



Revolutions stuck on Twitter:

What can data analytics of Twitter data teach us about failed revolutions and political change?

Dr Viktoria Spaiser



Agenda

1. Political Protest in 2011-12 surrounding the Duma and presidential elections in Russia on Twitter
2. Ukraine Revolution and Crisis in 2014 on Twitter
3. Parliamentary debate on the Grouse Shooting e-petition (and other) on Twitter in the UK

Approach



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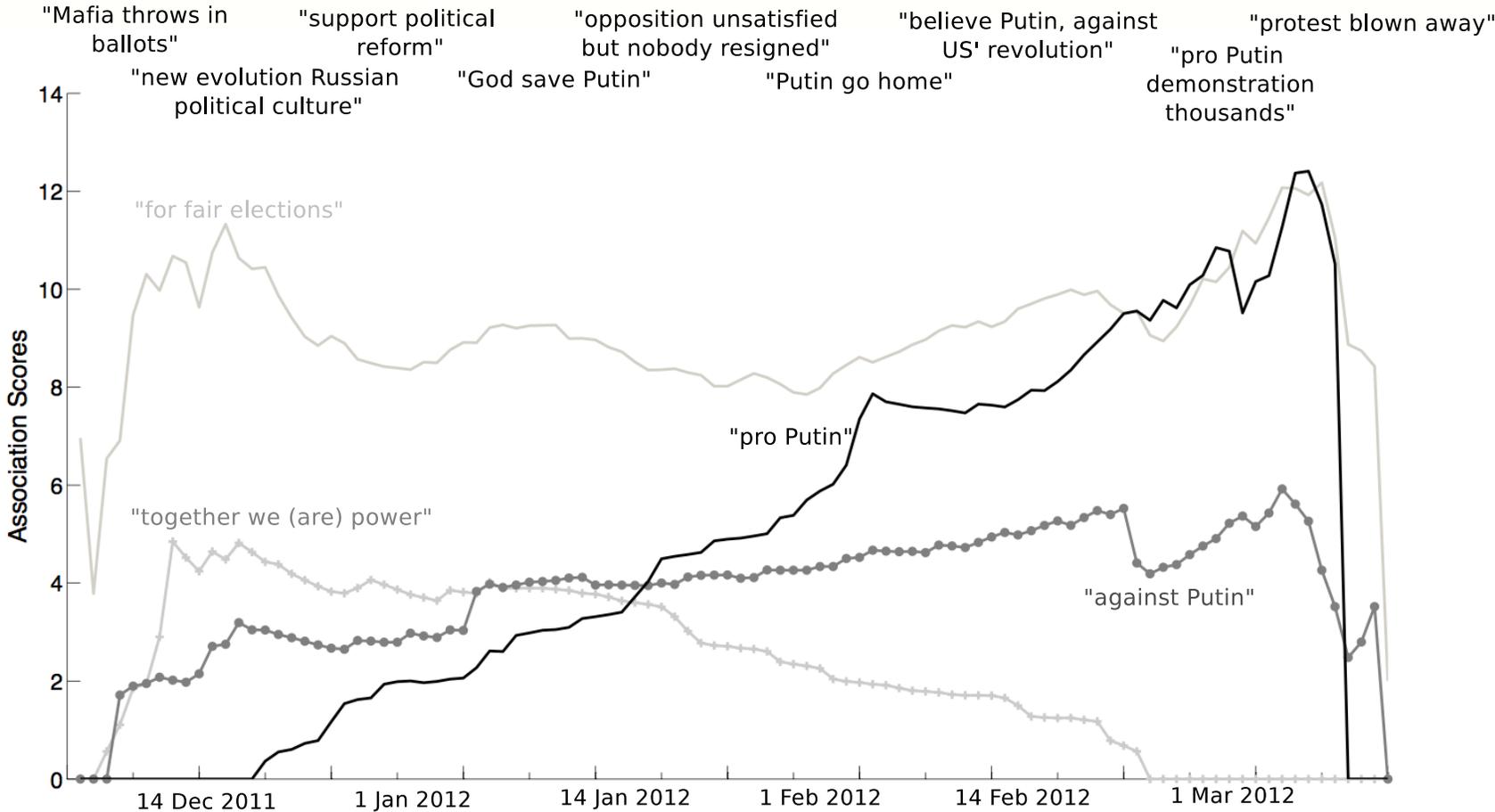
Data: Twitter data between November 2011 and mid March 2012 (Twitter Spritzer Sample) via Twitter Streaming API. Collected data filtered for Russian language and political context, cleaned from SPAM, over 600,000 Tweets. Not a representative sample, but all Russian political groups represented

Methods: Natural language processing, Twitter users classification, Social Network Analysis, Statistical Analysis

Argument: Russian government has used social media (Twitter) to affect population's perception of the popularity (mobilisation level) and legitimacy of the oppositional protest movement. Government's communication power strategies (e.g. framing, priming, agenda-setting, indexing) were more successful than the oppositional counter power strategies



