Networked Gatekeeping and Networked Framing on #egypt

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Abstract

Using prior seminal work that places emphasis on news framing and its relevance to sociocultural context, this study describes, maps, and explains evolving patterns of communication on Twitter through the events of the 2011 Egyptian uprisings, which led to the resignation of President Mubarak. Using a multimethodological approach, we conducted a network, content, and discourse analysis of randomly sampled tweets from approximately one million tweets over a month-long time period to study broadcasting and listening practices on Twitter. The findings suggested networked framing and gatekeeping practices that became activated as prominent actors and frames were crowdsourced to prominence. Quantitative findings underscored the significant role of ordinary users who both rose to prominence and elevated others to elite status through networked gatekeeping actions. In depth, discourse analysis of prominent actors and frames highlighted the fluid, iterative processes inherent in networked framing as frames were persistently revised, rearticulated, and redispersed by both crowd and elite. The ambience and affect afforded by the platform further supported conversational practices that enabled combined processes of networked framing and gatekeeping. The findings point to new directions for hybrid and fluid journalisms that rely on subjective pluralism, cocreation, and collaborative curation.

The Egyptian protests that led to the resignation of ex-President Mubarak were organized through a complex network of web-based communication that involved heavy

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Twitter and Facebook use prior to the Internet shutdown effected by the Egyptian government. In describing the role of social media in these protests, some have dismissed or downplayed the existence of a causal relationship between use of social media and subsequent protests (Gladwell 2011). Others viewed social media as pivotal to current social movements in ways similar to how the printing press and other media facilitated revolutions in the past (Ingram 2011; Tufekci 2011). In times of political uprisings, it is important to remember that these are human revolutions, ultimately enabled by human cost and sacrifice (York 2011; Zuckerman 2011).

Among social media applications, Twitter's growing role in facilitating political revolutions has drawn increasing attention due to the platform's unique features of always-on persistence, light-weight scripting, open infrastructural base, and portable back-end interface (O'Reilly 2004, 2005). In turning attention in this study to Twitter's usage during the Egyptian uprisings, our research is premised upon the following developments. First, Twitter is quickly developing into a platform for news storytelling, enabling collaborative story writing, but more typically, collaborative filtering and curating of news (Schonfield 2010). Although only about 5 percent of Twitter content is devoted to news, mainstream news networks frequently poll the twitterverse for public opinion, independent bloggers use it to promote each other's or their own content, and journalists use it to supplement their own reporting (Ryan 2009). Second, collaboratively produced news feeds by citizens committing independent or coordinated acts of journalism present an important alternative to the dominant news economy (e.g., Bruns 2013). They also sustain always-on, ambient news environments that increase peripheral awareness and introduce hybridity to news production and values (Chadwick 2011; Hermida 2010a). Third, at times when access to mainstream media is blocked, restricted, or otherwise not trusted, blogs and microblogs rise to prominence as news disseminators (Howard 2011; Papacharissi 2009). Finally, previous research on the Egyptian uprising has indicated that Twitter supported information flows that were networked, enabled connections with diasporic publics, and sustained engagement reflexively (Lotan et al. 2011; Papacharissi and de Fatima Oliveira 2012). Social media in current and past uprisings in Egypt afforded visibility to marginalized voices and enabled alternative narratives of dissention (Hamdy and Gomaa 2012; Lim 2012).

Locating Twitter's news flows within the theoretical foundations of how large-scale, web networks operate, we explored how elites and nonelites redefine the operation of gatekeeping and framing theories within networked, crowdsourced environments. We conducted a high-level quantitative analysis of approximately one million tweets broadcasted through #egypt during the month-long period in 2011 that led to and followed the resignation of Honsi Mubarak to locate prominent actors. We followed up with a qualitative analysis of significant frames that emanated from emergent prominent actors to examine how web publics revised, rearticulated, and reworked popular narratives in this networked environment characterized by affect and ambience. Using this dual methodological approach, we spotlight Twitter's socio-technical flexibility in altering and spreading influence while supporting the networked efforts of grassroots political activism.

Twitter Use during Uprisings: Ties that Bind

Twitter is a text-based microblogging service that permits users to send short messages or tweets of 140 or fewer characters about any topic to a select audience of followers. Launched in 2006, Twitter presently claims over 140 active million users who produce more than 340 million tweets daily (Twitterblog 2012). Twitter's ability to sustain flows of news streams during times of political uprisings is directly related to the application's socio-technical properties, defined by its addressivity and conversational markers (Honeycutt and Herring 2009).

Networked publics are typically called into being on Twitter through the use of text, hashtags, and addressivity markers, which shape the flow of the stream produced. Hashtag tokens emerged organically by users seeking to pool information and organize content along themes or keywords before they were eventually incorporated as a structural feature of Twitter's design. Because hashtags enable users to annotate tweets with metadata (Conover et al. 2011), organically developed hashtags can attain the characteristics of spontaneous interpersonal conversations or social awareness streams, deviating from the organizational logic of mainstream media news feeds.

As a Twitter convention, retweeting is analogous to broadcasting, and helps explain how virality, meme propagation, and opinion formation occur on Twitter (Hansen et al. 2011). Retweets may function as a form of endorsement, often raising the visibility of content, and retweet syntax may involve verbatim reposting of the tweet or editing the tweet syntax to include additional commentary (boyd et al. 2010). Inclusion of URLs and hashtags further improve a tweet's probability of being retweeted (Suh et al. 2010). Hansen et al. (2011) found that affect sentiment drives the retweet function: Negative sentiment appeared to enhance virality in news but not in non-news items. Research points to a range of diverse reasons for retweeting by users, including amplifying and spreading thoughts, using the retweet as a conversation starter, validating others' thoughts, and making one's presence as a listener known (boyd et al. 2010). As a variant of the RT convention, via represents a tweet that pays attribution to the source without retweeting the source's actual tweet. Similar to the hat tip convention in blogs, via enables the individual to use his or her own words, while still acknowledging the source for inspiring the tweet. Unlike the RT or mention convention (discussed below), the via convention is the least researched feature; yet, this marker enables web publics to connect their tweets to prevailing sources and perspectives already existing in the Twittersphere. Finally, mentions enable users to converse directly with other specific users, thus sustaining a high level of interactivity and engagement among users who seek to connect and converse (Honeycutt and Herring 2009). In comparing retweets and mentions, it has been noted that retweets are driven more by content value while mentions are driven in large part by name value (Cha et al. 2010). Honeycutt and Herring (2009) uncovered a range of functions for using the mention convention, including addressing information specifically to the addressee, referring to others in conversation, and indicating current location.

