

# #GrenfellTowerFire:

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# 2017 Grenfell Tower Fire



**WHERE:**

Grenfell Tower, North Kensington, London, UK

**WHEN:**

14 June 2017, 00:54 Local Time

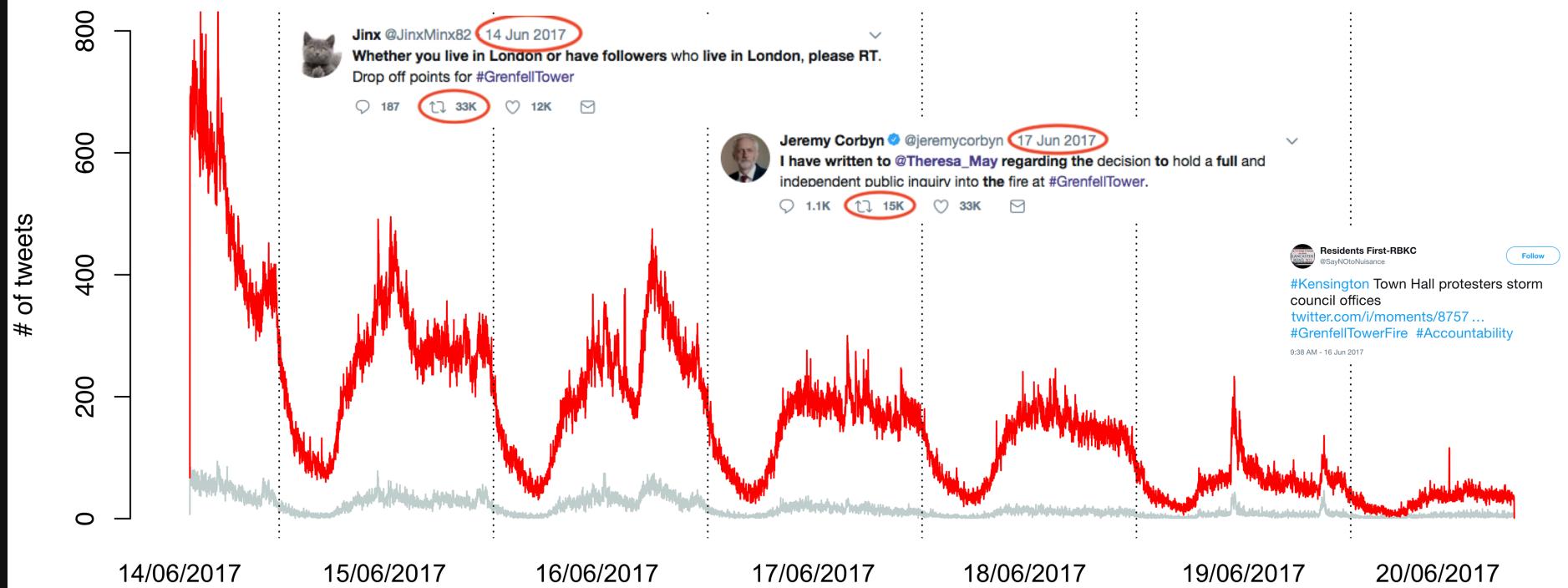
**WHAT:**

60 hours of fire until extinguished

**CASUALTIES:**

72 died, over 70 injured, 2000 lost homes

## Temporal signature of Grenfell Fire



# Research Questions

**RQ1:**

How did the public sentiment about the Grenfell Tower Fire on Twitter evolve over time?

**RQ2:**

How did the conversation about the Grenfell Tower Fire on Twitter evolve over time?

