The circulation of political news on Twitter during the Dutch elections

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4 The circulation of political news on Twitter during the Dutch elections

Sabine Niederer and Maarten Groen[1]

Abstract

This chapter enquires into the resonance of junk news on Twitter during the campaign periods prior to the 2019 Dutch Provincial elections and European Parliamentary elections. Querying Twitter for political topics related to the two elections, and various divisive social issues such as Zwarte Piet and MH17, we analyse the spread and prominence of problematic sources. We also examined the claim that Twitter is susceptible to abuse by bot and troll-like users, and found that troll-like users were active across all political and issue spaces during the Dutch Provincial elections of 2019. Divisive issues remain steadily (even if marginally) active in junk and tendentious news throughout the tested time frames, suggesting these issues are year-round rather than event-based or seasonal, as they are in mainstream media.

Keywords: Twitter, social media analysis, junk news, social issues, trolling, digital methods

Introduction

In 2018 the Dutch daily newspaper *de Volkskrant* published an article entitled 'The troll army of pop artist Dotan', which revealed how the Dutch singer-songwriter had made use of fictitious accounts pretending to be fans (Misérus and van der Noordaa, 2018a). The fake fans were highly active

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across social media platforms (including Facebook, Twitter, and Instagram) where they circulated heart-warming stories about the artist, requested his songs on Dutch and German radio stations, and actively tried to edit the Wikipedia pages about the artist and his mother (who is also a Dutch singer). At the root of these activities were 140 accounts that the newspaper retrieved, at least one of which connected directly to the artist's own Gmail account, and others to accomplices. Dotan's case is perhaps the most-known example of artificially boosted accounts and content in the Netherlands, but certainly not the only known case of such behaviour. The politicians Geert Wilders and members of the political party Denk were found to have suspiciously inflated follower counts, which surfaced when Twitter started deleting unvalidated users (NOS, 2018).

The present study builds on previous digital research in which the social media platform Twitter, used by over 326 million monthly active users accounting for 500 million tweets per day, is repurposed for social research (Omnicore, 2019). As with Dotan and the Dutch politicians mentioned above, it similarly looks into social media use and the question of manipulation, in particular in political spaces around elections. It studies troll-like and artificial boosting as well as the circulation of junk and tendentious news sources during two election campaign periods in 2019. Initially intending to detect the possible presence of Russian disinformation in the Dutch Twitter space, the study enquires into coordinated campaigning around divisive issues and ascertains the extent of homegrown junk news in Dutch political Twitter, including hyperpartisan, conspiracy and clickbait sources. So-called (and self-identified) tendentious sources such as Geenstijl.nl and TPO.nl are labelled as such, and one could argue that they are mainstreaming, given how they are shared, as we discuss below. These two sources are part of the 'anti-establishment established source' set, and as such are closely related to an emerging alternative media landscape (see Tuters, this volume).

In employing digital research methods and techniques, the analysis makes use of the platform's own features and cultures of use, which offer built-in structuring of the content being shared (Rogers, 2019). These are repurposed for social or political research. Hashtags can be repurposed as content categories or issue activity indicators, retweeting suggests 'pass-along value', and the @reply and @mention functionalities network users and their content to fellow users and content (Niederer, 2018). Through an analysis of @replies, Twitter can be studied 'as a conversation-maker, where one may explore the extent to which there is dialogue, or broadcasting' (Honeycutt and Herring, 2009; boyd et al., 2010). The @mentions may contribute to the inquiry of dominant voice – certain understandings of issues can be shaped

by the actors most mentioned in a tweet corpus, and also by the actors that are the most vocal. Twitter can be studied as a social network of professional information-sharers (Java, 2007). It also can be considered a 'rebroadcaster' of (political) news, in which the platform's built-in algorithms reinforce the issues and framings discussed there as so-called trending topics (Kwak et al., 2010). Furthermore, Twitter is often moving information faster than the news, and Twitter content in some cases becomes news (Niederer, 2018). As news and mass media sources strive to make their content 'platform-ready' (Helmond, 2015), political news, other mass media content and new platforms become further entangled, forming a hybrid media system (Chadwick, 2013). Here, professional journalists include tweets in their stories, and when their work has been published, they may post a link to that article on Twitter and other social media, using the platforms both as a source of information and as a channel for the distribution of their own work.

Critiques of digital social research take issue with its dependency on the already problematic hegemony of proprietary social media platforms. On a methodological level, scholars warn of the sheer impossibility of distinguishing between the working logic of web platforms and exemplary 'platform artefacts' (Marres, 2015; Marres and Weltevrede, 2013; Rogers, 2013; Niederer, 2019). How do we know whether the most-retweeted Twitter post is the most relevant, or the most Twitter-friendly (Marres, 2015)? One way to approach this issue is to take into account the socio-technical specifics of each platform, and to regard Twitter and other social media platforms as distinct windows on an issue. Rather than questioning the relevance of the platform for the elections, we then ask: how does Twitter present the elections? And how does this compare to how other social media platforms cover the topic? Such lines of questioning open up avenues for qualitative and empirical digital research across political events and social issues as they resonate online and offer insights into the cultures of use of the various platforms. In this present study, Twitter can be seen to produce political subspaces around divisive issues, in which a relatively small number of highly active, troll-like users sow division and where junk news at times outperforms mainstream news.

Troll-like user activity during the 2017 Dutch general elections

The present study follows from an earlier one, which itself concerned Dutch elections. In the lead up to the 2017 Dutch general elections for the national parliament, journalists revealed the use of sock puppets (i.e., false online

Figure 4.1   Political party leaders as trolling targets on Twitter during the 2017 Dutch general elections. Each dot represents one mention (by a user mentioning political leaders at least 100 times). Red represents an attack, and green represents a favourable mention.
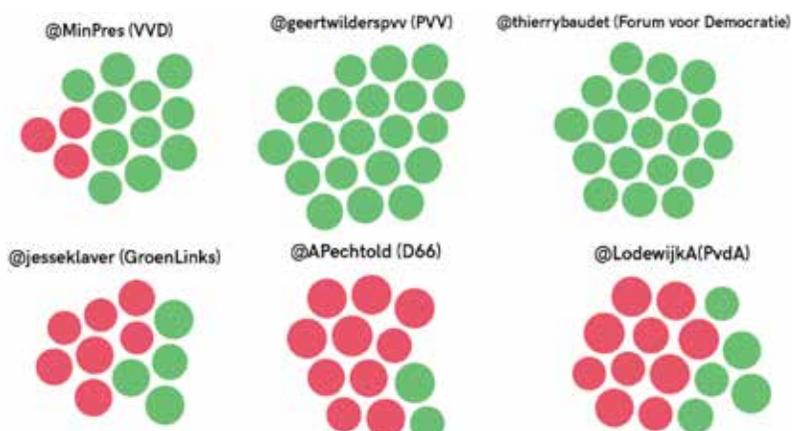
Source: Borra et al., 2017

identities assumed to deceive and influence opinion) by the political party Denk, in order to amplify their online messages and attack their political opponents on Twitter and Facebook (Kouwenhoven and Logtenberg, 2017). In an empirical study as part of the *Field Guide to Fake News* (Bounegru et al., 2018), we studied troll-like behaviour in Twitter, developing a research protocol for identifying and analyzing political trolling, which in this case referred to repeated attacks of politicians on Twitter. It focused on the sources of troll-like activity (i.e., which user accounts target politicians?), their targets (who do these troll-like users address?), and the characteristics of these practices (what do troll-like users do?) (Borra et al., 2018).

