

The Arab Digital Vanguard

How a Decade of Blogging Contributed to a Year of Revolution

Jillian York

"Social media has created a sort of alternate space for reviving a dormant public consciousness into a sentient, dynamic social discourse"

—Hani Morsi, Egyptian blogger

A History. In 1991, just four years after Zine El-Abidine Ben Ali rose to power as president, Tunisia became the first country in the Arab world to connect to the Internet. The public had access by 1996, though its vast democratizing benefits were to be short-lived. That same year, the *L'Agence Tunisienne d'Internet* (Tunisian Internet Agency, or ATI) was established. Among its first mandates was the introduction of censorship.

Over the course of the next decade the region began to trickle online, with Saudi Arabia and Syria amongst the last to connect. Swept up by the global technology bubble, in Cairo and Beirut, Amman and Abu Dhabi, entrepreneurs, seeing the communicative potential of the pre-Web 2.0 Internet, began developing email services, job-search sites, and perhaps most importantly, web forums. Such forums became sources of unreported news, discussion, social commentary, and political debate, paving the way for the

Jillian C. York is the Director of International Freedom of Expression at the Electronic Frontier Foundation. She writes regularly about free expression, politics, and the Internet, with particular focus on the Arab world. She is on the Board of Directors of Global Voices Online, and has written for a variety of publications, including *Al Jazeera*, *The Guardian*, *Foreign Policy*, and *Bloomberg*.

region's future bloggers. In countries where political discussion was taboo and crossing red lines—such as discussion of the ruling family, or debates about Islam—resulted in persecution of journalists, web forums created new spaces, outside of society, where political discussion was relatively safe.

The Lede, to “make benefit glorious discussion of daily news”—a reference to popular film of the time *Borat*. Other mainstream newspapers in the United States were quick to follow.

The same could not be said for the Arab world. In 2007, one prominent Palestinian blogger noted, “such per-

The Arab blogosphere... is unique in that its common language has created a transnational community of sorts.

The Rise of the Blog. Though online diaries are nearly as old as the Web itself, the blog is a turn of the century phenomenon. In 1997, American writer Jorn Barger coined the term “weblog,” which was later shortened to “blog” and turned into a verb by Evan Williams, a co-founder of the Blogger and Twitter services.¹

By 2006, and despite considerably low Internet penetration rates throughout the Arab world, blogging picked up among the region’s online elite, with an estimated 25,000 blogs.² By 2009, in the peak of the microblogging era, researchers cited closer to 35,000 “active” blogs.³ Egypt has been at the forefront of the Arab blogosphere, with an estimated 1,500 bloggers in 2005, more than half of whom wrote in Arabic.⁴

By the mid-2000s blogging became an activity not only of ordinary Internet users, but also of celebrities, news commentators, and journalists in the United States and Europe. In late 2006, the *New York Times* first launched its blog,

sonalities in the Arab world do not yet generally have blogs.”⁵ Rather, the blogging demographic was viewed as “young, technologically-oriented, and politically unengaged.”⁶ Nonetheless, observers would soon note the accommodation of political and social debate—and activism—throughout the region’s blogosphere. This development coincided with two major factors: rapidly increasing Internet penetration in a number of countries, and the explosion of social networking sites like Facebook, YouTube, and Twitter.

The Arab blogosphere, though bilingual (and trilingual in the Maghreb and Lebanon, with many bloggers writing in French), is unique in that its common language has created a transnational community of sorts. Though researchers have found the blogosphere to be organized largely around country-based networks, bloggers are increasingly communicating across borders. Transnational activist networks have formed as well, often around common bonds such as resistance to dictatorship and censorship.⁷

The Age of Social Media. In September 2006, Facebook opened its doors to the world. The site's multitude of features and its unique "social graph" formulation proved useful to youth the world over.⁸ By the end of 2007, the site had more than 50 million active users; by January 2011, that number had grown to 650 million.⁹

That same year saw the launch of another platform: Twitter. Designed to accommodate messages of up to 140 Roman characters, what Twitter lacked in features it made up for in simplicity. Allowing users to "tweet" from mobile phones made the platform even more accessible, increasing its global appeal. In August 2007, nearly a year after the platform's launch, the emergence of "hashtags" (the "#" symbol appended to a short word or phrase used by many for the purpose of aggregating information) contributed to Twitter's success. This allowed groups to easily organize around a single topic.¹⁰ The use of hashtags for organizing would later elevate Twitter's status globally during the 2009 Iranian elections.¹¹

A third tool that revolutionized digital activism was YouTube. Created in 2005 and purchased by Google for \$1.65 billion in late 2006, YouTube was quickly dubbed the "people's network" by *Time* magazine, which named "You" its person of the year. The magazine credited the video-sharing platform and other social sites with presenting the "opportunity to build a new kind of international understanding."¹²

First used for entertainment, social sites experienced rapid growth in the region and later became politicized as new features, such as Facebook's "Groups" and "Pages" functionalities,

were introduced. The advent of Twitter allowed activists to further spread content hosted on Facebook, YouTube, and elsewhere, attracting greater attention to causes in a centralized location.

In May 2006, the arrest of prominent Egyptian blogger Alaa Abd El Fattah (also known as Alaa Ahmed Seif El Islam) spurred the blogosphere into action. Just three days after his May 7 arrest, the Global Voices Online community—to which Fattah was tangentially connected—launched a campaign to "Google bomb for Alaa," encouraging users to manipulate search engine results to draw further attention to their cause.¹³ This particular method, in addition to the transnational nature of Global Voices, not only raised international awareness of Fattah's arrest, but also had the unintentional effect of creating a meme. Campaigns for the freedom of other arrested bloggers have crossed borders and spread as far as Morocco and Syria, and continue to utilize some of the methods and style of the "Free Alaa" campaign.¹⁴

Global Voices, created as a media site in 2005, later expanded into a robust community, which came to include a number of prominent bloggers and activists from the Arab world and beyond.¹⁵ The community has often mobilized around common causes, such as the persecution of bloggers.

