

The Influence of Automated Accounts on Social Media



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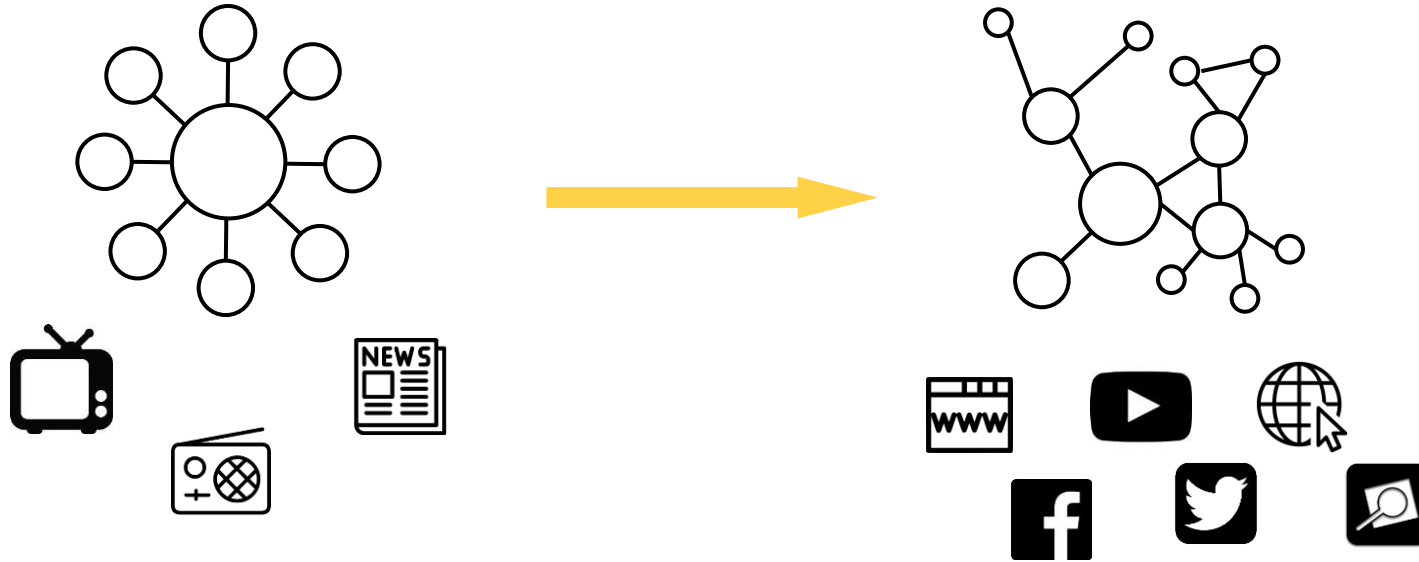
1

Motivation

Are bots dominating the dissemination of content on social media?

Is the gatekeeping role of traditional media being disrupted?

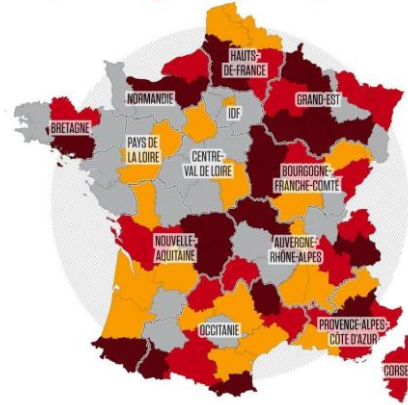
Changes in the Media Environment



LA FRANCE EN JAUNE

Pourcentage de « gilets jaunes » rapporté à la population

● de 0,04 à 0,3% ● de 0,3 à 1% ● de 1 à 1,8% ● de 1,8 à 6,8%



SOURCE : HÉRVÉ LE BRAS



Bloomberg

France to Probe Possible Russian Influence on Yellow Vest Riots

SCIENTIFIC AMERICAN

How Twitter Bots Help Fuel Political Feuds

Catalan referendum stokes fears of Russian influence

POLITICO

Spain Catalonia: Did Russian 'fake news' stir things up?

