

Chapter 2

Creating Extended-Form Eventgraphs from Social Media Using Publicly Available Software Tools

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ABSTRACT

This chapter explores the feasibility of exploring surprise and unfolding events through the extraction of strategic data from social media platforms and the Web and Internet to form extended-form eventgraphs. “Extended-form eventgraphs” are conceptualized as those involving multivariate descriptors of events: participants, their respective roles, their interrelationships, their messaging, the timeline, related locations, and other event features and dynamics. What are the current extant methods and tools, then, and how are they applied in sequence, and what is ultimately knowable to sketch out an eventgraph based on social media channels? What sorts of real-world human events, which may not be directly “social” or pre-planned, are observable in online spaces? This chapter offers an initial proof-of-concept of a non-scalable manual-based eventgraphing process with two real-world examples: one of a mainstream tracked event and one of a more silent event. Finally, it offers a simple sense of a possible way forward which may be used in whole or in part. The challenge here involves using publicly available software tools for this information capture (versus self-created programs).

INTRODUCTION

The broad and spreading popularity of social media platforms, mobile devices, and Web 2.0, has meant that much of the conduct of people’s lives has gone electronic, social, and broadly observable; the prior affordances have enabled “human sensor networks,” the uses of people’s digital expressions and multimedia to promote broad awareness of emergent and other phenomena. This awareness may be enhanced with the harnessing of social media platforms as electronic listening posts and humans as sensors to

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real-world events. One challenge has been to use social media to create extended-form eventgraphs, with multivariate descriptors of events: participants, their respective roles, their interrelationships, their messaging, the timeline, the geolocations, and other event features and dynamics. This eventgraph-based data is potentially applicable to situational awareness, decision-making, and interventions, and it is applicable to various types of research. This data is seen as complementary to other maybe more formal forms of news and informational understandings through information that may not necessarily be seen as initially relevant by mainstream journalists. It is widely believed that law enforcement and governments have high-powered cyber tools to tap public and private (with permission or invitation) channels to create extended-form eventgraphs across a broad spectrum of multivariate information. The public capability is likely orders of magnitude less.

What is knowable about sudden and fluidly changing events using broadly-available software tools and publicly available information? In relation to the event, what are potential leading, coincident, and lagging indicators of that event on social media? Real-world events do not have discrete starts and finishes. They do not have artificial marketing efforts to capture attention. They may not have spokespeople to champion the topic and to maintain specific public interest. The environment is complex—with natural and human-caused events (often working interactively), and with many actors and conflicting interests. First causes or event-catalysts are often unknown at least in the moment, and many causes are hidden, unknown, and even unknowable.

For a number of event types, there is almost always a human nexus. These include natural and human-made events; accidental, intentional, or mixed-cause events; health events; political events, and a number of other types. There are human constituencies for a range of issues. A subset of these events may show up on social media platforms at microblogging messages, uploaded images and videos, and other digital contents. While there have been long debates on whether social media is cathartic (serving as a channel to release or purge tensions and human expressions; de-mobilizing) or reinforcing (serving as a channel to strengthen human expressions and impulses; mobilizing) in terms of human impulses, there is no final consensus but rather a mixed set of findings. The cathartic approach suggests that this channel enables citizens to express their pent-up frustrations and to have those needs at least partially met by government. [The efforts to build up social media connectivity between citizens and e-government build on the idea of e-governance efficacy through electronic connections (Mossberger, Wu, & Crawford, 2013).] The reinforcing approach suggests that particular messages may spark cascading events that may go “viral” and out-of-control. Some have argued that social media may be used as a form of repression—with government surveillance of citizens and “astroturfing” with faked accounts by government agents. A counterview is that social media is an aid to pre-existing social networks to bypass “state repressive measures” in order to foment a temporary revolution (Gawhry, 2012, p. 3). However, people choose to view social media, many events have a human aspect—and a subset of those involve a public-facing side that may be expressed at least in part in social media.

Human attention and attitudes on issues are important to monitor because of people’s volitional decision-making—both on individual and group levels. Once people are inspired to individual or mass actions, individually or as part of a group, they may cause mass effects on others’ lives and well-being. In some cases, the momentum of events may lead to large-scale changes, such as the over-turning of governments or the starting of wars or the remaking of a nation’s boundaries. Collective action events are subject to inertial drag and apathy on the one side (which would tend to lead to mass non-action) and the rousing of high emotion and senses of injustice on the other (which would tend to lead to mass action). The prior dynamics may risk a degree of stereotyping and potential over-simplification.

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