

# Resources and Methods for Analysing Political Rhetoric & Framing in Parliamentary Debates

Ines Rehbein

Data and Web Science Group  
University of Mannheim

May 19, 2024





Ines



Rehbein

Simone



Ponzetto



Christopher



Klamm

**UNCOVER:**  
Uncovering ideological frames  
in political discourses (DFG)

Automatic detection of populist  
rhetoric in text  
(RISC Programm MWK)

Shared Task  
on Speaker Attribution  
in Parliamentary Debates

Josef  
RuppenhoferAnnelen  
Brunner

# Beyond topic models and text scaling

Modelling populist rhetoric and ideological framing  
in political text

## Challenges:

- Populism: modelling multidimensional constructs from text
- Framing beyond topics: capture pragmatic aspects of framing

# Beyond topic models and text scaling

Modelling populist rhetoric and ideological framing  
in political text

## Challenges:

- Populism: modelling multidimensional constructs from text
- Framing beyond topics: capture pragmatic aspects of framing

## This talk:

- Resources and case studies investigating different aspects of populist rhetoric and framing in parliamentary debates

# Outline

## Introduction

## Populist rhetoric

Part I: Othering

Part II: Thin populism

## Pragmatic framing in political debates

Speech acts

Epistemological bias

## Wrap-up

## Appendix

## Outline

## Introduction

## Populist rhetoric

## Part I: Othering

## Part II: Thin populism

# Pragmatic framing in political debates

## Speech acts

# Epistemological bias

## Wrap-up

## Appendix

## Personal pronouns as a rhetorical device for Othering

“Othering is a process whereby individuals and groups are treated and marked as different and inferior from the dominant social group” ([Griffin, 2017](#))



Joint work with Josef Ruppenhofer (LREC 2022)

## Personal pronouns as a rhetorical device for Othering

“Othering is a process whereby individuals and groups are treated and marked as different and inferior from the dominant social group” (Griffin, 2017)



1PL pronouns are “one of the primary linguistic features used by political speakers to manage their audiences’ perceptions of in-groups and out-groups” (Tyrkkö, 2016)

## Personal pronouns as a rhetorical device for Othering

“Othering is a process whereby individuals and groups are treated and marked as different and inferior from the dominant social group” (Griffin, 2017)



Important device for populist rhetoric (Us versus Them)  
(Mudde, 2004; Mudde and Kaltwasser, 2017)

# Personal pronouns as a rhetorical device for Othering



**"We** pledge to you that **we** will root out the communists, Marxists, fascists, and the radical left thugs that live like vermin within the confines of **our** country"

Trump campaign speech, Nov 2023

# Linguistic background

- Typology of 1PL pronouns (Cysouw 2002):
  1. minimal inclusive (speaker + hearer)  
*Shall we talk on the phone tomorrow?*
  2. augmented inclusive (adding third parties)  
*Kim will arrive at 11. Shall we go to lunch then?*
  3. exclusive (excluding the hearer)  
*We're going to the movies. What are your plans?*

## Linguistic background

- Typology of 1PL pronouns (Cysouw 2002):
    1. minimal inclusive (speaker + hearer)  
*Shall we talk on the phone tomorrow?*
    2. augmented inclusive (adding third parties)  
*Kim will arrive at 11. Shall we go to lunch then?*
    3. exclusive (excluding the hearer)  
*We're going to the movies. What are your plans?*

RQ: Can we predict the clusivity of 1PL pronouns in context?

# Classification Schema

- Encode clusivity features for all personal pronouns
- For each pronoun in context, we annotate three features:

Does the pronoun include/exclude a reference to

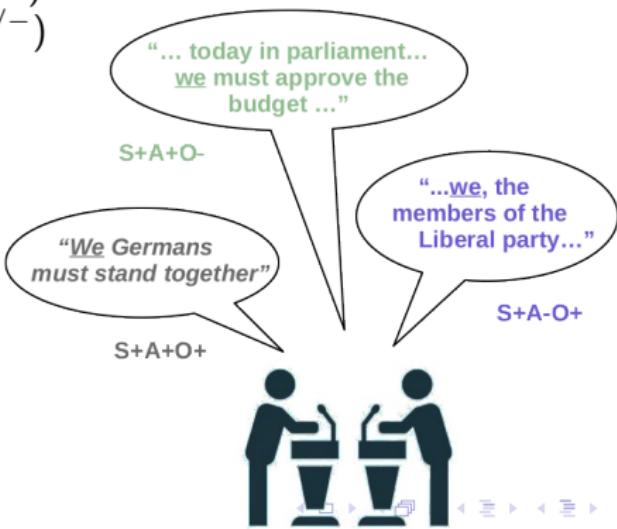
- (i) the **S**peaker ( $S^{+/-}$ )
- (ii) the **A**ddressee ( $A^{+/-}$ )
- (iii) **O**ther parties ( $O^{+/-}$ )

# Classification Schema

- Encode clusivity features for all personal pronouns
- For each pronoun in context, we annotate three features:

Does the pronoun include/exclude a reference to

- the **Speaker** ( $S^{+/-}$ )
- the **Addressee** ( $A^{+/-}$ )
- Other parties** ( $O^{+/-}$ )



# Annotation Experiment



RQ: How well do human annotators agree when disambiguating theclusivity of pronouns in political speech?

# Annotation Experiment



RQ: How well do human annotators agree when disambiguating theclusivity of pronouns in political speech?

⇒ Cohen's  $\kappa$ : 89.7 – 93.2

# Annotation Experiment



- Which pronouns are more, which are less ambiguous?

# Annotation Experiment



- Which pronouns are more, which are less ambiguous?
- ⇒ Some pronouns are unambiguous (I/he), 1PPL pronouns (we/us) are the most difficult ones (see Rehbein et al. 2021)

## Data exploration

**RQ:** Can we observe differences in the use ofclusivity features for different political parties?

**Data:** 2,876 pronouns in 36 speeches (>52k tokens) from the German Bundestag (2017 – 2021)

# Exploration

## Inter-party differences regarding clusivity

	S-A+O-	S+A-O-	S+A+O+	S+A+O-	S+A-O+	S-A-O+
CDU	15.8	23.3	25.9	8.4	18.4	6.4
SPD	12.0	21.9	24.5	13.3	14.8	9.5
FDP	25.2	20.9	19.9	11.1	10.8	9.6
GRUENE	32.1	25.8	15.5	13.9	3.3	5.7
LINKE	31.4	20.7	18.6	8.0	4.0	14.6
AfD	35.3	17.8	12.6	9.4	7.1	12.6
AVG	25.3	21.7	19.5	10.7	9.7	9.7

Members of the government :

- more frequent use of  $S^+ A^- O^+$  (we, the government)  
and  $S^+ A^+ O^+$  (we, the country / generic uses)
- less frequent use of  $S^- A^+ O^-$  (exclusive address of specific persons/groups/parties)

