Battle for Britain: Analysing drivers of political tribalism in online discussions about Brexit

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Abstract

This position paper details ongoing work exploring political tribalism in online discussions about Brexit. We use computational methods to analyze a Twitter dataset of significant size (over 7 million tweets spanning 32 months of conversations), using group identity keywords (e.g. Brexiteer, Remainer) as a proxy for tribalism. Initial results indicate that levels of tribalism increase over time for all keywords, in particular for pro-EU ones (Remainer, Remoaner). We also find a number of anomalies in the volume of tribal keyword use over time, which may relate to real-life political events. Here we discuss initial findings and briefly present ideas for further research.

1 Introduction

Virtual 'tribes', or interest communities, have long been common on the internet [AS08], but recent years have seen a distinct upswing in tribalism of a distinctly political nature. In the UK, tribalism has redefined the political landscape along new identity-based lines, with many voters abandoning traditional voting preferences [HLT18]. Britain's new tribes represent votes in the 2016 EU referendum: Leave or Remain. The digital age has exacerbated political tribalism, in part because social media users can easily cluster in echo chambers filled with like-minded individuals. Based

on the network effect of homophily, echo chambers increase polarization by diminishing the likelihood of exposure to conflicting viewpoints. This creates tribes, which in turn may have negative effects on social cohesion and the health of democratic societies. Although various studies have discussed online polarization, few have systematically explored the potential driving factors of political tribalism from a computational standpoint on a dataset of this size (over 7 million tweets from 32 months of conversations). Possible driving factors could include group conflict dynamics, automated amplification (e.g. by bots), reciprocity or disinformation. We discuss ongoing work that uses computational methods to analyze these factors in relation to the Brexit discussion on Twitter.

2 Related Work

2.1 Political Polarization Online

Much research has established that social media encourages polarization of its users, according to the principle of homophily[MSLC01]. Extreme group polarization is harmful to democracy and social cohesion because it risks diluting the environment of free discussion that ought to characterize healthy democracies[Sun73]. People engulfed in echo chambers of their own making may be less capable of listening to or empathizing with the perspectives of others, especially those from the opposing political side. Other studies have indicated that social media users do engage in discussion, but do so in a way that reinforces rather than breaks down boundaries between groups [KFS05]. When discussion involves outgroup derogation, one-upmanship, and challenges to existing viewpoints, groups may risk becoming further polarized, known as the 'backfire effect' [NR10]. A notable early study of US political blogs [AG05] demonstrated the existence of online polarization, where bloggers from both sides of the political spectrum would primarily

link to others on their own side. On Twitter, findings from Yardi and Boyd further support this while also drawing an important link between online polarization and group identity. Examining 30,000 tweets from users on both sides of the US abortion debate, Yardi and Boyd found that group identity is strengthened when like-minded users reply to each other. But when different-minded users reply, their group affiliations are reinforced [YB10]. More recent work provides further support for this idea. Bail et al. found that groups of Twitter users (one Democrat, one Republican) reinforced their existing views after repeated exposure to opposing ones [BAB+18].

2.2 Group Conflict and Threat Perception

We turn to group conflict theories to further guide our analysis. Previous work on intergroup behavior has found evidence of tribal tendencies [SHW+54]; [TT79]. In particular, intergroup threat theory suggests that perceptions of threat (either realistic or symbolic) increase the likelihood of two opposing groups behaving negatively towards one another (outgroup derogation), such as in political settings [ODD08]. Realistic threat is defined as concern about physical harm or loss of resources, while symbolic threat is based on concerns about challenges to ingroup identity and values [SYM10]. For Remainers, symbolic threat challenges a cosmopolitan, tolerant and open identity, while for Leavers, threat is more likely to target ideas of sovereignty, control and national pride. We identify Brexit tribalism through the presence of two pairs of keywords, Brexiteer and Remainer or Brextremist and Remoaner; the second set more derogatory than the first. We hypothesize that the volume of these keywords will increase when real-life events occur that either group may perceive as a symbolic threat.

3 Methods

3.1 Data Collection

Our dataset consists of tweets from June 1, 2016 to February 13, 2019, extracted from Twitters Historical PowerTrack API. We queried for two pairs of keywords (as described above) that we believed could be used to indicate affiliation with a Brexit tribe and potentially negative attitudes towards the opposition. The raw JSON dataset was of significant size, so we extracted only the relevant columns for this analysis (text, date and tweet id). We then generated a frequency column to count how many times each keyword occurred on each date. To construct our events timeline, we combined three existing Brexit timelines from British mainstream media sources.

3.2 Data Analysis

To discover statistical anomalies for volume of keywords on any specific date, we ran the data through the R library anomalize. Next, we combined the events timeline with the anomalies data to reveal relationships between events and anomalies. The three highest anomaly spikes related to the unprecedented parliamentary defeat of Theresa May's Brexit deal, the launch of the 'Chequers deal' and the European Commission urging member states to prepare for a no-deal Brexit.

4 Initial Findings

Initial results from the anomaly detection work show a general trend towards increased use of all keywords over time, indicating an upswing in Brexit tribalism online. This effect is more pronounced for the keywords 'Remainer' and 'Remoaner', which could indicate either outgroup derogation aimed at pro-EU voters (Remoaner/Remainer), or pro-EU voters identifying as their own tribe (Remainer). We have also found indications that anomalies increase around certain Brexit-related events that could be viewed as symbolic threats. To reinforce these findings, our next step will be to conduct text analysis (likely using word2vec) on tweets around each anomaly to understand whether perceptions of threat are driving them. Perceptions of threat are not the only factor that may be driving political polarization online; the existence of information operations targeting Western democracies has been much documented, and deliberate efforts may be taking place to manipulate the Brexit discussion [BM19] ; [HK16]. On Twitter, cyber armies often use bots to amplify certain content. Seeding of disinformation into the social media ecosystem is also common. Disinformation and tribalism are deeply linked, as one of the central goals of information operations is to divide Western societies over controversial political issues, such as abortion, immigration and national identity. In our follow up work, we will attempt to quantify the effects of both bot activity and disinforming content on tribalism and political polarization in the Brexit discussion online.

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