics 22 proceedings*: edited by Gina Garding & Mimu Tsujimura. Cascadilla Press, pages 1–14.
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- Bermel, Neil, Luděk Knittle & Jean Russell (2018). “Frequency data from corpora partially explain native-speaker ratings and choices in overabundant paradigm cells”. in *Corpus Linguistics and Linguistic Theory*: 14, pages 197–231.



- Chuang, Yu-Ying et al. (2022). *Paradigm gaps are associated with weird “distributional semantics” properties: Russian defective nouns and their case and number paradigm*. URL: [psyarxiv.com/t7xba](https://psyarxiv.com/t7xba).
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# Appendix

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# Causes of defectiveness

- Several different pathways can lead to an empty paradigm cell

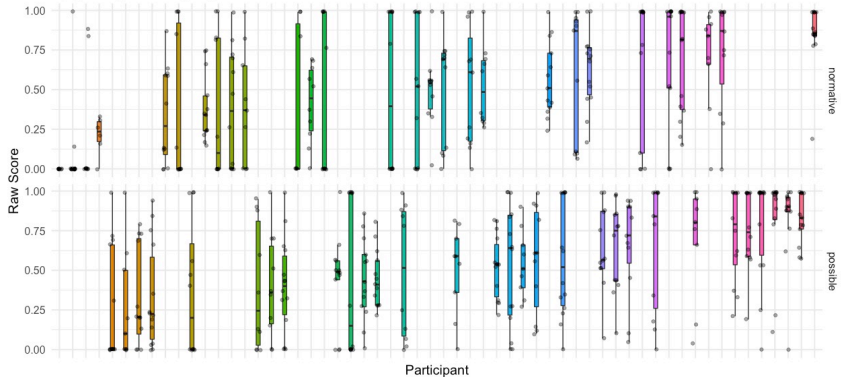
**Fossilisation** *spick and span*  
*my house is \*spicker than yours*

**Lexical semantics** *alms were collected*  
*she gave an \*alm*

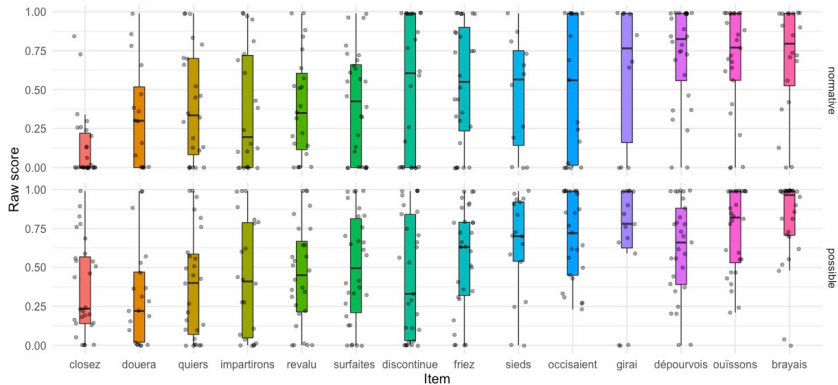
**Uncertainty** *we'll forego the introduction*  
*I \*forwent/\*forgoed dinner.*

- The literature has focused on grammar-internal factors

### By-participant raw judgements of defectives



By-item raw judgements of defectives



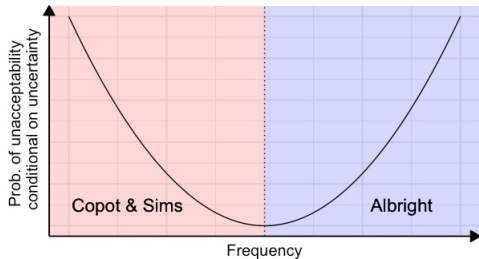
# Approaches to defectiveness

Two main families of approaches to defectiveness, but **both are weak on certain empirical aspects**

1. Defectiveness is a property of certain **lexical entries**. But...
  - Defectiveness is **gradient**: the same speaker might find some gaps harder to fill than others
2. Defectiveness results from **systemic uncertainty** about acceptable forms. But...
  - Different speakers will differ in **which lexemes they deem defective**
  - **No reliable predictor defectiveness**: word form uncertainty may alternatively yield **defectiveness or overabundance**

## But... Albright (2003)? Some speculation

- In an experiment on Spanish, Albright (2003) shows **low token frequency** words are more likely to be defective.
- Yet our findings suggest **high-frequency lexemes** are more likely to be defective.
- Hypothesis: two sides of the same effect?
  - Albright excluded all judgements for which participant confidence was lower than 3/7, and none of our lexemes were particularly frequent





## What could be causing the differences with Albright (2003)?

	Copot & Sims	Albright
Experimental paradigm	acceptability judgement	rating one's own production
Variable of interest	acceptability score	confidence in one's judgements
Language	French	Spanish