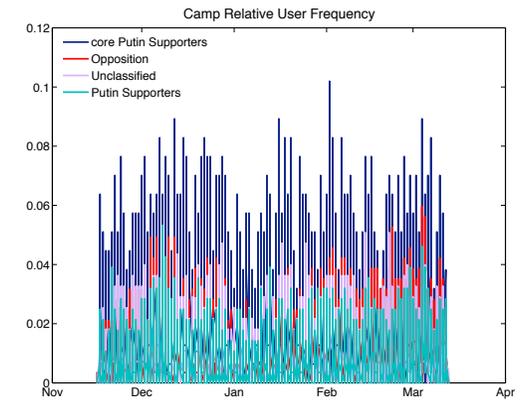
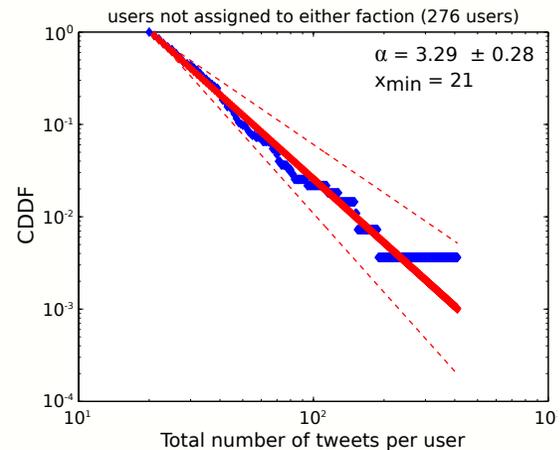
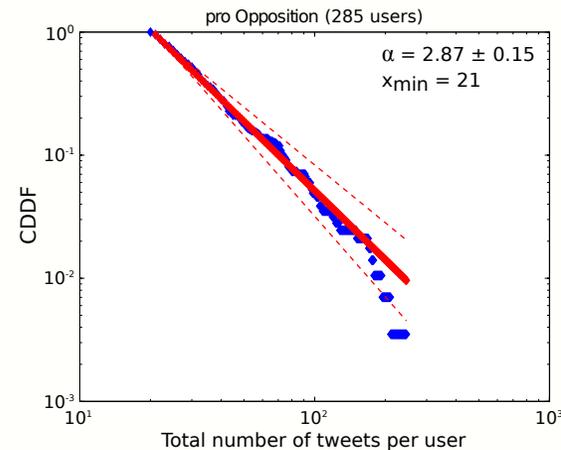
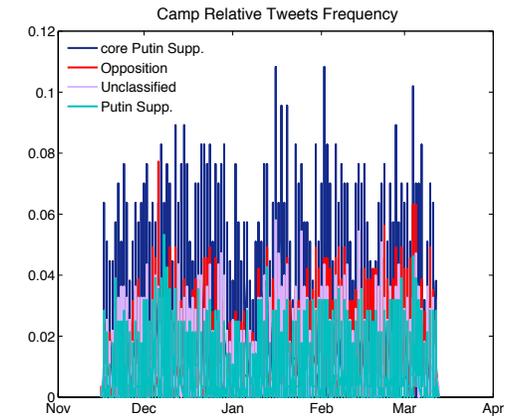
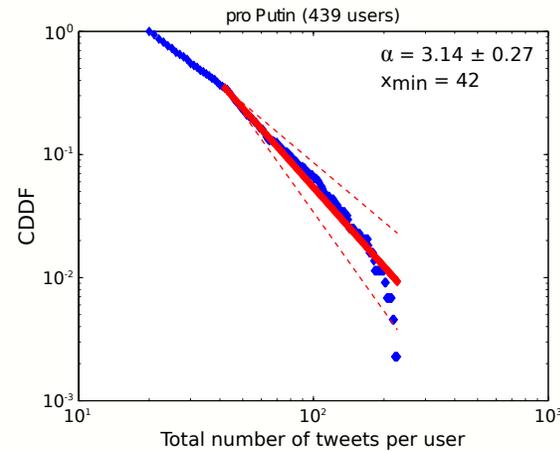
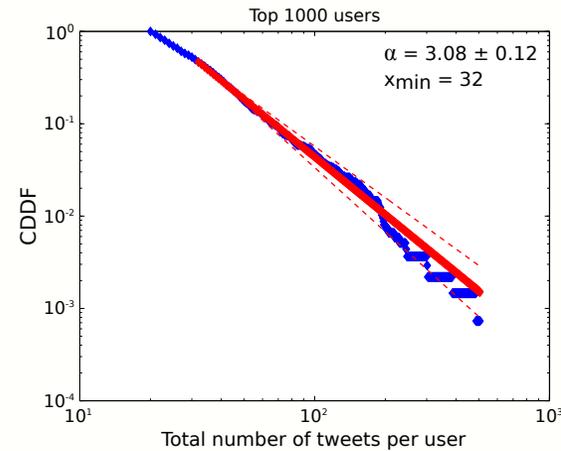
Twitter discourse between November 2011 and March 2012 (Ngrams)



Classification results: political camps & their activity patterns



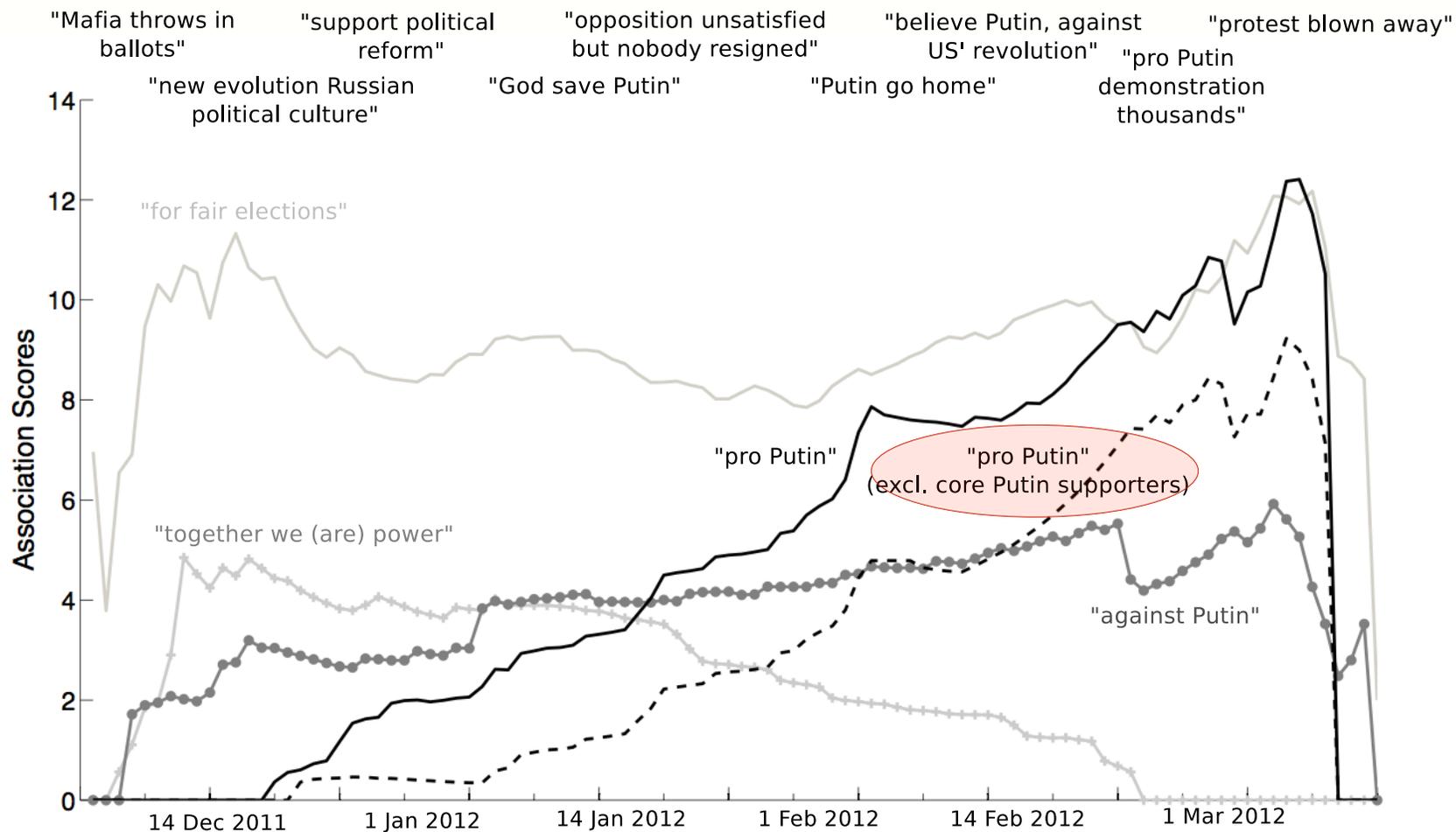
Distribution of tweets per user: red lines mark the best fit of the power law tail of the distribution with 95% confidence intervals.



