

Exploring causal relationships among emotional and topical trajectories in political text data

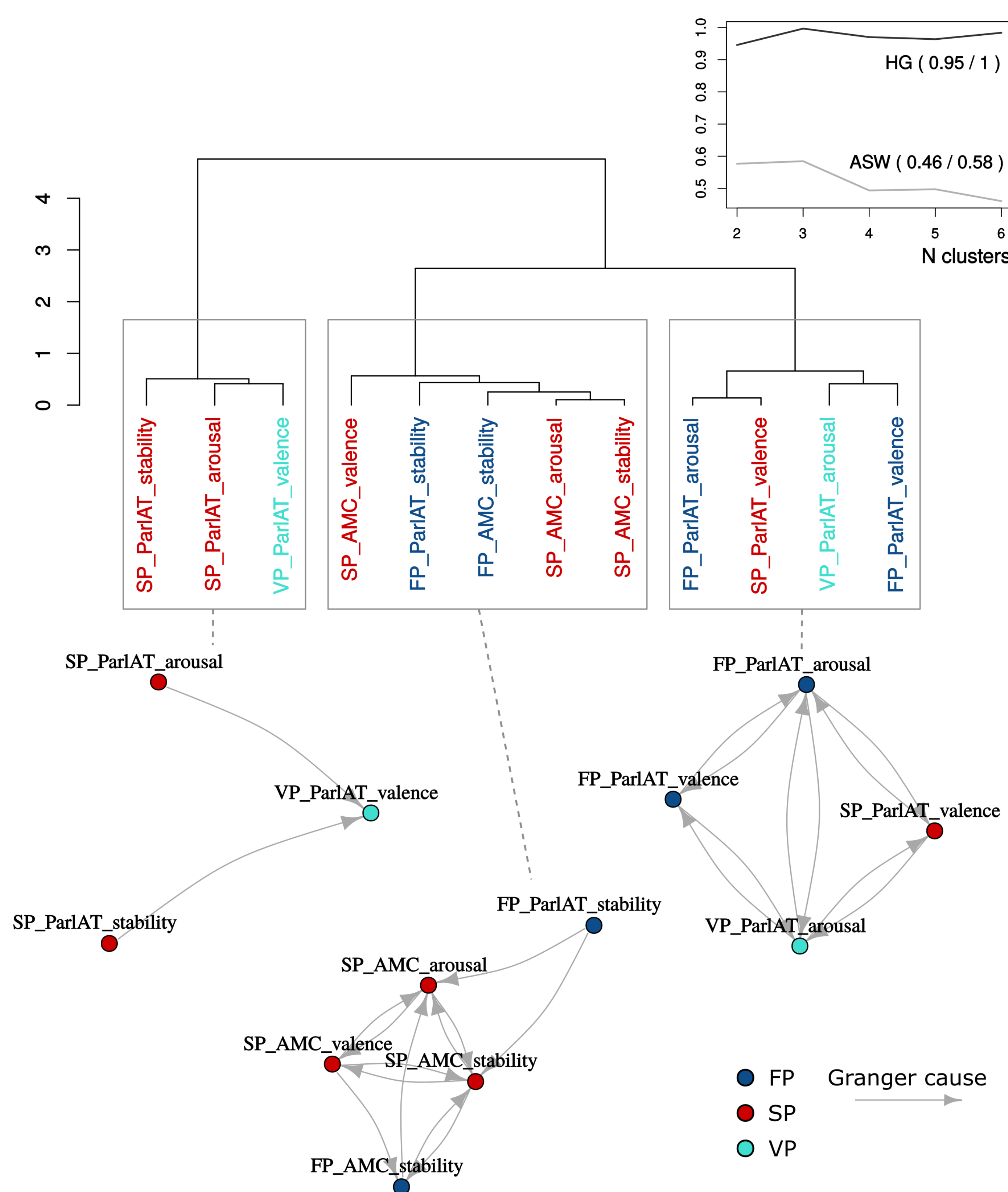
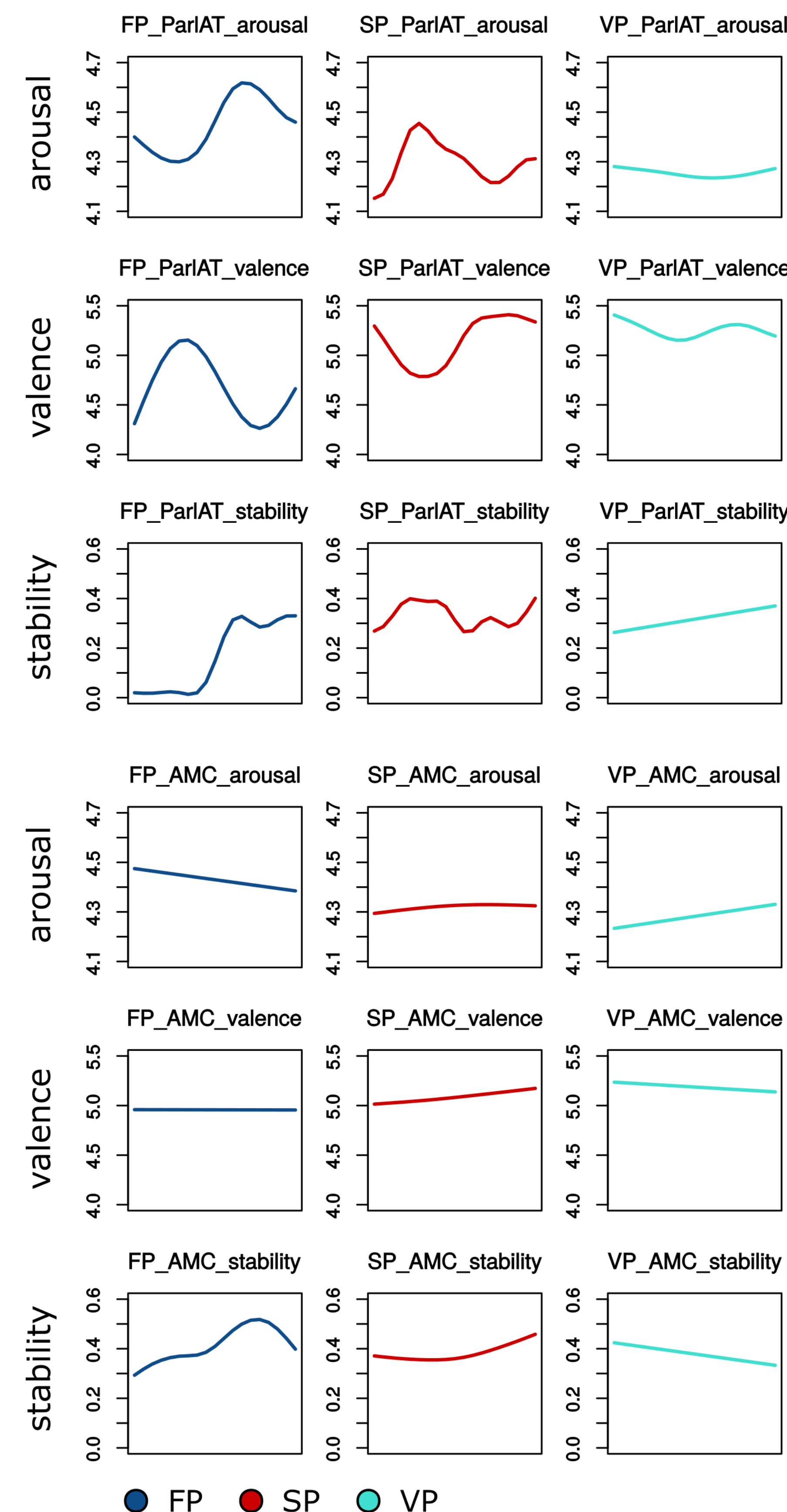
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Political discourse

- Political discourse is associated with emotions (e.g. positive/negative topic).
- We explore to what extent shifts in the topics that political parties are associated with relate to emotional dynamics.
- We use parliamentary discourse (ParIAT) and online/print media (AMC) in Austrian German.

Trajectories

- We compute time series for topical stability and emotional dimensions associated with three parties: FP, SP & VP.
- Topical stability: overlap of semantic neighborhoods in subsequent years (PPMI based).
- Emotional dimension: net valence and arousal of semantic neighborhoods.
- Time series modeled with GAMs.



Causal analysis

- We cluster time series to identify similar groups of party-variable developments (ACF based clustering, Ward linkage).
- Cluster selection with ASW and HG.
- We determine Granger causal relationships between time series within groups.
- Granger causal directed graphs are constructed via causal relationships.

Results

- No clear tendency that emotional shifts are driven by topical changes or vice versa.
- Two domains, parliamentary discourse and media, seem to be rather disconnected.
- Exception: topical stability of FP (right-wing) in the parliament seems to affect dynamics in the media (both topical and emotional).

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