BBC

2

Data & Analyses

Twitter | web logs

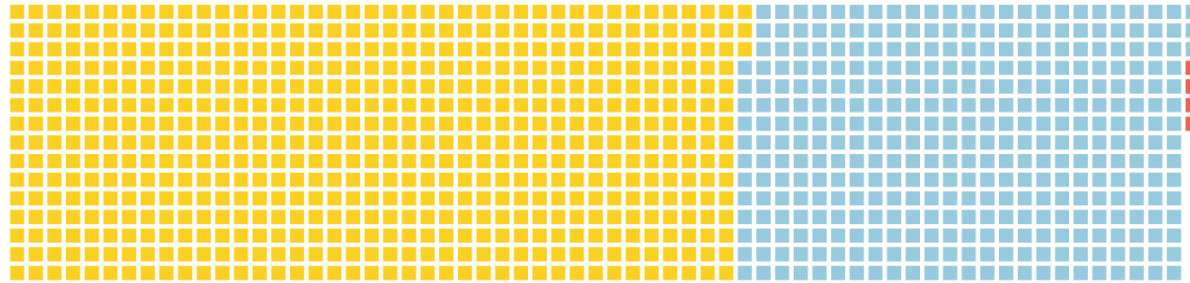
Network science | natural language processing | machine learning

González-Bailón, Sandra and Manlio de Domenico (2021) Bots are Less Central than Verified Accounts during Contentious Political Events, PNAS.

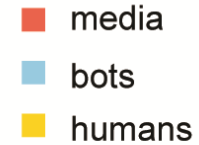
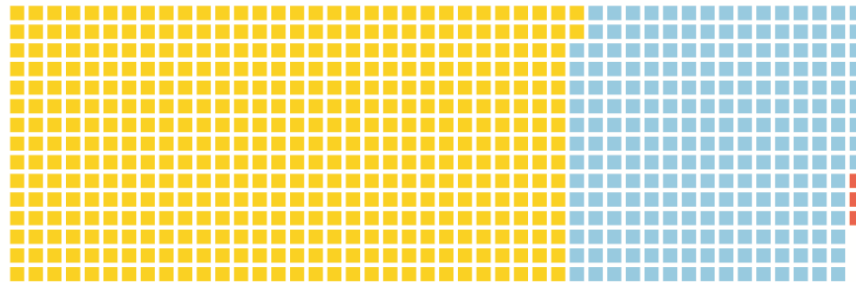
Data

N ~ 1.5 million tweets

A. Gilets Jaunes 2018



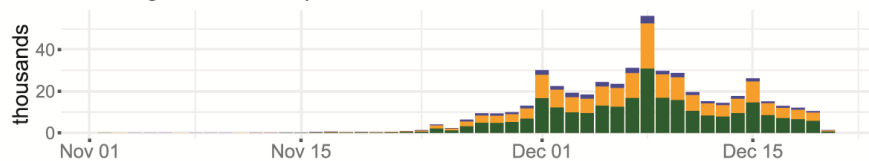
B. 1-O 2017



1 square = 1000 users

Trends

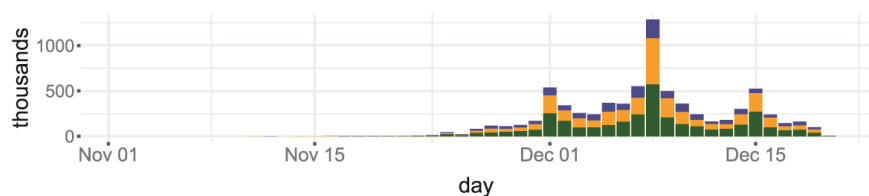
A1. Messages Posted | Gilets Jaunes 2018



