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Zurich** <sup>UZH</sup>

**English Department**

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# **The influence of social constraints on syntactic variation**

**Global and local patterns in the English dative  
alternation**

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## The English dative alternation

**ditransitive dative**



Mary gave **[John]** **[the apple]**  
recipient theme



**prepositional dative**



Mary gave **[the apple]** to **[John]**  
theme recipient



## The English dative alternation

ditransitive dative



Mary gave [**him**] [**the apple**]  
recipient theme



prepositional dative



Mary gave [**the apple**] to [**him**]  
theme recipient



## Explaining variation in syntactic alternations

- syntactic alternations = two standard variants (or more)
- focus on language-internal predictors ('cognitive' factors) such as
  - length of constituents: shorter > longer
  - semantics (e.g. verb semantics)
  - frequency of head lemmas
  - etc.
- **social factors** (age of speaker, gender of speaker, etc.) thought to have only marginal impact



## Explaining variation in syntactic alternations

“Mainly, however, researchers have focused on language-internal constraints on variation, and the social dimension of grammatical variation has remained less studied. It has been argued, in fact, that **syntactic variation is conditioned less by social factors than by internal, cognitive and situational constraints** [...], and that syntactic variation may rarely, if ever, serve the function of distinguishing social groups in the way that ‘classic’ phonological and morphological variants do [...].

(Cheshire 2003: 245, emphasis mine)



## Social factors in the English dative alternation

- in BrE and AusE, male speakers prefer the prepositional dative more than female speakers (Jenset et al. 2018, Theijssen et al. 2011)
- in CanE, female speakers prefer the prepositional dative across all age groups (Tagliamonte 2014)
- in JamE, male speakers prefer the prepositional dative more than female speakers (Röthlisberger 2018, Röthlisberger submitted)

→ different social dynamics between male and female speakers?



## Objectives

### **On a global scale**

What is the role of social factors in syntactic variation?

### **On a local scale**

What is the effect of speaker-related factors in different varieties of English?



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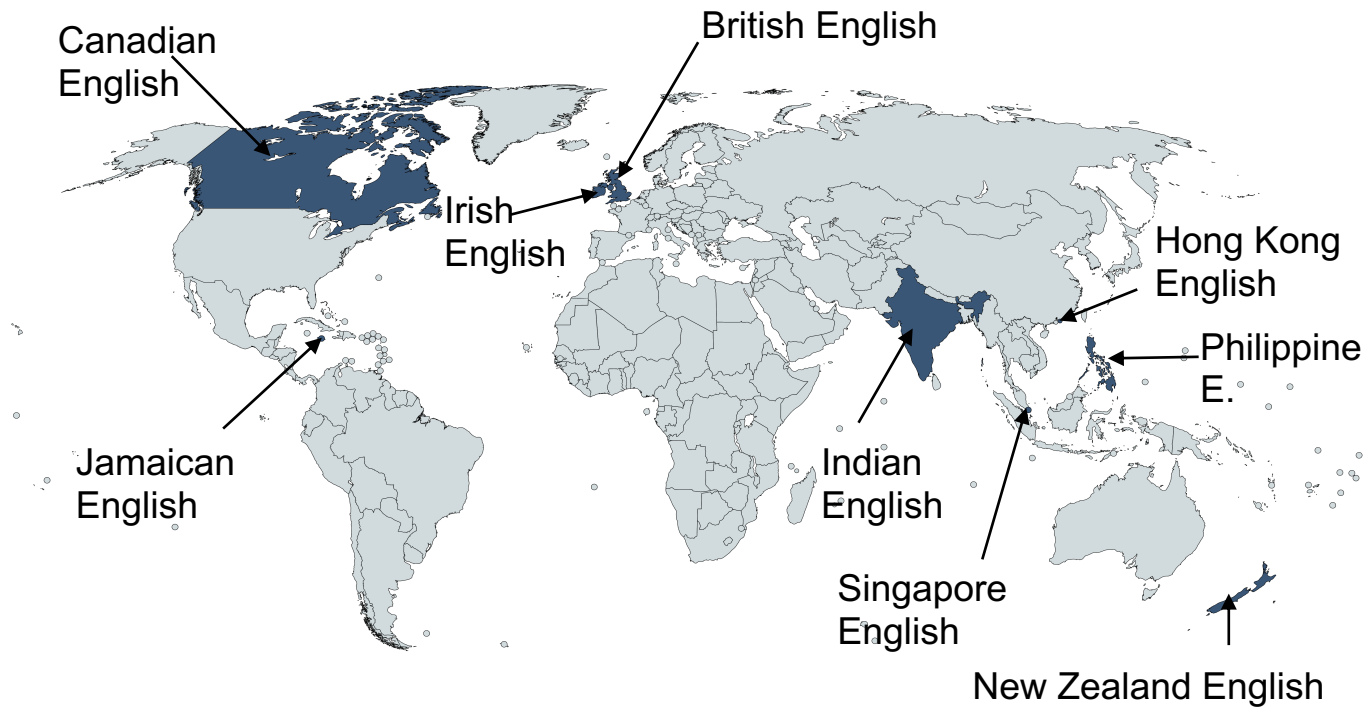
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# Data & Methodology