# Exploration

## Inter-party differences regarding clusivity

	S-A+O-	S+A-O-	S+A+O+	S+A+O-	S+A-O+	S-A-O+
CDU	15.8	23.3	25.9	8.4	18.4	6.4
SPD	12.0	21.9	24.5	13.3	14.8	9.5
FDP	25.2	20.9	19.9	11.1	10.8	9.6
GRUENE	32.1	25.8	15.5	13.9	3.3	5.7
LINKE	31.4	20.7	18.6	8.0	4.0	14.6
AfD	35.3	17.8	12.6	9.4	7.1	12.6
AVG	25.3	21.7	19.5	10.7	9.7	9.7

Members of left-wing party (*Die Linke*) and extreme right (*AfD*):

- overuse of  $S^-A^-O^+$
- mostly 3. person references to specific persons or instances  
*of the People*      *When people lose their jobs ...*

## Exploration

## Inter-party differences regardingclusivity

	S-A+O-	S+A-O-	S+A+O+	S+A+O-	S+A-O+	S-A-O+
CDU	15.8	23.3	25.9	8.4	18.4	6.4
SPD	12.0	21.9	24.5	13.3	14.8	9.5
FDP	25.2	20.9	19.9	11.1	10.8	9.6
GRUENE	32.1	25.8	15.5	13.9	3.3	5.7
LINKE	31.4	20.7	18.6	8.0	4.0	14.6
AfD	35.3	17.8	12.6	9.4	7.1	12.6
AVG	25.3	21.7	19.5	10.7	9.7	9.7

Members of left-wing party (*Die Linke*) and extreme right (*AfD*):

- overuse of  $S^- A^- O^+$
  - mostly 3. person references to specific persons or instances  
*of the People*                                   *When people lose their jobs ...*

Higher ratio of references to *the People* as indicator for *people-centrism*  
(see, e.g., Mudde & Kaltwasser 2017; Leeuwen 2019; Wirth et al., 2016)

## Automatic disambiguation of pronouns

**RQ:** How well can we automatically predict the clusivity of pronouns in parliamentary debates?

- Baseline: feature-based SVM
  - BERT-based text classification model

## Automatic disambiguation of pronouns

**RQ:** How well can we automatically predict the clusivity of pronouns in parliamentary debates?

- Baseline: feature-based SVM
  - BERT-based text classification model

Class	# gold	SVM F1	BERT F1
S+A+O+	569	66.3	<b>75.9</b>
S+A+O-	301	51.1	<b>56.2</b>
S+A-O+	298	43.1	<b>63.6</b>
S+A-O-	617	99.7	<b>99.9</b>
S-A+O+	1	0	0
S-A+O-	726	96.5	<b>98.1</b>
S-A-O+	273	82.2	<b>90.2</b>
<b>NONE</b>	91	44.9	<b>79.1</b>
<b>Total</b>	2,876	<b>78.5</b>	<b>84.9</b>

**Micro F1**, BERT results averaged over 3 runs (# gold: no. of gold instances per class)

## Personal pronouns as a device for Othering

## Summary

RQ1: Are humans able to disambiguate clusivity of pronouns in political debates?

## Personal pronouns as a device for Othering

## Summary

RQ1: Are humans able to disambiguate clusivity of pronouns in political debates? ✓

## Personal pronouns as a device for Othering

## Summary

RQ1: Are humans able to disambiguate clusivity of pronouns in political debates? ✓

RQ2: Can we automatically disambiguate clusivity of pronouns?

## Personal pronouns as a device for Othering

## Summary

RQ1: Are humans able to disambiguate clusivity of pronouns in political debates? ✓

RQ2: Can we automatically disambiguate clusivity of pronouns?

- $\approx 85\%$  F1 ✓
  - but results for some classes are much lower!  
Most difficult: 1PPL pronouns

## Personal pronouns as a device for Othering

## Summary

RQ1: Are humans able to disambiguate clusivity of pronouns in political debates? ✓

RQ2: Can we automatically disambiguate clusivity of pronouns?

- $\approx 85\%$  F1 ✓
  - but results for some classes are much lower!  
Most difficult: 1PPL pronouns

### RQ3: Differences between parties:

- government vs opposition
  - left and right populist parties: higher ratio of references to *the People* (*Thin populism*)

## Outline

Introduction

## Populist rhetoric

## Part I: Othering

## Part II: Thin populism

## Speech acts

## Epistemological bias

## Wrap-up

## Appendix

## Populism

Fuzzy concept with no agreement on its definition

- Populism as
    - an ideology
    - a rhetoric
    - a style
    - a discourse
    - a political strategy

(McRae, 1969; Mudde, 2004)  
(Abts and Rummens, 2007)  
(Moffitt, 2016)  
(Laclau, 1977; Aslanidis, 2016)  
(Weyland, 2001, 2021;  
Hawkins and Kaltwasser, 2017)

Joint work with Christopher Klammer and Simone Ponzetto  
(EACL Findings 2023)

# Populism

Fuzzy concept with no agreement on its definition

- Populism as
  - an ideology (McRae, 1969; Mudde, 2004)
  - a rhetoric (Abts and Rummens, 2007)
  - a style (Moffitt, 2016)
  - a discourse (Laclau, 1977; Aslanidis, 2016)
  - a political strategy (Weyland, 2001, 2021; Hawkins and Kaltwasser, 2017)

Ideational view of populism:

*“a thin-centered ideology that considers society to be ultimately separated into two homogenous and antagonistic camps, ‘the pure people’ versus ‘the corrupt elite’”*

(Mudde, 2004)

# Populism

Fuzzy concept with no agreement on its definition

- Populism as
  - an ideology (McRae, 1969; Mudde, 2004)
  - a rhetoric (Abts and Rummens, 2007)
  - a style (Moffitt, 2016)
  - a discourse (Laclau, 1977; Aslanidis, 2016)
  - a political strategy (Weyland, 2001, 2021; Hawkins and Kaltwasser, 2017)
- Populism as a multi-dimensional construct with anti-elitism and people-centrism as core dimensions

# Measuring populism – Expert surveys

- Survey tools for measuring populism:
  - Chapel Hill Expert Survey (CHES) ([Polk et al., 2017](#))
  - The Populist ([Rooduijn et al., 2019](#))
  - Populism and Political Parties Expert Survey (POPPA) ([Meijers and Zaslove, 2020](#))
  - ...

## Measuring populism – Expert surveys

- Survey tools for measuring populism:
    - Chapel Hill Expert Survey (CHES) (Polk et al., 2017)
    - The Populist (Rooduijn et al., 2019)
    - Populism and Political Parties Expert Survey (POPPA) (Meijers and Zaslove, 2020)
    - ...