The detection of user accounts engaging in political trolling behaviour starts by compiling a list of potential targets. The aforementioned study looked into the user accounts of 28 political party leaders participating in the 2017 elections. The users that @-mention them were queried. For the most-active users per @mention, their posts in which they @-mention the political leaders were qualitatively studied. In a next step, only those who @-mention one or more political leaders at least 100 times during a one-month period (8 February-8 March 2017) were retained, and their tweets coded for being favourable or unfavourable of the politician. The study found an asymmetry in the troll-like behaviour across the political spectrum, as more left-wing politicians were being targeted by negative

mentions while most right-wing politicians were receiving support (see Figure 4.1). There are exceptions, such as Emile Roemer (SP) and Marianne Thieme (PvdD), who in this time frame received only support by troll-like users, and Prime Minister Mark Rutte (VVD) who received unfavourable mentions, in particular on his personal account though less so on his official @MinPres account.

To classify the sources of political trolling, we used the same list of 24 highly active and troll-like users (mentioning political leaders at least 100 times in the one-month time frame), and collected their profile information (description, profile picture and banner) from the Twitter interface. If the profiles had a profile picture, Google reverse image search was used to check these images for authenticity. Then, using the Twitter API, the creation date for each of these accounts was retrieved, in order to assess whether accounts in our dataset had been created on the same date. This analysis provided a more nuanced view of the user accounts responsible for the trolling behaviour. Of the 24 accounts still active at the time of study, three users appeared to be sock puppets created for trolling activities. They had very similar profiles and had been created within a short timeframe. Another six accounts in the data set promoted the same anti-Islam agenda, but were not determined to be fake accounts.

To characterize the substance of the trolling practices, the study looked at the issues and the media sources that resonate in the set of tweets. To identify the issues, the hashtags used by the highly active and trolling users in their tweets (that @mention a political leader) were collected and analyzed. Most tweets that include hashtags were found to mention the right-wing populist candidate Geert Wilders, and most hashtags referred to the issues in PVV's political messages from 2017 ('Nexit', 'StopIslam' and 'BanIslam'), as well as those pertaining to expressions of Dutch patriotism (Borra et al., 2017: 188). To assess which media sources were circulated by the troll-like users, the most-circulated URLs in the tweets were collected and categorized. For the 2017 general elections, the most-tweeted media sources by the 24 trolling users were the Dutch extreme blog fenixx.org followed by the anti-Islam site *Jihad Watch* and the right-wing think tank *the Gatestone Institute* (Borra et al., 2018: 192).

Research questions and data collection

For the study presented in the next section, the main research question is to what extent junk news sources and troll-like user accounts are present

Table 4.1   Query overview showing the election campaign period (Provincial, EU or both), the political or issue space and the query made resulting in Twitter data sets

Elections	Topic	Query
PS	General	Ps2019, Ps19, verkiezingen
EU	General	EUverkiezingen2019, euverkiezingen, ep2019, eu2019, euelections2019, verkiezingen, verkiezingen2019, EU, Europa, Europese Unie, europeseverkiezingen
PS	Party leaders	Mark Rutte, MinPres, markrutte, Geert Wilders, geertwilder-spvv, Thierry Baudet, thierrybaudet, Jesse Klaver, jesseklaver, Rob Jetten, RobJetten, Lilian Marijnissen, MarijnissenL, Marianne Thieme, mariannethieme, Gert-Jan Segers, gertjansegers, Lodewijk Asscher, LodewijkA, Tunahan Kuzu, tunahankuzu, Henk Krol, HenkKrol, Klaas-Jan Dijkhoff, dijkhoff, Sybrand Buma, sybrandbuma,Kees van der Staaij, keesvdstaaij
EU	Party leaders	SophieintVeld, Esther_de_Lange, mjrldegraaff, malikazmani, arnouthoekstra, TimmermansEU, petervdalen, BasEickhout, anjahazekamp, ToineManders, florens0148, atonca, paulbeasd, djeppink, sentwierda, RLanschot, MinPres, markrutte, geertwil-derspvv, thierrybaudet, jesseklaver, RobJetten, MarijnissenL, mariannethieme, gertjansegers, LodewijkA, tunahankuzu, HenkKrol, dijkhoff, sybrandbuma, keesvdstaaij
PS and EU	MH17	mh17
PS and EU	Zwarte Piet	Zwartepiet, zwarte piet
PS and EU	Climate	klimaat
PS and EU	Fake news	Fake news, fakenews, nepnieuws, desinformatie, junknieuws
PS	Utrecht	utrecht, 24oktoberplein, gokmen tanis, gokman tanis

on Twitter around both the provincial and the European parliamentary elections in the Netherlands in 2019. To answer these questions, we examine Twitter activity concerning the elections, the party leadership as well as political candidates, and zoom in on potentially divisive issues, including Zwarte Piet and MH17.

In addressing these research questions, queries are formulated to demarcate the political and issue spaces in Twitter (see Table 4.1). The data are collected using the commercial social media monitoring tool, Coosto, and the Twitter Capturing and Analysis Toolkit developed by the Digital Methods Initiative (DMI-TCAT). Coosto was used to retrieve data from both the provincial and European election periods, in order to conduct a comparative analysis of the engagement with mainstream and junk news across political and issue spaces, and the presence of troll-like users in these spaces, as discussed in detail in the next sections. DMI-TCAT, a tool that 'provides robust and reproducible data capture and analysis and