Addressivity markers and hashtags shape the conversationality and flow of news streams on Twitter, giving voice to marginalized issues and publics, especially in situations where access to media is restricted, controlled, or otherwise not accessible (Hamdy 2010). During the Nigerian 2007 elections, citizens used Twitter to mobilize, participate in public discussions, and serve as watchdogs during the electoral process (Ifukor 2010). At the time of the 2008 terrorist attacks in Mumbai, Twitter was used to break news but also to monitor rumors reported as facts (Jewitt 2009). In protests following the Iranian 2009 election, Twitter permitted communication despite state censorship of other media coverage and access watching. Twitter enabled a global audience to remotely listen in on the Iranian conflict when access to other media was blocked. Remote connectivity was also essential to the Egyptian uprisings that led to the resignation of Hosni Mubarak, as Twitter enabled the global broadcasting of dissent to diasporic publics that united in support. The stream of #egypt supported an always-on, ambient news environment (Hermida 2010a, 2010b). Affective news, that is, the affectively charged blend of news, opinion, and emotion broadcasted and listened to via Twitter, was essential to sustaining and enabling collaboration between networked publics around #egypt (Papacharissi and de Fatima Oliveira 2012). Previous studies showed that Twitter also enabled marginalized voices to sustain alternative narratives of dissention alongside traditional media's framing of the #egypt protests (Hamdy and Gomaa 2012; Lim 2012). We built on previous work by applying gatekeeping and framing theory to understand processes through which elites and nonelites negotiate the flow of information and advance dominant frames to prominence. We analyzed addressivity markers to trace gatekeeping practices and examine the flow of information across prominent gatekeepers so as to understand the process of frame formation in networked environments.

Networked Gatekeeping: Elite and Crowd Influence on Twitter

Some researchers recommend refashioning the traditional gatekeeping theory to allow for gatekeeping functions performed by those formerly known as the audience, and a family of terms has been developed to address these changes (e.g., Shoemaker and Vos 2009). Networked gatekeeping has been employed to describe multiple levels of relationships and symmetries between variant news actors who hold diverse levels of power and positions (Barzilai-Nahon 2008). Gatewatching suggests active audience members curating media content, further filtering and amplifying news items, and sharing their preferences in environments where algorithms collate preferences and reveal possibilities through collaborative or social filtering (Bruns 2005). Crowdsourcing, a term originally coined to explain a business call to outside interested parties, via the web, with payment negotiated at a fraction of inhouse expenditure (Howe 2008), has been applied outside monetary incentive environments to social news climates like Digg and Reddit, where the process of collective intelligence is captured in the social practices of voting, filtering, and commenting on existing web content to highlight top news stories (Meraz 2009). Meraz (2012) advanced sociality as a new variable in

networked gatekeeping environments, to describe how diverse actors engage in horizontal conversational practices to filter and promote content. Unlike former definitions of gatekeeping, which applied to the daily news practices of elite newsrooms engaged in an agenda setting process with passive audiences, gatekeeping for networked environments enables ordinary users to create measurable impact through practices that blend broadcasting with social conventions (e.g., Bakshy et al. 2011; Watts and Dobbs 2007). Preliminary research suggested influence by nonelites in the framing of the Egyptian movement (Lotan et al. 2011; Papacharissi and de Fatima Oliveira 2012), echoing earlier studies that ascribed a powerful role to ordinary users during times of natural disasters such as the Tsunami Indian Ocean Quake (Meraz 2011), the London bombings (Potts 2009a), and the Mumbai bombings (Potts 2009b).

Social network science theory has revealed the ubiquity of power laws or rich-get-richer effects (Newman 2005), a scenario where a few users are able to capture an inordinate amount of attention in open, growing web systems as a result of age (entering the network earlier) and preferential attachment (receiving greater connections from incoming nodes due to celebrity). The persistence of prominent, elite, or influential users, operationalized as the short head of the power law curve (Siganos et al. 2003; Newman 2003), or the top 10 percent to 20 percent of users who command the most attention (Perline 2005), has been evidenced in other web-based networked environments (Capocci et al. 2008; Panciera et al. 2009) and in Twitter (Singh and Jain 2010). Achieving prominence is a more competitive process in Web 2.0 networked contexts, permitting users who possess nonelite status offline to gain influential status. For instance, research indicates that mainstream media are prominent in the retweet category while celebrities tend to be more prominent in the mention indicator (Cha et al. 2010). Actors who are buoyed up to prominence or eliteness by the gatekeeping actions of the network are able to generate larger informational cascades or social contagion to their information flows than ordinary, less prominent users (Cha et al. 2010; Kwak et al. 2010; Weng et al. 2010). Theoretical extensions to gatekeeping must thus locate prominent, elite actors and take account of who they are and how they affect the flow of socially contagious information within networked environments.

Teasing apart how subgroups cohere to spread information is also vital to understanding how causes and groups communicate their ideological identity on Twitter. Prior studies suggest that the operation of homophily—the tendency to follow like-minded individuals—is similarly prevalent on Twitter (Wu et al. 2011) as it is on other social media applications (Adamic and Glance 2005; Aral et al. 2009). When present in conversations around controversial topics, homophily in the form of replies between like-minded individuals may strengthen group identity and reinforce in-group and out-group affiliation in the form of replies between different minded individuals (Yardi and boyd 2010). Homophily has also been observed in the political environment: Political retweets exhibit a high degree of ideological cocooning in comparison to the political mention network, where cross ideological or heterogeneous conversational practices are more evident (Conover et al. 2011). Furthermore, shared geo-locality and communal bonds are strengthened via Twitter posts, permitting forms of "peripheral awareness

and ambient community" (Erickson 2010: 1194). Synthesized, this research indicates that information sharing and conversational uses of Twitter by journalists, news organizations, and individual users render the platform a complex and networked social awareness system. Within this system, homophily and intraelite competition present dominant features without excluding motivated and strategically oriented actors from influencing the resulting agenda of issues (Chadwick 2011). Studies on existing large-scale web systems have revealed power laws in content creation (Capocci et al. 2008; Panciera et al. 2009); hence, it is reasonable to conclude that the rhythms of networked gatekeeping during uprisings and protests would also reflect the dominant influence of a select group of users. Given the crowd-centered nature of content creation on #egypt (one of the tags used most prominently during the protests that led to the resignation of Hosni Mubarak), this study advanced the following question:

> *Research Question 1*: Who were the prominent users of #egypt and how was their prominence negotiated across different conversational markers?

Mathematical modeling suggests a strong role for the ordinary, nonelite user in informational cascades (Bakshy et al. 2011; Watts and Dobbs 2007), and Twitter's topological properties of addressivity and conversational markers enable crowdsourcing to prominence. Yet, former studies on the Twittersphere revealed the operation of homophily across interest and status, with subnets or subgroups of users developing core friendship connections and reciprocal follower relationships (Wu et al. 2011; Yardi and boyd 2010). Therefore, we examined homophily through analyzing the degree of interrelationships among elite users, and between elite and nonelite users:

> *Research Question 2*: To what extent did prominent users forge connections to other prominent users based on Twitter's different addressivity markers?