## Drawback of survey tools

- Can only provide us with one score for each party or actor
  - Cannot be used to study how populist rhetoric is used as a strategic tool in different contextual settings

# Thick versus *thin* populism

## Thick populism

- combines people-centrist references with anti-elitism and the exclusion of certain minority groups from *the People*

## Thin populism

- “communication style of political actors that refers to *the People*”  
*(Jagers & Walgrave, 2007:322)*

# Measuring *Thin* populism from text

## Approach:

1. Create a dataset where mentions of *the People* and *the Elite* are annotated
2. Learn to predict those mentions in new text
3. Use aggregated references to *the People* as measure of *thin* populism (people-centrism)

## Annotating Mentions of the People and the Elite (MoPE)

Level 1		Elite E				People P	
Level 2		Person P		Organisation O		-	
Level 3	Domain:	Label:	Domain:	Label:	Domain:	Label:	
Politics	EPPOL	Politics	EOPOL	Nation	pNAT		
Economy	EPECON	Economy	EOECON	Ethnicity/religion	pETH		
Finance	EPFIN	Finance	EOFIN	Profession/function	pFUN		
Media	EPMED	Media	EOMED	Age	PAGE		
Science	EPSCI	Science	EOSCI	Social variables	PSOC		
Religion	EPREL	Religion	EOREL	(gender/class/...)			
Culture	EPCULT	Culture	EOCULT	Generic			pGEN
Military	EPMIL	Military	EOMIL				
NGOs	EPNGO	NGOs	EONGO				
Movements	EPMOV	Movements	EOMOV				
Other:	references to own person EPOWN	geo-political entity GPE					

## Hierarchical annotation schema, based on Wirth et al. (2019)

<https://osf.io/2z3dk/> (p.12)

## Annotating Mentions of the People and the Elite (MoPE)

Level 1		Elite E				People P	
Level 2		Person P		Organisation O		–	
Level 3	Domain:	Label:	Domain:	Label:	Domain:	Label:	
	Politics	EPPOL	Politics	EOPOL	Nation	PNAT	
	Economy	EPECON	Economy	EOECON	Ethnicity/religion	PETH	
	Finance	EPFIN	Finance	EOFIN	Profession/function	PFUN	
					Age	PAGE	
					Social variables (gender/class/...)	PSOC	
					Generic	PGEN	

Wer, bitte, erklärt diesen Irrsinn den Bürgern, dem deutschen Arbeitslosen,  
Who, please, explains this madness (to) the citizens, the German unemployed,

der alleinerziehenden Mutter, dem Niedriglöhner, der seine Rente nicht mehr  
the single mother, the low wage earner who can't get his pension

zusammenbekommt?  
together?

Hierarchical annotation schema, based on Wirth et al. (2019)  
<https://osf.io/2z3dk/> (p.12)

## MoPE: Dataset size

party	speeches	speakers	tokens
CDU/CSU	76	57	72,113
SPD	58	44	48,988
AfD	39	30	29,301
FDP	34	25	22,736
Left	29	21	20,266
Greens	27	18	18,756
cross-bencher	3	1	1,457
total	267	196	213,617

Additional engl. testset for cross-lingual prediction with 29,584 tokens and 1,423 annotated mentions.

## Predicting mentions of *the People* and *the Elite*

## Models

- Baseline: pipeline approach:
    - mention detection
    - mention classification
  - End-to-end system:
    - mention detection and labelling as token classification (BERT)

The	SPD	has	betrayed	workers'	rights
B-eoPol	I-eoPol	O	O	B-pFunc	O
Elite political organisation			People by function		

# Predicting mentions of *the People* and *the Elite*

## Models

- Baseline: pipeline approach:
  - mention detection
  - mention classification
- End-to-end system:
  - mention detection and labelling as token classification (BERT)

## Crosslingual setting

- zero-shot (mBERT end-to-end system)
- tri-training with disagreement ([Zhou and Li, 2005](#); Zhou, 2008; Søgaard, 2010)

# Predicting mentions of *the People* and *the Elite*

## Results

		Test set		
Task & model architecture		Prec	Rec	F1
Level1	Pipeline	MD→MC	72.6± 1.13	79.6± 1.24
	End-to-end	E2E-Tok	<b>77.1± 2.84</b>	<b>79.6± 1.29</b>
Level2	Pipeline	MD→MC	70.9± 0.22	77.6± 0.24
	End-to-end	E2E-Tok	<b>79.2± 0.89</b>	<b>78.3± 0.74</b>
Level3	Pipeline	MD→MC	63.8± 3.85	67.9± 4.10
	End-to-end	E2E-Tok	<b>73.6± 2.00</b>	<b>74.8± 1.21</b>

- E2E system outperforms pipeline approach
- F1 for fine-grained labels >74%
- Best cross-lingual results on English test set >72%

# Measuring *thin populism* from text

## Recap: *thin populism*

- “communication style of political actors that refers to the people”  
(Jagers and Walgrave, 2007:322)

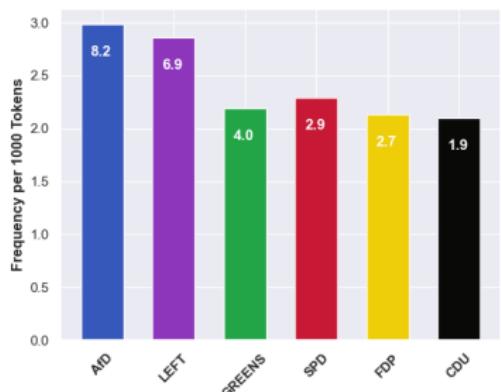
How often do political actors refer to different subsets of  
*the People*?

- predict labels for all debates from the German Bundestag  
(2017–2021) (> 16 mio. tokens)

# Distribution of references to *the People*

German Bundestag (2017-2021)

- Strong positive correlation ( $\rho=.94$ ,  $p=.005$ ) with expert ratings (people-centrism scores from POPPA)

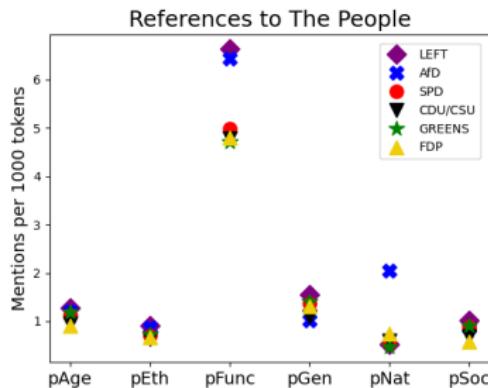
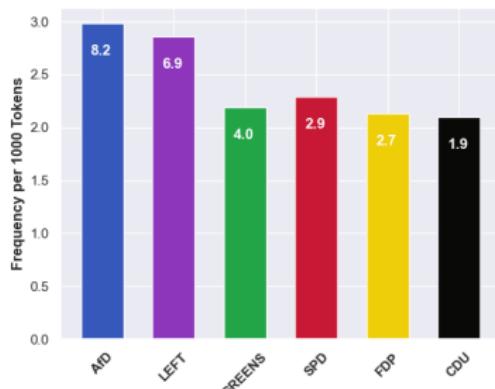


- Distribution of references to *the People*

# Distribution of references to *the People*

German Bundestag (2017-2021)

- Strong positive correlation ( $\rho=.94$ ,  $p=.005$ ) with expert ratings (people-centrism scores from POPPA)



- Distribution of references to *the People*

- Distribution of references to different subgroups of *the People*

# Modelling *thin* populism

## Summary

References to *the People* are a good predictor for *thin populism* (people-centrism):