## Corpus data





## Corpus data

- International Corpus of English (ICE) - series
  - 60% spoken (transcriptions), 40% written texts = 1m words per subcorpus
  - 500 texts, 2,000 words per text
  - 12 different registers, same corpus structure

<b>SPOKEN 300</b>	Dialogues	180	Private	100	Face-to-face conversations	90	s1a		
			Public	80	Phonecalls	10			
	Monologues	120	Unscripted	70	Classroom lessons	20	s1b		
					Broadcast Discussions	20			
					Broadcast Interviews	10			
					Parliamentary Debates	10			
					Legal cross-examinations	10			
					Business Transactions	10			
	Scripted	50	70	70	Spontaneous commentaries	20	s2a		
					Unscripted Speeches	30			
Demonstrations					10				
Legal Presentations					10				
<b>WRITTEN 200</b>	Non-printed	50	Student Writing	20	Student Essays	10	w1a		
			Letters	30	Exam Scripts	10			
	Printed	150	Academic writing	40	Social Letters	15	w1b		
					Business Letters	15			
					Humanities	10	w2a		
					Social Sciences	10			
			Popular Writing	40	40	40	Natural Sciences	10	
							Technology	10	
							Humanities	10	w2b
							Social Sciences	10	
							Natural Sciences	10	
							Technology	10	
Reportage	20	Press news reports	20	w2c					
Instructional writing	20	20	20	Administrative Writing	10	w2d			
				Skills/Hobbies	10				
Persuasive writing	10	Press editorials	10	w2e					
Creative writing	20	Novels & short stories	20	w2f					

→ Focus on spoken data (availability of metadata)



## Data extraction and annotation

(e.g. Bresnan et al. 2007)

- retrieval of dative variants using verb list and perl script
- restrict to choice context (incl. pronouns)
- code for numerous (language-internal) factors: length (weight ratio), complexity, pronominality, givenness, definiteness, person, animacy, concreteness of theme, verb sense
- code for language-external factors: Register and Mode (spoken vs written)
- restrict to spoken data only

