Topic Dynamics of Social Media and News: Case of Ferguson

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**Background**

When unrest happens, how do the opinions of the public and focuses of the media change along the time? Can we observe the complex relations between them?

**Experiment**

Use geo-tagged tweets as a sample of all, considering the perceptions of events affected by distance.

Tweets streamed from Aug 10, 2014 to Aug 27, 2014 that contain the keyword “Ferguson”

Find media accounts

Extract links from their tweets

Extract news from the links

The same preprocessing is applied to the news and tweets corpora

- tokenization
- lemmatization
- bigram detection
- removal of stop words, low/high frequency words

**Evaluation**

<table>
<thead>
<tr>
<th>No.</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>“@foxes1ing: ‘Hands up, don’t shoot’ after tear gas fired in Ferguson <a href="http://t.co/9rQbS3wQyG%E2%80%99">http://t.co/9rQbS3wQyG’</a> modern day America... #PrayForFerguson</td>
</tr>
<tr>
<td>1</td>
<td>80% black folks think Ferguson raises “important issues about race that need to be discussed,” only 37% of white folks do. Very sad.</td>
</tr>
<tr>
<td>2</td>
<td>You guys can’t blame that cop in Ferguson. Shooting your gun 6 times is literally the answer to every question in your training manual.</td>
</tr>
<tr>
<td>3</td>
<td>Ferguson is still there. U act like those who don’t live in Ferguson can’t protest. This is for all blacks everywhere.</td>
</tr>
<tr>
<td>4</td>
<td>But thank God for social media though. Imagine if we’re dependent on the news to tell the truth about what’s really happening in Ferguson</td>
</tr>
<tr>
<td>5</td>
<td>If MikeHolmaz is true. That I’m just talkin about ferguson</td>
</tr>
<tr>
<td>6</td>
<td>County will not pay medical bills for toddler hurt in... <a href="http://t.co/8k8l1EcBi63">http://t.co/8k8l1EcBi63</a> via @sharles8 Ferguson can you believe GA is doing this?</td>
</tr>
</tbody>
</table>

1275 news 81553 tweets

**Results**

1. Aug 11: Unrest continued
2. Aug 12: First Obama talk
3. Aug 14: Second Obama talk and Nixon announced law enforcement operation
4. Aug 15: Robbery video was released
5. Aug 16: Curfew was imposed; Aug 18: National Guard was deployed
6. Aug 20: A grand jury convened to begin determining of crime and streets become quiet
7. Aug 21: National Guard withdrew
8. Aug 25: Michael Brown’s funeral

Media have certain topics to cover, in contrast to public opinions, which are more diverse and subject to change with new events

Tweets tend to have a quick response to events

Public tends to generate information not necessarily following the news. Specifically some hot topics in news did not attract much attention in tweets

Emotion tweets take a significant part, however in news these topics are rare