- both left and right-wing populist parties show a substantially higher amount of people mentions:
  - both parties use more references to PEOPLE BY FUNCTION
  - only far-right AfD shows excessive use of PEOPLE BY NATION

## Insights:

More fine-grained operationalisation of *thin* populism capture differences between left and right-wing populism

## Outlook

- So far: only one dimension of populism (*thin* populism / people-centrism)
- Modelling anti-elitism is hard:  
negative stance towards politicians ≠ anti-elitism

*But today Minister Scheuer is stubbornly pursuing  
the privatization of federal roads and freeways.*

## Outlook

- So far: only one dimension of populism (*thin* populism / people-centrism)
- Modelling anti-elitism is hard:  
negative stance towards politicians ≠ anti-elitism

*But today Minister Scheuer is stubbornly pursuing the privatization of federal roads and freeways.*

### Compositional model of anti-elitism:

- reference to *the Elite*
- negative stance
- moralisation of the discourse / Manichean worldview

Villain

(Rel)

ImmoralActOrGoal

Because this government is the vicarious agent of the green climate sect

## Outline

## Introduction

# Populist rhetoric

## Part I: Othering

## Part II: Thin populism

## Pragmatic framing in political debates

## Speech acts

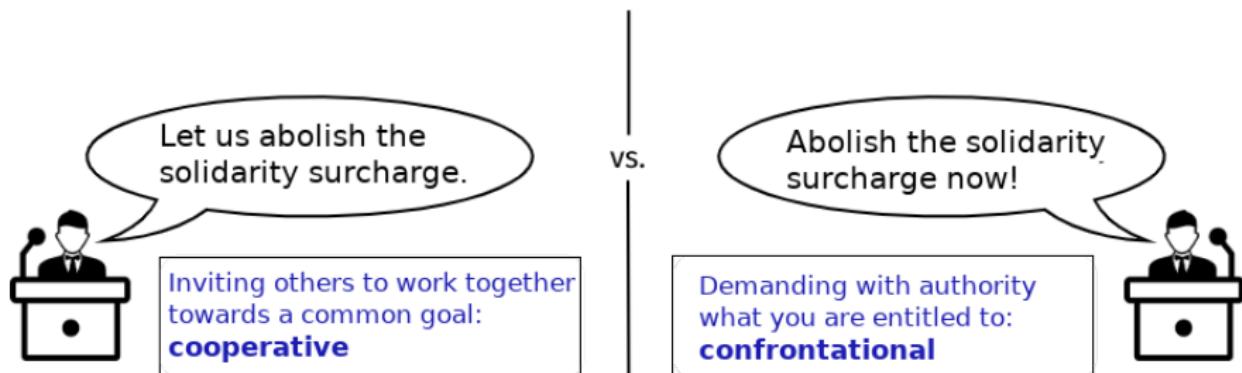
## Epistemological bias

## Wrap-up

## Appendix

# Investigating rhetorical strategies in parliament through the lens of speech acts

Speakers can frame their messages in different ways



# Annotation scheme

## Speech acts

I	Cooperation			Conflict		
II	<i>regulatory</i>	<i>informative</i>	<i>consolidating</i>	<i>declarative</i>	<i>confrontational</i>	<i>argumentative-critical</i>
III	Macro	Report	Request	Self-representation	Rhetorical-question	Demand
	Expressive	Question	Support	Promise	Accusation	Rejection Bad-outcome

Subjective-statement

Based on Kondratenko et al. 2020

# Speech acts in parliamentary debates – An example

Sebastian Brehm (*CDU/CSU*), 18.11.2021:

Just take a look at this! You have zero empathy. You have zero respect for small and medium-sized farmers! You are destroying them with this law, and for the first time the FDP is once again acting as the party that raises taxes. We are rejecting this bill today, with a clear signal to the agricultural sector: We stand by small farms and we want to preserve their structures.

Utterance segmentation

Speech act

Just take a look at this!

Demand

You have zero empathy.

Accusation

You have zero respect for small and medium-sized farmers!

Accusation

You are destroying them with this law,

Bad-outcome

and for the first time the FDP is once again acting as the party that raises taxes.

Accusation

We are rejecting this bill today, with a clear signal to the agricultural sector:

Rejection

We stand by small farms

Promise

and we want to preserve their structures.

Promise

# Baselines for speech act prediction

Utterance segmentation:

- Token classification
- BIO scheme
- BERT-base
- **91% macro-avg. F1**

Speech act classification:

- Sequence classification
- Multi-label (up to 2 labels)
- BERT-large
- **82% micro-avg. F1**

# Classification results (test set)

Class	F1	#
Subj-statement	$84.50 \pm 0.458$	1,413
Report	$80.65 \pm 0.534$	686
Macro	$84.69 \pm 1.972$	250
Accusation	$65.11 \pm 0.393$	216
Demand	$80.54 \pm 0.977$	206
Request	$82.35 \pm 0.614$	146
Expressive	$93.58 \pm 0.263$	142
Question-All	$98.21 \pm 1.112$	92
Bad-outcome	$58.18 \pm 2.327$	43
Promise	$67.93 \pm 4.302$	38
Rejection	$67.56 \pm 3.816$	24
Self-representation	$45.07 \pm 3.316$	22
Support	$78.33 \pm 2.887$	9

- Micro-avg. F1: 82%
- Performance varies by class
- Range: 45% – 98% F1

# Classification results (test set)

Class	F1	#
Subj-statement	$84.50 \pm 0.458$	1,413
Report	$80.65 \pm 0.534$	686
Macro	$84.69 \pm 1.972$	250
Accusation	$65.11 \pm 0.393$	216
Demand	$80.54 \pm 0.977$	206
Request	$82.35 \pm 0.614$	146
Expressive	$93.58 \pm 0.263$	142
Question-All	$98.21 \pm 1.112$	92
Bad-outcome	$58.18 \pm 2.327$	43
Promise	$67.93 \pm 4.302$	38
Rejection	$67.56 \pm 3.816$	24
Self-representation	$45.07 \pm 3.316$	22
Support	$78.33 \pm 2.887$	9

- Micro-avg. F1: 82%
- Performance varies by class
- Range: 45% – 98% F1
- Some classes are small

# Classification results (test set)

Class	F1	#
Subj-statement	$84.50 \pm 0.458$	1,413
Report	$80.65 \pm 0.534$	686
Macro	$84.69 \pm 1.972$	250
Accusation	<b><math>65.11 \pm 0.393</math></b>	216
Demand	$80.54 \pm 0.977$	206
Request	$82.35 \pm 0.614$	146
Expressive	$93.58 \pm 0.263$	142
Question-All	$98.21 \pm 1.112$	92
Bad-outcome	$58.18 \pm 2.327$	43
Promise	$67.93 \pm 4.302$	38
Rejection	$67.56 \pm 3.816$	24
Self-representation	$45.07 \pm 3.316$	22
Support	$78.33 \pm 2.887$	9

- Micro-avg. F1: 82%
- Performance varies by class
- Range: 45% – 98% F1
- Some classes are small
- Others might be hard to learn

# Pragmatic framing in 20 years of parliamentary debates

How do parties pursue their goals?