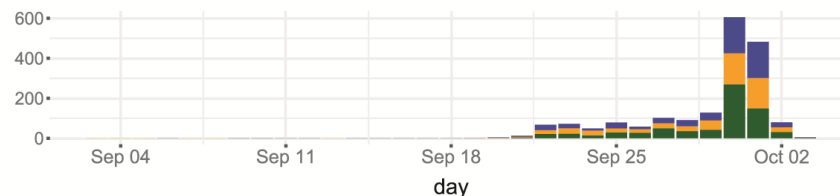
B1. Messages Posted | 1-O 2017



A2. RTs Received



B2. RTs Received



media bots humans

Network

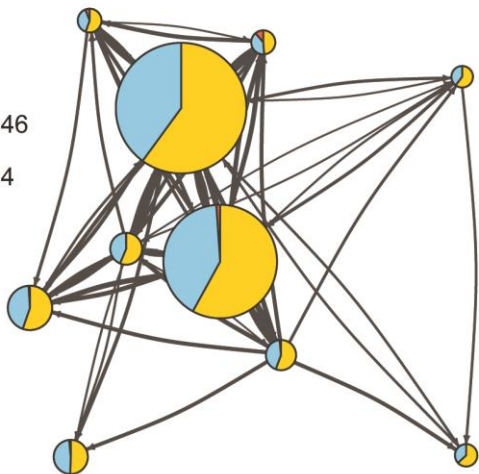
A1. Gilets Jaunes 2018 | Retweet Network