Networked Framing: Frame Negotiation and Rearticulation between Elites and Crowds

Interactions between gatekeepers and gatewatchers produce dominant frames that shape the form of news narratives produced. Framing is a way of classifying information that allows people to identify, internalize, and label everyday occurrences (Goffman 1974). As a cognitive process, it works through persistent patterns of selection, interpretation, emphasis, exclusion, and retention that are symbolically communicated (Gitlin 1980). For scholars of journalism, the most useful definition of framing comes from Entman (1993), who specified that

> To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described. (p. 52)

Frames enable both a content-based (substantive) and sentiment-based (affective) understanding of an issue. Frames influence how people understand, remember, evaluate, and act upon a problem (Reese 2001), and as such, they are central to the face #egypt presented for the movement it was broadcasting to the rest of the world.

Due to the 140-character limit on Twitter, the process of framing is enacted in unique and specific ways. In scenarios where communities converge on a selected hashtag to represent an issue or topic, such hashtags aid in the creation of an ad hoc issue public, collating tweets along a specific, topical dimension. For events that are more diffuse, breaking, or emerging, created hashtags can function as organic, emergent/ad hoc frames, reminiscent of folksonomies or bottom–up classification systems that enable users to dynamically and instantaneously self-organize content as the issue develops through using the hashtag as content or sentiment metadata (González-Ibáñez et al. 2011; Kouloumpis et al. 2011). For emerging issues with no consensus on a single hashtag, this inherent competition among hashtags for stickiness or traction symbolically comes to represent the ebb and flow of an issue's interpretation longitudinally, be it content based or sentiment based. The battle for hashtag traction can be compared with the dynamic competition for frame ascendancy among elites (government officials and journalists) in the cascading activation model (Entman 2003); however, unlike Entman's model, hashtag competition in networked environments like Twitter involves both elites and nonelites, who symbiotically make popular a select group of hashtags. Hashtags that gain popularity in this bottom–up manner function as a public signal for the ad hoc framing of the event, and as a shorthand cue for enabling the public to understand the thematic frames of an issue as it unfolds in a dynamic fashion. These hashtags that gain widespread adoption thus enact, enable, and sustain the framing of select interpretations, aspects, or frames, to an event over time. Potts et al. (2011) noted that the bottom–up, user-generated characteristics of hashtags can frustrate users utilizing Twitter as a listening stream for breaking news events. Romero et al. (2011) suggested a sociological mechanism of stickiness or persistence to hashtags that gain community-wide adoption through reference to the idea of complex contagion. An examination of hashtag frequency and usage across the arc of a public event like the Egyptian uprisings can provide a window into how hashtags function to negotiate the framing and counter-framing of an event, both substantively and affectively, over time.

In addition to the hashtag, framing is also achieved via the aforementioned addressivity markers (RT, via, and @). Applying social network science theory, prominent individuals identified as gatekeepers have a more advantageous positional and reputational stance to suggest community-wide framing of an event (Wasserman and Faust 1994). Within Twitter, addressivity markers serve to heighten relevancy of certain actors and certain content/tweets; hence, highlighting prominent actors across the various addressivity markers can aid in the identification of prominent frames. Complex usages of the retweet and mention functions can amplify and raise awareness of issues and issue attributes. The network effects of framing suggest the persistence, stickiness, or contagion of certain hashtag tokens as organic central frames to the organization of the Egyptian protests. Although there is an expected power law to the usage of hashtags across the entire

time period under assessment, the dual processes of networked convergence and conta-gion should produce the emergence of select hashtags as representative frames (Romero et al. 2011). This study therefore delved into the following research question:

> *Research Question 3*: How did usage of the hashtag on Twitter reflect an organic level of framing to the real-world events that occurred during the Egyptian protests?

Finally, we were particularly interested in the conversational gestures that permit-ted actors to emerge as gatekeepers and enabled frames to float to prominence. To a certain extent, these gestures were studied quantitatively by tracing variations in the use of addressivity markers and ties between prominent actors. To understand what these actors actually tweeted about, we also pursued a qualitative analysis of their feeds. Thus, a fourth research question examined the content and texture of the Twitter feeds of prominent actors so as to understand the form of conversationality associated with networked gatekeeping and networked framing:

> *Research Question 4*: What conversational gestures and practices became prominent on Twitter as actors were crowdsourced to prominence and frames emerged?

Qualitative and quantitative analyses were combined to understand the dual pro-cesses of framing and gatekeeping on #egypt and to examine how Twitter's addressiv-ity mechanisms enabled crowd influence to alter and negotiate dominant narratives. The four research questions were examined through data mining approximately one million tweets harnessed during January 24 to February 25, 2011.

Method

We collected tweets through the tool Twapperkeeper[1] with a begin date of January 24, 2011, which proceeded the first day of coordinated protests in Cairo that called for the resignation of Hosni Mubarak (Guardian Online 2011). January 25th also coincided with the Egyptian government's attempts to block Twitter and other mobile networks. Tweets were collected through to February 24, 2011, when the protests spread to cities across the Middle East and Africa (Sherwood and Finn 2011). During this month-long time period, 1.5 million multilingual tweets were collected, yielding a sample of 959,893 Latin character tweets.[2] Tweets were cleaned in the text analysis program Automap, and uploaded to an SQL database to enable further quantitative and qualita-tive analysis to be conducted through database queries against the tweet archive.

Content, Semantic, and Frequency Analyses

To answer the first two research questions advanced, SQL queries were written against the database for indicators of actor prominence and evidence of actor interrelationships

across the different addressivity indicators. To assess prominent actors (Research Question 1), queries were written for the most frequent users addressed by the @ sign, the RT function, and the via marker across both the entire time period and on a day-by-day basis. Prior work has revealed differential user influence across the three addressivity markers (Cha et al. 2010); hence, these queries sought to locate and compare prominent individuals across the RT, via, and @ signs.

Adapting former rubrics for coding the affiliation of individual's tweeting on the Egyptian uprisings (study), the top 100 tweeters across each addressivity marker were also coded for their affiliation according to the following coding scheme: mass media institution (e.g., @nytimes), mass media journalist (e.g., @AndersonCooper), blogger (e.g., @HuffingtonPost), activist (e.g., @Ghonim), digerati (e.g., ExiledSurfer), citizen journalist (e.g., @Zeniobia), new media (e.g., @Digg), celebrity (e.g., Alyssa_Milano), bot (e.g., @EgyTweets), organization (e.g., @pressfreedom), politician (e.g., @BarackObama), and researcher (e.g., @Shadihamid). For the purposes of this study, which sought to compare elite to nonelite influence, the categories blogger, activist, digerati, and citizen journalist were ultimately collapsed into one indicator in an effort to measure nonmedia citizen influence in relation to traditional media influence. Intercoder reliability for site coding by affiliation using Krippendorf's alpha was .94. Using social network analysis methodologies, actor-to-actor data matrices were created based on ties of addressivity, and network visualizations were generated through UCINET and Netdraw on subgroups of prominent actors in an effort to further examine the density of ties and the nature of connections among these prominent individuals (Research Question 2).