- Request : inviting others to work together toward a common goal
- Demand : asking the opponent with authority for something owed

## Hypotheses

# Pragmatic framing in 20 years of parliamentary debates

How do parties pursue their goals?

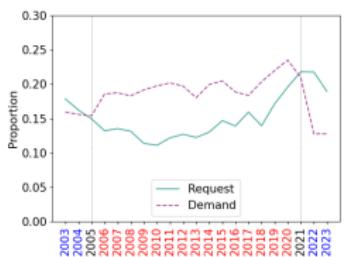
- Request : inviting others to work together toward a common goal
- Demand : asking the opponent with authority for something owed

## Hypotheses

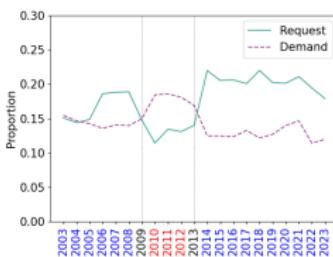
- (a) Opposition members will use more speech acts of type Demand than government members
- (b) Government members will produce more Request speech acts than opposition members

# Pragmatic framing in 20 years of parliamentary debates

The Greens



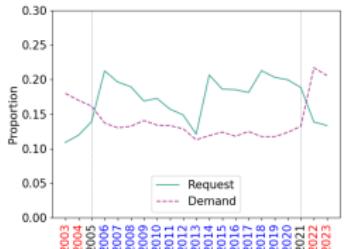
Social Democrats (SPD)



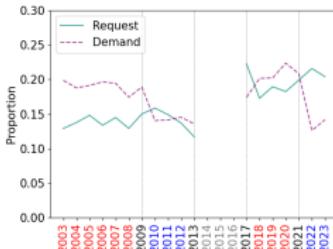
The Left



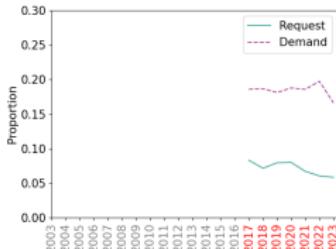
Christian Democratic Union / Christian Social Union (CDU/CSU)



Free Democrats (FDP)



Alternative for Germany (AfD)



# Pragmatic framing in 20 years of parliamentary debates

Expectations confirmed:

- Parties in government use more Request speech acts
- Opposition parties use more Demand speech acts

# Pragmatic framing in 20 years of parliamentary debates

Expectations confirmed:

- Parties in government use more Request speech acts
- Opposition parties use more Demand speech acts

The same is true for Consolidating vs. Conflict speechacts

⇒ Validation of annotation scheme and classifier

## Outlook: What's next?

Research questions:

- More confrontational behaviour towards the end of a legislative term?
- Interactions between speech act usage and real-world events?  
Example: Covid-19 and *Rally 'round the flag effect*

(Mueller, 1970)

## Outline

Introduction

# Populist rhetoric

## Part I: Othering

## Part II: Thin populism

## Pragmatic framing in political debates

## Speech acts

## Epistemological bias

## Wrap-up

## Appendix

# Investigating epistemological bias in parliamentary debates

## Epistemological bias

*“whether propositions that are presupposed or entailed in the text are uncontroversially accepted as true”*

(Recasens et al. 2013)

## Opinion

We<sub>Source</sub> are of the opinion that the violation of territorial integrity must not be and that Ukraine must regain access to its entire territory<sub>Message</sub>.

(Merkel, CDU, 2019-06-26)

# Investigating epistemological bias in parliamentary debates

## Epistemological bias

*"whether propositions that are presupposed or entailed in the text are uncontroversially accepted as true"*

(Recasens et al. 2013)

## Opinion

We<sub>Source</sub> are of the opinion that the violation of territorial integrity must not be and that Ukraine must regain access to its entire territory<sub>Message</sub>.

(Merkel, CDU, 2019-06-26)

## Fact

For 100 days, everyone in this room<sub>Source</sub> has also known that we live in a new reality and that this reality remains, the reality of one state invading another state in Europe for no reason<sub>Message</sub>.

(Faber, FDP, 2022-03-06)

# Investigating epistemological bias in parliamentary debates

Which propositions are framed as facts by the speakers?

- Data
  - Parliamentary debates from the German Bundestag (2002–2023)  
*Parl-Speech V2 (Rauh and Schwalbach, 2020)*
  - > 73 mio. tokens

# Investigating epistemological bias in parliamentary debates

Which propositions are framed as facts by the speakers?

- Data
  - Parliamentary debates from the German Bundestag (2002–2023)  
[Parl-Speech V2 \(Rauh and Schwalbach, 2020\)](#)
  - > 73 mio. tokens

How can we identify factive messages and their speakers?

# Identifying factive speech events

- Step I: Identify speech events and their roles
- Step II: Identify propositions that are framed as facts

# Identifying factive speech events

- Step I: Identify speech events and their roles
- Step II: Identify propositions that are framed as facts

Scholz spoke to the people.

SOURCE

# Identifying factive speech events

- Step I: Identify speech events and their roles
- Step II: Identify propositions that are framed as facts

Scholz spoke to the people.

SOURCE

ADDRESSEE

# Identifying factive speech events

- Step I: Identify speech events and their roles
- Step II: Identify propositions that are framed as facts

Scholz addressed the energy crisis.

SOURCE

TOPIC

# Identifying factive speech events

- Step I: Identify speech events and their roles
- Step II: Identify propositions that are framed as facts

Scholz warns that the crisis isn't over yet .

SOURCE

MESSAGE

# Identifying factive speech events

- Step I: Identify speech events and their roles
- Step II: Identify propositions that are framed as facts

Scholz posted that on Facebook.

SOURCE

MEDIUM

# Identifying factive speech events

- Step I: Identify speech events and their roles
- Step II: Identify propositions that are framed as facts

The statistics show that crime is on the rise.

EVIDENCE

MESSAGE

# Identifying factive speech events

- Step I: Identify speech events and their roles
- Step II: Identify propositions that are framed as facts

Scholz gave a speech.

SOURCE      MULTIWORD CUE

# Identifying factive speech events

- Step I: Identify speech events and their roles
- Step II: Identify propositions that are framed as facts
  - Lexicon of factive speech event triggers
    - extends the English verb lists by Hooper (1975)
    - 63 lemma entries (verbs, nouns and multiword expressions)
  - 1. Use the lexicon to identify factive triggers of speech events
  - 2. Use the predicted speech event annotations to identify the roles

# Identifying Epistemological Bias in Parliamentary Debates

## Findings

Parties in **government** make more frequent use of factives than  
**opposition** parties ( $p < 0.001$ )

# Identifying Epistemological Bias in Parliamentary Debates

## Findings

Parties in **government** make more frequent use of factives than  
**opposition** parties ( $p < 0.001$ )

Can we find differences between parties?

# Identifying Epistemological Bias in Parliamentary Debates

## Findings

Parties in **government** make more frequent use of factives than **opposition** parties ( $p < 0.001$ )

Can we find differences between parties?