Contribution of core Putin supporters to the discourse



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Actors and their communication strategies



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Main Hubs	Description	Political Camp	In-Degree
TV Channel Rain	Most Popular Oppositional TV Channel	Pro-Opposition	112
Interfax	Main Russian News Agency	Core Pro-Putin	110
Russia Today	Most Popular "Propaganda" Media	Core Pro-Putin	109
Kashin	Journalist and novelist	Pro-Opposition	98
Vladimir Soloviev	Journalist on Rossiya 1	Pro-Putin	95
United Russia	pro-Putin Party United Russia	Core Pro-Putin	93
Government Newspaper	Newspaper published by the Russian Government	Core Pro-Putin	81

Time line	pro-Putin camp	Opposition camp	Unclassified camp
4-Dec-2011	For United Russia (2.64) LDPR buys votes with vodka (2.16)	We vote against United Russia (3.77) Filled-in ballots thrown in ballot box (2.01)	In Moscow journalists observed ballots thrown in (3.95) Duma elections (4.83)
5-Dec-2011	For United Russia (1.99) Putin is better (1.64)	Putin's criminal gang totally forged elections (2.35)	People stopped being silent (3.17) Demonstrators shout "freedom!", well done (3.17)
6-Dec-2011	United Russia youth movement involved in brawl (1.91)	6Dec Triumfalnaya demonstration (3.82) Navalny blogger anticorruption project (2.73)	6Dec Triumfalnaya demonstration (3.11) Union of democratic forces (3.12)
9-Dec-2011	For Fair Elections (1.98) Zhirinovskii's statement floating (1.62)	White Ribbons Snow Revolution (2.83) United Opposition demonstration (2.83) On Bolotnaya they have to see masses (2.83)	Honesty best policy (4.37) Tomorrow provocation against protesters planned (3.57)
10-Dec-2011	Our democratic bastards sully our country (2.08) In Moscow opposition demonstration (2.55)	Demonstration Revolution Square (3.44) Call out Putin is a thief (3.43)	Demonstration in Moscow (3.16) KPRF: illegitimate elections (2.58)
23-Dec-2011	Thousand resolute Nashi members (1.90)	Revolution creative class (2.89)	For Fair Elections (3.70)
24-Dec-2011	For Fair Elections (2.31) 25000 demonstrate on Bolotnaya for fair elections (2.51) Burned white ribbon (2.51) Huge Putin portrait launched (2.51)	24dec demonstration For Fair Elections (4.09) Call out "freedom!" against police (3.31) Several ten thousand people came (3.31) Highest level of dignity (3.31)	Demonstration for fair elections (4.21) Honesty best policy (4.21)
4-Jan-2012	Political action pro Putin (3.577) God save Putin (2.53)	Sakharov on 24dec demonstration (4.37) Udaltsov was arrested (4.47)	-
4-Feb-2012	For Fair Elections (6.68) Demonstration Navalny promised million will come (3.16)	Navalny calls to Bolotnaya 4feb (3.06) Corrupted idea of first Bolotnaya protest (3.07) Making of pro-Putin propaganda (3.07)	Honesty best policy (5.51) US happy with Putin, who benefits from protest? (4.50)
18-Feb-2012	Medvedev Modernization Innovation (3.36) In support of Putin (3.36) Support stable progress (3.36)	Whom Putin needs against revolution (5.21) Demonstration supporters of Putin (3.69)	-
23-Feb-2012	Demonstration pro Putin 23Feb (4.47) Supporters of Putin mobilize (2.89) For Fair Elections (4.57)	Demonstration pro Putin not many people, about 1000-2000 (3.07) White Circle demonstration 26Feb (3.93) Support to Russia through Arab Spring (3.94) Scant, organizers promised thousands (3.94)	Pro-Putin front (5.08) Zhirinovskii ranting retweet (3.59) Prokhorov filed for bankruptcy (4.04)
26-Feb-2012	Support Putin's candidacy (2.90) Elections Russian president (2.66)	Political action Petersburg (3.04) Fake election observers exposed (4.19)	Political action Petersburg (3.04) Fake election observers exposed (4.19)
4-Mar-2012	FEMEN female opposition provocation (2.03) People gathering on Manezhnaya (1.66) World leaders congratulate Putin (1.78) On Pushkinkaya they pay money (1.78)	We invite to come to Pushkinskaya (1.98) Incoming calls reporting fraud (1.98) For Russia's future (3.34)	Polling stations opened (4.19)
5-Mar-2012	Navalny arrested (1.78) Kasparov was welcomed by thousandfold Boo (1.78)	Election observers confirm correct elections ((2.67) OMON forces arrested protesters, dissolved demonstration (2.67)	Police aggression against peaceful citizens (3.82)
6-Mar-2012	Opposition demonstration so far hardly attended (2.36)	Demonstration For Fair Elections (3.77) Home Office, police state (3.24) Press conference of Electoral Association (3.24)	Overview regions love Putin (4.18) Every fucking day demonstrations (2.96)
9-Mar-2012	Navalny is dead! proclaimed (3.91) Obama congratulates Putin (3.91)	Putin has insulted Russian people (4.89) Obama congratulates Putin (4.89)	And the next protest (3.65) Putin, back to machoism (3.65)
10-Mar-2012	Election results approved (3.59) Nationalists leave opposition demonstration (2.94)	10Mar demonstration central on Rostov (2.78) Government should fear its people (3.23) Thugs are afraid of an orange revolution (4.56)	Attempt of non-authorised demonstration (4.44) Opposition speakers insulted (4.44)

Conclusions

- Initially the opposition dominated the discourse on Twitter, but the pro Putin camp managed to shift the discourse in Putin's favour
- The pro-Putin camp was capable of doing this because of officials' and mass media (core Putin supporters) involvement in the Twitter discourse, resources!
- The pro-Putin campaign on Twitter contributed to feelings of futility and disillusionment on the side of the opposition and to a weakening of sympathy for the protests on the side of the general public
- The pro-Putin camp was able to exploit the existing weaknesses of the protest movement like fragmentation and to aggravate those weaknesses through an anti-protest campaign



The screenshot shows the article page for "Communication power struggles on social media: A case study of the 2011–12 Russian protests" in the Journal of Information Technology & Politics. The article is by Viktorja Spaiser, Thomas Chadefaux, Karsten Donnay, Fabian Russmann, and Dirk Helbing, published in 2017. It has 2660 views and 3 CrossRef citations. The abstract discusses the 2011-2012 Russian protests and the role of social media in shifting political discourse. The page includes navigation options like "Full Article", "Figures & data", and "References", and a "People also read" section with a link to "Social media use and participation: a meta-analysis of current research".

