

Simulating Policy Discussions with Digital Footprints and Large Language Models

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Why simulate political debate?



- Public views
- Policy decisions
- Complex dialogue

- Hansard captures real-world, diverse political discourse
- Hard to analyse at scale → LLMs offer scalable simulations

What does a simulated debate look like?



Conservative

Public Health England has published a report setting out the health impact of ultra-processed foods. We have also announced a 10-year childhood obesity plan, including a major review of the food environment and marketing to children.



Green Party

I thank the Secretary of State. The report shows that ultra-processed foods drive obesity and are linked to cancer and early death. These products are everywhere —like tobacco and alcohol once were. Will the Government act to reduce the harm?



Conservative

We have been clear: our 10-year plan addresses obesity through a full review of the food environment and child-focused marketing.



Labour

The WHO calls ultra-processed food a “major threat to public health.” Will the Government ensure clear labelling and consider banning advertising to children?

How do we simulate?

Models

General-purpose LLMs



- Gemini 2.5
- ChatGPT-o3

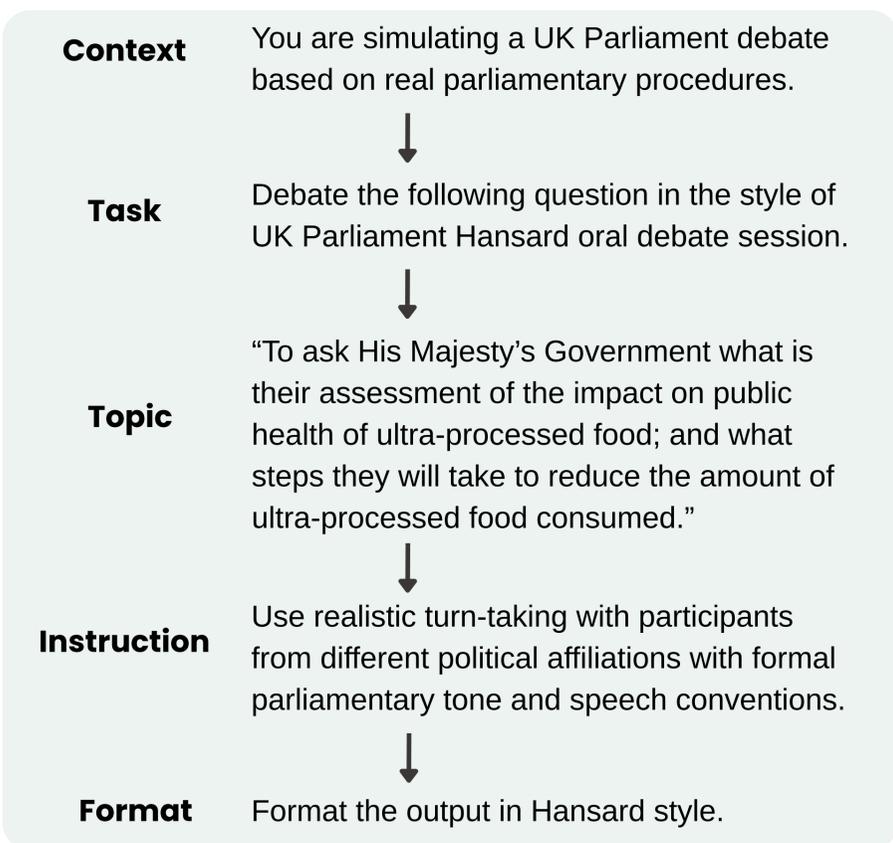


Fine-tuned LLM



GovernmentGPT
Fine-tuned on Hansard transcripts

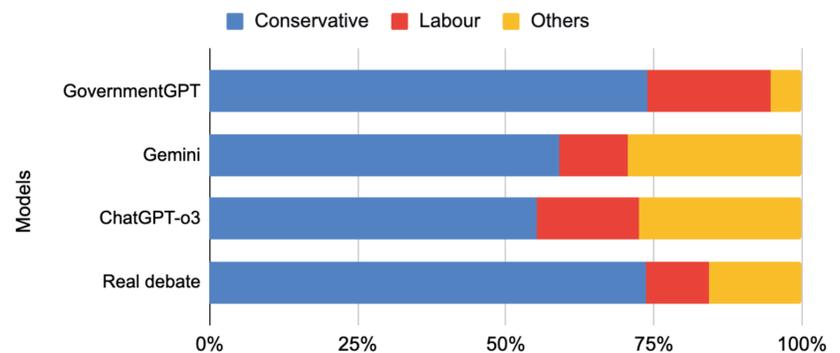
Prompt breakdown



What did we find?

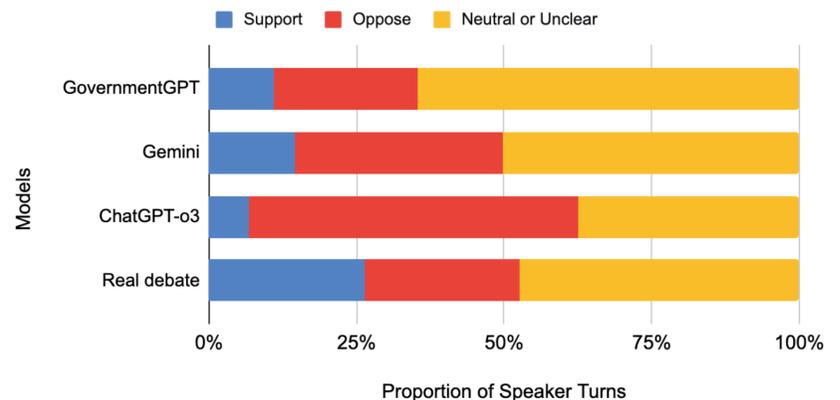
Who gets to speak?

Average party representation across 3 simulated debates for each model.



What are the stances?

Average stance proportions over 3 simulated debates for each model.



Beyond Replay: Simulating Debates for Decision-Making

Simulated debates can help us move from replaying the past to reimagining democratic dialogue.



Phase 1
Simulate & evaluate stance, breadth, coherence



Phase 2
Diversify stakeholders & perspectives
E.g., farmers, consumers; track bias & gaps



Phase 3
Build an interactive sandbox
Edit scenario settings to demo “what-if” intervention

Acknowledgement: This research was supported by the Innovate UK KTP grant (project number KTP13737).

Note:

- GovernmentGPT is a publicly available model fine-tuned on Hansard data. Source: github.com/stewhsource/GovernmentGPT.
- The real debate data used in this study refers to the House of Lords debate on ultra-processed food held on Thursday, 26 October 2023.