$Q = 0.63$

Community Size

max ○ $N = 2646$

min ○ $N = 144$



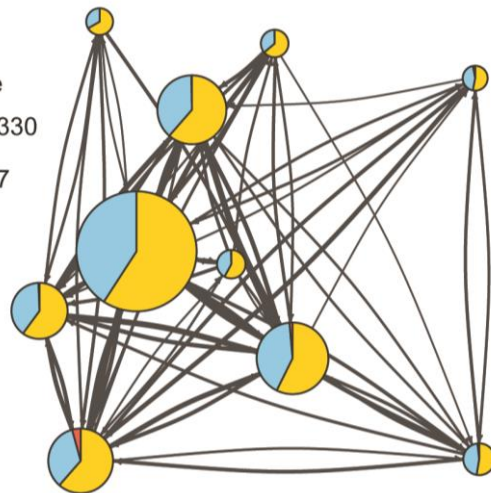
B1. 1-O 2017 | Retweet Network

$Q = 0.59$

Community Size

max ○ $N = 1330$

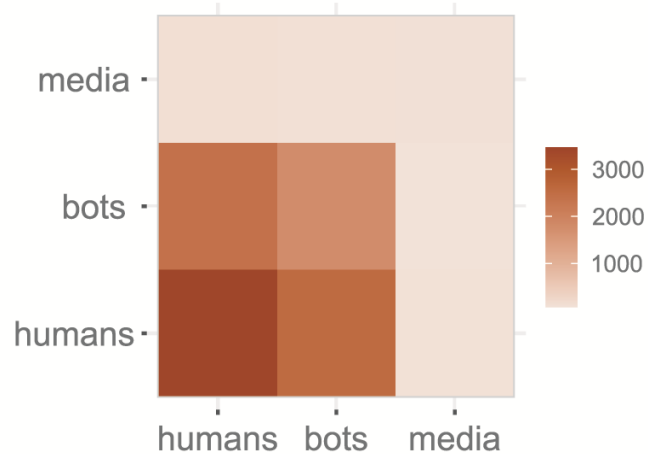
min ○ $N = 57$



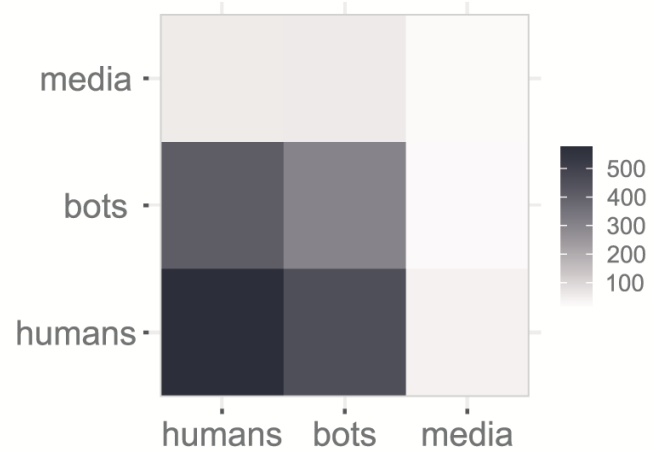
● media ● bots ● human

Reciprocity

A1. Mutual RTs | Gilets Jaunes 2018

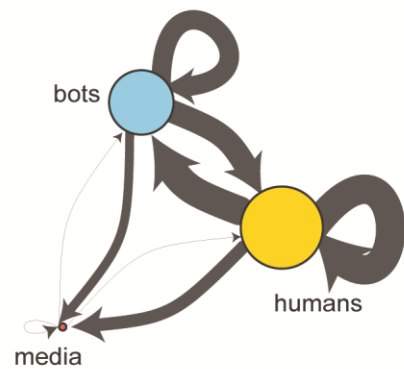
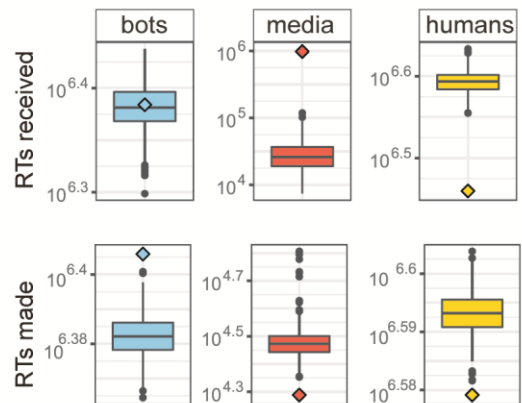


B1. Mutual RTs | 1-O 2017

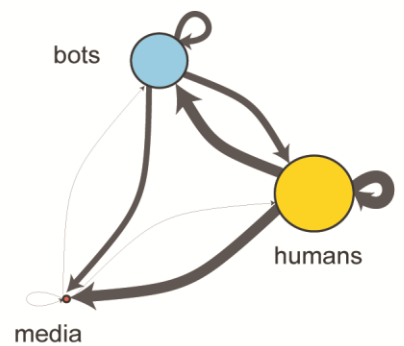
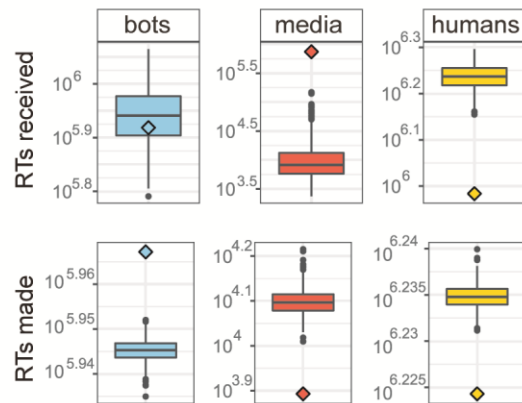