- Identify patterns of usage for parties that are in government/opposition
  1. Extract all SOURCE, MESSAGE and TOPIC roles for factive speech events
  2. Get sentence embeddings for each role  
(Reimers and Gurevych, 2019)
  3. Apply Fast Clustering algorithm
  4. Identify clusters that are over-/underused by specific parties

# Clusters that are Over-/Underused by Specific Parties

Cl. Size	Role	# Clusters	AfD	CDU	FDP	GREEN	LEFT	SPD
100	MESSAGE	261	4	1	0	0	3	1
100	SOURCE	38	4	0	2	0	1	1
100	TOPIC	4	2	0	0	0	0	0
		<b>Total</b>	10	1	2	0	4	2
25	MESSAGE	910	5	1	0	0	5	1
25	SOURCE	136	4	1	2	1	5	1
25	TOPIC	35	4	2	4	4	1	2
		<b>Total</b>	13	4	6	5	11	4

**Table:** Number of extracted clusters for the speech event roles SOURCE, MESSAGE and TOPIC co-occurring with factive speech event triggers. The last six columns show the number of clusters where parties over-/underuse a specific cluster, compared to the sample mean (confidence threshold=0.99).

## Clusters that are Over-/Underused by Specific Parties

Cl. Size	Role	# Clusters	AfD	CDU	FDP	GREEN	LEFT	SPD
100	MESSAGE	261	4	1	0	0	3	1
	SOURCE	38	4	0	2	0	1	1
	TOPIC	4	2	0	0	0	0	0
		Total	10	1	2	0	4	2
25	MESSAGE	910	5	1	0	0	5	1
	SOURCE	136	4	1	2	1	5	1
	TOPIC	35	4	2	4	4	1	2
		Total	13	4	6	5	11	4

**Table:** Number of extracted clusters for the speech event roles SOURCE, MESSAGE and TOPIC co-occurring with factive speech event triggers. The last six columns show the number of clusters where parties over-/underuse a specific cluster, compared to the sample mean (confidence threshold=0.99).

# Clusters that are Over-/Underused by Specific Parties

Cl. Size	Role	# Clusters	AfD	CDU	FDP	GREEN	LEFT	SPD
100	MESSAGE	261	4	1	0	0	3	1
100	SOURCE	38	4	0	2	0	1	1
100	TOPIC	4	2	0	0	0	0	0
		<b>Total</b>	10	1	2	0	4	2
25	MESSAGE	910	5	1	0	0	5	1
25	SOURCE	136	4	1	2	1	5	1
25	TOPIC	35	4	2	4	4	1	2
		<b>Total</b>	13	4	6	5	11	4

**Table:** Number of extracted clusters for the speech event roles SOURCE, MESSAGE and TOPIC co-occurring with factive speech event triggers. The last six columns show the number of clusters where parties over-/underuse a specific cluster, compared to the sample mean (confidence threshold=0.99).

# Clusters that are Over-/Underused by Specific Parties

Cl. Size	Role	# Clusters	AfD	CDU	FDP	GREEN	LEFT	SPD
100	MESSAGE	261	4	1	0	0	3	1
100	SOURCE	38	4	0	2	0	1	1
100	TOPIC	4	2	0	0	0	0	0
<b>Total</b>			<b>10</b>	1	2	0	<b>4</b>	2
25	MESSAGE	910	5	1	0	0	5	1
25	SOURCE	136	4	1	2	1	5	1
25	TOPIC	35	4	2	4	4	1	2
<b>Total</b>			<b>13</b>	4	6	5	<b>11</b>	4

**Table:** Number of extracted clusters for the speech event roles SOURCE, MESSAGE and TOPIC co-occurring with factive speech event triggers. The last six columns show the number of clusters where parties over-/underuse a specific cluster, compared to the sample mean (confidence threshold=0.99).

# Qualitative Analysis

- Cluster over-used by the far-right AfD

## (1) MESSAGE , Cluster 3 (547 instances)

- a. dass es nicht geht  
that it doesn't work
- b. dass es damit nicht getan ist  
that this is not enough
- c. dass es nicht möglich ist  
that it is not possible
- d. dass das nicht zulässig ist  
that this is not allowed

# Qualitative Analysis

- Cluster over-used by the liberal FDP

(2) **TOPIC**, Cluster 7 (164 instances)

- a. im Budget  
in the budget
- b. den Haushalt 2024  
the budget 2024
- c. beim Haushalt des Bundesministers  
at the budget of the Federal Minister
- d. mehreren Stellen im Haushalt  
several positions in the budget

# Qualitative Analysis

- Cluster under-used by The Left

- (3) SOURCE, Cluster 7 (164 instances)
- a. Die Bürger in unserem Land  
The citizens of our country
  - b. die Menschen auf dem Land  
the people in the countryside
  - c. die Bürger draußen  
the citizens outside
  - d. die Mehrzahl der Bevölkerung  
the majority of the population

# Wrap-Up

- This talk
  - Resources and case studies on studying populist rhetoric and pragmatic framing
- Challenges & open questions
  - How can we model multidimensional constructs from text?
  - How can we validate our models? Are correlations good enough?

# Wrap-Up

- This talk
  - Resources and case studies on studying populist rhetoric and pragmatic framing
- Challenges & open questions
  - How can we model multidimensional constructs from text?
  - How can we validate our models? Are correlations good enough?
- Outlook: Potential of LLMs for political text analysis?
  - Using LLMs for data annotation/expansion ([Ziems et al. 2024](#), [Egami et al. 2024](#))
  - Using LLMs to generate counterfactuals ([Sen et al. 2023](#), [Chen et al. 2023](#))
  - Using LLMs as survey participants ([Dillion et al. 2023](#), [Jansen et al. 2023](#), [Namikoshi et al. 2024](#))

## Wrap-Up

- This talk
    - Resources and case studies on studying populist rhetoric and pragmatic framing
  - Challenges & open questions
    - How can we model multidimensional constructs from text?
    - How can we validate our models? Are correlations good enough?
  - Outlook: Potential of LLMs for political text analysis?
    - Using LLMs for data annotation/expansion (Ziems et al. 2024, Egami et al. 2024)
    - Using LLMs to generate counterfactuals (Sen et al. 2023, Chen et al. 2023)
    - Using LLMs as survey participants (Dilion et al. 2023, Jansen et al. 2023, Namikoshi et al. 2024)
  - Validation is crucial!
    - More theoretically grounded modelling
    - More validation (construct validity, content validity, ...)