$N = 5,474$



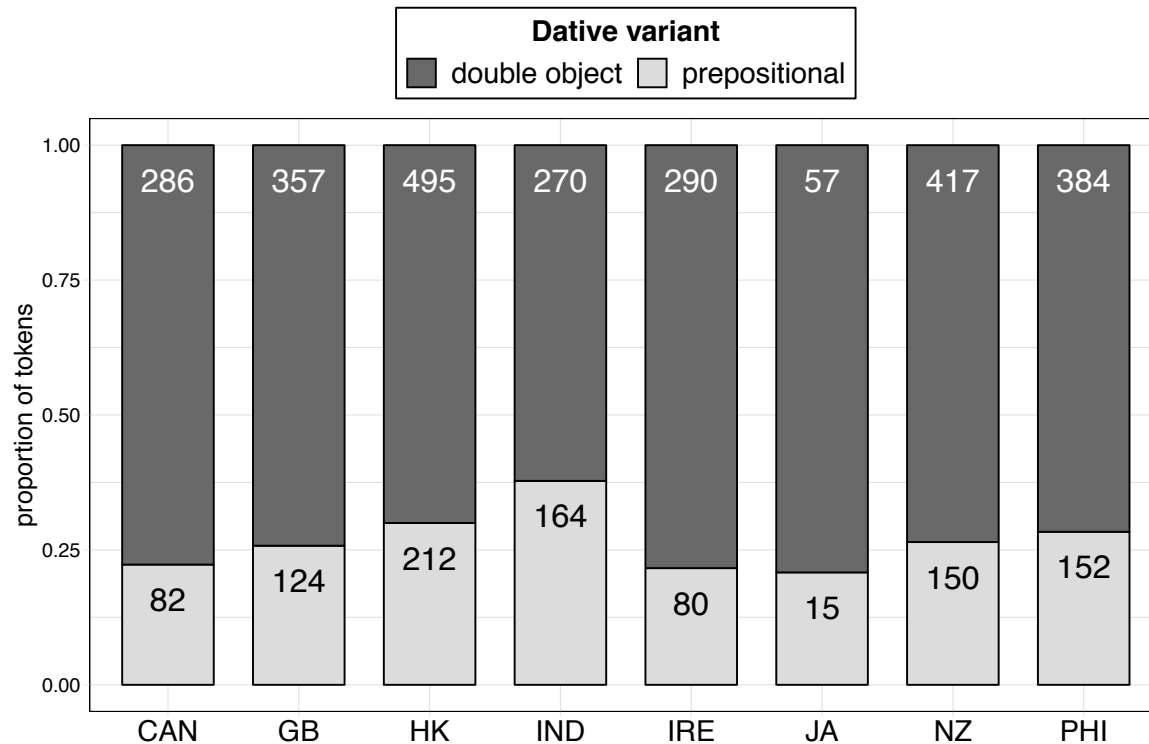
## Data extraction and annotation

- Restrict dataset due to unavailable meta data (excl. SinE)
- Annotate for each dative token by
  - **Region:** 8 varieties of English
  - **Register:** formal (scripted & public) vs. informal (unscripted & private)
  - **Age:** various age groupings due to compilation (654 NAs)
    - grouped: teenies, twenties, thirties, fourties, fifties, sixties plus
  - **Time** of compilation: 1990-1994 vs. 1995-2000 vs. 2001-2005
  - **Gender:** female vs. male (595 NAs)
  - **First language:** English vs Other

$N = 3,535$



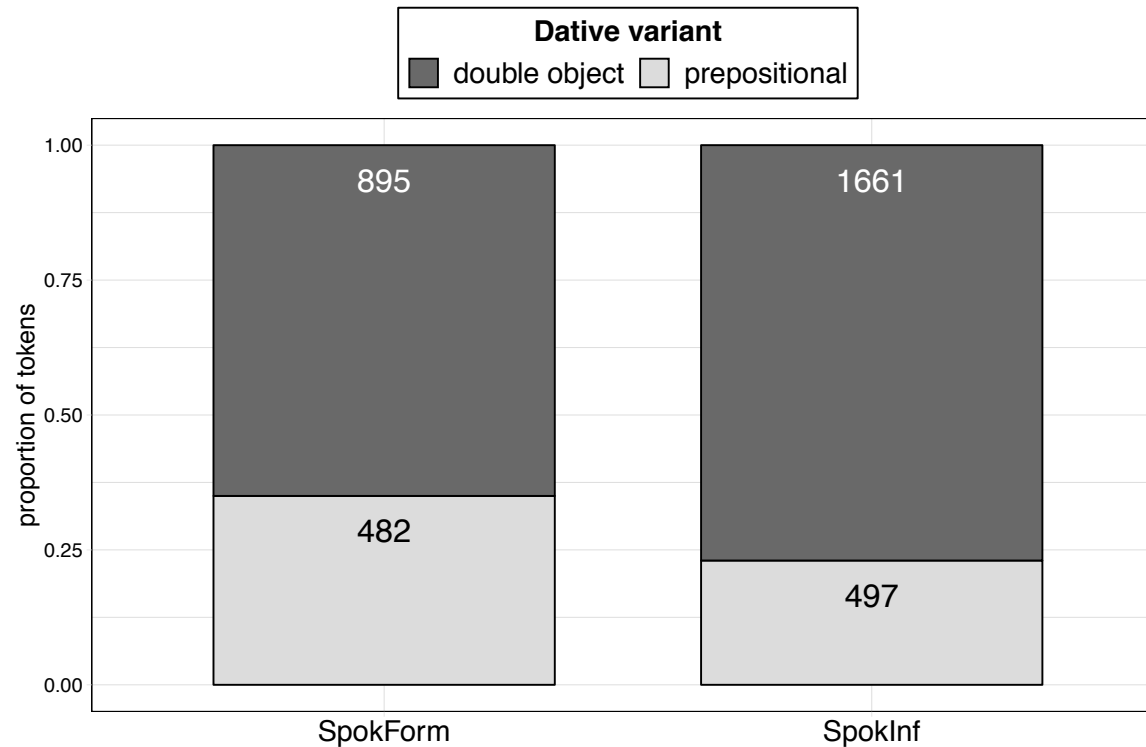
## Distribution by region



Proportional distributions of double object and prepositional variants by **region** ( $X^2(7) = 39.3, p < 0.001$ )