# Methods

**Data: Sub-sample (10%) of 160k Tweets**

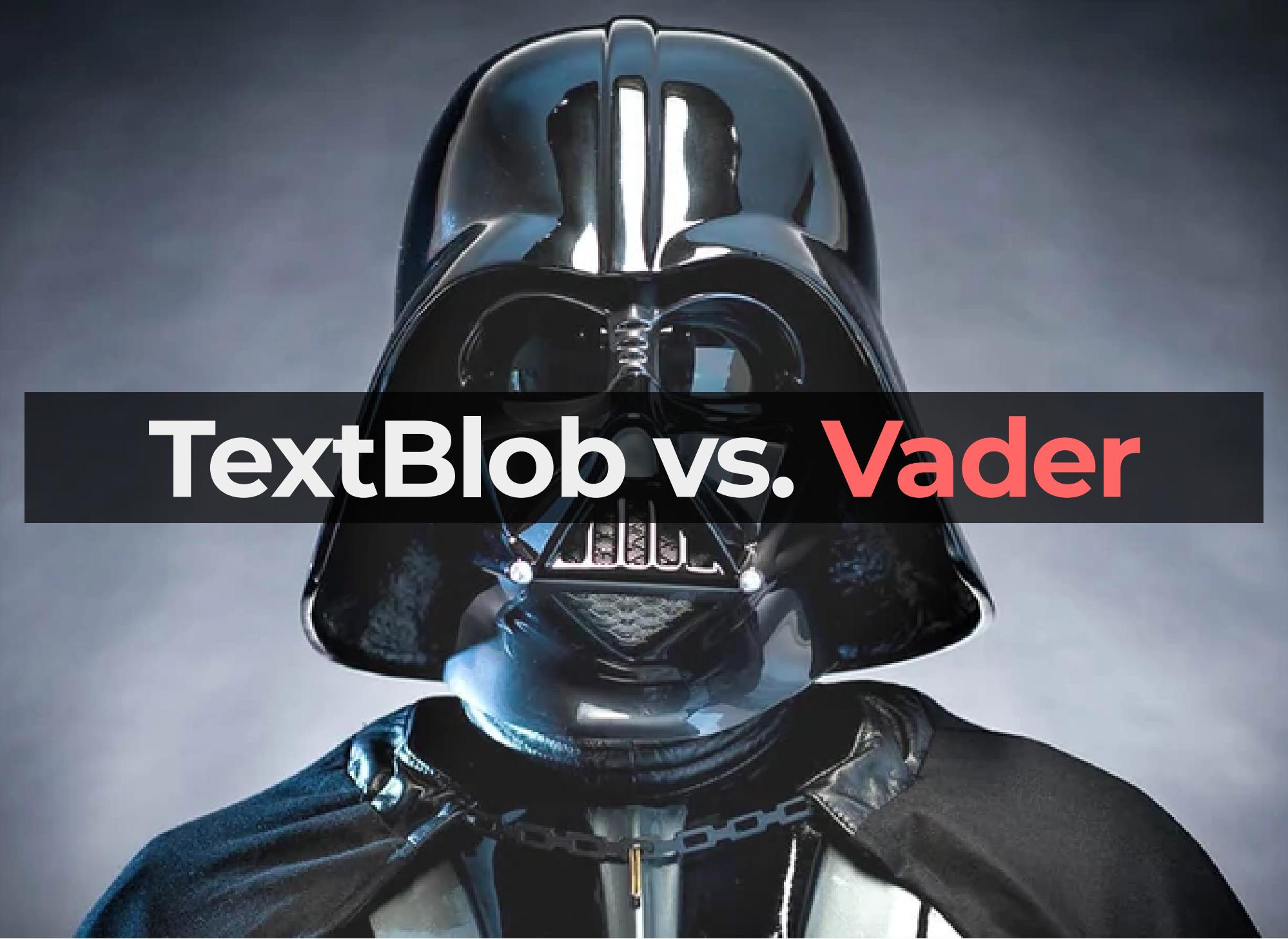
**Sentiment Analysis**

**Topic Modeling**

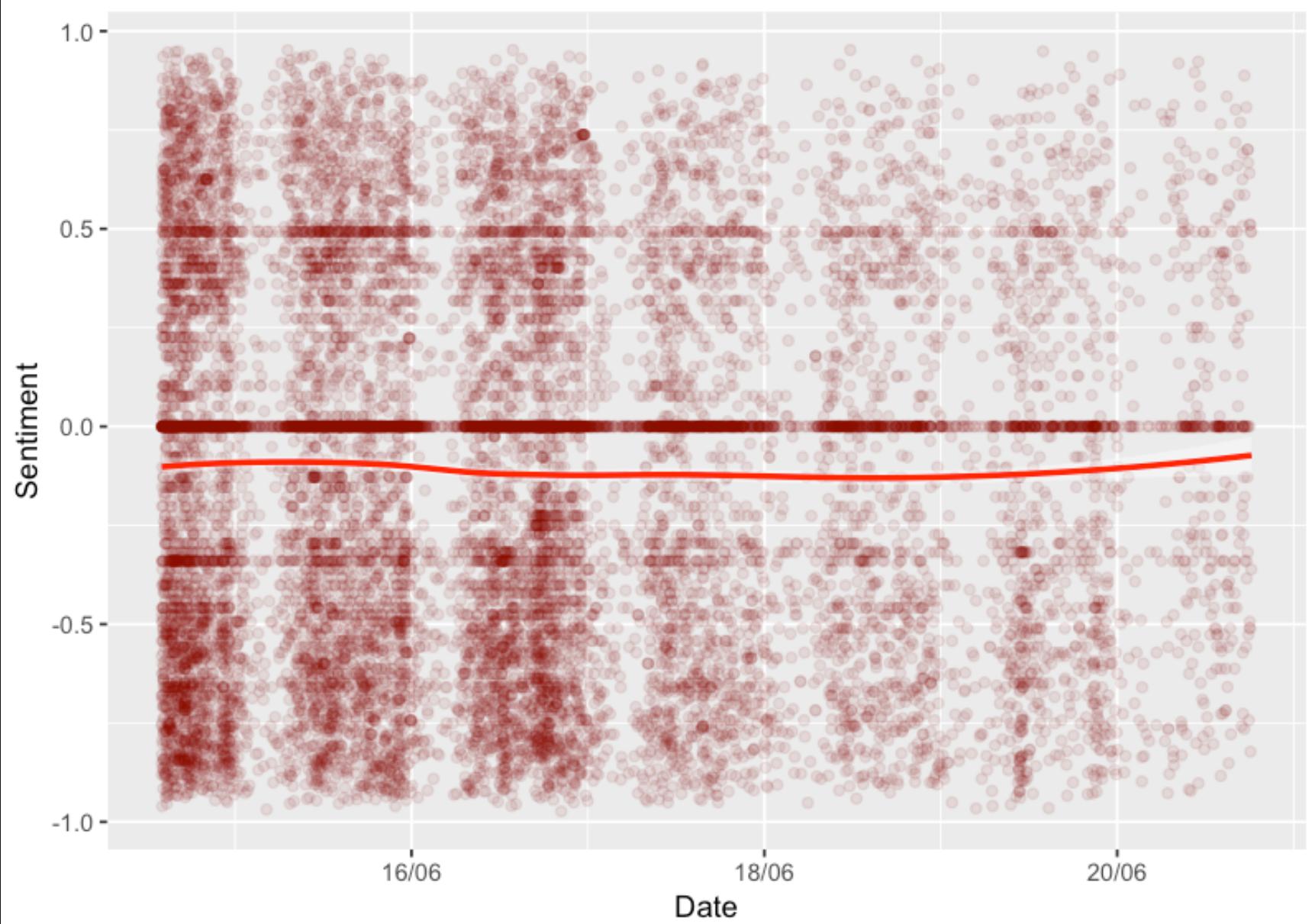
# Sentiment Analysis

# TextBlob vs. Vader

# TextBlob vs. Vader

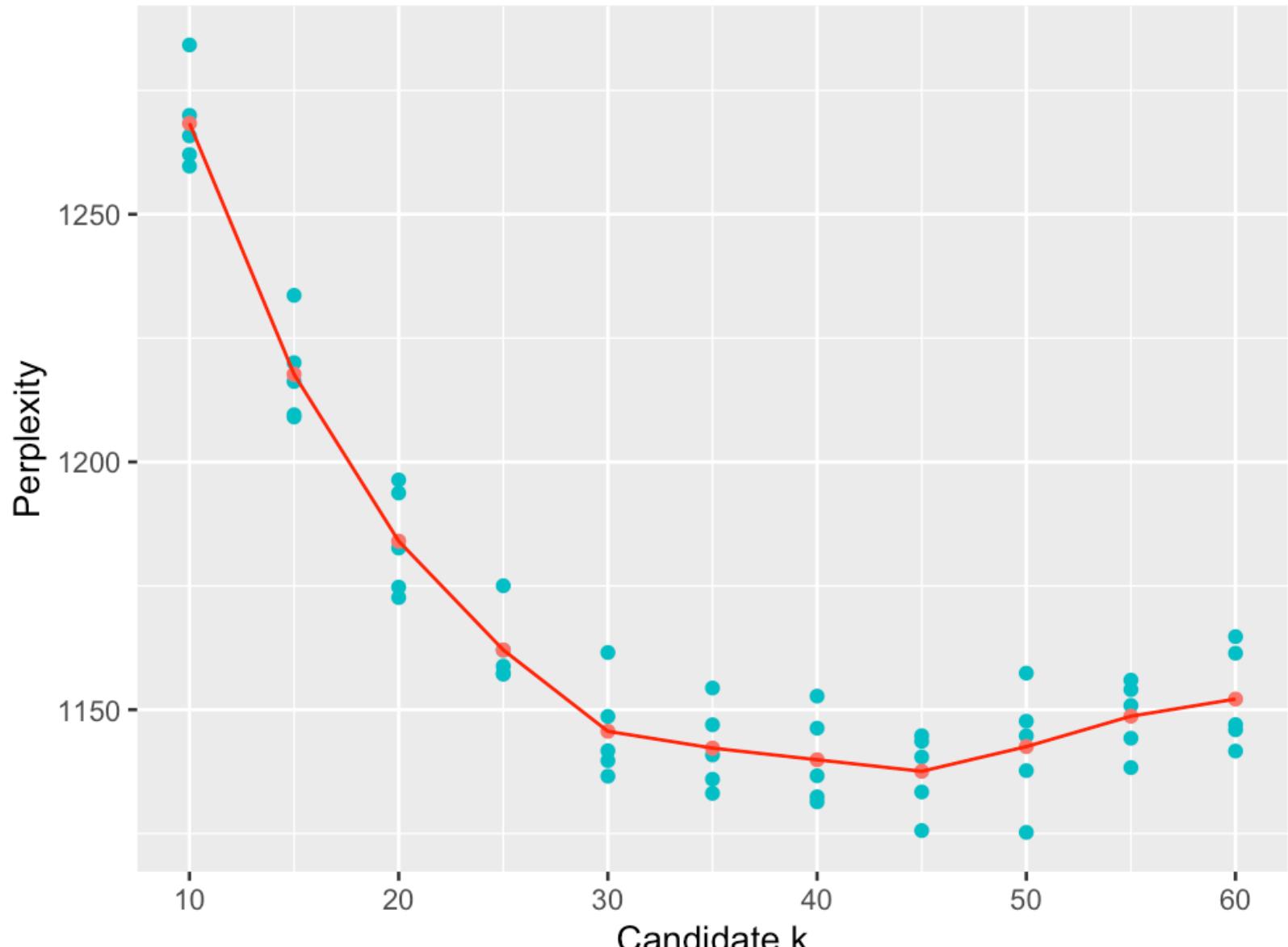
A dramatic, low-angle shot of Darth Vader's iconic black helmet and upper torso. The helmet's reflective visor is partially open, revealing glowing blue lights within. The dark, metallic surfaces of his armor catch some light, creating highlights on the shoulder guards and the chest plate. The background is a hazy, dark grey, suggesting a smoky or atmospheric environment.