Research Question 3 sought to determine the nature of organic framing in relation to the hashtag. Queries against the database provided frequency counts of hashtag usage in tweets across the entire period. These hashtags were mapped against real-world events as they unfolded in the Arab Spring region. Hashtags were further analyzed to determine how framing was afforded through the choices of popular hashtags across the month-long time period under analysis.

Discourse Analysis

Conversational practices associated with networked gatekeeping and framing practices (Research Question 4) were studied qualitatively, employing discourse analysis focused on discursive episodes through which actors attained prevalence in the Twitter stream. Few studies highlight how frames are negotiated once prominent elite, influential actors gain viral status in a network. Papacharissi and de Fatima Oliveira (2012) found that interaction between networks of actors participating in the movement, online and off, supported the produsage of dominant frames, some of which were crowdsourced to prominence through networks of users, including both mainstream media, alternative media, and independent voices. In this process, the affective and ambient nature of expression on Twitter supported the proliferation of diverse conversations, suggesting processes that we may describe as always-on or ambient framing. Affect refers to mind and body states that are inclusive of emotions, but extend beyond feelings, cognitions,

and behaviors to describe general potentialities to move and be moved in a particular manner, and the intensity with which emotion is felt (e.g., Massumi 2002; Seigworth and Gregg 2010). In news production, affect is reflective of premediated news practices expressed in anticipation of a particular event or development (Grusin 2010). It characterizes many expressive gestures on Twitter, including the stream of #egypt (Papacharissi and de Fatima Oliveira 2012). Ambience and affect may thus further compound mechanisms of frame propagation and gatekeeping in online networks.

Given the orientation provided by previous research, we examined discourse (as defined by Fairclough 1995; Wood and Kroger 2000) as a text, using the Wood and Kroger definition of discourse as "all spoken and written forms of language use (talk and text) as social practice" (p. 19). The aim of this textual analysis was to understand the "systematic links between texts, discourse practices, and sociocultural practices" (Fairclough 1995: 17). We used the quantitative findings to identify prevalent actors by looking at Twitter users within #egypt who were retweeted the most (RT), mentioned the most (@), and referenced the most (via). We compared lists and then traced the activities of actors prominent across all three categories through incidents where they began to converse, cross reference each other, and receive attention via retweets, mentions, or references. The selected tweets were read over several times, and notes were taken regarding language use and tone. Particular attention was paid to the differences and similarities in how actors conversed with each other. We looked for thematic patterns, repetition, and redundancy in these trends and focused on the conversational practices that permitted actors to frame coverage and to become influential in those conversations as gatekeepers, gatewatchers, or otherwise influential nodes in the flow of information. We examined the impact of ambience and the affective nature of the medium, looking for ways in which those enabled and reinforced sociocultural practices and rituals associated with news gathering, curating, and storytelling. Finally, notes and findings were categorized in light of previous research on news flows, and broadcasting and listening practices on Twitter.

Results

The quantitative analysis first focused on mapping the flow of news broadcasted to the rest of the world via #egypt. Figure 1 presents a bar graph of tweet and conversational marker trends over the January 24 to February 24, 2011, time period. The highest volume of tweets (labeled as count) occurred on February 11, 2011, which coincided with Mubarak's announcement that he was surrendering power to the army. On the days preceding and subsequent to his surrender, tweet volume was markedly higher (February 10 and February 12). Conversational markers also showed heightened presence during the tweet spikes, suggesting that individuals using Twitter were more inclined to engage in the networking practices of broadcasting, listening, and conversing. Significant differences in usage across addressivity indicators, $f(2,84) = 13$, $p < .05$, revealed that individuals were also more likely to use the RT sign ($M = 17,242.41$, $SD = 20,678.75$) than the mention ($M = 6,137.41$, $SD = 6,115.15$) or the
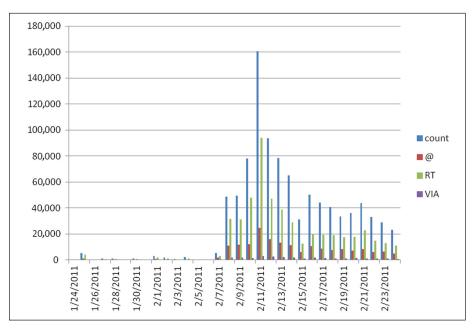
Figure 1. Tweet volume across period and addressivity markers.

via ($M = 904.31$, $SD = 879.41$) marker. No significant differences emerged between usage of the mention and via marker.

Networked Gatekeeping and Gatewatching

Prominent Actors across Addressivity Markers. Research Question 1 investigated prominent actors and how they differed across the three main addressivity markers. Unsurprisingly, power laws emerged through the three different conversational markers. The top 10 percent of the unique 31,545 Twitter RT names, or 3,145 users, were responsible for 84 percent of the retweets, or 335,677 of the 402,572 retweets. The top 10 percent of the unique 24,321 mentions, or 2,432 uses, were responsible for 73 percent of the mentions, or 92,552 of 127,358 mentions. The top 10 percent of the unique 2,707 users referenced by the via sign, or 271 users, were responsible for approximately 70 percent or 10,509 of the 15,257 via references.

Tables 1 and 2 provide further information on the influential nodes across the month-long #egypt protests. Across the top 20 nodes, different actors gained influence across each addressivity marker, with few recurring among all three markers (bolded). Table 2 highlights actors that recurred across all three addressivity markers among the top 100 actors across the time period under examination. Many of these nodes were also present as top 20 nodes in single or multiple addressivity markers.

Table 1. Top 20 Actors across Addressivity Markers

RT	Via	@
Bencnn	Youtube	**Ghonim**
Monaeltahawy	AddThis	**Monaeltahawy**
Dima_Khatib	Guardian	**AJEnglish**
AJEnglish	Addthis	Sandmonkey
Cnnbrk	**Ajenglish**	**Andersoncooper**
BorowitzReport	Huffingtonpost	ghonim
Ghonim	Fran	AJELive
Sharifkouddous	Washingtonpost	**Bencnn**
AymanM	Telegraph	3arabawy
AlArabiya_Eng	AymanM	CNN
ArabRevolution	Alyssa_Milano	BarackObama
TheAlexandrian	Reuters	Alaa
NickKristof	Nytimes	Monasosh
Marwame	**AndersonCooper**	**Dima_Khatib**
AlMasryAlYoum_E	**AJEnglish**	AymanM
JoeUnfiltered	AlexMLeo	Zeinobia
RawyaRageh	TIME	Acarvin
AJELive	Arabist	ElBaradei
Democracynow	FrankRG	SultanAlQassemi
SherineT	Nobelegypt	**NickKristof**

As Table 2 revealed, many recurring actors had a homophilous connection to the Middle East based either on geography or heritage. Among the most prominent actors were journalists from the Middle East region residing in other parts of the world, such as Mona Eltahawy (Egyptian American journalist who currently resides in New York) and Dima Khatib (Syrian-born Palestinian journalist who now resides in Caracas, Venezuela). Prominent media institutions included Al Jazeera English, CNN breaking news, and journalists affiliated with media institutions such as CNN's Ben Wederman, (Cairo based). Independent news outlets such as Democracy Now, and journalists affiliated with Democracy Now, such as Sharif Kouddos and Andy Carvin, were also prominent nodes through all three addressivity markers.