Figure 4.2   Engagement of mainstream (blue) and junk news (pink) articles during the Dutch Provincial election campaign (left) and the European Election campaign period (right)
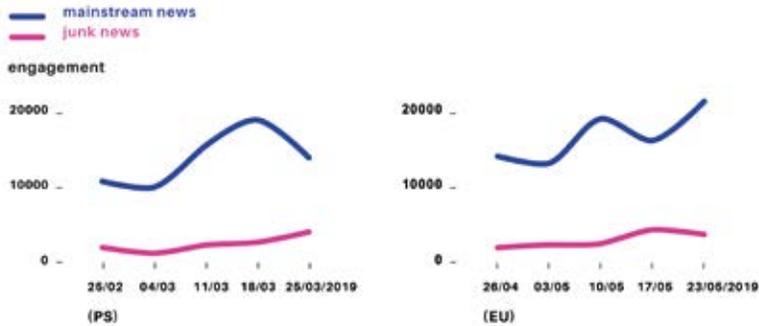
Line graphs; visualizations by Federica Bardelli

interlinks with existing analytical software' (Borra and Rieder, 2014: 262), was used to analyze the engagement with junk and tendentious news sources and the users responsible for this engagement. While some collections (or 'bins,' in the terminology of the TCAT-tool) were created only for this study, others had been running for months prior, such as MH17, or in the case of Zwarte Piet even years (with a bin that was created in December of 2017). The set for the Utrecht tram shooting was created on the day that event took place, 18 March 2019. For this study, the sets were limited to the provincial elections campaign period (18 February-25 March 2019) and the European Parliamentary election campaign period (26 April-24 May). The one exception was the Utrecht tram shooting set, which was only included in the Provincial Elections campaign period, as it took place during that time frame.

Junk news sources and troll-like users during the provincial elections on Twitter

During both the provincial and the European election campaigns we tracked the resonance of mainstream, junk and tendentious sources in Twitter. We did so around the potentially divisive issues of Zwarte Piet and MH17 and chose to include climate and fake news (as an issue). Furthermore, we tracked the resonance of news sources for the political spaces of the (Provincial and EU) elections, as well as the party leadership and political candidates. For each of the elections, we demarcated a five-week campaign period. Per

Figure 4.3   Engagement with mainstream news (blue) and junk news (pink) for the issue of Zwarte Piet (top left) and MH17 (top right) and during the Provincial elections, and the EU elections (bottom left and right)
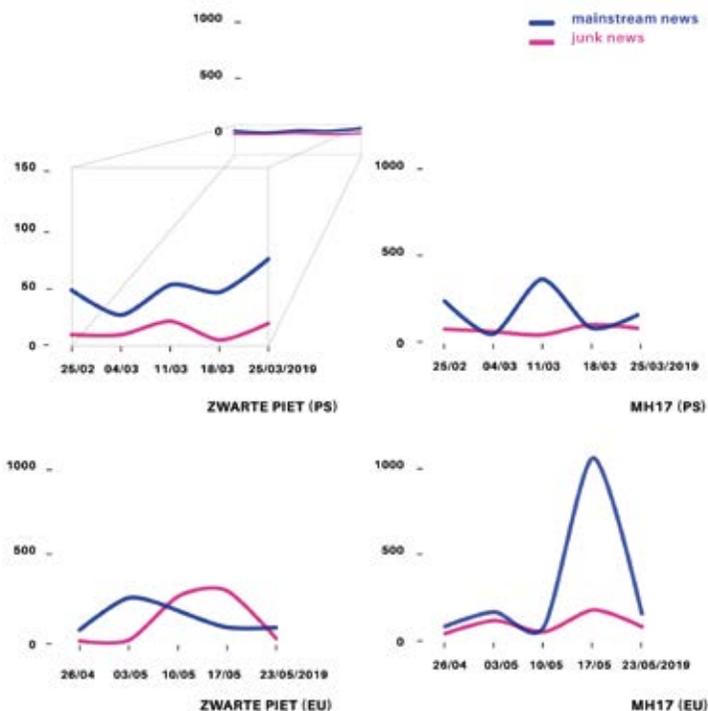
Line graphs; visualization by Federica Bardelli

political and issue space, and for each of the five weeks of the campaign, the most-shared links (up to a maximum of 500) were collected and coded (for mainstream or junk news of various types, using the aforementioned expert list). The engagement scores for the mainstream and junk news source engagement per week were visualized as line graphs, as in the well-known *Buzzfeed News* study (Silverman, 2016).

For both election campaign periods, overall the mainstream news outperforms junk news (see Figure 4.2). When zooming in on the political spaces of the elections and the party leadership and political candidates, the mainstream news sources garner far more engagement than junk news. A look at the top 500 most engaged-with links shows the rise and fall of mainstream hosts circulated in the issue space, and the relatively small but steady resonance of junk news hosts, which during the provincial election campaign rises slightly in its last week.

Divisive issues: Zwarte Piet and MH17

Both for Zwarte Piet and MH17, there are instances in which junk news outperforms mainstream news. In the climate and fake news datasets mainstream news outperforms junk news in all weeks. The line graphs in Figure 4.3 include a zoomed-in view that renders visible the moments in which junk news is more engaged with than the mainstream news. For the controversial topic of Zwarte Piet, during the Provincial election period mainstream news receives more engagement. Junk news outperforms mainstream news in weeks three and four of the European parliamentary elections campaign. The article mostly responsible for this peak in week three is a short commentary on tendentious-hyperpartisan website *The Post Online*, about the proposal by Dutch politician Sylvana Simons (addressed to the Amsterdam Municipality) to ban the 'racist caricature of Zwarte Piet' in the city of Amsterdam. When one removes *The Post Online* from the graph, the results remain the same apart from the one week in May during the European parliamentary election period where now mainstream news outperforms junk (see Appendix 4.1). In week four, an article on Cultuurondervuur.nu ('culture under fire') entitled 'Jerry Afriyie receives funding for anti-Zwarte Piet educational materials' is responsible for the increased activity. In it, activist Jerry Afriyie is described as a 'Zwarte Piet hater' (cultuurondervuur.nu, 2019).

For the issue of MH17, during the Provincial elections campaign there are times in which junk news outperforms mainstream news in terms of engagement. For the European parliamentary elections, the mainstream attracts more engagement, but during certain periods junk news is on a similar level as the mainstream. The peaks that occur during the Provincial elections are mainly caused by engagement with a piece from citizen-journalist Max van der Werff, on his website kremlintroll.nl, in which he demands rectification of an article in *De Groene Amsterdammer* (from August 2018) about Russian internet trolls (van der Werff, 2019). Two other articles that attract engagement are from the hyperpartisan website jdreport.nl, questioning the integrity of the MH17 investigation, and in one Frans Timmermans (who would win a seat for the PvdA in the EU parliamentary elections) is named as part of an 'MH17-doofpot', or cover-up (jdreport.nl, 2019). In week four of the Provincial elections campaign period, the Kremlintroll piece requesting rectification is particularly actively shared. Simultaneously, the interlinked article with the actual critiques of the article from *De Groene Amsterdammer* is receiving more engagement.