## Sentiment of Tweets



# Topic Modeling

## 5-fold Cross-Validation of Topic Modelling





beta

Selected Topic: 1

Previous Topic

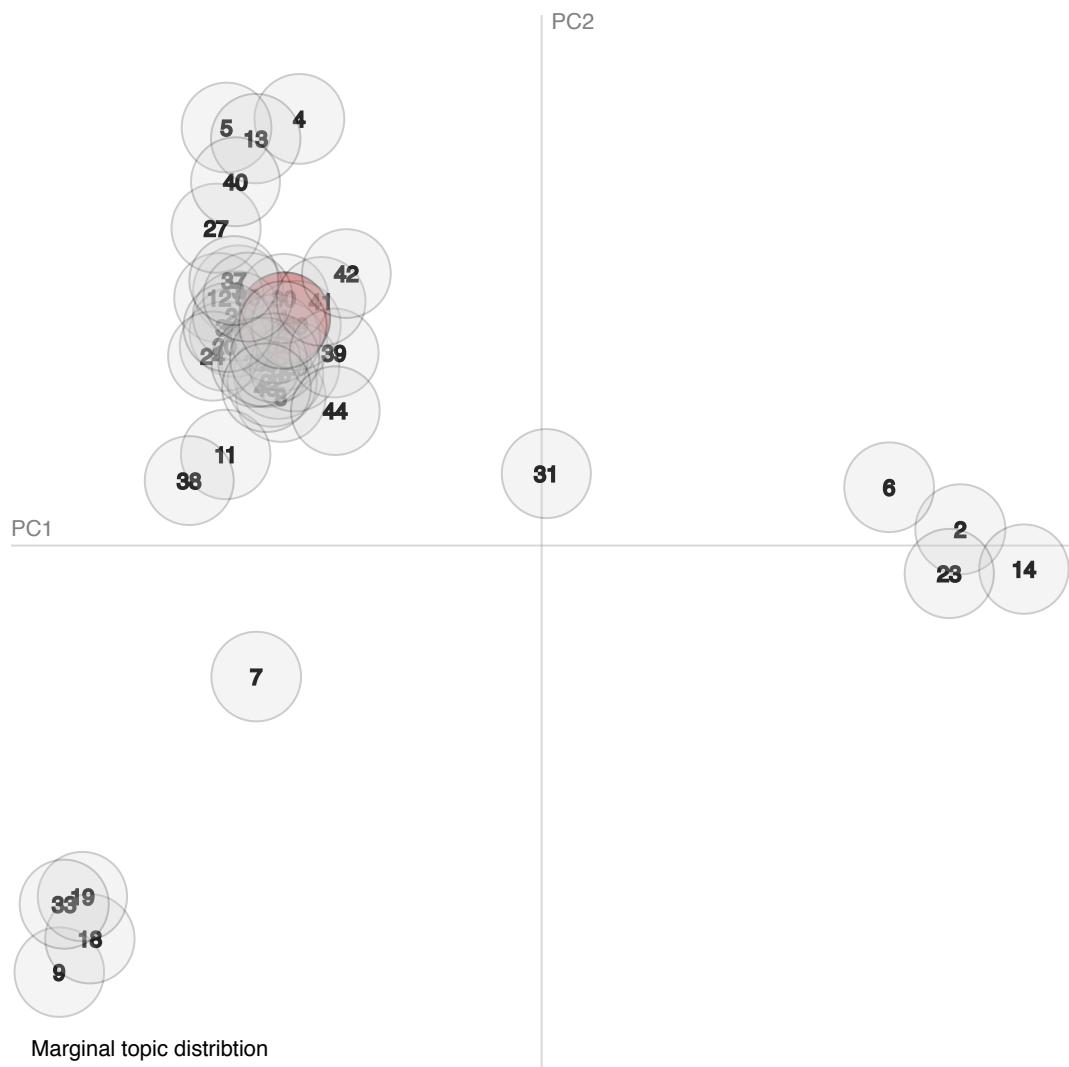
Next Topic

Clear Topic

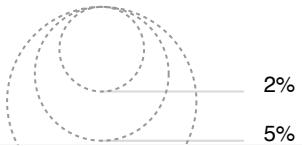
Slide to adjust relevance metric:<sup>(2)</sup> $\lambda = 1$ 

