
A Semantic Map of the European Parliament

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Abstract

Motivated by the rise of populism in Europe since the late 1990s, this study investigates ideological shifts in European Parliament (EP) speeches using natural language processing. Drawing on the novel ParLawSpeech dataset (Schwalbach et al., 2025) which contains 574,199 speeches from 1999 to 2024 alongside metadata on speaker identity, we use sentence embedding models to examine the semantic content and emotional tone of parliamentary debates over time.

We expect that speech embeddings will form clusters reflecting party affiliation and ideological alignment. In step with recent political developments, we further hypothesize an increase in negative sentiment within the immigration debate among centrist and right-wing groups, accompanied by growing semantic similarity between these two factions over the past two decades. Finally, we test whether established migration-related narratives associated with right-wing populism can be identified in parliamentary discourse and how their prevalence has developed over time.

1. Introduction

The establishment of right-wing populist parties in 21st century Europe has significantly changed parliamentary discourse (Schwalbach, 2023). A recent analysis of EP speech embeddings has identified a gradual increase in emotional rhetoric since 1999, with right-wing populist groups leading the trend (Subtil & Verger, 2024).

Right-wing populist parties have also been a driving force in the increasing politicization of immigration (Hutter & Kriesi, 2022), which has become a salient topic in European election campaigns (Dekeyser & Freedman, 2023) and media coverage (Greussing & Boomgaarden, 2017). Since the beginning of the so-called ‘refugee crisis’ in Europe in 2015 (Brücker et al., 2020), messaging around immigration can be characterized by increasing anti-solidarity in the German parliament, not only for right-wing, but also christian-conservative and liberal parties (Kostikova et al., 2025).

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