During the EU election campaign, mainstream news receives more engagement. It is important to note, however, that aside from a peak in mainstream news in week three of the campaign, its engagement level is equal to that of junk news sources. Where in the mainstream certain events cause peaks in media coverage, it appears that for junk news these divisive issues are continuous and year-round. Zwarte Piet may not be a subject matter in the mainstream news in Springtime, but it remains a matter of concern and a source of engagement in junk news media.

Troll-like users during the Dutch provincial and European elections on Twitter

For the Dutch provincial elections campaign period, the next step in the study is to look closely at the user activity related to the Dutch provincial elections and the political party leadership, as well as coverage of the potentially divisive issues of Zwarte Piet, MH17 and the Utrecht tram shooting. As a first step, the URLs (hosts) were extracted from the sets of tweets and checked against a collaboratively compiled expert list of junk and tendentious news sources. Similarly, the users active in each of the sets of tweets were checked against a list of flagged users. Here, we made use of existing lists from the previous project in *The Field Guide to Fake News* (Borra et al., 2017) and expanded these lists. To do so, we extracted top users from the data sets of Zwarte Piet, MH17, Utrecht tram shooting, the Dutch provincial elections and the political party leadership and followed a protocol adapted from the aforementioned study, and combined them with research on credibility metrics (Borra et al., 2017; Groot et al., 2019).[2] With the Compare List tool (Borra, 2013), the study assessed whether any of the flagged users were active in one or more of the political issue spaces. Zwarte Piet had an initial list of 26 potentially troll- or bot-like accounts,

2   For this particular study, to identify potentially troll-like users in the data sets, the top 15 most-active users in the set were selected, as well as the top 15 users who were highly active yet at the same time very low on visibility (i.e., rarely or not at all @mentioned). Then, the profiles of these user accounts were checked for the following flags: mostly retweeting, or retweeting in several languages (as possible indicators of automation) which is of interest given the wide distribution of easily acquirable retweet bots (McGarry, 2013); profile oddities such as inauthentic user's profile images, which were checked with Google Image search to assess their authenticity; a recently created account; a high following count (of over 1,000); a username with over 3 numbers in it; high tweet frequency as tweeting over 200 times mentioning the issue; posting 20 tweets or more times per day; and, whether the user seems to mostly retweet more often rather than tweet his/her own content.

five of which had already been taken offline at the time of inquiry. Of the 21 remaining each was flagged as potentially troll-like; one of which described itself as a retweet bot (in the user profile). For MH17, of an initial list of 26 potentially troll- or bot-like user accounts, two were inactive at the time of inquiry. Of the remaining user accounts, 13 accounts were flagged, and 10 were not. For the Utrecht tram shooting, from an initial list of 23 potential troll- or bot-like accounts, 10 were flagged after examination. For the provincial elections dataset, the list of potentially troll- or bot-like users entailed 24 accounts, 17 of which were flagged according to our criteria and one of them described itself as a bot.

Subsequently, these flagged users were checked for activity in more than one issue. This would make sense for those data sets that are of related topics, such as the provincial elections and the political leadership. When users are active across distinct controversial issues such as Zwarte Piet, MH17, and the shooting in Utrecht, which have in common their potential divisiveness, such multi-issue users and the content they circulate would be further scrutinized. In fact, 14 flagged accounts are common to all of the five political issue spaces, and as many as 29 flagged user accounts are common to four of the data sets, pointing to efforts to fuel division during the election period.

Figure 4.4 provides an overview of the tweet- and user counts per issue, as well as the most-resonating hashtags, and most-retweeted tweets, during the time around the elections (18 February-25 March 2019). The analysis shows that there is no disinformation resonating in the top 10 hosts per political and issue space. The top hosts are mostly (Dutch and international) mainstream news media. The hyperpartisan site Opiniez.nl is among the top 10 hosts for Zwarte Piet in the provincial elections space, and the tendentious site geenstijl.nl is shared for MH17 and PS2019. Junk sources are present across political and issue spaces around MH17, Zwarte Piet, Utrecht, PS2019, and the Dutch party leadership. There are junk news hosts that are common across all five issues: Ninefornews.nl, fenixx.org, tref.eu, ejbron.wordpress.com, drimble.nl (a particular story), and dagelijksestandaard.nl. Hyperpartisan and conspiracy sources are mostly circulated by flagged users. However, some hyperpartisan and tendentious sources are being mainstreamed, and circulated by regular (as in: unflagged) users. These include tendentious-hyperpartisan host *The Post Online* and hyperpartisan sources, *De Dagelijkse Standaard* and *Fenixx*.

Looking at the time frame around the provincial elections, flagged users are among the top, most active users across issues. In particular for Zwarte Piet and MH17, six of the top ten users are flagged accounts. Analyzing the

Figure 4.4   Tweet and user counts, top hashtags, and most-retweeted tweets during the Dutch provincial election period of 2019
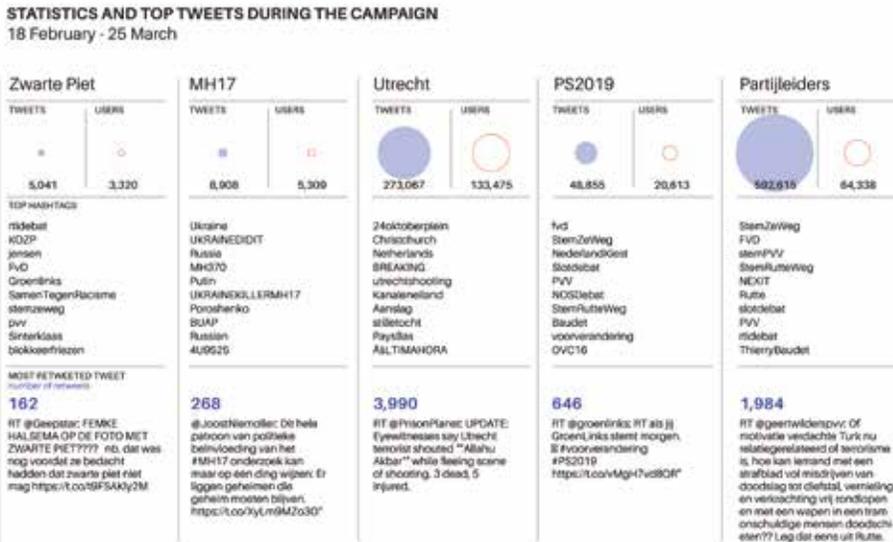
Dashboard; visualization by Carlo De Gaetano

top @-mentioned users in tweets about Zwarte Piet and MH17, we found that two flagged user accounts are among the top 10 @mentioned. When analyzing the most-used hashtags across the issues, what stands out is that the top hashtags used in the MH17 issue space all seem to be Pro-Russian. Across the issue spaces of Zwarte Piet, MH17 and PS2019, we see the resonance of right-wing political party hashtags, such as PVV and FvD. Zwarte Piet contains hashtags both for pro-Zwarte Piet (e.g., 'blokkeerfriezen', referring to the Frisian counter-protest in Dokkum against anti-Zwarte Piet protesters of 'Kick out Zwarte Piet', which can be found in the data set with hashtag #kozp, in which they blocked the highway to prevent anti-Zwarte Piet protesters from entering their town) and anti-Zwarte Piet, e.g., 'SamenTegenRacisme', which translates as 'united against racism'.