Journal of Information Technology & Politics
Volume 14, 2017 - Issue 2: The empiricist's challenge: Asking meaningful questions in political science in the age of big data

2660 Views
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Articles
Communication power struggles on social media: A case study of the 2011–12 Russian protests
Viktorja Spaiser, Thomas Chadefaux, Karsten Donnay, Fabian Russmann & Dirk Helbing
Pages 132-153 | Published online: 20 Apr 2017
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ABSTRACT
In 2011–2012 Russia experienced a wave of mass protests surrounding the Duma and presidential elections. The protests, however, faded shortly after the second election. We study the Russian political discourse on Twitter during this period and the main actors involved: the pro-government camp, the opposition, and the general public. We analyze around 700,000 Twitter messages and investigate the social networks of the most active Twitter users. Our analysis shows that pro-government users employed a variety of communication strategies to shift the political discourse and marginalize oppositional voices on Twitter. This demonstrates how authorities can disempower regime critics and successfully manipulate public opinion on social media.

KEYWORDS: Communication power, natural language processing, political discourse, protest, Russia, social media, Twitter

In this article
ABSTRACT
Mobilization, perceptions and the success of political movements
Data
Methodology
Results

People also read
Article
[Social media use and participation: a meta-analysis of current research](#)
Shelley Boulianne
Information, Communication & Society
Volume 18, 2015 - Issue 5

Approach



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Data: Twitter data between October 2013 and September 2014 (Twitter Spritzer Sample) via Twitter Streaming API. Collected data filtered for Russian and Ukrainian language, tweets identifiably from Russia removed

Methods: Natural language processing, Twitter users classification, Sentiment Analysis, Geospatial Analysis, Statistical Analysis; Using Twitter Data to parameterize a Bounded Confidence XY Model on Opinion and Territorial Split

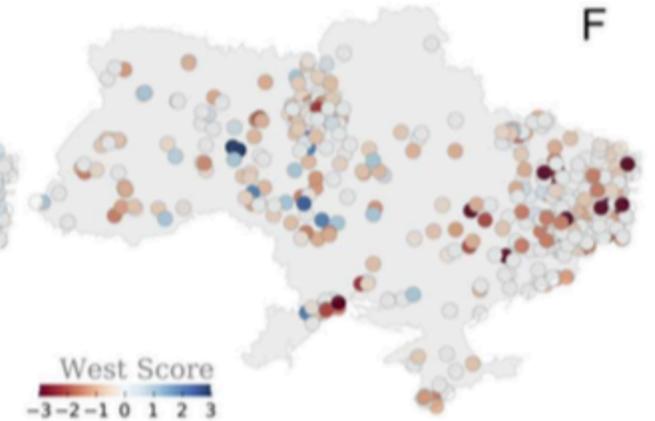
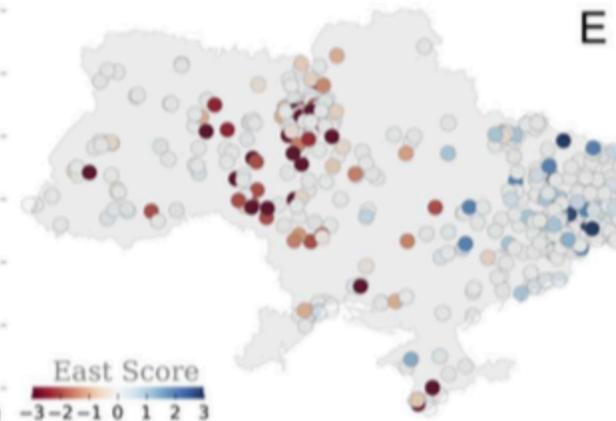
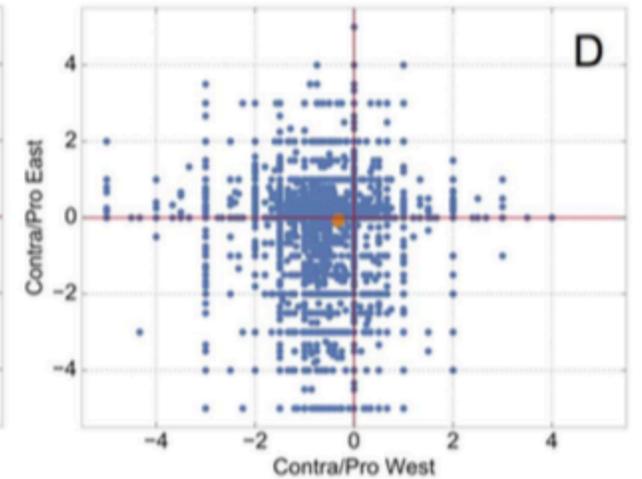
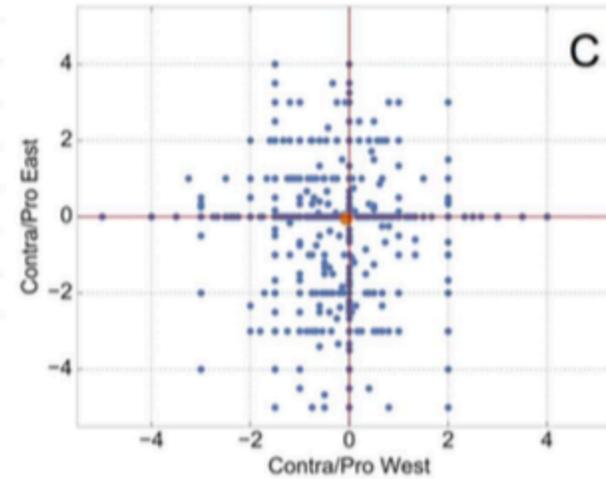
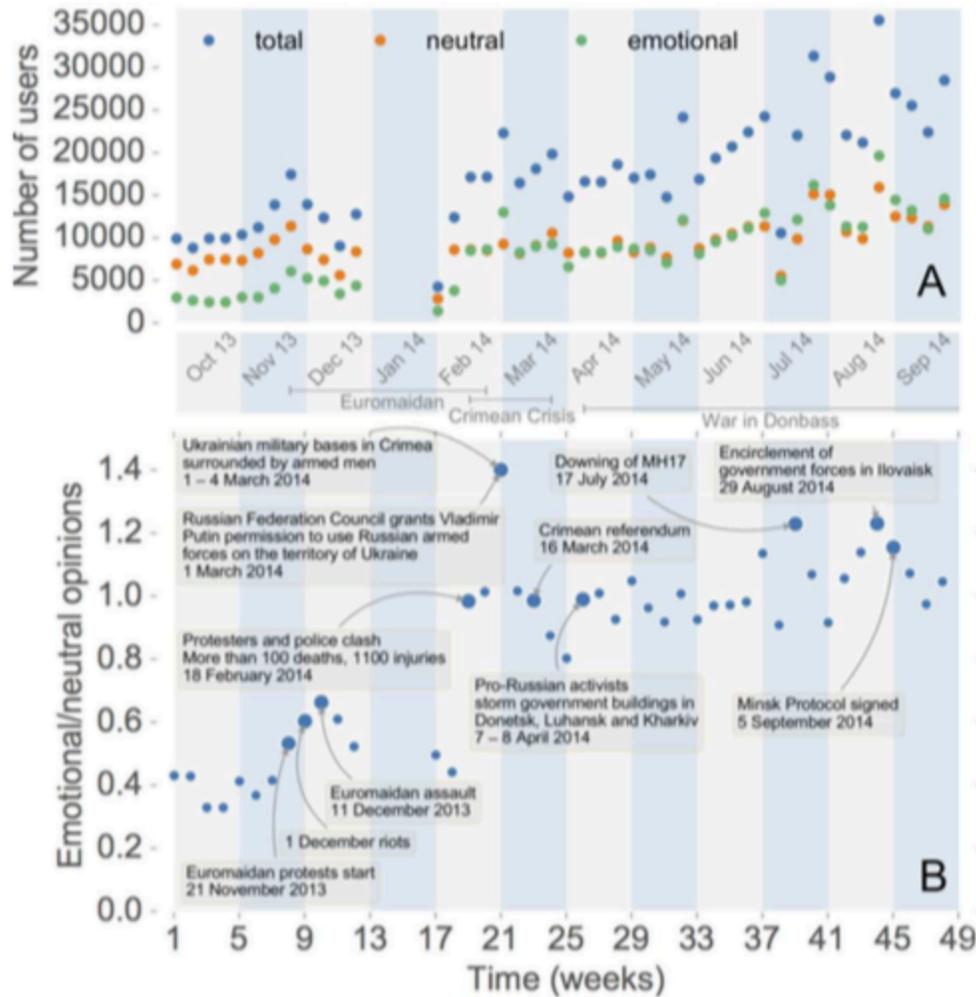
Argument: Level of emotional intensity is a major driving force for polarization that can lead to a spontaneous onset of collective behaviour at a certain degree of homophily and conformity. We find that the critical level of emotional intensity corresponds to a polarization transition, marked by a sudden increase in the degree of involvement and in the opinion bimodality



