Policy preference detection in parliamentary debate motions

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Debate motions

UK Parliament

Language: English

Proposals to be debated by MPs

Keith Vaz Labour, Leicester East 28th March 2017

I beg to move,
That this House notes the worsening humanitarian crisis in Yemen;
and calls upon the Government to take a lead in passing a resolution at the UN Security Council that would give effect to an immediate ceasefire in Yemen.

... provide information about speakers' **policy preferences** – positions towards different topics

... act as polarity shifters for subsequent speeches

... are key to understanding wider debate content

Data

1 The Manifesto Project

Manifesto coding scheme:
7 policy domains
57 policy preference labels

15 expert-annotated party manifestos

Annotation at "quasi-sentence" (QS) level: a unit of text comprising exactly one idea.

2 Debate transcripts

386 full motions

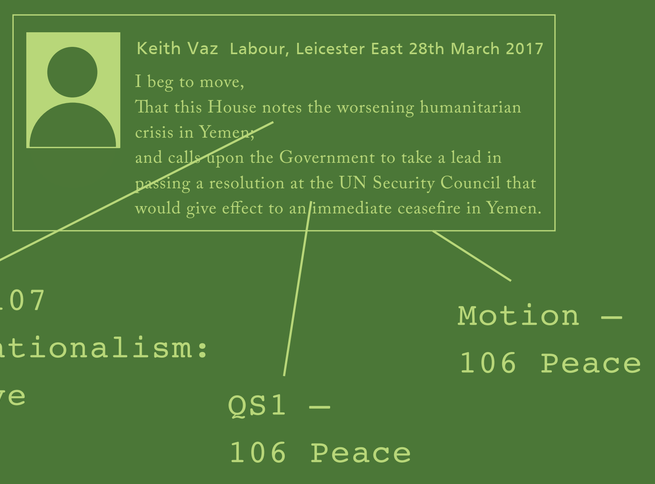
1,683 "quasi-sentences"

Annotation

Political Science MA students

3 iterations training &

annotation guideline development



Labels	Measure	Motion	QS
	Motions		
3	Fleiss' k	0.46	0.46
2	Cohen's k	0.50	0.58
	Manifestos		
3	Fleiss' k	—	0.48

Experiments

F1 macro scores at QS level

	Unigram overlap BOW	Cosine sim. BOW	SVM W-emb	CNN W-emb	BERT +fine-tune	BERT + CNN +fine-tune
Policy	0.10	0.32	0.33	0.21	0.39	**0.47**
Domain	0.26	0.51	0.58	0.58	0.60	**0.61**

Takeaways

Difficult task even for human experts.
But IAA comparable to previous, widely-used manifesto annotations

With no further supervision, simple matching of motions–manifestos produces potentially useful baseline results

SOTA neural methods using BERT word embeddings produce large performance gains

Future work can use output to inform sentiment/stance analysis and argument mining of debates