For the EU election campaigns, we similarly investigated the activity of flagged users in the political and issue space. For the political spaces, the top 1000 most active users were collected for the general EU election hashtags and the political leaders relevant to the EU election campaigns. For the issue spaces, the top 1000 most active users were collected on the topics of climate change, Zwarte Piet, MH17 and fake news. These lists of top users were matched with the flagged users list from the first part of the empirical study. Because some topics were more active than others, the

activity of the top 1000 users varies per dataset. For the more generic EU set, the top 1000 users each posted more than 44 tweets in the EU election period. In comparison, in the Zwarte Piet dataset the top 1000 users each posted two or more tweets.

Of the flagged users list, eight users were active in all six issue spaces during the EU campaign period. Three users were active in five of the spaces and another three users in four of the spaces. Four of the eight users active in all spaces were also active in all the provincial election period datasets. From the users active in all datasets, the top user posted 2,781 tweets. 2,578 of those tweets were in the general EU and party leader dataset. This user is not only retweeting other content, but also posts his own content. The content in the EU Elections period can be characterized as anti-EU, anti-immigration, pro-PVV/FvD and critical of all other parties.

The circulation of junk and tendentious news during the provincial elections

To gain a better view of these troll-like, junk and tendentious news activities, a next step zooms in on the circulation of these news sources during the campaign period in each of the political issue spaces. Visualized as network graphs, the analysis considers whether such news sources are circulated by flagged or regular (non-flagged) users.[3] Each host-user bi-partite network graph includes a short overview of the user and host types per data set, clearly illustrating that the number of flagged users and the circulation of junk or tendentious news sources are outnumbered by unflagged users and the circulation of mainstream news. Thus, these visualizations should be read as a zoom-in on a particular, small set of hosts that are of interest to the study of the presence and circulation of junk news and tendentious news and the users that circulate them.

In each issue space, hyperpartisan sources are circulated the most. And while the issue space of Zwarte Piet is dominated by the circulation of hyperpartisan sources being shared by flagged but also by regular users, the main junk news sources for MH17 are more diverse in composition. Here, we see a mix of tendentious, hyperpartisan, as well as conspiracy hosts. For the Utrecht shooting, tendentious and hyperpartisan hosts are circulated the most, by flagged and regular users, making them appear as

3   Regular in this case in fact strictly speaking means *not flagged*.

**Figure 4.5   Gephi visualization of Zwarte Piet host-user network during the
provincial elections campaign period, depicting only junk and
tendentious hosts and the user accounts that circulate these sources**
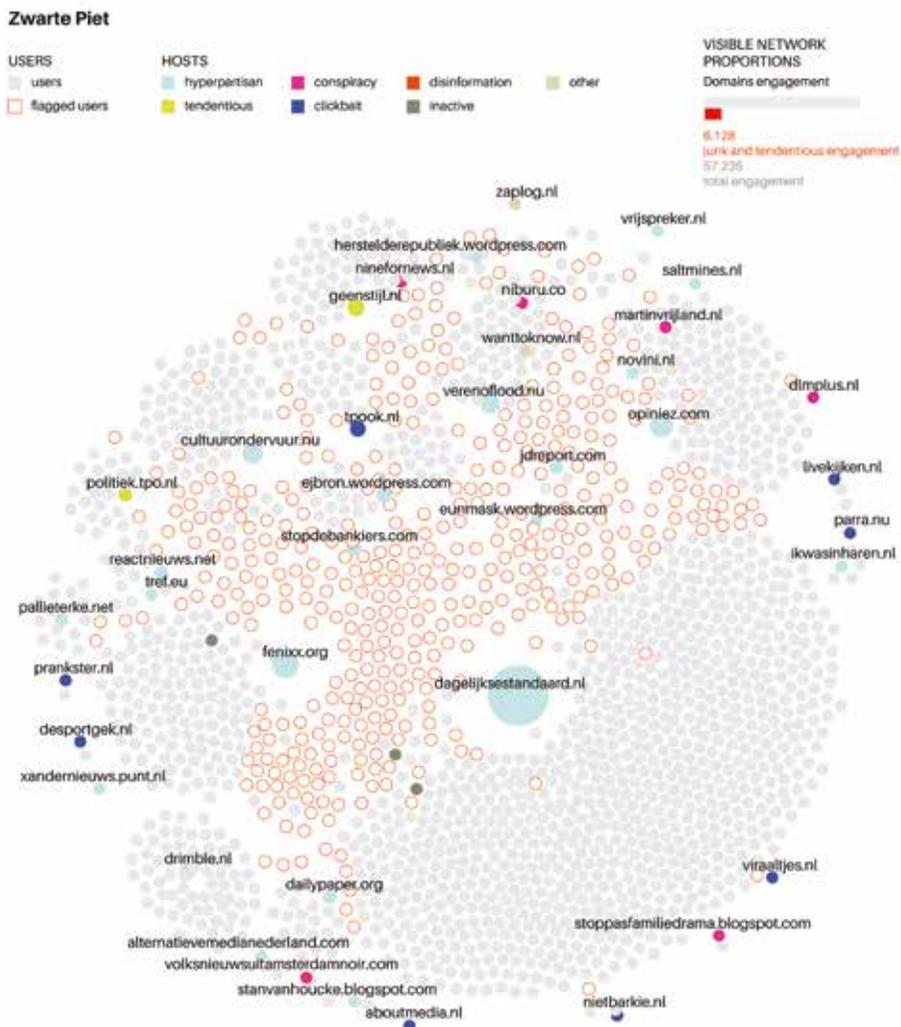
Visualization by Carlo De Gaetano

mainstream. The junk news and tendentious sources in both of the political
spaces, PS2019 and the party leaders, revolve around mostly hyperpartisan
and tendentious sources.