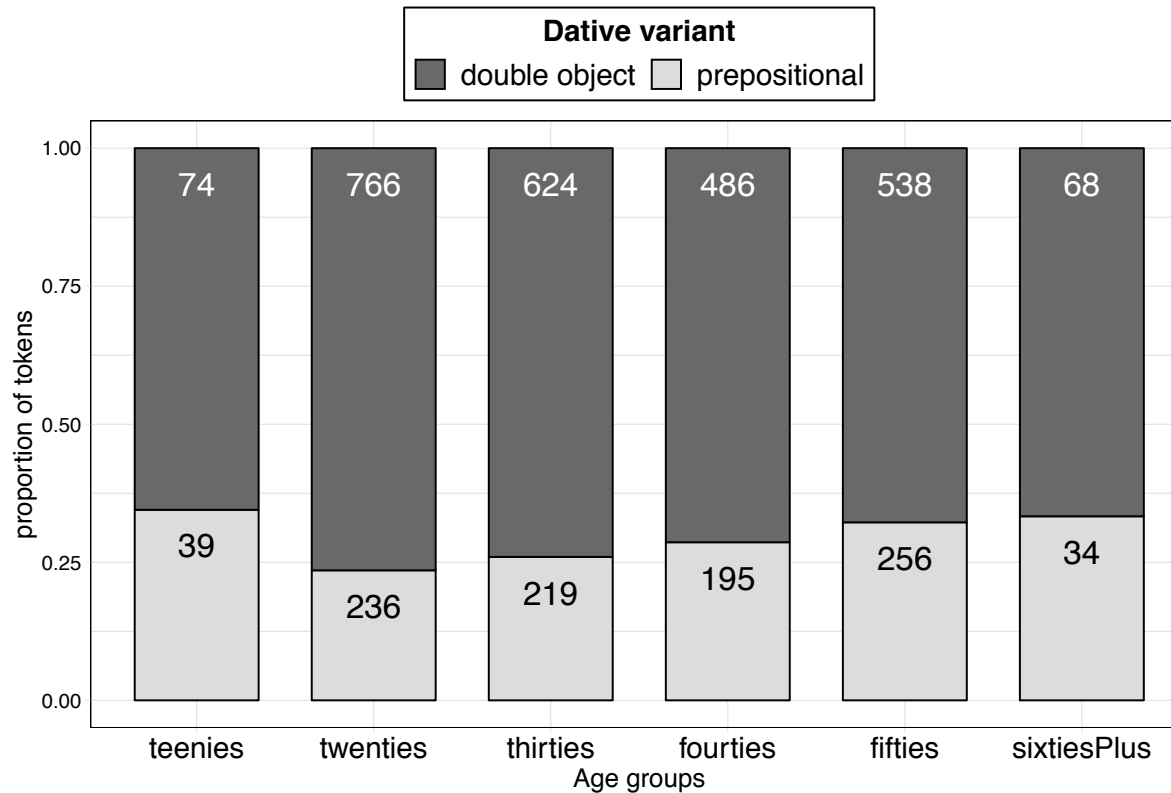
## Distribution by register



Proportional distributions of double object and prepositional variants by **register** ( $X^2(1) = 60.2, p < 0.001$ )



