FROM MOON TO COMET LANDING: RE-IMAGINING (SCIENTIFIC) MEDIA EVENTS IN THE AGE OF TWITTER

Fabio Giglietto
Università di Urbino Carlo Bo

Luca Rossi
University of Copenhagen

Jiyoung Kim
Cyber Emotions Research Center

Introduction and related works

The Apollo 11 space mission took place 46 years ago. It was an international event covered by the largest media sources of the time. The global participation to this scientific and technological achievement is commonly considered a turning point in the history of media.

In a near-perfect comparison to the famous 1969 event, on November 12 2014, the European Space Agency's (ESA) Rosetta spacecraft and Philae made history landing for the first time on a comet.

Launched toward Comet 67P/C-G in 2004, Rosetta traveled about 4 billion miles through the solar system before reaching the comet in August. The lander successfully made it to the surface of comet and Philae's landing signal was received by Earth communication stations at 16:03 UTC On November 12. One minute later[1], the Philae Lander Twitter account published the following update "Touchdown! My new address: 67P! #CometLanding", putting an end to the dramatic waiting of users watching the live broadcast provided by ESA and NASA's website.

---

[1] https://twitter.com/Philae2014/status/532564514051735552.

#CometLanding was therefore a (1) live transmission, (2) of a pre-planned event, (3) framed in time and space, (4) featuring a heroic personality or group, (5) having high dramatic significance. All but one "(6) the force of a social norm which makes viewing mandatory" of the necessary conditions identified by Katz as the basic ingredients of a media event, are clearly met (1980).

While even traditional well established events such as the broadcast of the Olympic Games are increasingly facing challenges in fitting the original definition of the concept (Rivenburgh 2002), it is clear that a media event must, by definition, interrupt daily lives. Both broadcasters and the audience adjust their schedules to attend the event.

Was this the case for #CometLanding? Can we still talk about media events when the audience feeling viewing as mandatory is a globally scattered elite, instead of the masses? How the traditional role played by the media changes when internet's disintermediation make it possible for the creator of a media event to also act as narrator?

In this proposal we present the preliminary results of an ongoing study on these issues. Results are based on the analysis of Twitter live commentary collected during the hours immediately before and after the landing of the rover on the comet.

We focused on the following questions:
RQ1) How #CometLanding compares to previously studied Twitter media events? RQ2) Who are the actors involved in the Twitter live commentary of #CometLanding? RQ3) What role have the various actors played during the event?
RQ4) Are there any traces showing that the audience really perceived viewing as mandatory and adjusted their schedule to attend the event?

Methodology

Using Twitter streaming API, we collected 406,011 tweets (210,239 unique contributors) containing either #CometLanding or #Rosetta hashtags and created between 2014-11-12 16:03:25 CET and 2014-11-12 20:49:34 CET.

In order to answer the research questions we employed a mixed method approach. We started with a quantitative analysis of the Twitter metrics (RT, @replies, tweet with url) and the network structure of the dataset.

Concerning RQ1, following the approach used by Bruns and Stieglitz (2013) to classify media and emergency/crisis Twitter events, we compared #CometLanding with other events ranging from #londoriots to #royalwedding and #eurovision.

For RQ2 and RQ3 we have extracted both the reply network and ReTweet Network. These networks have been analysed through standard Social Network Analysis techniques that have been previously applied to the study of Twitter data about media events (Highfield, Harrington, and Bruns 2013; Rossi and Magnani 2012)

Finally, in order to answer RQ4, we planned a content analysis of a sample of original tweets. The sampling technique will leverage the results of quantitative analysis.

Preliminary results

Mapping the percentage or retweets and tweets with url in several different Twitter datasets, Bruns and Stieglitz (2013) observed the emergence of two clearly distinguished clusters: crisis/emergency events (e.g. #tsunami, #londonriot, #lybia) and media events (e.g. #eurovision, #royalwedding).