The host-user network of the Zwarte Piet issue space (Figure 4.5) is dense
and, as said, is dominated by the circulation of hyperpartisan sources such

Figure 4.6   Gephi visualization of MH17 host-user network during the provincial elections campaign period, depicting only junk and tendentious hosts and the user accounts that circulate these sources
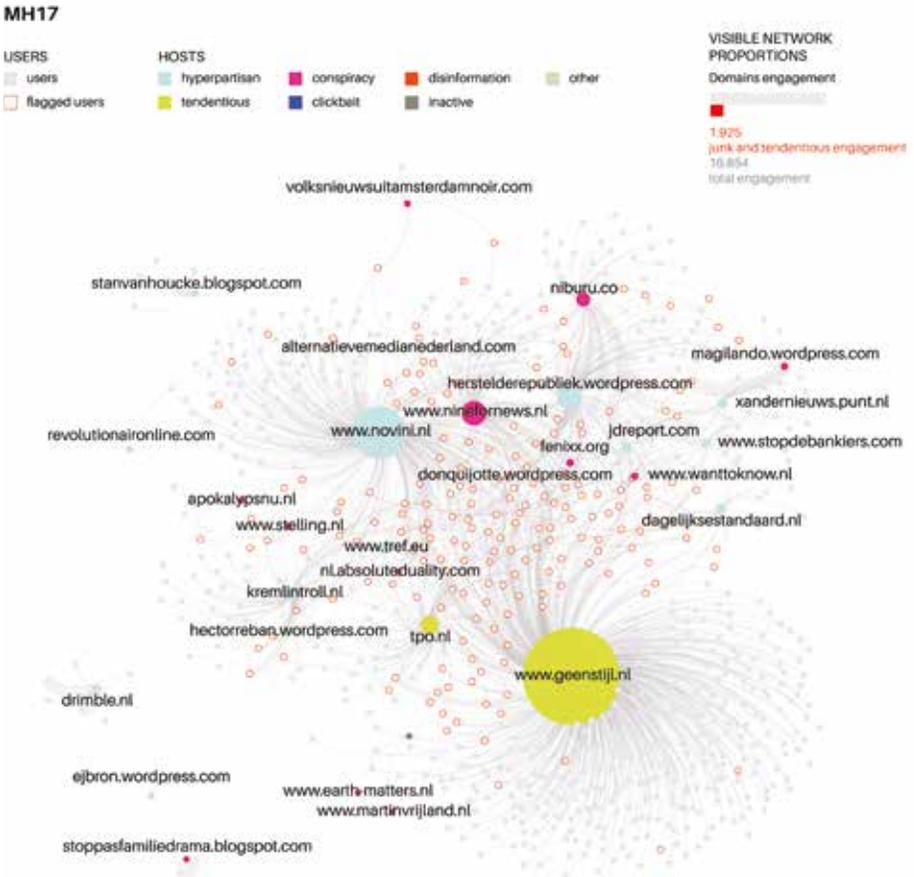
Visualization by Carlo De Gaetano

as dagelijksestandaard.nl, fenixx.org, cultuurondervuur.nu and opiniez. nl, and, at a slightly lower level, the tendentious source geenstijl.nl. These central nodes are the sources of choice for the majority of the flagged users, but also have been shared by regular users, who demonstrate a preference for the hyperpartisan source, dagelijksestandaard.nl. One clickbait host (tpook.nl), which can be found in the outskirts of the graph, stands out as being circulated by both flagged and regular users.

The network visualization of the MH17 junk news source circulation (Figure 4.6) shows a different source composition to that of Zwarte Piet,

**Figure 4.7   Gephi visualization of Utrecht shooting host-user network during
the provincial elections campaign period, depicting only junk and
tendentious hosts and the user accounts that circulate these sources**
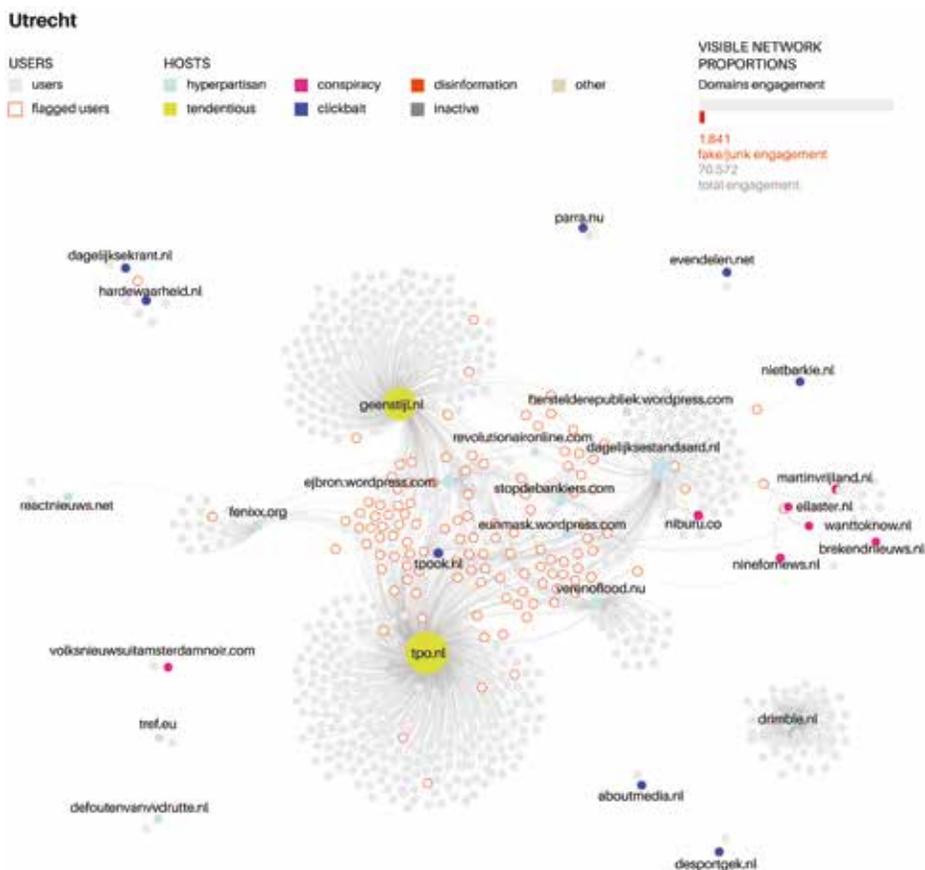
Visualization by Carlo De Gaetano

which had hyperpartisan sources at its core. For MH17, we see a more di-
verse set of sources central to the network: tendentious source geenstijl.nl,
hyperpartisan/conspiracy source novini.nl, and a set of two other conspiracy
hosts (ninefornews.nl and niguru.co), which have been widely circulated
by flagged users.

The flagged users in this issue space mostly circulate tendentious hosts,
such as geenstijl.nl, and hyperpartisan and conspiracy sites, hersteldere-
publiek.wordpress.com and novini.nl. The source most circulated by regular
users is the tendentious geenstijl.nl.