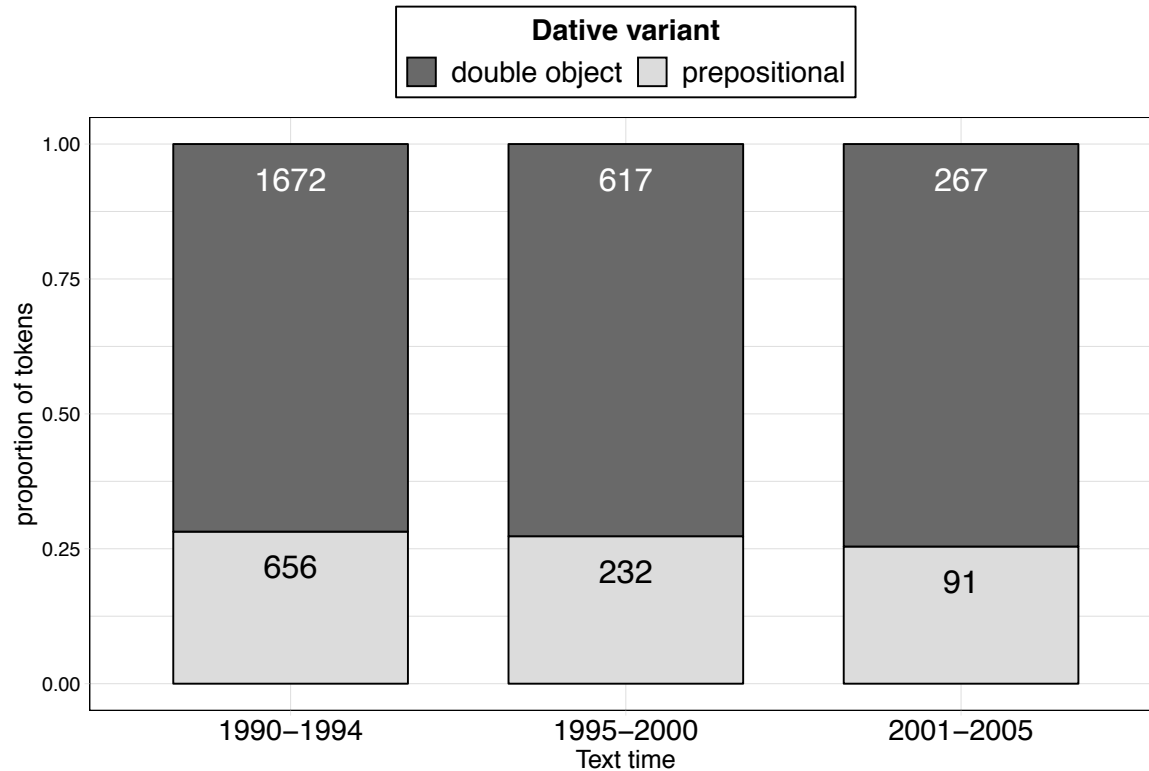
## Distribution across time (age)



Proportional distributions of double object and prepositional variants by age group ( $X^2(5) = 22.6, p < 0.001$ )



## Distribution across time (text time)



Proportional distributions of double object and prepositional variants by **text time** ( $X^2(2) = 1.3, p = 0.5337$ )