# Thank you!

Supplementary materials  
(data, annotation guidelines,  
code etc.) are available from:



Othering

# Othering: Experimental Settings

- BERT
  - 6-fold cross-validation (as before)
  - For each pronoun in the data:
    - extract text window including the respective pronoun
    - mark pronoun by an underscore
  - Model selection on dev set (early stopping)  
⇒ more details in the paper

# Othering: Results

Class	# gold	Baseline: SVM classifier						
		tfidf	dep	tfidf+dep	+party	+gov	all feat	
S+A+O+	569	62.1	65.8	66.3	64.2	66.4	64.0	
S+A+O-	301	37.4	45.0	51.1	49.0	50.3	49.7	
S+A-O+	298	34.1	41.9	43.1	46.6	40.8	46.6	
S+A-O-	617	99.7	99.8	99.7	99.6	99.7	99.6	
S-A+O+	1	0	0	0	0	0	0	
S-A+O-	726	96.7	96.6	96.5	96.5	96.5	96.5	
S-A-O+	273	82.1	82.8	82.2	82.1	81.9	82.4	
NONE	91	62.1	40.3	44.9	45.3	42.6	47.5	
<b>Total</b>	<b>2,876</b>	<b>75.6</b>	<b>77.9</b>	<b>78.5</b>	<b>78.0</b>	<b>78.2</b>	<b>78.1</b>	

Micro F1, BERT results averaged over 3 runs (# gold: no. of gold instances per class)

- Dependency features outperform other options
- Metainformation does not give further improvements
- Results for different classes vary substantially!

## Othering: Results

Class	# gold	Baseline: SVM classifier			BERT
		tfidf	dep	tfidf+dep	F1
S+A+O+	569	62.1	65.8	66.3	<b>75.9</b>
S+A+O-	301	37.4	45.0	51.1	<b>56.2</b>
S+A-O+	298	34.1	41.9	43.1	<b>63.6</b>
S+A-O-	617	99.7	99.8	99.7	<b>99.9</b>
S-A+O+	1	0	0	0	0
S-A+O-	726	96.7	96.6	96.5	<b>98.1</b>
S-A-O+	273	82.1	82.8	82.2	<b>90.2</b>
NONE	91	62.1	40.3	44.9	<b>79.1</b>
<b>Total</b>	2,876	75.6	77.9	<b>78.5</b>	<b>84.9</b>

**Micro F1**, BERT results averaged over 3 runs (# gold: no. of gold instances per class)

- BERT: improvements mostly for
    - inclusive label  $(S+A+O+: +10\%)$
    - speaker/other-inclusive but excluding addressee  $(S+A-O+: +20\%)$
    - NONE class  $(+ > 30\%)$

## Othering: Results II

- SVM
  - dependency features outperform other options
  - metainformation does not give further improvements
  - overall, satisfying accuracy but results for different classes vary substantially!
- BERT
  - improvements mostly for
    - inclusive label (S+A+O+: +10%)
    - speaker/other-inclusive but excluding addressee (S+A-O+: +20%)
    - NONE class (+ > 30%)
  - Overall: most ambiguity concerns 1.ps.pl pronouns

## Othering: Dependency-based features

German text:

Da hätten Sie Herrn Erdogan klare Kante geben und sagen müssen :  
Wir , und zwar nicht nur **wir** Deutsche , sondern auch die  
europäischen NATO-Nationen [ . . . ]

English translation:

'You should have taken a firm stand and told Mr. Erdogan quite  
clearly: We, and not only **we** Germans, but also the European NATO  
nations [ . . . ]'

	<b>pron-</b> <b>form</b>	<b>GF</b>	<b>head</b>	<i>head POS</i>	<b>child</b> <b>nodes</b>
DE:	wir	NK	deutschen	NOUN	-
EN:	we	NK	<i>Germans</i>	NOUN	-

Example for extraction of dependency features (NK: noun kernel).

# Othering: Results for most freq pronoun forms

	# gold	wir			# gold	sie			# gold	uns		
		P	R	F1		P	R	F1		P	R	F1
S+A+O+	368	69.5	72.0	70.8	—	—	—	—	70	67.9	75.7	71.6
S+A+O-	246	63.8	53.7	58.3	—	—	—	—	47	55.8	51.1	53.3
S+A-O+	225	60.8	67.6	64.0	1	0	0	0	48	65.9	60.4	63.0
S-A+O-	—	—	—	—	502	97.8	99.6	98.7	—	—	—	—
S-A+O+	—	—	—	—	110	92.6	80.0	85.8	—	—	—	—
NONE	—	—	—	—	53	75.0	84.9	79.6	—	—	—	—
<b>Total</b>	<b>839</b>	<b>Acc = 65.4</b>			<b>666</b>	<b>Acc = 95.0</b>			<b>165</b>	<b>Acc = 64.2</b>		

Results (micro **Precision**, **Recall**, **F1**) for individual pronoun forms for a 6-fold cross-validation with BERT.

# Othering: Confusion Matrix

Pred \ Gold	NONE	S+A+O+	S+A+O-	S+A-O+	S+A-O-	S-A+O+	S-A+O-	S-A-O+
NONE	74	0	0	0	0	0	5	12
S+A+O+	1	441	56	69	0	0	2	0
S+A+O-	0	91	156	54	0	0	0	0
S+A-O+	0	61	38	197	0	0	0	2
S+A-O-	0	0	0	0	616	0	0	1
S-A+O+	0	0	0	0	0	0	1	0
S-A+O-	1	1	0	0	0	0	717	8
S-A-O+	19	1	0	0	0	0	10	243

Confusion matrix for the prediction of clusivity features for pronouns in parliamentary debates (BERT model).

# Othering: Exploration

## Inter-party differences in pronoun use

Party Party	Spk #	Sent #	Tok #	1.ps %	2.ps %	3.ps %	freq #	per 1000
CDU/CSU	5	590	10,674	75.6	16.1	8.3	640	60.0
SPD	4	462	7,438	74.6	12.0	13.3	465	62.5
FDP	7	491	7,358	62.7	25.4	11.8	397	53.9
GRUENE	5	451	7,457	58.1	31.1	10.8	418	56.0
LINKE	6	586	9,310	51.4	31.6	17.0	424	45.5
AfD	8	546	8,993	46.7	35.3	18.0	490	54.5
unaffiliated	1	15	797	23.8	69.0	7.1	42	52.7
TOTAL/AVG	36	3,126	52,027	62.3	25.4	12.3	2,876	55.0

Members of the government :

- higher ratio of pronouns (mostly 1PPL)
- lower ratio of 2nd person pronouns than for opposition

Introduction

○○○

Populist rhetoric

○○○○○○○○○○  
○○○○○○○○○○○○

Pragmatic framing in political debates

○○○○○○○○○○  
○○○○○○

Wrap-up

○○

Appendix

○○○○○○○○●○○○○○○

# Thin populism

# MoPE: Dataset size and IAA

<b>party</b>	<b>speeches</b>	<b>speakers</b>	<b>tokens</b>
CDU/CSU	76	57	72,113
SPD	58	44	48,988
AfD	39	30	29,301
FDP	34	25	22,736
Left	29	21	20,266
Greens	27	18	18,756
cross-bencher	3	1	1,457
total	267	196	213,617

Additional engl. testset for cross-lingual prediction with 29,584 tokens and 1,423 annotated mentions.