Figure 4.8   Gephi visualization of PS2019 host-user network during the provincial elections campaign period, depicting only junk and tendentious hosts and the users that circulate these sources


PS2019

USERS
users
flagged users

HOSTS
hyperpartisan   conspiracy   disinformation   other
tendentious   clickbait   inactive

VISIBLE NETWORK PROPORTIONS
Domains engagement

920
fake/junk engagement
6.480
total engagement

pallieterke.net
drimble.nl
ejbron.wordpress.com
dimplus.nl
aboutmedia.nl
defoutenvanvvdrutte.nl
novini.nl
dagelijksestandaard.nl
ninefornews.nl
saltmines.nl
tpo.nl
vrijspreker.nl
verenoflood.nu
geenstijl.nl
opiniez.com
fenixx.org
tref.eu

Visualization by Carlo De Gaetano

**Figure 4.9   Gephi visualization of Party Leadership host-user network during
                the provincial elections campaign period, depicting only junk and
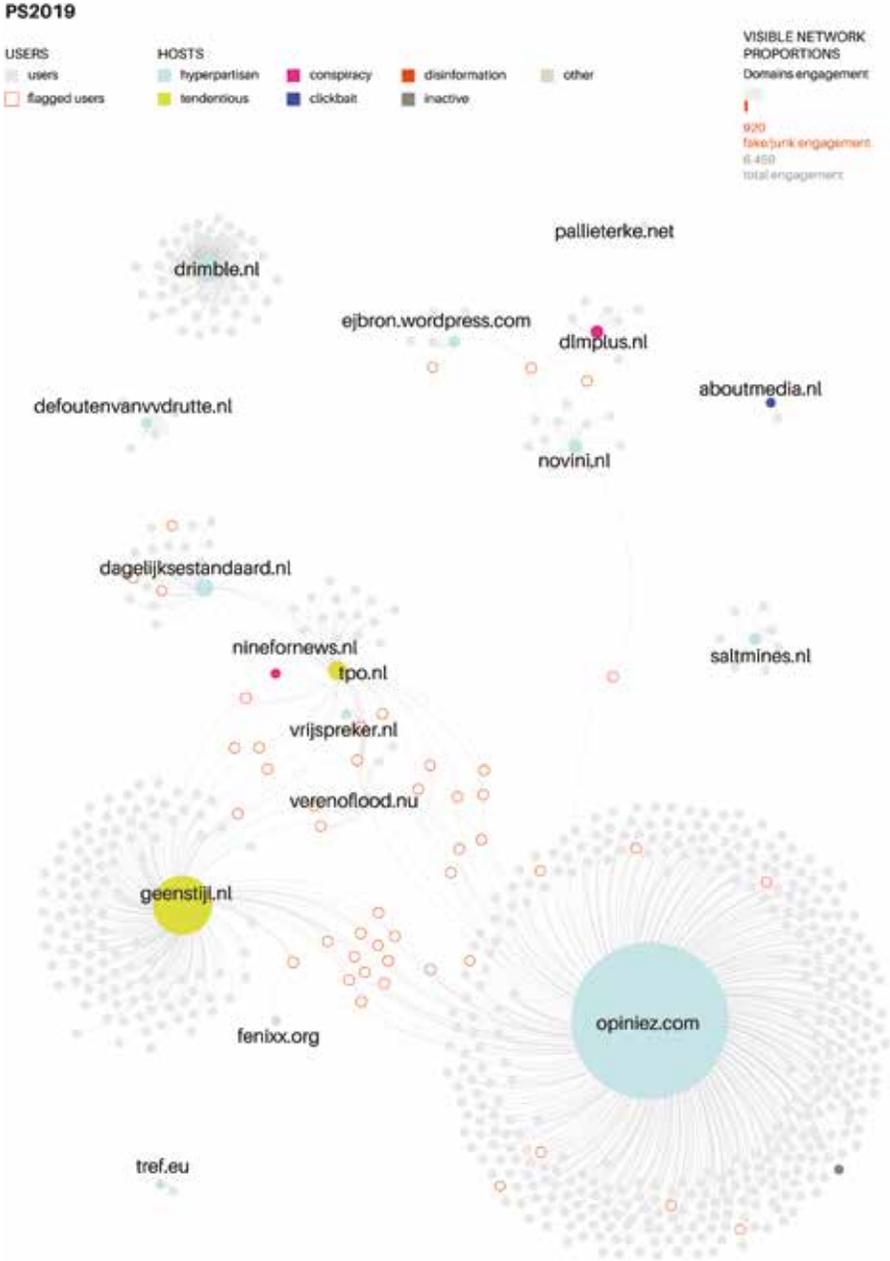   tendentious hosts and the users that circulate these sources**

Visualization by Carlo De Gaetano

In the issue space for the Utrecht shooting (Figure 4.7), tendentious and
hyperpartisan sources (geenstijl.nl, tpo.nl and dagelijksestandaard.nl)
populate the centre of the network. Several smaller clusters of junk news
sources that have been circulated by regular users are evenly distributed
on the periphery of the graph (e.g., drimble.nl (story-level), evendelen.net,
dagelijksekrant.nl or hardwaarheid.nl). Only a minority of flagged users
circulate clickbait (tpook.nl, nietbarkie.nl) and conspiracy pages (martin-
vrijland.nl, ninefornews.nl, brekendnieuws.nl, ellaster.nl, wanttoknow.nl).

It is important to note that overall the hyperpartisan and tendentious sources in this network have been circulated by both flagged and regular users, making them appear to be mainstream(ing).

The PS2019 (Provincial State elections) host-user network appears to be organized around two major hosts, hyperpartisan source opiniez.com and tendentious source geenstijl.nl (Figure 4.8). The (marginal) presence of clickbait host aboutmedia.nl is caused by the activity of only one regular user. Conspiracy hosts ninefornews.nl and dlmplus.nl have been only marginally circulated by users who also shared other junk news hosts. Two recently created user accounts in the network (created in December 2018) demonstrate an uncommonly high number of tweets and likes. One of them has around 39,300 posts, and 31,900 likes within four months of existence, a level of activity that suggests automation and artificial inflation.[4]

For the Party leadership network, the tendentious-hyperpartisan source tpo.nl and hyperpartisan source dagelijksestandaard.nl are the largest nodes in the network and are circulated by both flagged and regular users (Figure 4.9). Smaller nodes of hyperpartisan sources, such as fenixx.org, opiniez.com and verenoflood.nu, are positioned slightly more towards the periphery of the network. A dense cluster of flagged users is situated in the heart of the network and has circulated mostly tendentious and hyperpartisan hosts as well as conspiracy hosts, such as ninefornews.nl or ellaster.nl. Regular users populate the rest of the network and have circulated mostly tendentious and hyperpartisan hosts (e.g., tpo.nl, dagelijksestandaard.nl and opiniez.com) and to a lesser extent, have circulated conspiracy hosts (e.g., donquijotte.wordpress.com or stoppasfamiliedrama.blogspot.com) which are visible in the margins of the graph.