## Distribution across gender

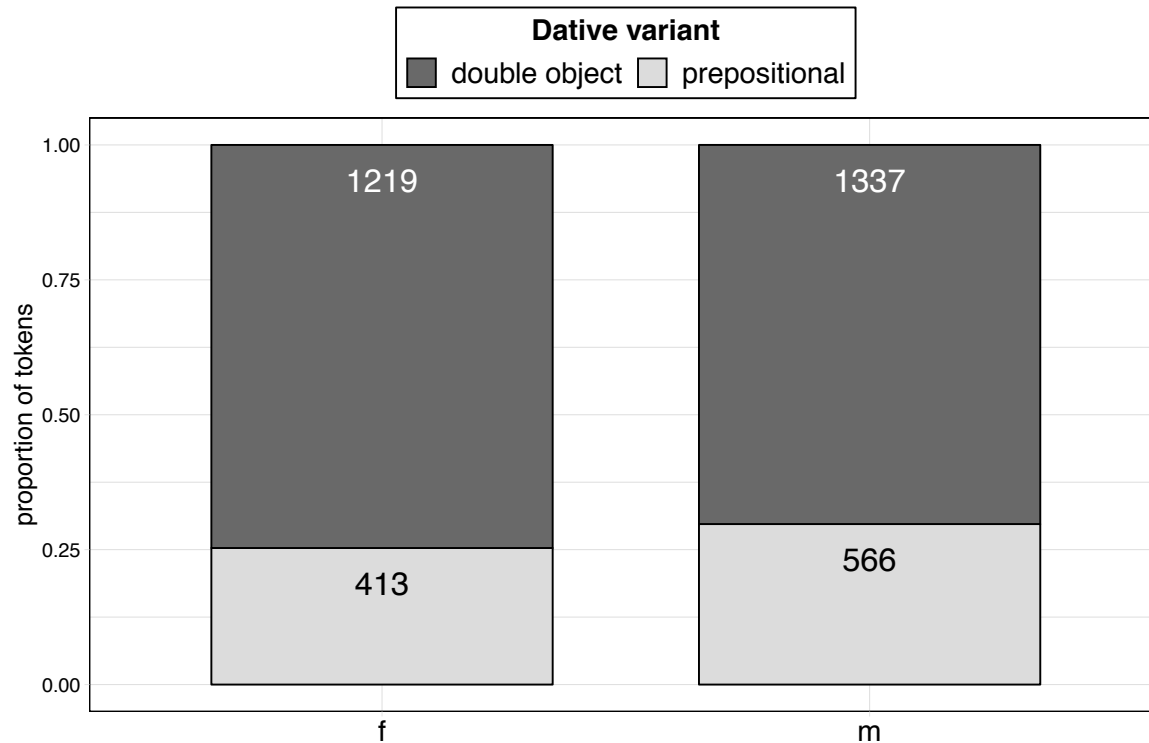
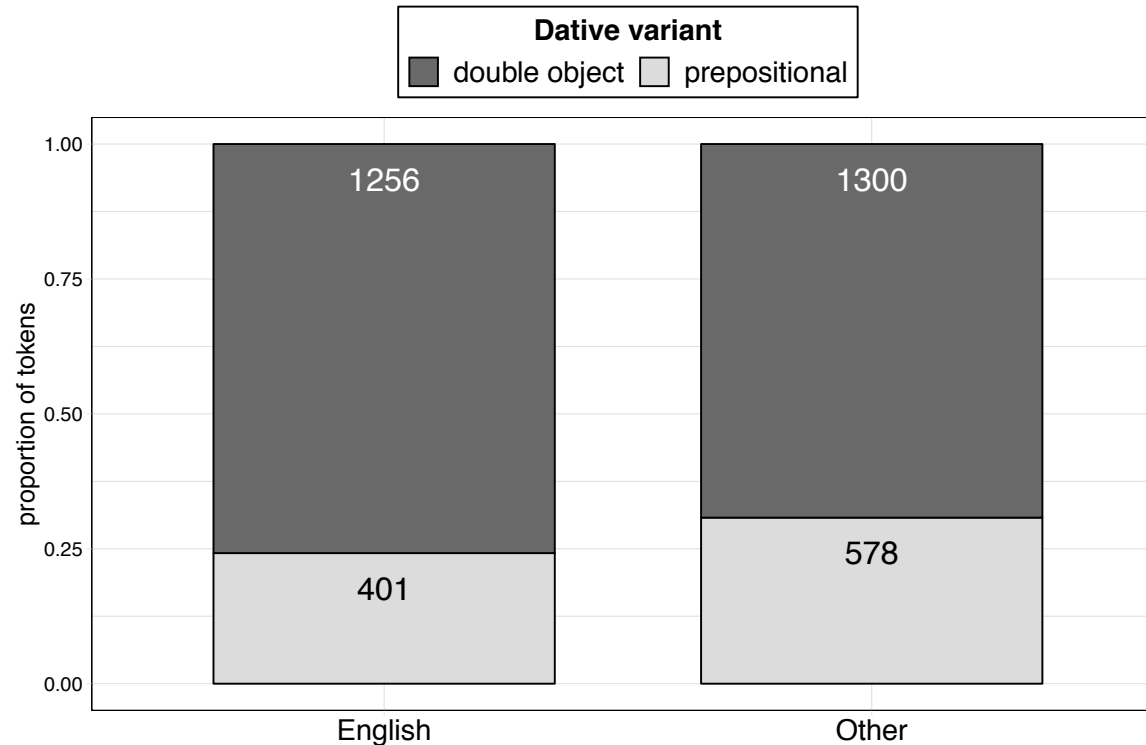


Figure x. Proportional distributions of double object and prepositional variants by **gender** ( $X^2(1) = 8.6$ ,  $p = 0.0033$ )



## Distribution across first language



Proportional distributions of double object and prepositional variants by **first language** ( $X^2(1) = 19.0, p < 0.001$ )