0.0 0.2

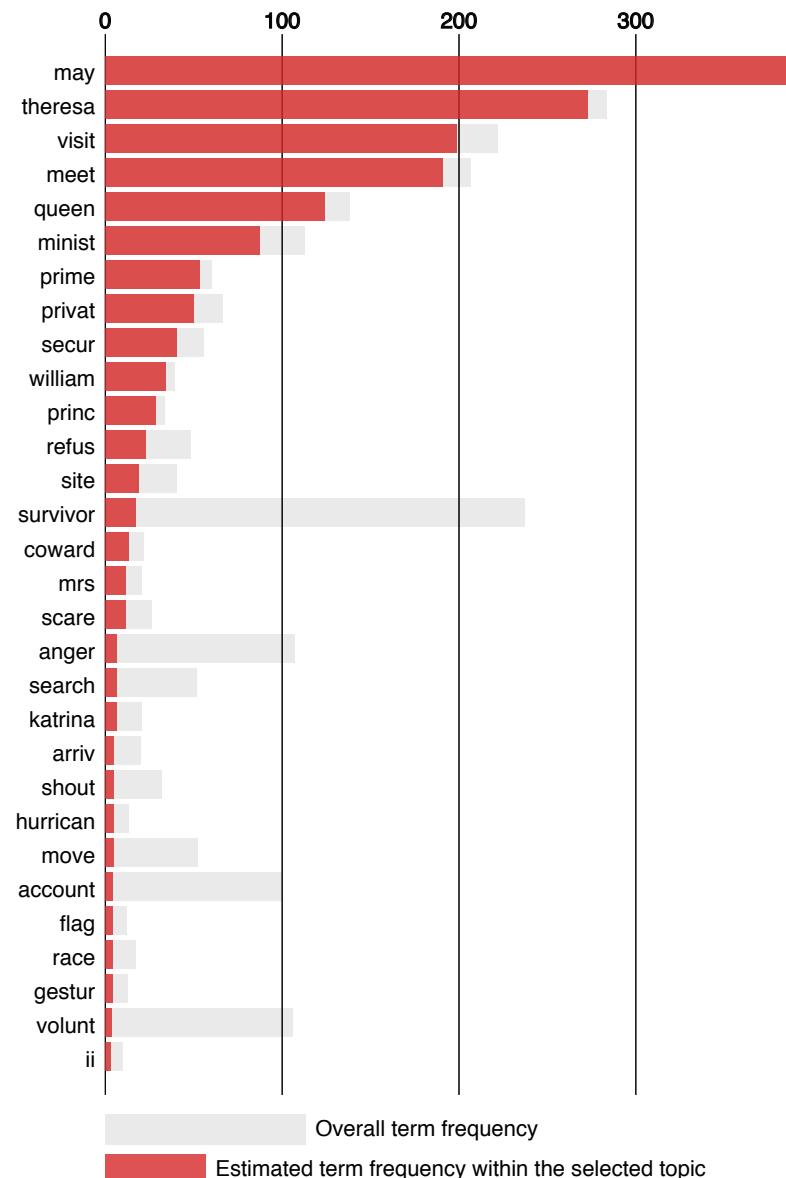
## Intertopic Distance Map (via multidimensional scaling)