Centrality

A. Gilets Jaunes 2018



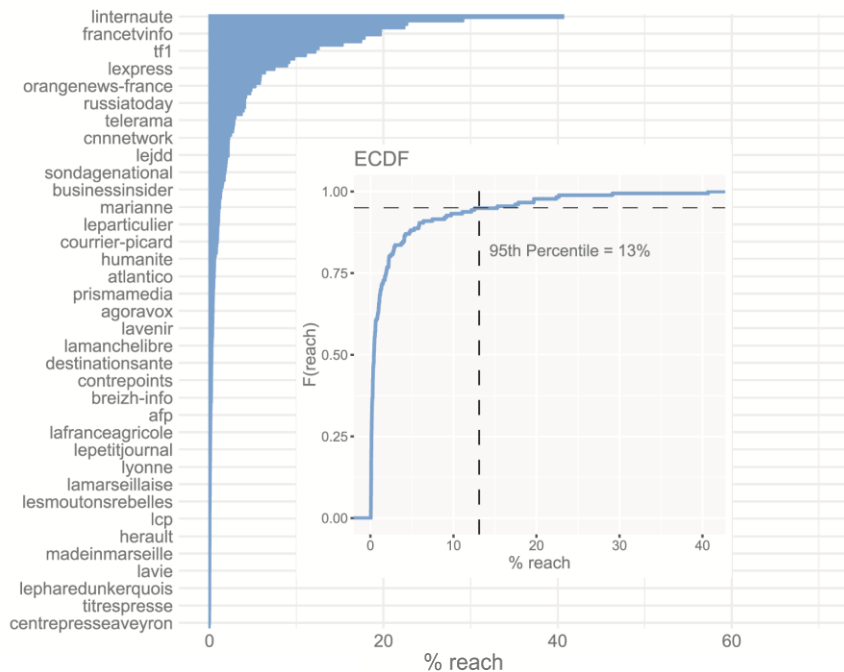
B. 1-O 2017



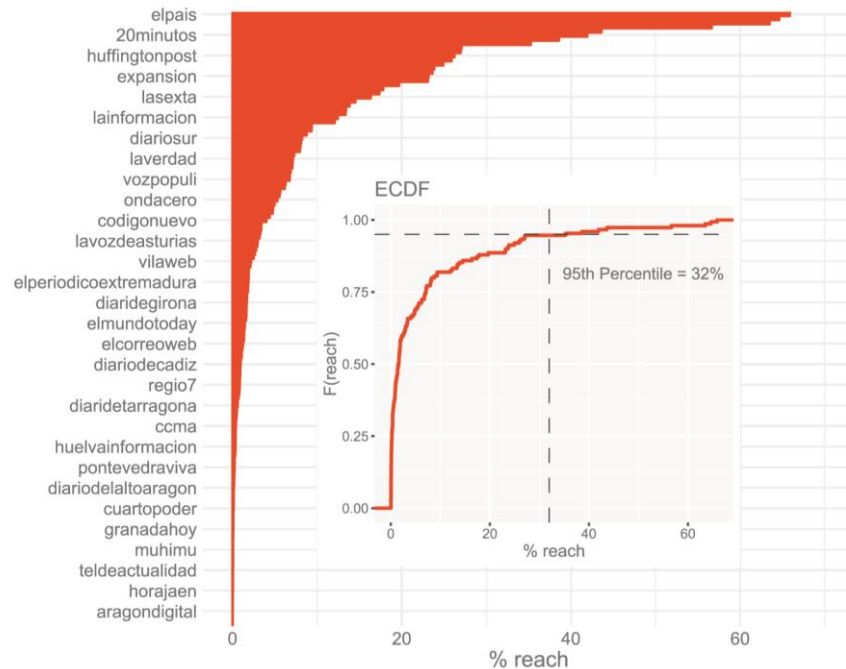
◇ observed value ▭ permutated

Reach

A. Gilets Jaunes 2018



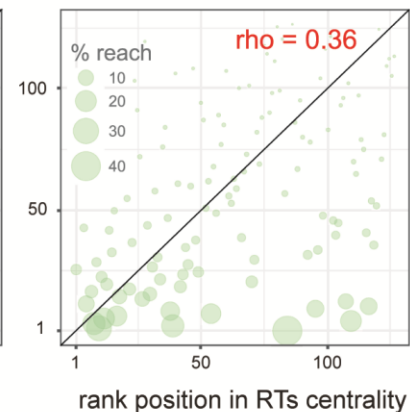
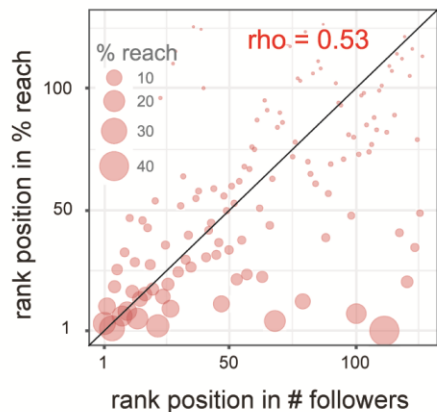
B. 1-O 2017



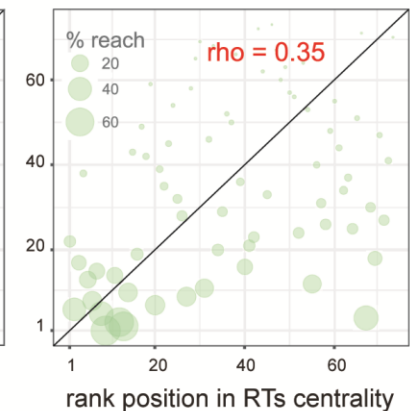
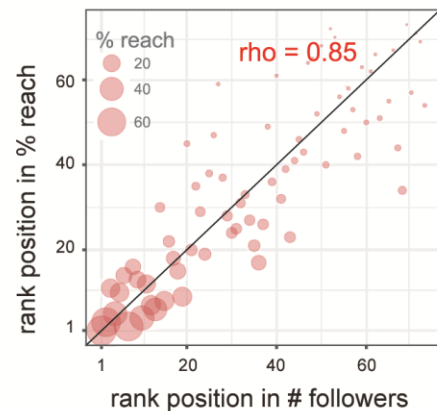
Visibility

The correlation of web reach and twitter centrality is low – Twitter creates a different information ecosystem