Citizen-led group-level feeds also gained prominence. The group Twitter feed ArabRevolution collated tweets about the revolution, and Wael Ghonim, a renowned Internet activist and Google executive based in the Middle East, was also prominent across all three markers. The appearance of other activists for one day at a time, such as @3arabawy (January 27) and @Zeniobia (January 25) suggested the ability of the nonelite individual to be, albeit for less duration than more widely known, influential status nodes.

Little evidence was found to support the higher status of mass media entities over nodes with nonmass media affiliation across the core group of influential nodes.

Table 2. Influential Individuals across All Three Addressivity Markers

Individual	Days Present
Al Jazeera English	January 28, February 1, February 4, February 11, February 13–15, February 16–18, February 20–21, February 23
Andy Carvin	February 1, February 2
ArabRevolution	January 24, February 2, February 11 February 16, February 20, February 24
Ben Wederman	January 25–26, January 28, January 30, February 4, February 8–11, February 13, February 16–18, February 21–23
CNN breaking News	January 30, February 1, February 9, February 10, February 13, February 21
Democracy Now	February 1, February 8, February 9, February 16, February 17
Dima Khatib	January 25, January 30, February 1, February 3, February 8–12, February 17, February 19, February 20, February 22
Mona Eltahawy	January 24, January 25, January 27, February 2, February 4, February 7, February 8–9, February 14, February 16–18, February 22
Nadia El-Awady	February 3–4, February 8–9, February 11
Sharif Kouddos	January 30, February 10, February 12, February 12, February 14, February 18
Wael Ghonim	January 31, February 8, February 9, February 13, February 15, February 16, February 21, February 24

Coding a subsample of the top 100 actors across the RT, via, and @ sign, no significant differences, $f(7,16) = 411.04$, $p < .05$, were found in the quantity of actors identified as mainstream media ($M = 23$, $SD = 10.58$), mainstream media journalists ($M = 19.67$, $SD = 6.03$), or bloggers/citizen journalists/activists/digerati ($M = 32.67$, $SD = 7.51$). This revolution was anchored in the shared influence of elite/prominent mass media entities, mass media journalists, and leading bloggers/activists/digerati/citizen journalists.

Prominent Actors and Their Network Connections. Research Question 2 sought to uncover the nature and extent of the interrelationships that prominent individuals forged to both elite and nonelite actors tweeting about the Egyptian uprisings. This question sought to decipher how prominent actors networked, whether in a homophilous way to other prominent actors or to the larger long tail of the Twittersphere. This question also sought to examine how prominent actors gained significance, whether through connections to the crowd or to other elites.

Prominent actors were operationalized as the top 10 percent of users across each addressivity marker. As a first step, independent samples *t*-tests on each addressivity indicator were run comparing the prominent users' self to other addressivity pointers. Prominent RT users were significantly more likely ($t = -17.67$, $p < .05$) to direct traffic to others ($M = 127.1$, $SD = 367.67$) than to the self ($M = 8.45$, $SD = 82.46$). Prominent mentioned users were significantly more likely ($t = -12.8$, $p < .05$) to direct traffic to others ($M = 116.7$, $SD = 418.57$) than to the self ($M = 10.33$, $SD = 86.7$). Finally,
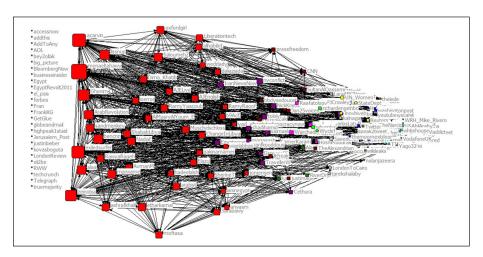
Figure 2. Network connectivity among prominent nodes across all addressivity markers.

prominent via users were significantly more likely ($t = -2.61$, $p < .05$) to direct traffic to others ($M = 118.43$, $SD = 483.93$) than to the self ($M = 35.12$, $SD = 243.96$).

Yet, prominent users were significantly more likely to connect to other prominent users, irrespective of the addressivity marker under consideration. Operationalizing prominence as the top 10 percent of users in each addressivity markers, prominent RT users were significantly more likely ($t = -10.98$, $p < .05$) to connect to other prominent users ($M = 120.4$, $SD = 355.67$) than nonprominent users ($M = 40.81$, $SD = 197.32$). Prominent mentioned users were significantly more likely ($t = -7.64$, $p < .05$) to connect to other prominent users ($M = 112$, $SD = 408$) than nonprominent users ($M = 40.26$, $SD = 258$). Similarly, prominent via users were significantly more likely ($t = -2.175$, $p < .05$) to connect to other prominent users ($M = 109.74$, $SD = 467.4$) than nonprominent ($M = 43.76$, $SD = 219.66$) users.

This finding was less robust when network visualizations were derived from a smaller subsample: The top 100 prominent users drawn from the top 10 percent of actors in the network. A network visualization of interconnections among the top 100 prominent actors for each addressivity marker (201 unique nodes) is provided in Figure 2. Larger nodes represent those actors with high indegree connections (addressivity markers that point to them). The visualization is laid out by the graph theoretic layout of principle components, presenting more connected to less-connected nodes in a left to right fashion.

Density (0.037) and general reciprocity measures (0.0890) among these focal, core prominent actors were low. Figure 3 further visualizes this low level of interconnectivity: The red lines reveal few reciprocal connections confined to a core group of actors. This low degree of interconnectivity among this small subsample of prominent actors suggests that overall prominence of the majority of these central actors was facilitated
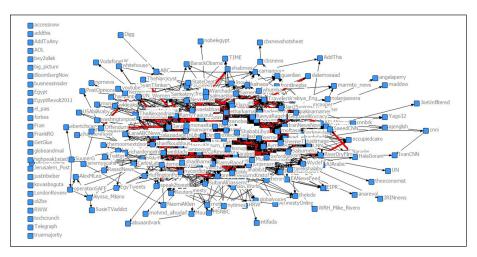
Figure 3. Reciprocal ties among prominent nodes across addressivity markers.

by the lower level linkages from the long tail of the Twittersphere. On Twitter, the crowd was the filter through which prominence of the core influential users was determined on #egypt.

Further inspection of Figure 2 reveals that elite mass media actors in the offline world were less able to transfer their prominence to other core, prominent actors in #egypt. Disconnected individuals, termed *isolates* (nodes appearing on the left side with no ties or lines to other nodes), included such elite offline actors as *Bloomberg News, The London Telegraph, The Jerusalem Post*, and *The London Review*. Other connected elite nodes were part of a core of less-connected individuals, and these nodes included such actors as *The New York Times, CNN, The Washington Post*, and *NPR*, or elite international news outlets like *The Guardian* or *BBC News*. Regional specific news outlets like *Al Jazeera English* were more highly connected than U.S.-centric media outlets.