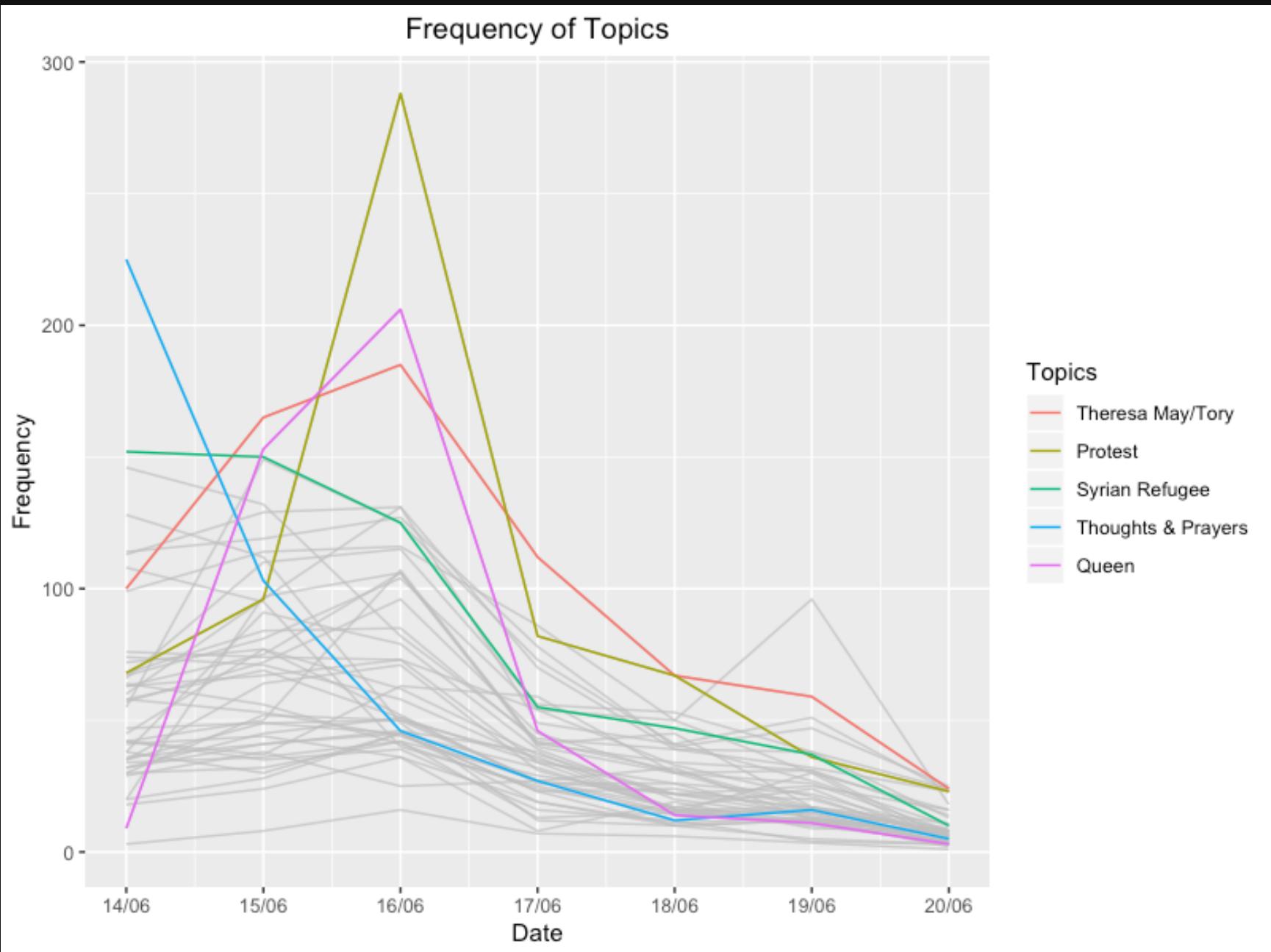
Marginal topic distribution



## Top-30 Most Relevant Terms for Topic 1

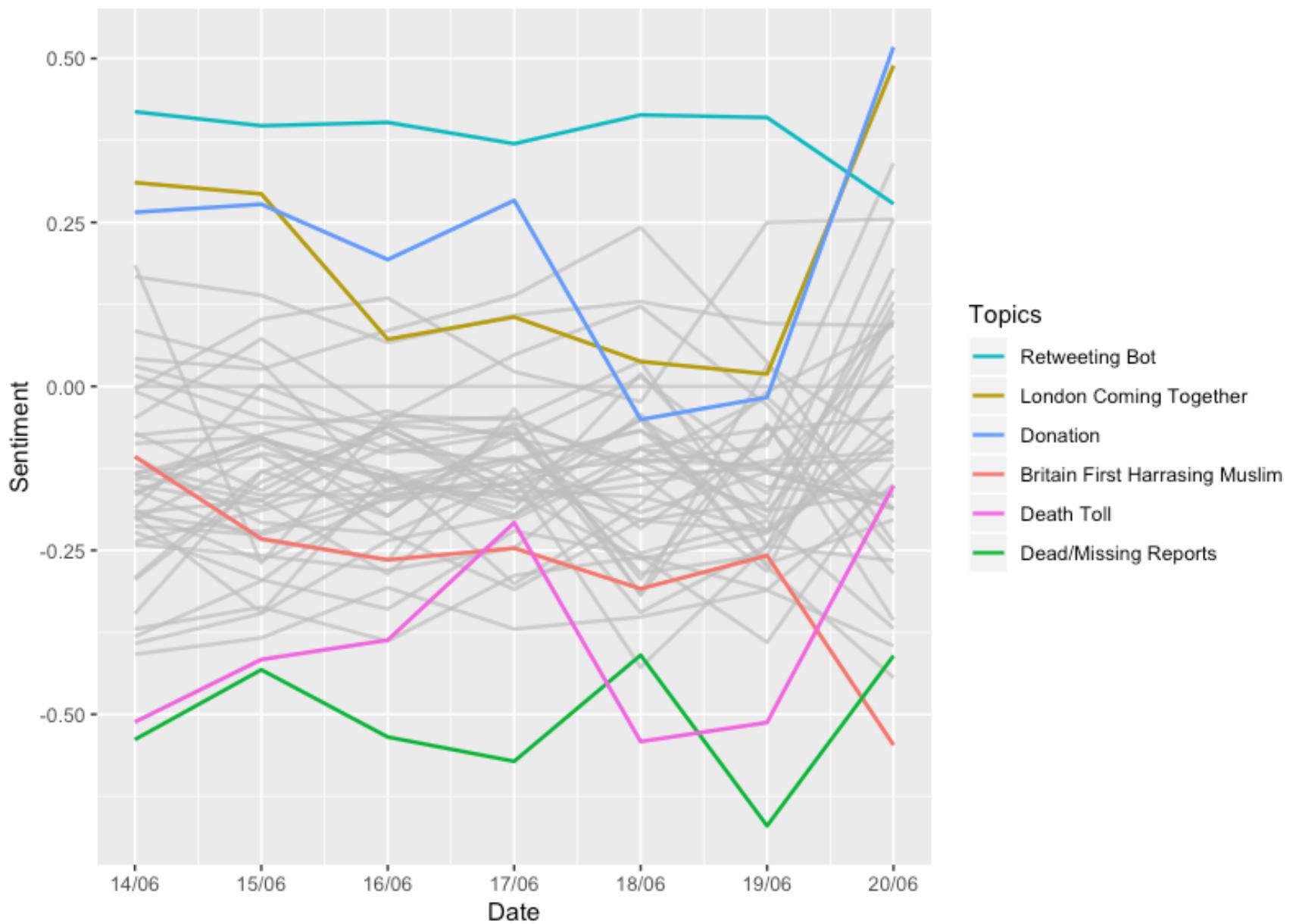


$$1. \text{ saliency}(\text{term } w) = \text{frequency}(w) * \sum_t p(t|w) * \log(p(t|w)/p(t))$$