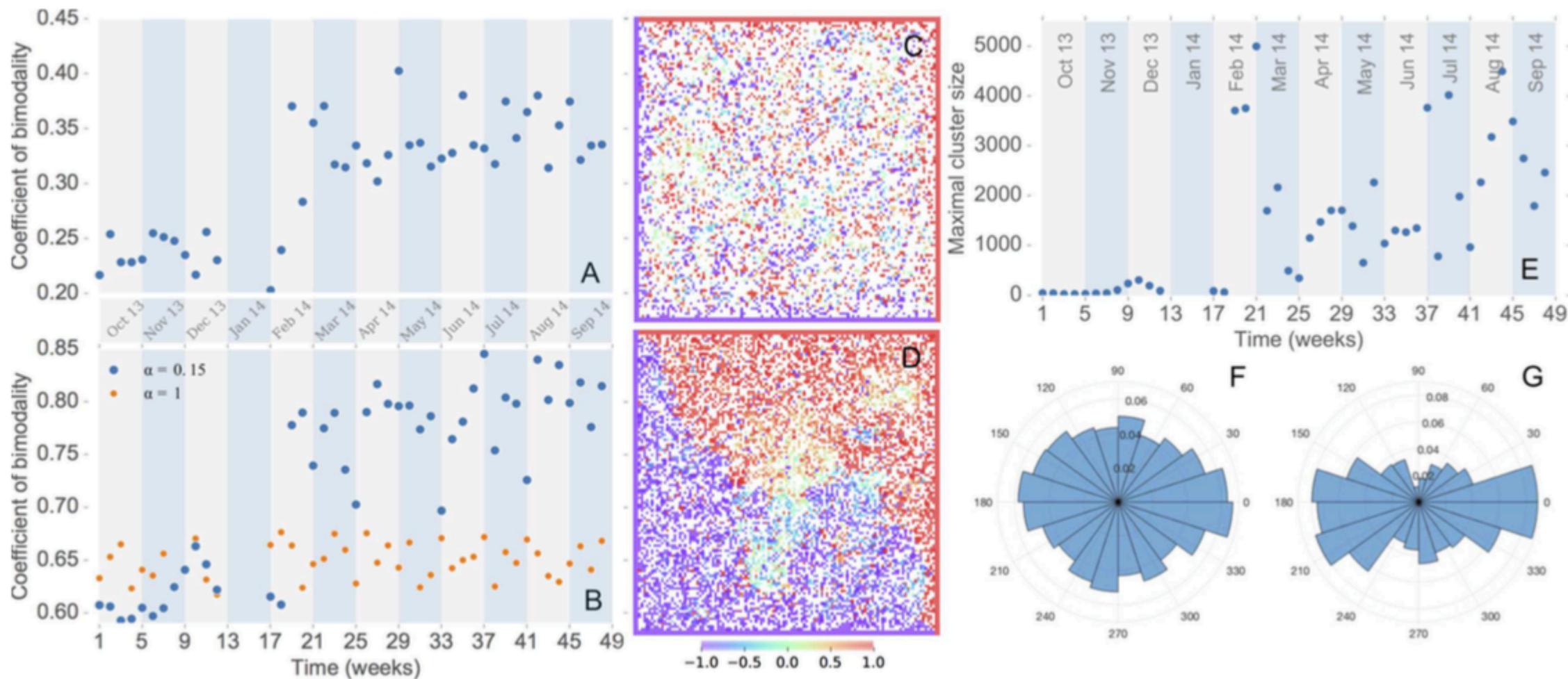
Unfolding of the polarization dynamic



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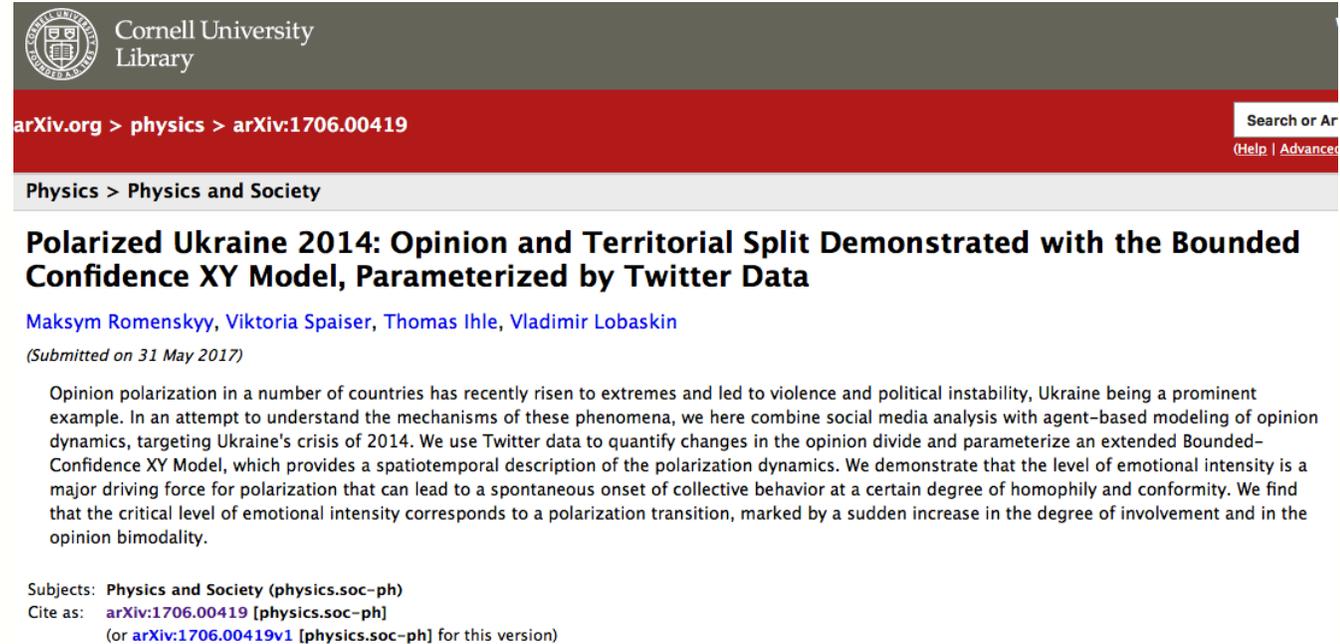