Table 3 shows top nodes by degree centrality (amount of connections) and betweenness centrality (ability to bridge connections). Prominent were journalists such as Mona Elthahawy, Andy Carvin, Dima Khatib, Ethar El-Katatney, Ben Wederman, as well as activists/bloggers/digerati identified as Wael Ghonim, @ExiledSurfer, and @Zeinobia. Some activists/bloggers/digerati were also valued for their connection as bridges to other networks (high betweenness centrality). These individuals included Mona Eltahawy, Andy Carvin, Wael Ghonim, and @Exiledsurfer. Markedly absent from these indicators of prominence were the general feeds from traditional media outlets.

Networked Framing of the Egyptian Protests

Sticky Hashtags as Organic Frames. Research Questions 3 and 4 sought to determine how popular hashtags reflected a framing of the Egyptian protests in relation to

Table 3. Degree and Betweenness Centrality of Top 15 Nodes across All Addressivity Markers

Node	Degree Centrality	Betweenness Centrality
monaeltahawy	40.594	9.571
acarvin	33.663	5.728
exiledsurfer	32.178	5.600
Ghonim	28.218	5.091
Zeinobia	28.713	3.363
Lissnup	25.248	3.079
SaloumehZ	21.287	4.771
Marwame	19.802	1.938
ashrafkhalil	18.812	1.042
NadiaE	17.822	1.260
etharkamal	17.327	1.290
Oxfordgirl	17.327	2.857
sandmonkey	17.327	0.605
Dima_Khatib	16.337	0.928
ShababLibya	16.337	0.672

real-world events on the ground. Throughout the entire time period, a total of 41,172 unique hashtags were used 1,751,376 times by individuals tweeting about events related to the Egyptian uprisings. Analogous to a power law, slightly over 6,000 hashtags were used twice, while approximately 23,000 hashtags were used only once.

Table 4 reveals the top thirty hashtags that emerged during the January-24-to-February-24 time period under investigation. As the data reveal, the majority of hashtags that the community converged on utilizing were content frames descriptive of Egyptian territory, Egyptian leaders, and dates pertinent to the protests. Redundant tags for Egypt and January 25 underscored the messiness inherent in bottom–up classification systems, where noise and redundancy are inbuilt in user tagging efforts.

A day-by-day examination of the top 10 hashtags echoed a flow or stream of news that well described the most significant events occurring during the Egyptian protests. Examining the 10 most popular hashtags on a day-by-day basis highlighted consistent usage of such tags as January 25, #Egypt, #Cairo, #Mubarak, and #Tahrir, as the crowd converged on the framing of the event through reference to content-based frames such as key dates, geographic locations, and political figures.

A day-by-day examination of top hashtags provided further evidence of hashtags as high-level framing devices. The early usage of the hashtag #sidibouzid connected the Egyptian revolution to the ongoing Tunisian protests during January 25 to 27. On January 31, popular hashtags such as #twitter and #google raised attention to the Egyptian government's shutdown of the last functioning Internet service. On February 12, the presence of the #Algeria hashtag drew attention to the Algerian police's attempt to restrain around 2,000 demonstrators in Central Algiers (Chulov 2011). The

Table 4. Top 30 Twitter Hashtags on Egyptian Protests

Hashtag	Frequency
Egypt[AQ: 2]	455,296
egypt	165,919
25 Jan	120,643
25 Jan	113,480
Libya	50,544
Mubarak	46,462
Tahrir	40,576
Tunisia	23,860
Bahrain	23,769
Tahrir	23,304
Algeria	20,012
Iran	19,272
Yemen	19,028
Libya	13,354
Egypt	11,463
17 Feb	10,532
EGYPT	10,224
Cairo	9,197
Tcot	8,090
Mubarak	7,806
p2	7,419
Iran	7,328
Bahrain	6,498
Tunisia	5,911
Cairo	5,785
Revolution	5,511
17 Feb	5,420
Israel	5,063
Yemen	4,852

prominence of the #Iran hashtag on February 14 called attention to the tens of thousands that gathered on the streets of Tehran to challenge Iranian leadership (Karon 2011). The appearance of the #Libya hashtag on February 16 chronicled the spread of protests to Libya (CBCnews 2011). On February 17, the hashtag #Bahrain connected the Egypt protest to the thousands of demonstrators who were accosted with tear gas and concussion grenades by heavily armed riot police officers in Manama (Slackman and Audi 2011).

Affect and Ambience. The discourse analysis further revealed prominent tendencies in the conversational patterns of networked gatekeepers who further shaped the information

flow through a variety of discursive gestures and mannerisms. Conversational gestures associated with practices of introducing and negotiating frames on #egypt were shaped by affect and the platform ambience. All three of the conversational strategies we examined through addressivity markers were filled with affect, meaning that most tweets were not just news or just opinion, but typically a blend of emotionally charged opinions on news or news updates to the point where it was difficult to distinguish news from opinion and from emotion, and doing so missed the point. Moreover, the repetitive pace of activity, attained through retweeting, provided a refrain-like rhythm to the stream, supported through a chorus of users who collectively crowdsourced prevalent actors and their tweets to prominence. Affect theory suggests that refrains, among other conversational signifiers, are employed to convey a sense of movement toward a particular, not yet clarified, direction. Refrains accentuate intensity and provide punctuation for a movement in a manner that "structures the affective into existential territories" (Bertelsen and Murphie 2010: 13; Deleuze 1995). Retweets, as refrains, are important because by mode of repetition, they acquire an intensity that provides the pulse for a growing movement. The force of repetition augments the disruption introduced by a single tweet into "an affective intensity capable of overthrowing the entire order of discourse in favor of transformation" (Bertelsen and Murphie 2010: 139; Deleuze 1995). The subtle disruptions to the power hierarchy introduced by tweets and the process of retweeting them support possible contagion patterns that permit frames to float to prominence within a Twitter stream.

Refrains were present, not just in retweets but in the majority of mentions and vias that frequently repeated part of something someone else said with a comment or a simple affective gesture indicative of endorsement, like, and general agreement. The process of negotiating frames was not contentious. Tweets that were not reproduced in some form drifted into oblivion. By contrast, other tweets were gradually repeated through the processes of subjective pluralism, frequently supported by affective gestures to the point where the disruptive frame of a revolution taking shape became prominent. So, unlike typical frame negotiation processes in print or TV media, where frames emerge through the tone and language employed, sourcing, and placement of facts, the practices of repetition on Twitter, embedded into the ambient and affective nature of the medium, were essential to crowdsourcing a frame to prominence. We do not suggest that repetitive use of language in print or TV journalism does not also produce frames nor do we imply that this is a new phenomenon. However, the practice of refraining popular statements on #egypt blended conversational and broadcasting practices, or oral and print traditions, in a way that introduced plurality and hybridity to the framing process. The repetitive rhythms gradually crowdsourced a frame to prominence, adding intensity and sustaining the always-on life beat of a movement, labeled a revolution from its early days, in the making.