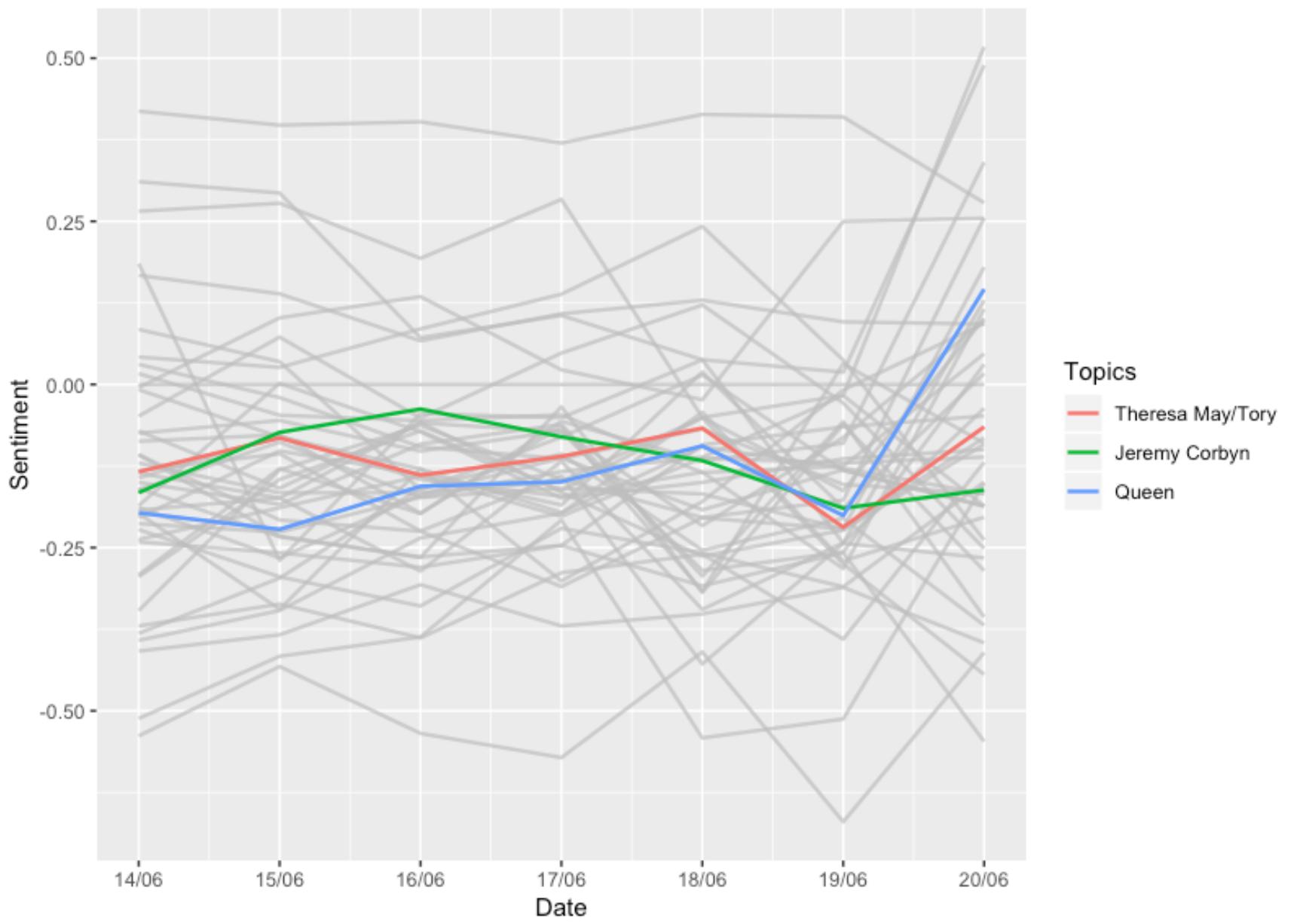


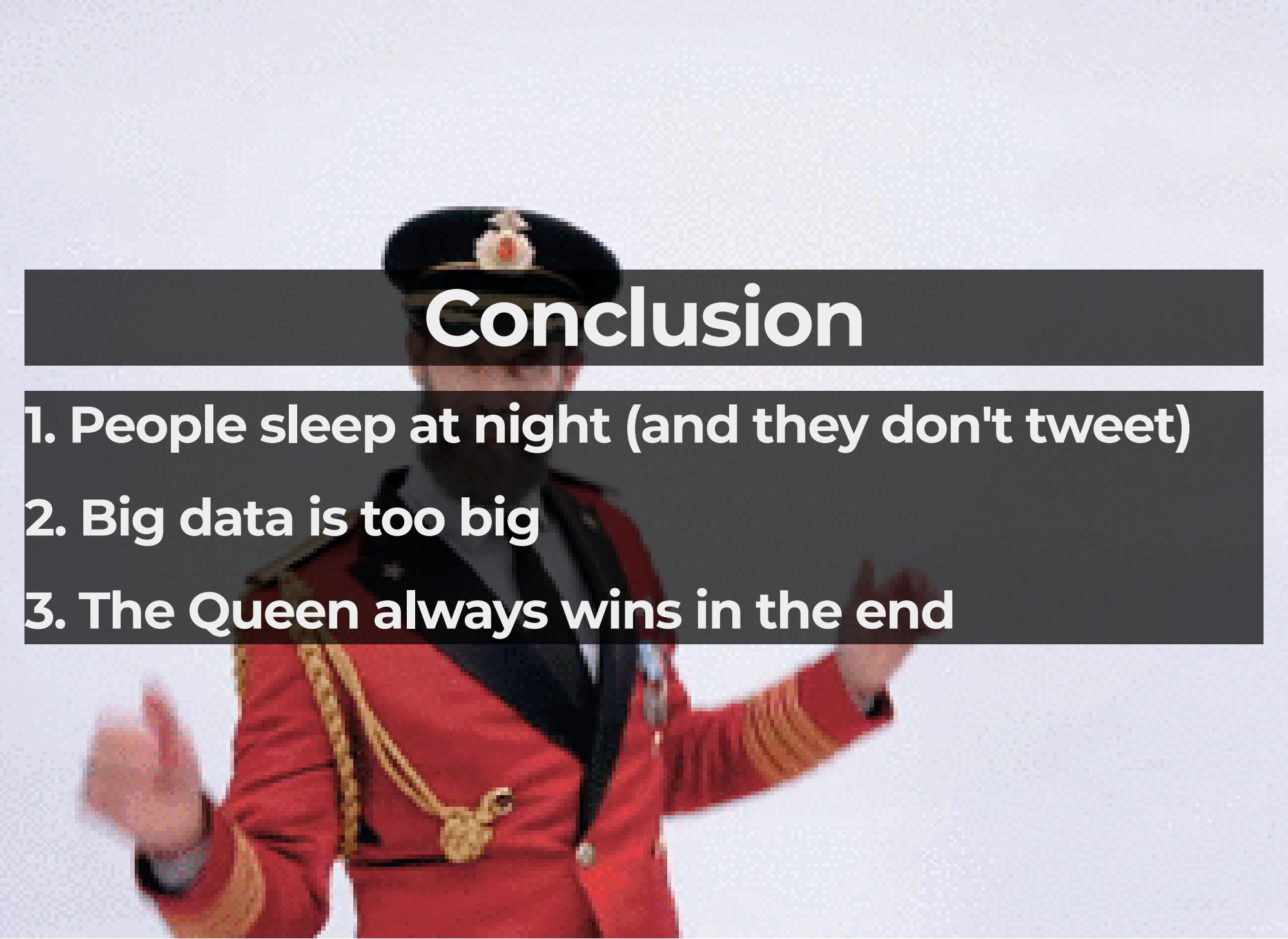
# Topic Modeling + Sentiment Analysis

## Evolution of Topic Sentiment



## Sentiment Evolution of Selected Topics



A Queen's Guard in a red uniform and black bearskin hat, standing at attention with his hands clasped behind his back.

# Conclusion

- 1. People sleep at night (and they don't tweet)**
- 2. Big data is too big**
- 3. The Queen always wins in the end**

# Real Conclusion

- 1. We see overall negative sentiment for tweets after crisis like this.**
- 2. Sentiment is context-dependent. Different pattern of trends can only be seen once we look at specific topic.**

# **Implication and Impact:**

- 1. Twitter can be a useful platform for public communication during and after a crisis.**
- 2. Announcement of support from government and organisations would generate positive sentiment on social media after crisis.**



Queen Elizabeth II, wearing her coronation robes, a purple velvet jacket over a white lace-collared dress, and a tall purple velvet hat with a white feather. She is smiling and looking slightly to the left. A black rectangular overlay contains the text "Thank You!" in white.

Thank You!

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