Opinion and Territorial Clustering



Conclusions

- Our analyses demonstrate clearly the importance of emotional intensity for polarization, a factor that has been largely ignored thus far in classic theoretical and empirical literature on polarization
- Our analysis seem to suggest a link between polarization and separatist trends. The polarization dynamics in February 2014 in the data and simulation increases in fact further around April and May 2014, when the self-declared Donetsk and Luhansk People's Republics were formed in the South-East of Ukraine. This seems to suggest that the opinion split may facilitate the separatist trends on its own.



The image shows a screenshot of an arXiv preprint page. At the top left is the Cornell University Library logo. The breadcrumb trail reads "arXiv.org > physics > arXiv:1706.00419". A search bar is visible on the right. The main title is "Polarized Ukraine 2014: Opinion and Territorial Split Demonstrated with the Bounded Confidence XY Model, Parameterized by Twitter Data". The authors listed are Maksym Romenskyy, Viktoria Spaiser, Thomas Ihle, and Vladimir Lobaskin. The submission date is noted as 31 May 2017. The abstract discusses opinion polarization in Ukraine and the use of a Bounded-Confidence XY Model. The subjects are "Physics and Society (physics.soc-ph)" and the citation information is provided at the bottom.

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Polarized Ukraine 2014: Opinion and Territorial Split Demonstrated with the Bounded Confidence XY Model, Parameterized by Twitter Data

Maksym Romenskyy, Viktoria Spaiser, Thomas Ihle, Vladimir Lobaskin

(Submitted on 31 May 2017)

Opinion polarization in a number of countries has recently risen to extremes and led to violence and political instability, Ukraine being a prominent example. In an attempt to understand the mechanisms of these phenomena, we here combine social media analysis with agent-based modeling of opinion dynamics, targeting Ukraine's crisis of 2014. We use Twitter data to quantify changes in the opinion divide and parameterize an extended Bounded-Confidence XY Model, which provides a spatiotemporal description of the polarization dynamics. We demonstrate that the level of emotional intensity is a major driving force for polarization that can lead to a spontaneous onset of collective behavior at a certain degree of homophily and conformity. We find that the critical level of emotional intensity corresponds to a polarization transition, marked by a sudden increase in the degree of involvement and in the opinion bimodality.

Subjects: **Physics and Society (physics.soc-ph)**

Cite as: **arXiv:1706.00419 [physics.soc-ph]**
(or **arXiv:1706.00419v1 [physics.soc-ph]** for this version)