## Global vs local variation

### 1. What is the role of social factors in syntactic variation on a global scale?

- mixed effects model with only social factors, no interactions considered
- Factors included: Age, Gender, Variety, TextTime, Register & First language

### 2. What is the role of speaker-related factors on a local scale?

- focus on age and gender
- separate models by variety / locality
- Factors included: gender, age, (TextTime), Register



## Preparing the data

- Random intercepts for verb lemma, theme lemma and file ID / individual
- Variety is coded with sum coding instead of treatment coding
- Age and TextTime is coded with Helmert coding, comparing each new level against the previous levels
- 6 levels in age had to be conflated due to data sparseness in individual varieties:
  - teenies + twenties = tweenies
  - fifties + sixtiesPlus = fiftiesPlus



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# Results



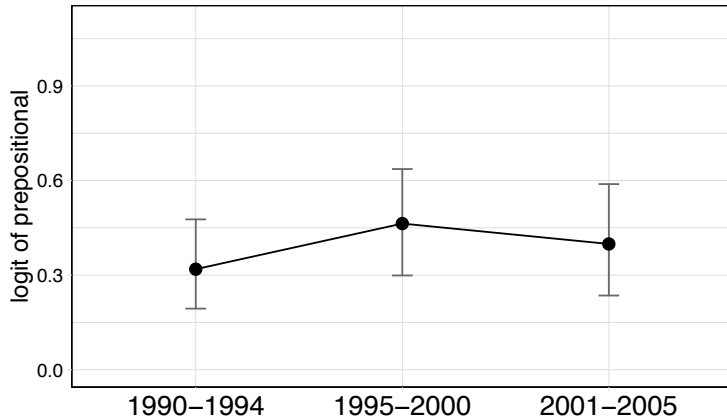
## Global variation in social factors

- **significant** predictors:
  - text time
  - register
  - variety
- **not significant** predictors:
  - gender
  - age
  - first language

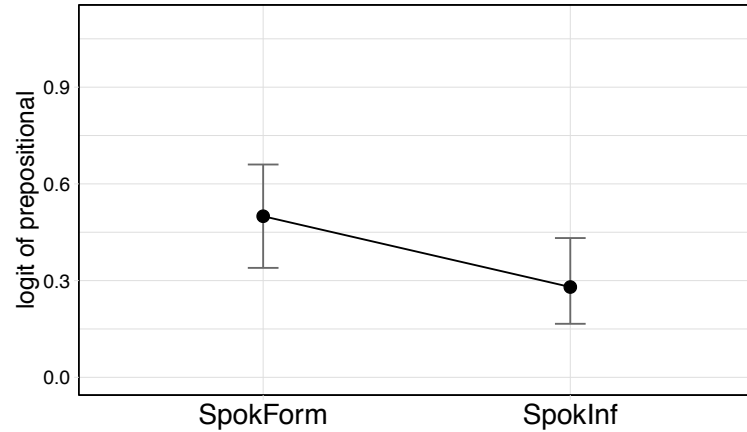


# The role of social factors

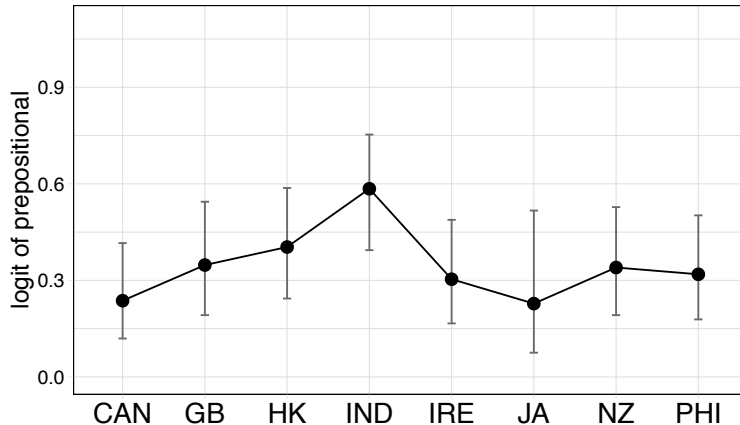
Effect of TextTime



Effect of Register



Effect of Variety



- **text time:** data sampled in 1990-1995 is less likely to use the prepositional dative
- **register:** spoken formal registers are more likely to include the prepositional dative
- **variety:** IndE and CanE are significantly different from the rest of the varieties