# MoPE: Dataset size and IAA

	<b>Label Domain</b>	<b>exact F1</b>	<b>overlap F1</b>	<b>mentions avg. #</b>		<b>Label Domain</b>	<b>exact F1</b>	<b>overlap F1</b>	<b>mentions avg. #</b>
Elite (Organisation)	Politics	0.76	0.84	2,443.0	Elite (Person)	Politics	0.73	0.84	2,017.5
	Finance	0.64	0.79	147.0		Finance	0.11	0.11	9.0
	Military	0.72	0.77	132.0		Military	0	0.25	4.0
	Economy	0.32	0.56	97.5		Economy	0.11	0.11	9.5
	NGO	0.40	0.42	42.5		NGO	0.18	0.18	5.5
	Media	0.54	0.77	26.0		Media	0.22	0.55	4.5
	Science	0.46	0.57	17.5		Science	0.37	0.37	40.5
	Movements	0.59	0.59	8.5		Movements	0	0	7.5
	Culture	0	0	2.5		Culture	0.59	0.65	17.0
	Religion	0	0	2.0		Religion	1.00	1.00	1.0
<b>avg.</b>		<b>72.8</b>	<b>81.2</b>	<b>2,918.5</b>	<b>avg.</b>		<b>70.6</b>	<b>81.3</b>	<b>2,116.0</b>
People	Function	0.58	0.76	1,572.0		Function	0.58	0.76	1,572.0
	Age	0.73	0.87	487.5		Age	0.73	0.87	487.5
	Social	0.49	0.61	426.5		Social	0.49	0.61	426.5
	Nation	0.56	0.70	258.5		Nation	0.56	0.70	258.5
	Generic	0.42	0.42	187.0		Generic	0.42	0.42	187.0
	Ethnicity	0.41	0.51	128.0		Ethnicity	0.41	0.51	128.0
	<b>avg.</b>	<b>57.2</b>	<b>71.9</b>	<b>3,059.5</b>		<b>total no. of annotated mentions</b>		<b>9,297</b>	

# MoPE: Dataset size and IAA

	<b>Label Domain</b>	<b>exact F1</b>	<b>overlap F1</b>	<b>mentions avg. #</b>		<b>Label Domain</b>	<b>exact F1</b>	<b>overlap F1</b>	<b>mentions avg. #</b>
Elite (Organisation)	Politics	0.76	0.84	2,443.0	Elite (Person)	Politics	0.73	0.84	2,017.5
	Finance	0.64	0.79	147.0		Finance	0.11	0.11	9.0
	Military	0.72	0.77	132.0		Military	0	0.25	4.0
	Economy	0.32	0.56	97.5		Economy	0.11	0.11	9.5
	NGO	0.40	0.42	42.5		NGO	0.18	0.18	5.5
	Media	0.54	0.77	26.0		Media	0.22	0.55	4.5
	Science	0.46	0.57	17.5		Science	0.37	0.37	40.5
	Movements	0.59	0.59	8.5		Movements	0	0	7.5
	Culture	0	0	2.5		Culture	0.59	0.65	17.0
	Religion	0	0	2.0		Religion	1.00	1.00	1.0
<b>avg.</b>		<b>72.8</b>	<b>81.2</b>	<b>2,918.5</b>	<b>avg.</b>		<b>70.6</b>	<b>81.3</b>	<b>2,116.0</b>
People	Function	0.58	0.76	1,572.0		Function	0.58	0.76	1,572.0
	Age	0.73	0.87	487.5		Age	0.73	0.87	487.5
	Social	0.49	0.61	426.5		Social	0.49	0.61	426.5
	Nation	0.56	0.70	258.5		Nation	0.56	0.70	258.5
	Generic	0.42	0.42	187.0		Generic	0.42	0.42	187.0
	Ethnicity	0.41	0.51	128.0		Ethnicity	0.41	0.51	128.0
	<b>avg.</b>	<b>57.2</b>	<b>71.9</b>	<b>3,059.5</b>		<b>total no. of annotated mentions</b>		<b>9,297</b>	

## Disagreements between Annotators

- More disagreements for low-frequency classes
- Disagreements regarding the exact span of the annotation (e.g., missing complement clauses, PP attachment)
- Low recall for some classes (e.g., generic mentions of *the People*)

## Disagreements between Annotators

- More disagreements for low-frequency classes
- Disagreements regarding the exact span of the annotation (e.g., missing complement clauses, PP attachment)
- Low recall for some classes (e.g., generic mentions of *the People*)

## Overall

- higher IAA for *the Elite* than for references to *the People* (81 vs 72% F1)
  - ⇒ mentions of *the People* are more abstract / vague
  - ⇒ mentions of *the People*: higher avg mention length

Introduction

○○○

Populist rhetoric

○○○○○○○○○○  
○○○○○○○○○○○○

Pragmatic framing in political debates

○○○○○○○○○○  
○○○○○○

Wrap-up

○○

Appendix

○○○○○○○○○○○●○○○

# Speech acts

# Speech Acts: Inter-Annotator Agreement

- 250 speeches with >12,900 manually annotated instances
- IAA: 0.643 Krippendorff's  $\alpha$  with MASI distance ([Passonneau 2006](#))

# Speech Acts: Inter-Annotator Agreement

- 250 speeches with >12,900 manually annotated instances
- IAA: 0.643 Krippendorff's  $\alpha$  with MASI distance ([Passonneau 2006](#))
- Sources of disagreement
  - Different segmentation decisions:  
A1: and we want to preserve their structures  
A2: and we want to preserve their structures

# Speech Acts: Inter-Annotator Agreement

- 250 speeches with >12,900 manually annotated instances
- IAA: 0.643 Krippendorff's  $\alpha$  with MASI distance ([Passonneau 2006](#))
- Sources of disagreement
  - Different segmentation decisions:  
A1: and we want to preserve their structures  
A2: and we want to preserve their structures
  - Different interpretations:  
Text: "We will continue to support this alliance."  
A1: Promise  
A2: Support

Introduction

○○○

Populist rhetoric

○○○○○○○○○○  
○○○○○○○○○○○○

Pragmatic framing in political debates

○○○○○○○○○○  
○○○○○○

Wrap-up

○○

Appendix

○○○○○○○○○○○○○○●○

# Speaker Attribution

# Identifying Epistemological Bias in Parliamentary Debates

## Findings

Parties in government make more frequent use of factives than  
opposition parties ( $p < 0.001$ )

Parties in government	Elect. year	AfD	Parties in the German Bundestag				
			CDU/CSU	FDP	GREENS	LEFT	SPD
SPD/GREENS	2002	–	<b>6.9</b>	<b>7.5</b>	<b>7.8</b>	7.0	<b>7.9</b>
CDU/SPD	2005	–	<b>7.4</b>	<b>7.5</b>	<b>7.1</b>	6.4	<b>7.6</b>
CDU/FDP	2009	–	<b>7.6</b>	<b>8.2</b>	7.2	6.6	<b>7.1</b>
CDU/SPD	2013	–	<b>8.2</b>	–	7.3	7.0	<b>8.0</b>
CDU/SPD	2017	<b>8.2</b>	<b>7.9</b>	<b>7.8</b>	7.6	6.9	<b>8.4</b>
SPD/FDP/GREENS	2021	<b>9.0</b>	<b>7.6</b>	<b>9.3</b>	<b>9.8</b>	7.3	<b>9.5</b>

Table: Proportion of factives used by the different parties  
(underlined: government, **blue**: opposition).