Approach



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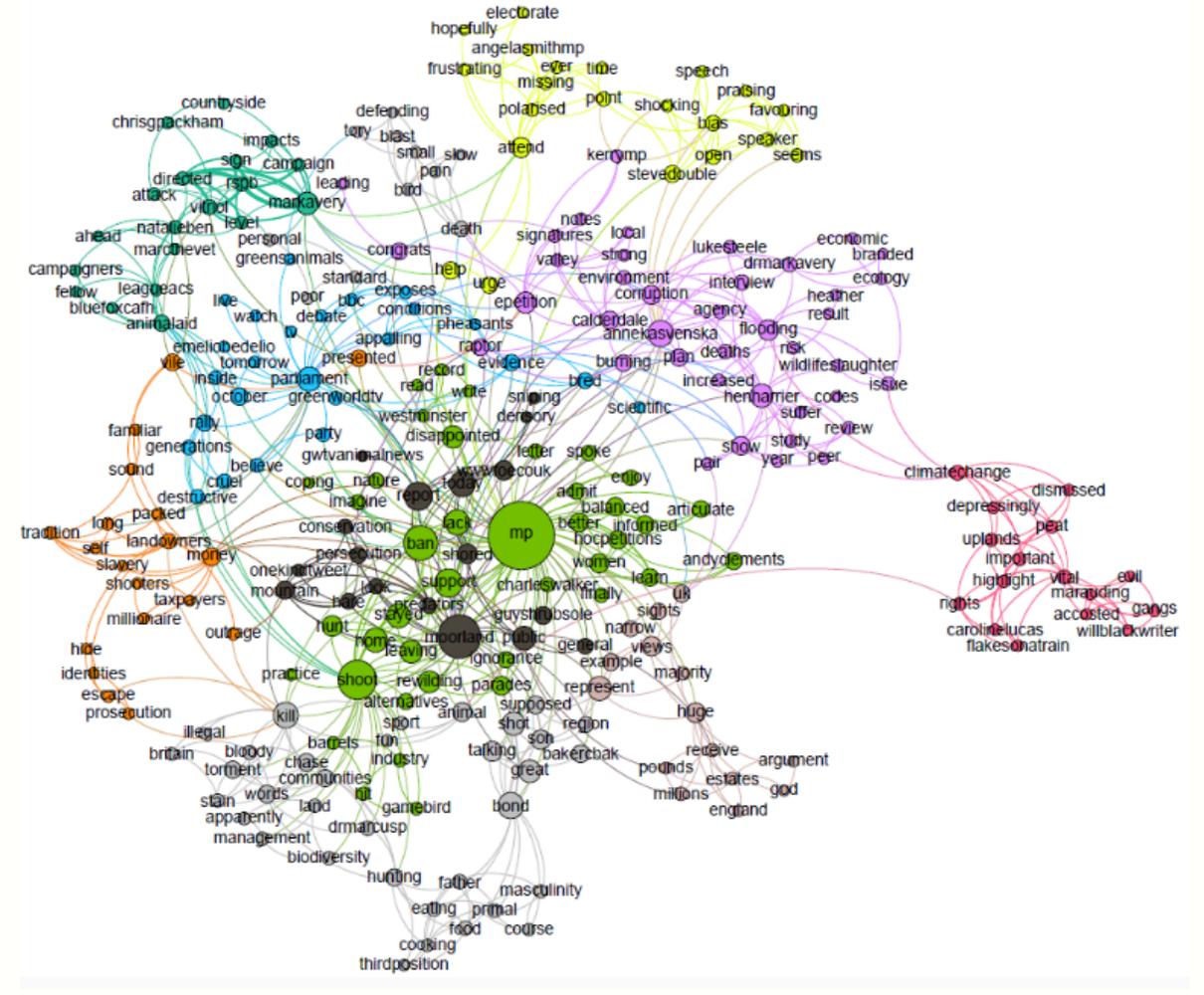
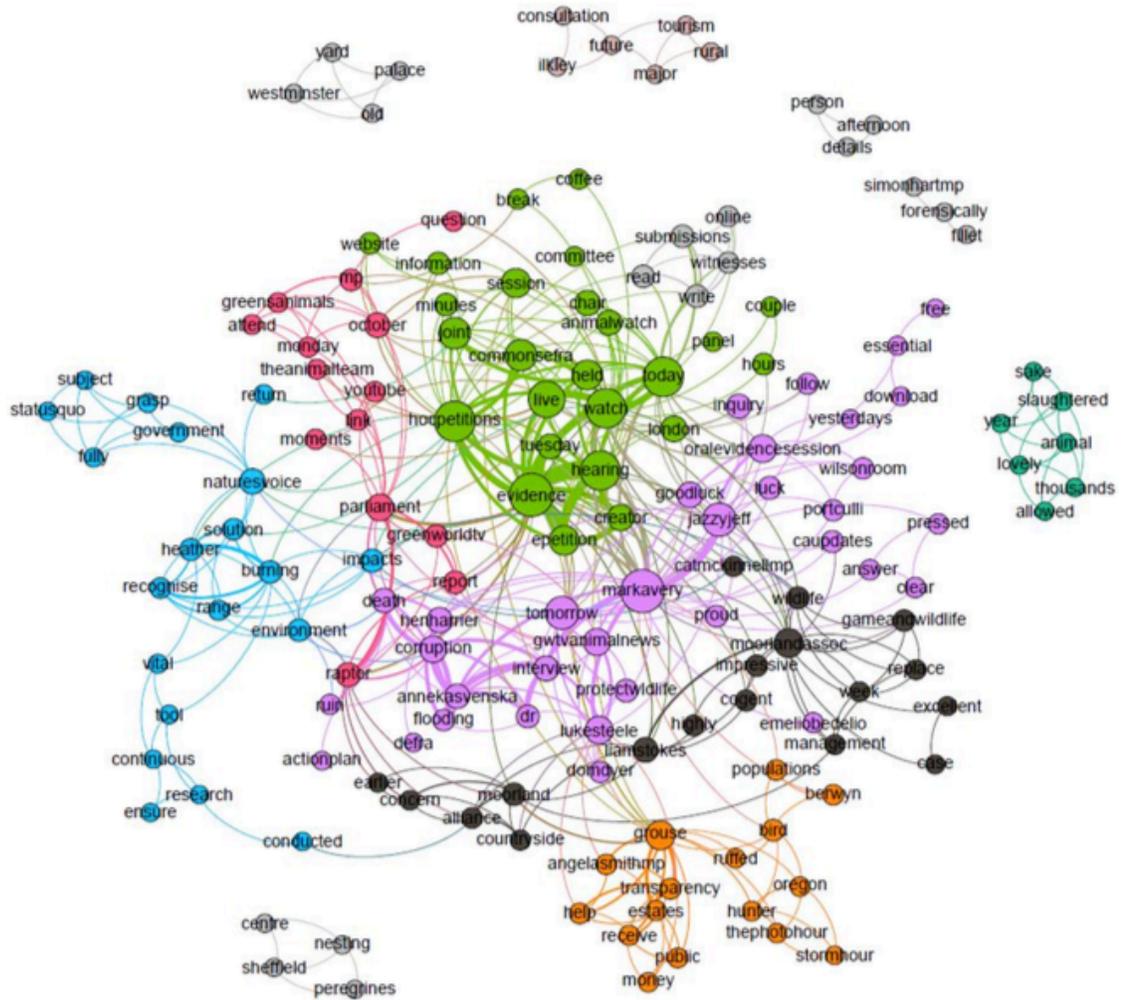
Data: All Twitter data with #GrouseShooting hashtag on the day of parliamentary debate(s) as well as the day before and the day after collected via Twitter Streaming API

Methods: Natural language processing, Semantic Network Analysis, Twitter users classification, Sentiment Analysis, Social Network Analysis