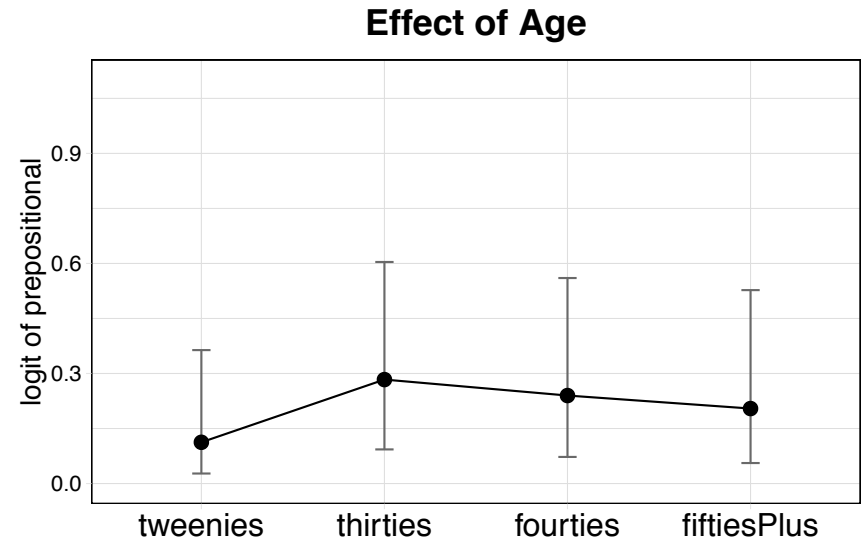
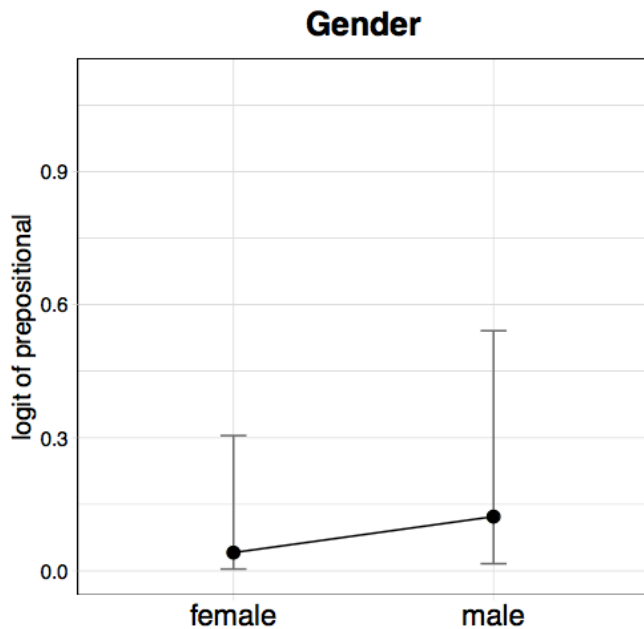
## Local variation in social factors

- **gender**
  - no gender effects in the majority of varieties
  - gender effect in NZE and JamE with male speakers preferring the prepositional dative more than female speakers
- **age**
  - no age effect in the majority of the varieties
  - age effect in NZE and PhiE



## The role of social factors

- age effect in NZE: thirties > tweenies
- age effect in PhiE: fiftiesPlus > forties



- gender effect in JamE: male > female speakers
- gender effect in NZE: male > female speakers



## In sum

- on a global scale → global large-scale parameters
  - i.e. text time, register and variety impact choice of dative variant
  - change over time towards more double object variants
- on a local scale → speaker-related factors minimally influential
  - in NZE & JamE: **gender** – prepositional variant preferred by male speakers
  - in NZE & PhiE: **age** – different preferences in varieties
- overall: local variation is very minimally influenced by speaker-related factors compared to the influence of global large-scale parameters



**to conclude...**



## Take-home messages

- Aggregating the data (global perspective) can obscure local variation.
- Syntactic variation is not only influenced by language-internal predictors but is potentially also governed by social correlates related to text type, region as well as to speaker's gender and age.



**Thank you!**

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## Distribution of tokens by text time and variety

Text time	CAN	GB	HK	IND	IRE	JA	NZ	PHI
1990-1994	37	481	379	371	244	21	567	228
1995-2000	319	0	180	63	18	42	0	227
2001-2005	12	0	148	0	108	9	0	81