The Form of Networked Gatekeeping and Framing. The expressive affordances of Twitter were central to shaping gatekeeping and framing practices as networked phenomenon on Twitter. On a first level, the condensed nature of expression naturally

shaped linguistic strategies for framing. Affect and ambience set the tone for the form of expression, as most of the content articulated took place in the premediated sphere of affect and made better sense when interpreted within the greater context of ongoing, ambient conversations within the feed. Second, actors using the platform to tell stories about their experiences created narratives by assembling imbricated layers of tweets, some authored by them, some remixed and reedited, some redacted, and several retweeted. This process simultaneously fragmented and pluralized storytelling by crowdsourcing it to actor nodes that sent, received, and remixed information, thus rendering a networked flow of information and activity.

Functioning as networked agents, different actors contributed to the subjective pluralism of storytelling on #egypt through various conversational strategies associated with the degree of power and the position that afforded them within the news stream. For example, tweets most retweeted tended to come from mainstream media and typically from the official account of the outlet. These tweets largely had a formal informative tone and did not contain any language that invited conversation. They took the form of news updates, focused on broadcasting information, and rarely retweeted others. They became part of the dominant refrain to the extent that they promoted news that supported central frames or contributed new information to them.

By contrast, actors ranked highly in the list of those receiving the most mentions adopted different discursive strategies. First, they were more directly conversational, asking questions, seeking information, and directly requesting the opinions of others. Even when affiliated with mainstream media institutions, journalists receiving the mentions or addressivity markers were those who directly engaged in conversations with the public. For example, Ben Wederman's (@bencnn) early tweets were more informative and aligned with the Western paradigm of journalistic objectivity. As he became embedded in the events, he displayed a greater tendency to integrate his own comments with the reporting; to request information from other activists, bloggers, and journalists; and to participate in conversations about events on the ground. His culturally contextual tweets about the Mideast lexicon, referring to a number of phrases used in Egypt by the government to say one thing but do another, became the most tweeted and invited personal, immediate, and thankful responses from others.

Similarly, the early contributions of Dima Khatib (@Dima_Khatib) reporting on some of the events for Al Jazeera began with sharing information and establishing credibility as an information source through providing information and supplying verification for it. Her reports were timely and constant, and she frequently crowdsourced inquiries to the stream. She gradually integrated more commentary and advocacy to her reports, and began to function as a gatekeeper, directing attention to certain events and reports, and sharing her own critiques of the events and the regime. In response, users responding to her engaged in interpersonal conversations with her through sending her more information and sources. Her updates contained more local color and context, aided by the fact that she frequently reported events in five languages. They were voluminous, more personal, and more diverse, incorporating information, opinions, and reactions of Egyptians on the ground and abroad.

The platform of Twitter exposed temporal incompatibilities between the instant nature of the medium and the time for reflection and fact checking required by journalistic practices. Journalists and activists tried their best to report and verify information as quickly as possible, but in doing so, found themselves engaging in interaction that frequently blurred personal and professional boundaries. This is not a new conflict for journalists who frequently traverse personal and professional boundaries, especially when reporting from the ground. But the ambience and instantaneity afforded by the platform augmented these tendencies, leading journalists to become more conversational and more personal to become more accurate. Thus, the (fragile) premise of objectivity, foundational to Western dogmas of journalism, was abandoned in favor of more subjective, yet more contextually informed, thematic accounts.

At the same time, journalists were better positioned to become curators of broad, cross-cultural conversations as opposed to impartial information disseminators. Mona Eltahawy, a journalist curating and reporting events from New York at the time, became a conversational interlocutor for people in Egypt and supported diasporic publics wanting to educate themselves and have discussions about the movement. Frequently characterized as the woman who explained Egypt to the West, @monaeltahawy was personal and conversational, frequently circulating information in a language that Arab and Western media could relate to. Together with @Dima_Khatib, and other prominent figures in what can be understood as a crowdsourced elite of information curators, she helped provide #egypt with a cosmopolitan face that diasporic publics of support could connect with. Her location in New York permitted her constant access to Twitter, and her immediate and persistent updates filled the stream with news that spurred further online and offline activity even when there was little news to report.

By contrast, Wael Ghonim @ghonim was very active on the ground and on Twitter, and his contributions to the stream reflected his own affiliation with the movement. As the administrator of the Facebook page "We are all Khaled Saeed," which helped spark the revolution, he was frequently mentioned in reference to the movement. His own secret incarceration during the course of the movement naturally prevented him from being active online; yet, he emerged as a prominent figure through his offline efforts and online influence. The statements he made online were fewer but characterized by high contagion. Although he did not post often on Twitter, the few points he made were retweeted much more often, and he is constantly referenced in the tweets of others aimed at evoking group identity and group affiliation with the movement. His own statements are frequently dismissive of foreign media and coverage ("I don't speak to foreign media about Egypt"). Whereas @monaeltahawy served as a curator activist, @ghonim was an activist whose engagement with the movement helped give the movement an identity, and enabled others to connect and express affinity for the movement.

Through the socio-technical architecture of Twitter, actors, journalists, and activists were able to simultaneously acknowledge and exclude mainstream media so as to engage and converse directly with members of the public. Unlike the operation of framing and gatekeeping in nonnetwork contexts, which functions by ascribing all parties involved specific roles through drawing lines among information producers,

sources, and audience members, Twitter introduced a hybridity between these roles and processes that enabled networked framing and gatekeeping. Through these processes, individuals observed but also participated in the framing process, and gatekeeping responsibilities were crowdsourced and thus pluralized. Twitter thus afforded an ambient news environment through engendering and fostering network processes.

Discussion

Seeking to assess how theories of gatekeeping and framing function in a networked context, we used a mixed methodological approach, centering analysis on how addressivity facilitated the negotiation and interdependence of influence among elite and crowd in the framing of informational updates related to the January 25th Egyptian uprisings. Our analysis revealed that online, #egypt was driven by several individuals, some activists, some journalists, and some nonelite media supporters who were crowdsourced to prominence through the pluralizing practices of retweeting, mentioning, and other addressivity markers. Prominent gatekeepers arose from elite and nonelite media institutions, with activist or journalistic agendas, or both, contributing to the labeling of this movement as a revolution, and thus, in some way, prefacing its destiny through expressive gestures that were affective, premediated, and anticipatory.