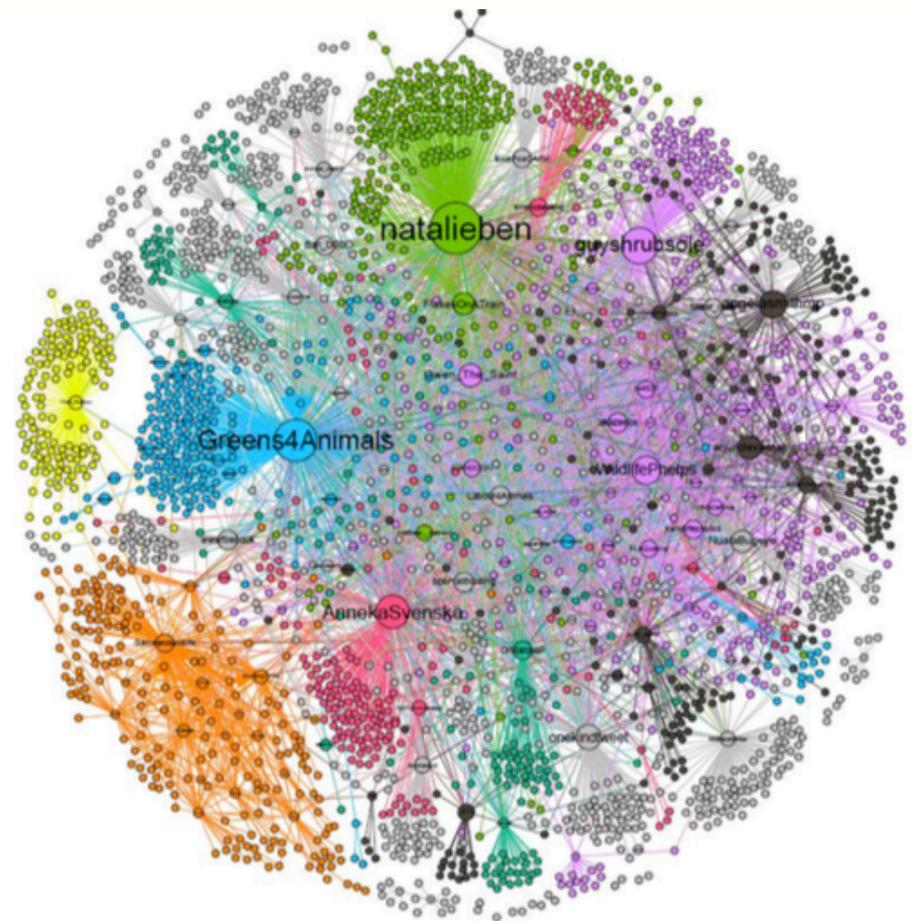
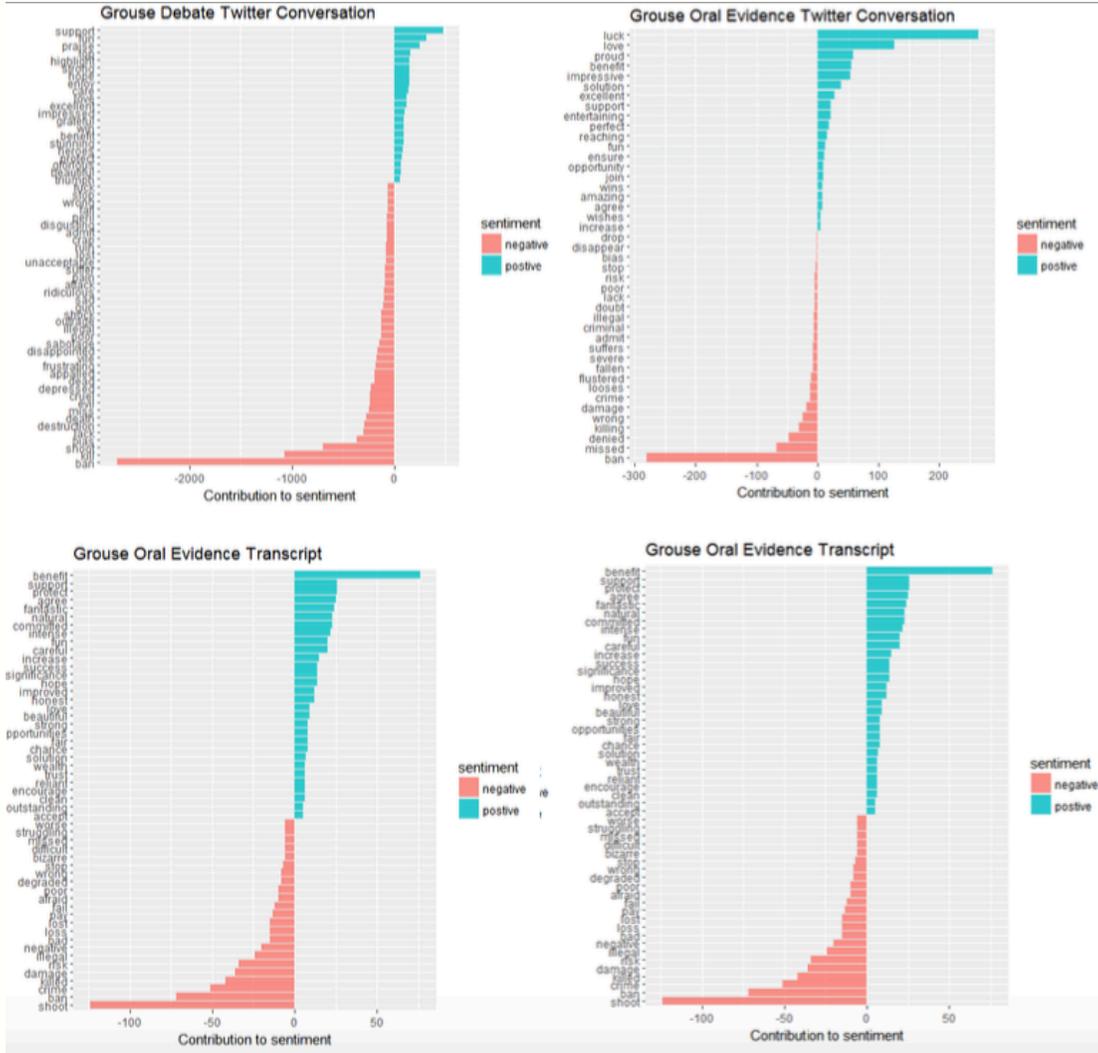
Argument: Twitter debates can reveal how people perceive the e-petitioning process (i.e. parliamentary debate of the e-petition), but they are disconnected from the parliamentary debates in every possible sense



Oral evidence session vs. parliamentary debate session



The disconnection



- Public tends to reflect in a more polarised way to parliamentary debates than to oral evidence session
- Parliamentary debate of the e-petition can be quite disconnected from the actual petition and public debate of it. People perceive this as procedural unfairness and get quite upset. Long-term democratic consequences?
- Lobby groups and individuals with (traditionally) strong links to (tory) MPs prevail even if in minority

Assessing the effectiveness of e-petitioning through Twitter conversations

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Data Science Intern, University of Leeds, UK

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Professor of Politics, University of Leeds, UK

VIKTORIA SPAISER

University Academic Fellow, University of Leeds, UK

Abstract. Recent trends of decline in political support have led political institutions to develop new democratic innovations to promote linkages with the public, beyond the representative democracy model. It is in this context that the UK Parliament introduced a new e-petitions system in 2015, aiming to significantly enhance its relationship with the public, namely by opening up the institution to a wider public and to develop deeper engagement. This paper explores whether this aim is being met, through specifically using Twitter data from conversations on e-petitions. Through the use of natural language processing (computational text mining), machine learning and social network analysis of Twitter data we explore (a) what Twitter data can teach us about the extent of people's engagement with e-petitions beyond signing them, (b) the nature of Twitter e-petition conversations and the extent to which they reveal how people perceive the e-petition procedure and (c) who is taking part in these conversations and how they interact. Focusing mainly on a case study, we find the public reacts differently to an oral evidence session and a parliamentary debate: whilst the former stays factual and discursive, the latter becomes more emotive and critical. We also show clear patterns of polarization. Our results show that more care needs to be given to how petition debates unfold and the extent to which they're inclusive of the original petition's aims.

What can data analytics of Twitter data teach us about failed revolutions and political change?



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1. Those with resources (money, time, state infrastructure, access, etc.) can shift debates and make people lose confidence in revolutions and/or political change
2. Strong emotions drive polarization and divisions that become increasingly irreconcilable and (social) media, including Twitter, facilitate the emotionalization of debates. Revolutions and political change often fail because of divisions.
3. Those with representatives' support will win, no matter how prominent their arguments are on social media (or whether they have considerably less signatures). Dominating social media discourse (or the e-petition platform) is not correlated with political success.

Don't want your revolution being stuck on Twitter?

- Make sure you get sufficient resources (to buy your own troll army)
- Avoid divisions if you can (or, make sure everyone is angry about the same thing as you are, so, buy your own troll army)
- Don't talk to bots and trolls, target those who decide