As shown in Figure 1, both retweets and tweets with url are significantly present in Twitter commentaries around #CometLanding.
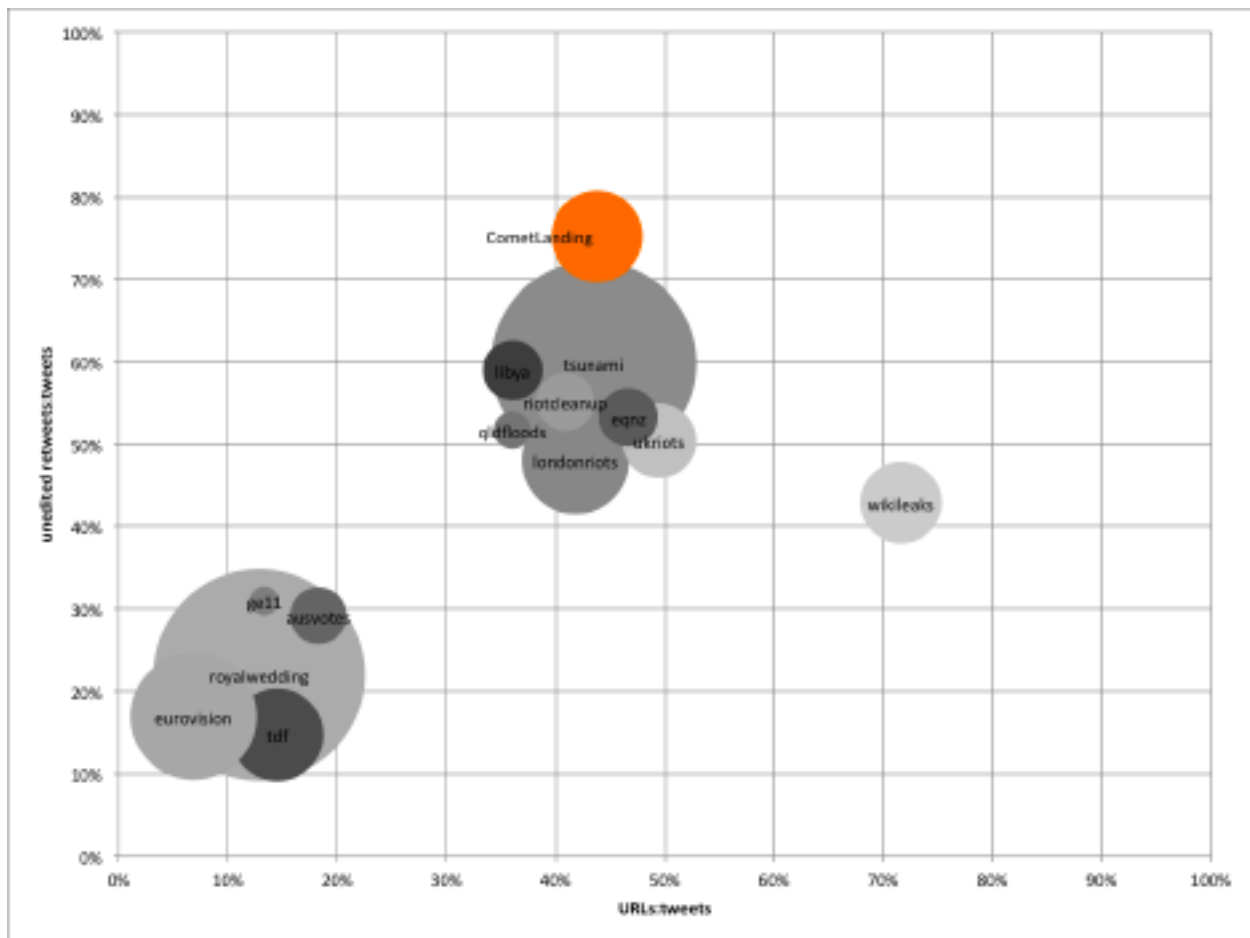

Figure 1. CometLanding is closer to emergency/crisis events than media once

Under this perspective, the deeds of Philae and Rosetta seems to have more in common with crisis/emergency events than media once. The scientific nature of the event itself, may have discouraged some viewers to express their personal opinions with original comments. At the same time, the slow approach of a lander on a comet miles away from earth, is not in itself a news event rich of developments.

Nevertheless, judging from the list of top retweeted contributors (Table 1), the Twitter account of ESA's probe and lander were very central to the conversation. If the presence of an hero is an ingredient of what Katz filed under "conquest media events", Philae and Rosetta definitely played this role.

username	Retweets	type
Philae2014	65,416	Lander
ESA_rosetta	33,223	Probe
esaoperations	14,369	Space Agency
BBCBreaking	12,633	News
NASA	6,370	Space Agency
esa	5,202	Space Agency
ObservingSpace	4,124	Website
mashable	3,453	Website
BadAstronomer	2,460	Website
NASAJPL	2,208	Space Agency

Table 1. Typology of top retweeted users

It is worth to note that, unlike what usually happens on Twitter where the account of well-established news outlets are often prominent (Highfield, Harrington, and Bruns 2013), only BBC Breaking is present in Table 1. Furthermore, this account appears to be disconnected from the network of reciprocal retweets that links the major actors (Figure 2).

Figure 2. *Retweet network: node size and color according to degree centrality*

Conclusions

Despite the similarities with the moon landing, preliminary results of our study clearly show a marginal role played by mainstream media and a prominent role played by the creator of the event (ESA). ESA (together with NASA) created, broadcasted and narrated the event making an example of how to disintermediate a media event or, in other terms, how to run a media event without the media. The online media strategy performed by ESA (e.g the Twitter "conversations" between Philae and Rosetta) provided an experience of liveness (Couldry 2004) for something that was actually happening miles away from Earth and 25 minutes before (due to the communications delay).

The planned but not yet performed content analysis will allow a better understanding of the intentions and feelings of the online audience of this atypical (or brand new type of) media event.

References

Bruns, Axel, and Stefan Stieglitz. 2013. "Towards More Systematic Twitter Analysis: Metrics for Tweeting Activities." *International Journal of Social Research Methodology* 16 (2). Routledge: 91–108.

Couldry, Nick. 2004. "Liveness, 'Reality,' and the Mediated Habitus from Television to the Mobile Phone." *The Communication Review* 7 (4). Routledge: 353–61.

Highfield, Tim, Stephen Harrington, and Axel Bruns. 2013. "TWITTER AS A TECHNOLOGY FOR AUDIENCING AND FANDOM." *Information, Communication and Society* 16 (3). Routledge: 315–39.

Katz, Elihu. 1980. "Media Events: The Sense of Occasion." *Studies in Visual Communication* 6 (3). repository.upenn.edu: 84–89.

Rivenburgh, Nancy K. 2002. "The Olympic Games: Twenty-First Century Challenges as a Global Media Event." *Culture, Sport Society* 5 (3): 32–50.

Rossi, Luca, and Matteo Magnani. 2012. "Conversation Practices and Network Structure in Twitter." In *ICWSM*. aaai.org. http://www.aaai.org/ocs/index.php/ICWSM/ICWSM12/paper/viewPDFInterstitial/4634%26 lt%3B/5058.