

Can Semantics Help with Rumour Detection in Social Media

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- **Memes** are thematic motifs that spread through social media in ways analogous to genetic traits
- We coined the term **phemes** to add truthfulness and deception to the mix
- Named after ancient Greek PHEME, “*embodiment of fame and notoriety, her favour being notability, her wrath being scandalous rumours*”

Social Media is Rife with Phemes



File Edit View History Bookmarks Tools Help

How riot rumours spread on Tw... +

www.guardian.co.uk/uk/interactive/2011/dec/07/london-riots-twitter

irdian visualisation london riots

See all rumours rumour is false London Eye set on fire

PLAY 1 2 3 4 5 << >>

400
0
Tweets/hour

9th August
01:07

How the rumour unfolded

Shortly after 1am on Tuesday, August 9, @zadi0 posts a link to an image of the London Eye apparently ablaze with the heartfelt message: 'Oh my God! This can't be happening!' The tweet is quickly picked up.

“

Oh my god! This can't be happening at London Eye! #Londonriots #Londonriot #Prayforlondon <http://twitpic.com/6372vo>

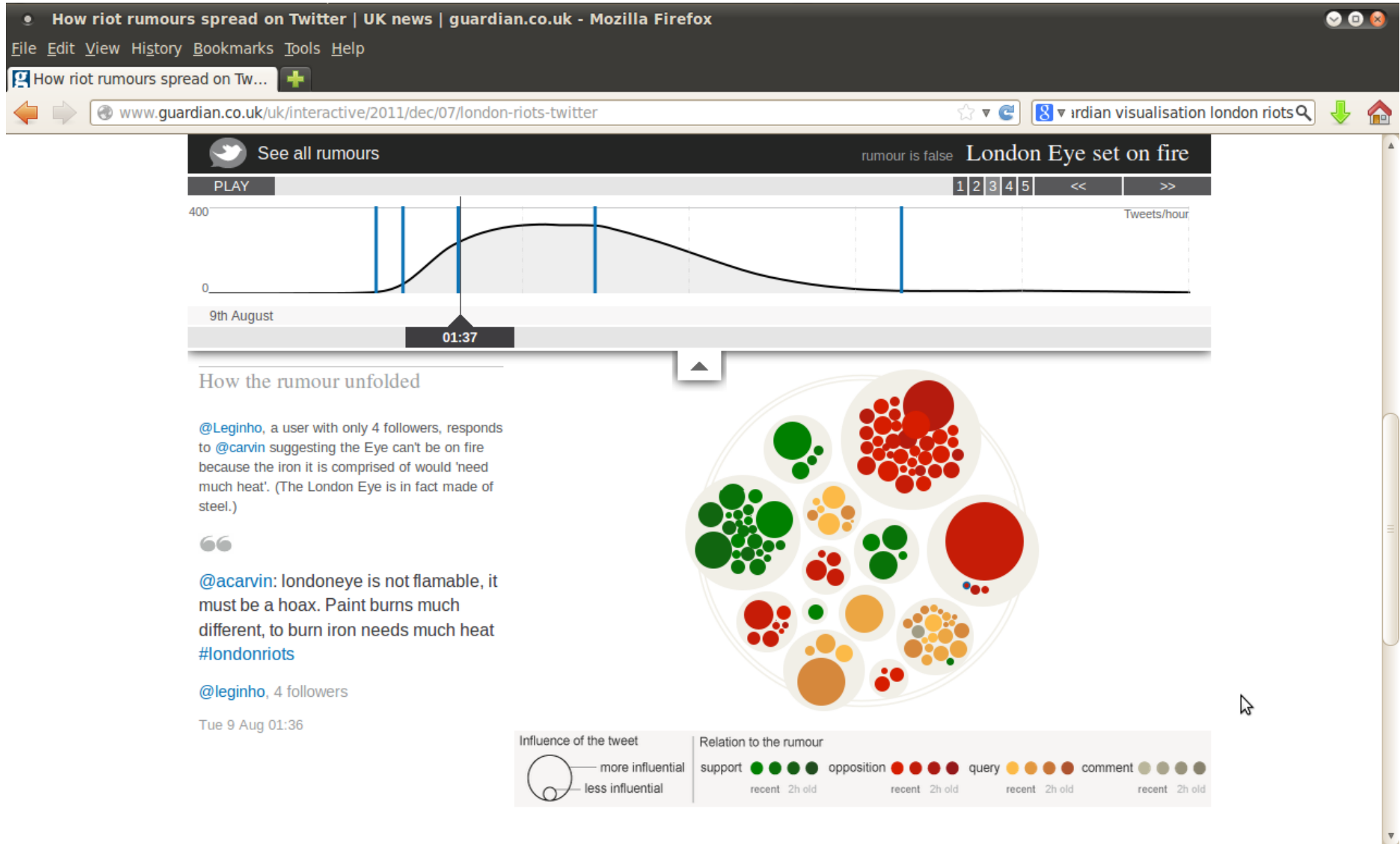
@zadi0, 18 followers

Tue 9 Aug 01:07

Influence of the tweet	Relation to the rumour
more influential	support
less influential	opposition
	query
	comment

recent 2h old recent 2h old recent 2h old recent 2h old

Social Media is Rife with Phemes (2)



- Rumours are challenging
 - Some rumours could take days, weeks or even months to die out
 - Ill-meaning humans can currently outsmart computers (and humans) and appear genuine



WE ARE INVESTIGATING...



- Ontologies for modelling phemes
- Use a priori knowledge (LOD) and reasoning to detect contradictions
- Model pheme spread across media, social networks, and time
- Pheme visualisation: media maps, impact maps, geographical maps



- Open-source social intelligence tools for data journalism
 - Involves journalists from SwissInfo.ch, the Guardian, New York Times, and other media
- **Improving healthcare**
 - What health-related rumours are discussed in patient-clinician consultations
 - Preventative medical advice, e.g. warn patients not to trust certain rumours, when researching their disease online

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