Conclusions: Troll-like activity in divisive issue spaces

As emphasized in studies of the campaigning by the Russian Internet Research Agency as well as so-called home-grown actors, Twitter allows for easy automation, which makes the platform susceptible to abuse by bot and troll-like users (boyd et al., 2018; DiResta et al., 2018; Howard et al., 2018). We have identified such suspicious activity during the Dutch Provincial elections of 2019, when looking at political issue spaces as well

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4   Their high number of likes is also inconsistent with the pattern of activity, which is mostly retweets and replies with GIFs or funny images.

as divisive issues. In fact, troll-like users are central across political and issue spaces around MH17, Zwarte Piet, Utrecht, PS2019, and the Dutch party leadership. In particular, 14 flagged users were found to be active across all political and issue spaces, and the 29 that appear in four out of five, deserve further scrutiny. Four suspect users active during the provincial election period were also (or still) active in all issue spaces during the EU election period. Some of these users had already been flagged in previous research from 2017, which means they have been operating and engaging in new and existing issues for over two years. Overall, our study found that such flagged users tend to spread mostly hyperpartisan and tendentious sources, followed by conspiracy websites. We also found no indication of a coordinated campaign, whereby (as found elsewhere) the troll-like users would include sock puppets, automated accounts, and semi-automated user accounts that post both retweets and original content.

Divisive issue spaces are active year-round. From 18 February – the beginning of the official campaign – to 25 March 2019, the issue spaces of Zwarte Piet and MH17 were still active, even though Sinterklaas, the holiday related to Zwarte Piet, takes place in December and the downing of the Malaysian airliner was not in the news, either through new developments or official memorial events. A significant number of the most active users in each issue during this period display troll-like behaviour through their high activity (30% in the case of Utrecht and 60% in MH17 and Zwarte Piet). Despite the activity, most of these users' influence is still limited, however. Only two of them appear among the top ten most @-mentioned for each issue space.

At the same time, we identified at least three highly active new accounts that were created close to the elections with a clear purpose of disseminating divisive content, indicating how the platform may be employed around election time. When these troll or bot-like users are not aggressively attacking the opposition, they function as amplification machines for web news operations, ranging from tendentious sources such as *Geenstijl* and *The Post Online* to hyperpartisan sources such as *De Dagelijkse Standaard*, *Opiniez* and *Fenixx*. Repeatedly, we have seen how these tendentious and hyperpartisan sources are widely circulated by regular users who crowd out the flagged users (in a network clustering sense). The uptake of tendentious and hyperpartisan sources by such regular users leads to a 'mainstreaming' of these hosts, in times of elections.

In all, flagged users tend to spread mostly tendentious and hyperpartisan hosts, followed by conspiracy hosts, which appear in all datasets but seem to

be more pervasive in tragedy spaces as MH17 and the Utrecht tram shooting. During the EU election period, on several occasions, junk news sources outperformed mainstream sources around the controversial topics, Zwarte Piet and MH17. On both issues, junk news outperformed mainstream news in two of the five weeks. During these weeks, there is not a large increase visible in the engagement of junk news sources compared to other weeks. Instead, the overperformance is mostly caused by a drop in the mainstream media attention for the topics on hand, while coverage persists on the junk news sources, fuelling the debate.

According to these results, the Dutch political Twittersphere does not appear to have a junk news problem, though it is populated by some troll-like users, whose existence serves to amplify certain voices. While we did not find a professional or large-scale trolling campaign, the activity across issues in spreading divisive content was caused by various types of user accounts, both bot-like (as in: automated) and troll-like (as in: repeatedly engaging with divisive issues and targeting politicians). Divisive issues remain steadily (even if marginally) active in junk news and tendentious news throughout the tested time frames, suggesting these issues are year-round rather than event-based or seasonal (as may be expected with Zwarte Piet).

Appendix 4.1   Alternate figures

Alternate Figure 4.2   **These line graphs visualize the engagement with mainstream news (blue) and junk news sources (pink) during the Dutch provincial election campaign (PS) and the European Election campaign period (EU), similar to Figure 4.2, but excluding the tendentious-hyperpartisan sources.**
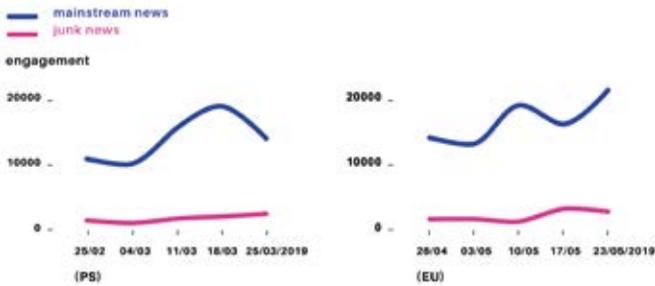
Visualization by Federica Bardelli

Alternate Figure 4.3 **These line graphs visualize the engagement with mainstream news (blue) and junk news sources (pink) for the issues of MH17 and Zwarte Piet during the provincial elections (PS), and the EU elections (EU), similar to Figure 4.3, but excluding the tendentious-hyperpartisan sources.**
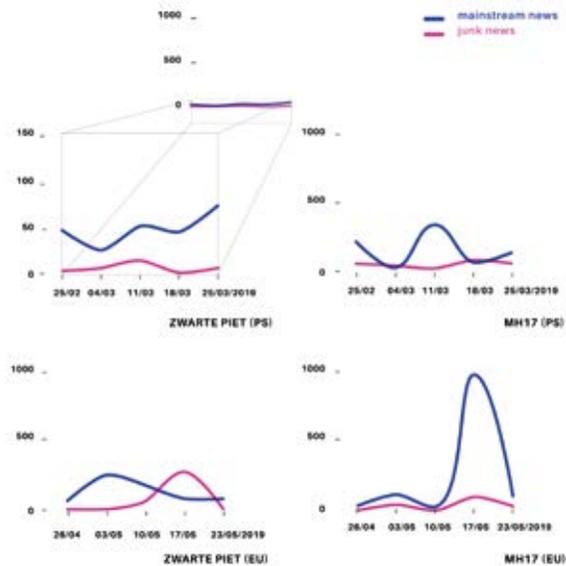
Visualizations by Federica Bardelli

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