A. Gilets Jaunes 2018

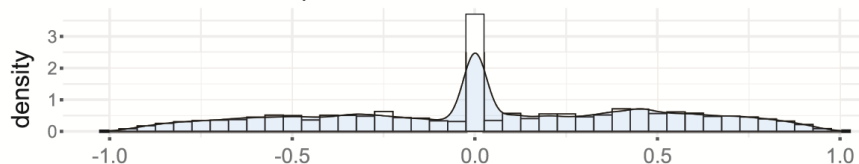


B. 1-O 2017

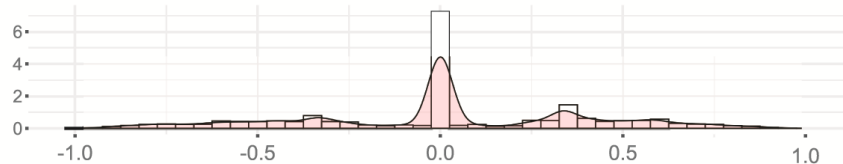


Sentiment

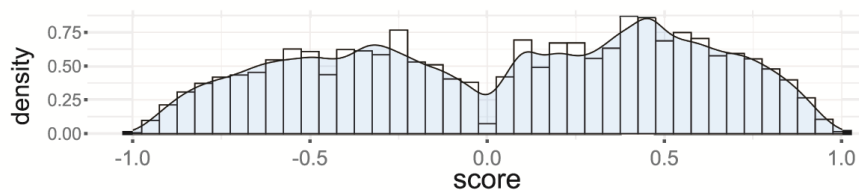
A1. Sentiment Scores | Gilets Jaunes 2018



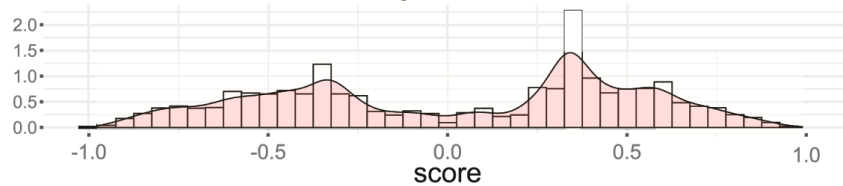
B1. Sentiment Scores | 1-O 2017



A2. Sentiment Scores Excluding Neutral Tweets



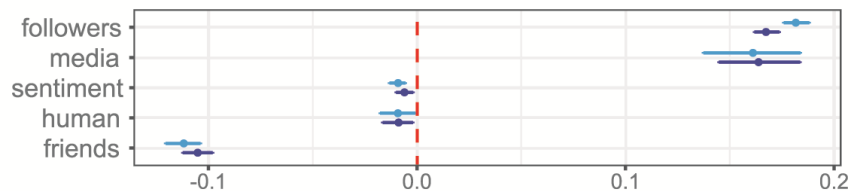
B2. Sentiment Scores Excluding Neutral Tweets



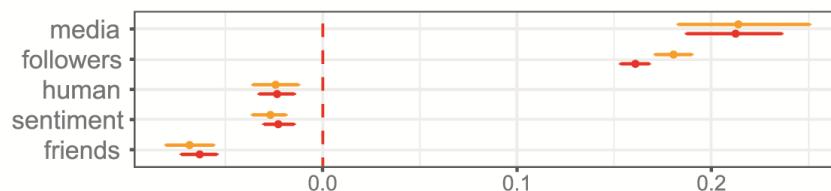
The distribution of sentiment scores ranges from -1 (extremely negative sentiment) to + 1 (extremely positive sentiment), with 0 values representing neutral messages .

Predictors of Centrality

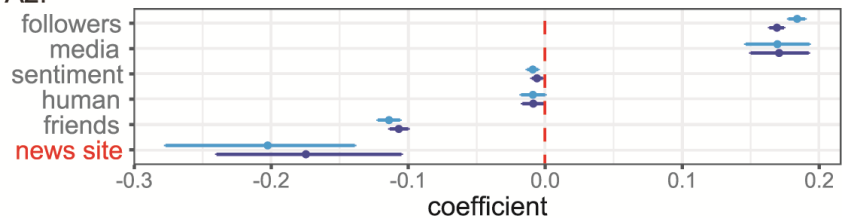
A1. Factors Explaining RTs received | Gilets Jaunes 2018