In proffering up the term networked gatekeeping to describe this process, our study revealed a crowdsourced group of elites who functioned as gatekeepers, gatewatchers, and even gatesnatchers, emerging on the stream, attracting attention, employing transparency in reporting and verifying their information, and directly interacting with the public through processes that were openly documented via their feeds. This process of emergent eliteness, which we refer to as networked gatekeeping, is arguably different from how prominence was achieved in pre-Web 2.0 newsrooms and news environments, among other power contexts. We thus define networked gatekeeping as a process through which actors are crowdsourced to prominence through the use of conversational, social practices that symbiotically connect elite and crowd in the determination of information relevancy. Although we applied networked gatekeeping to the specific context of the Egyptian uprisings, our study results uncovered a series of dynamic processes that describe how networked gatekeeping processes function beyond protest scenarios. Our findings point to innovative news-making practices, as hybrid production values enable news storytelling to emerge and develop within and from network processes.

These findings revealed a number of important implications for contemporary journalism, including the increased prominence of citizen and individual journalists, the peripheral positioning of mainstream media outlets, and the introduction of new or remediation of older news values in ways that permit and legitimize collaborating filtering and cocreation of news content. We found that influential, central figures wielded inordinate influence over a crowd that both promoted and spread elite influence in a contagious manner through cascading waves of retweets and mentions. Unlike former systems of gatekeeping that determined actor reputation and credibility through professional newsroom attachments (Shoemaker and Vos 2009), or limited

media supply (Shoemaker and Reese 1996), networked gatekeeping enabled the crowd to filter, collaborate, share, and spread information through Twitter's socio-technical infrastructure, namely, its addressivity markers. Algorithms that collated individual-level preferences enabled ordinary nodes to engage in decision-making processes once reserved for a select group of traditional media gatekeepers. The findings of the discourse analysis further illustrated transparent subjectivity and heightened conversationality, which served to legitimize and lend credibility to news-gathering practices (sharing and storytelling) while enabling prominent actors to be promoted to elite, influential positions.

Networked framing worked in tandem with networked gatekeeping to sustain the information flows of the emerging movement, and, in doing so, reorganized subsequent news-curating and -creating practices. The aggregation and simultaneous endorsement of appropriate framing statements, followed by the subsequent critique or disregard for noncompatible statements, were enabled through the subjective pluralism that addressivity markers afford. This process involved a number of networked agents negotiating frames, and that process of negotiation involved conversation and endorsement by diasporic publics connected to the movement. This occurrence takes on additional significance when we compare it with traditional conventions of framing that take place in the traditional media newsroom: Backstage negotiation between sources, reporters, editors, and other stakeholders are largely hidden from the audience. On #egypt via Twitter, the framing process unfolded on the front stage as those crowdsourced to prominence interacted with mainstream and nonmainstream media and diverse publics.

The networked framing process also aggregates the actions of the crowd in an organic, ad hoc manner. Our findings revealed the stickiness, persistence, or contagion of high-level content frames through hashtags, which worked on an organizational level to frame the emergence, development, and spread of the protests from other territories to Egypt and eventually the Arab Spring. Twitter's hashtag addressivity enabled the crowd to create, spread, and validate the way that events were framed for both users and consumers of Twitter. Ad hoc, emergent framing enabled salient frames to gain stickiness through the networked actions of both elite and crowd. We thus adapt Entman's (1993) definition to propose networked framing as a process through which particular problem definitions, causal interpretations, moral evaluations, and/or treatment recommendations attain prominence through crowdsourcing practices. Through what appears as a messy and noisy process on the surface, analysis of #egypt revealed a complex networked process, through which conversational markers enabled elite and crowd to engage in interdependent, symbiotic practices that elevated high-level frames to the surface. Future studies may analyze how hashtags gain stickiness and contagion among elite and nonelite actors on Twitter in greater detail.

Affect and ambience were two elements of the online environment that accentuated a feeling of ongoing drive, sustaining an always-on environment for a movement that was just taking shape. In this particular case, homophily on Twitter afforded like-minded people the space to converse and collectively crowdsource frames and

gatekeepers to prominence. The addressivity markers further supported the spreading, or the contagion of these frames, ideas, news, and opinion to other like-minded diasporic publics. Affect drove the rhythms of contagion, as comments and gestures in anticipation of what had not yet happened, and what had not yet attained mediality, called further spheres of support into being. Ambience provided that always-on space, an electronic elsewhere that treated this movement as a revolution well before it had actually become a revolution leading to regime reversal. Affect and ambience helped sustain and drive the collective imagination of what might happen before it actually happened.

In conclusion, altered theoretical processes to the operation of gatekeeping and framing within networked contexts instigate shifts in relationships, hierarchies, and power structures. Our findings suggest deeper implications for how we study the news in terms of creation and dissemination within Web 2.0 environments. Horizontal connections among citizens enable news and information to propagate or cascade in a viral manner through web technologies that are designed to create and curate the sociality innate in ad hoc, emergent networked relationships. The status of the elite is contingent on the crowdsourced actions of nonelites, suggesting a new symbiotic interrelationship between the influential and the ordinary in a manner that elevates the actions of nonelites as active participants in the realization of what is newsworthy. Both networked gatekeeping and networked framing depend on the algorithmic intelligence of the Web 2.0 socio-technical architectures, which amalgamate collective intelligence in an effortless aggregation, without centralized oversight by an elite group of newsroom gatekeepers. Our findings reveal that the elite's power to frame is dependent on the networked actions of the nonelite as conducted within socio-technical architectures that afford new forms of sociality (Meraz 2012). These new, algorithmically informed modalities of sociality are frequently sustained by ambient and affective news structures (Papacharissi and de Fatima Oliveira 2012).

Our study's emphasis on Twitter's socio-technical architecture also unearthed the heightened relevancy of each communicative act as undertaken by web publics within networked systems. As algorithms now collate the preferences of web publics across the long tail of citizen participation, the process of how web publics elevate issues to importance and shape issue perspectives is made visible in raw form through real time. Our study's findings reveal that the theoretical processes of networked gatekeeping and framing make transparent, more contentious, and more iterative the process of news formation.

Declaration of Conflicting Interests

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Notes

1. Twitter has since shut down Twapperkeeper due to a violation of its terms of service. Twapper-keeper was formally shut down on March 20, 2011, in violation of the terms of service against redistribution of tweets for personal usage. For further details on the shutdown on Twitter, view PC magazine's article at http://www.pcmag.com/article2/0,2817,2380784,00.asp.
2. Approximately 400,000 tweets containing Arabic and Latin characters were dropped due to the inability to process both Latin and Arabic character tweets in commercially available text analysis software programs. Since the study was concerned with news broadcast and framed to the rest of the world via Twitter, the resulting population of tweets under study permitted the investigation of the broadest possible stream of news accessed by diverse publics, in Egypt and abroad. Since our study was primarily concerned with the process of how select nodes attained a prominent, influential, or elite status, and how frames circulated by these prominent individuals are rearticulated by a crowd engaged in networked framing practices, this loss of data did not interfere with the processes of networked gatekeeping and networked framing that we sought to document and deconstruct. Future research, and software development, however, should further advance and enable the study of multilingual content.

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