B1. Factors Explaining RTs received | 1-O 2017

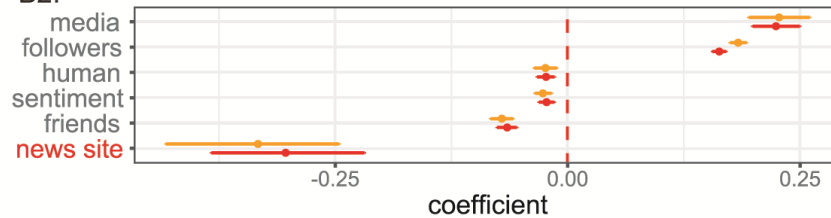


A2.



● excluding neutral tweets ● all tweets

B2.



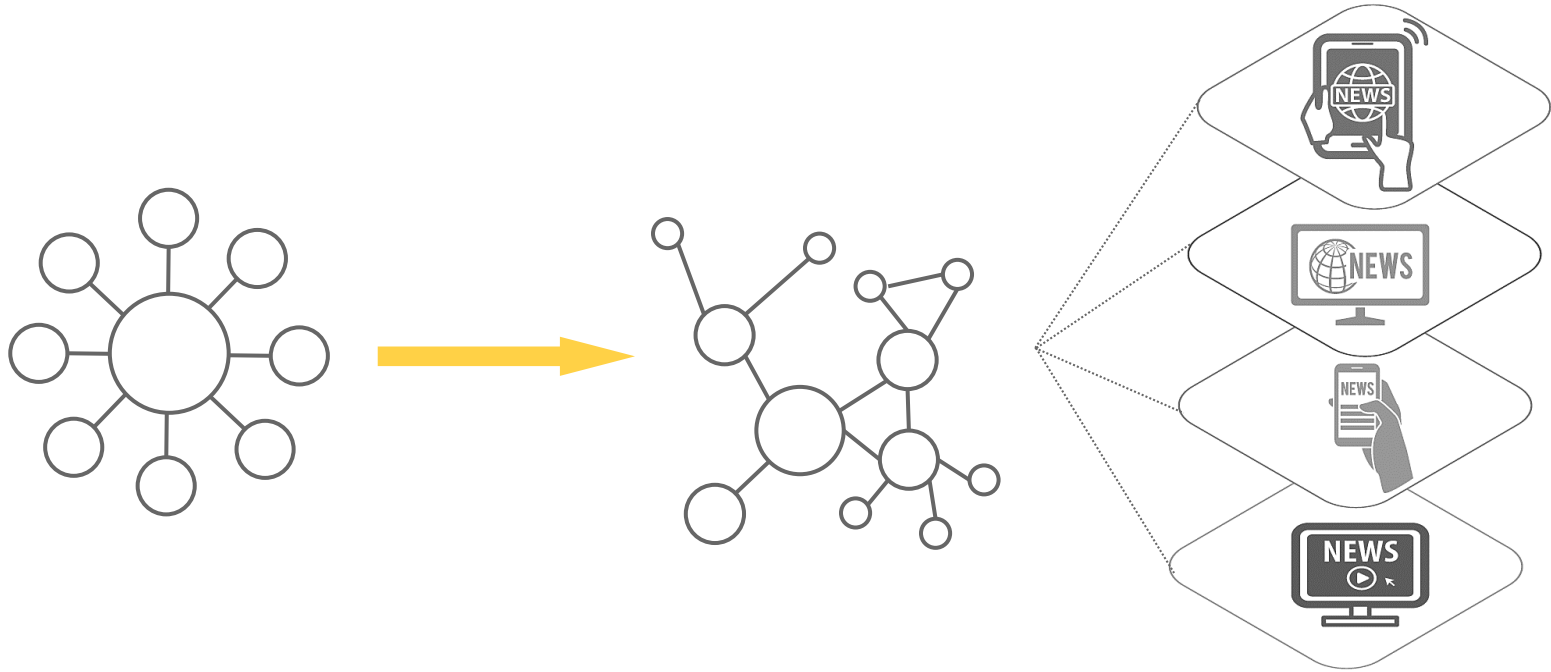
● excluding neutral tweets ● all tweets

3

Conclusions

- TBC
- TBC
- TBC
- TBC

Next



End

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