While the community created within Global Voices is important, its primary function—that of delivering information from the blogospheres to a general readership—has also had an impact on citizen journalism. Translators for the site have brought Arabic blog content to a mainstream audience, spurring numerous imitators and inspiring oth-

er translation projects.

While blogs allowed ordinary Arabs to "re-engage with politics, hone their analytical and argumentative skills, and escape the state-driven red lines which even the most independent of Arab media are forced to acknowledge," the rise of social media sites afforded even more opportunities for burgeoning activists.¹⁶ Nascent tools like YouTube, Twitter, and Facebook offered new opportunities for existing activists to approach and gain attention for their causes. Activists embraced them with relish.

While the arrests of more than a dozen bloggers and journalists in Egypt between 2006 and 2007 drew international ire, other bloggers were able take advantage of these newfound platforms to raise awareness of the long-standing issue of torture by Egyptian police. Award-winning human rights activist and blogger Wael Abbas rose to international prominence in 2007, when YouTube shut down his account for containing "inappropriate material." Abbas had posted hundreds of videos containing images of torture and police brutality over the course of several years.¹⁷

YouTube eventually restored his account; in fact, Abbas's story may have served to shift the company's policies. In May 2011, while addressing the platform's policies in light of videos from Libya, YouTube Manager of News Olivia Ma said, "Normally, this type of violence would violate our community guidelines and terms of service and we would remove it ... however, we have a clause in our community guidelines that makes an exception for videos that are educational, documentary, or sci-

entific in nature ... So, we will actually adjust our policies in real time to adapt to situations."¹⁸

Like Abbas, blogger Noha Atef helped bring national attention to the torture experienced by Egyptians at the hands of authorities. Atef, who started blogging about brutality in 2006, has stated that many Egyptians were unaware of torture and that "[this] social disagreement to torture is crucial to stop it."¹⁹ Atef's blog, *Torture in Egypt*, helped spawn later efforts such as Piggipedia, a Flickr photo pool to which Egyptians posted photos of State Security officers.²⁰

By 2007 digital activism was popularized in Morocco as well with the advent of the "Targuit sniper," a citizen journalist in the south of the country who, armed only with a video camera, sparked a national debate by capturing police bribery and uploading the footage to YouTube.²¹

The Arab country in which digital activism has perhaps had the most profound effect, however, is Tunisia. Despite the early onset of censorship, Tunisia's Internet penetration rose fairly quickly, reaching nearly 10 percent by 2005.²² At the same time, the country's blogosphere—which was perhaps the first to emerge in the region with the creation of online magazine *TUNeZINE* in 2000—was quickly growing. A sampling of blog posts from 2006 indicates a diverse group of bloggers discussing topics ranging from the World Cup to normalization between Tunisia and Israel.²³

Although blogging initially allowed Tunisians to trespass some of the red lines that journalists could not, net-savvy authorities quickly caught on and, in an effort to scare bloggers into

silence, made Tunisia the first country to arrest a blogger. On 4 June 2000, Zouhair Yahyaoui, the creator of *TUNe-ZINE*, was arrested after initiating an online poll inviting readers to vote on whether Tunisia was "a republic, a kingdom, a zoo, or a prison."²⁴

As blogger arrests increased, the combination of their frequency and increasing censorship of websites (including most video-sharing platforms) led Tunisian bloggers to form a movement for free expression. Though often neglected by international rights organizations in favor of countries like China and Iran, by the late 2000s Tunisia had become among the worst in the world in respect to online censorship, surpassing other authoritarian states such as Syria.²⁵ But it was perhaps the blocking of video-sharing sites, YouTube and DailyMotion, that caused a countrywide firestorm. As commentator Ethan Zuckerman later surmised in what would become known as the Cute Cat Theory, "Blocking banal content on the Internet is a self-defeating proposition. It teaches people how to become dissidents."²⁶ In Tunisia, and certainly elsewhere, these lessons set the stage for what was to come.

The Domino Effect. In the final weeks of 2010, Tunisia became the site of an unexpected uprising. Sparked by the self-immolation of the young fruit vendor Mohammed Bouazizi, protests quickly spread across the country, with demonstrators eventually demanding an end to the Ben Ali regime. With international media largely prevented from entering the country, bloggers stepped in, uploading photos and videos and publishing analysis of the events.

Al Jazeera's coverage, as well as the broadcasts of France24 and other channels, reached beyond Tunisia's borders and captivated the region's attention, leading bloggers and pundits alike to surmise that the uprisings might have a domino effect.²⁷ Indeed, by January 15 a Facebook page set up in honor of young torture victim Khaled Said, whose June 2010 death brought even greater attention to police brutality in Egypt, called for a Day of Rage on the 5 January 2011 Police Day. Inspired by their Tunisian counterparts, who on 14 January succeeded in ousting Ben Ali, Egypt's bloggers began debating their own revolutionary goals.²⁸

While established bloggers turned to the known medium to disseminate and debate ideas, a considerable number of Egyptians turned to Twitter, first to promote the 25 January protests under the hashtag "#jan25," then later to live-tweet from protests throughout the country. Twitter's popularity as a protest tool during the aftermath of the 2009 Iranian elections had not gone unnoticed throughout the region. Egyptians had observed how CNN and other media outlets relied upon short-form tweets to report on on-the-ground actions.²⁹

Translation played an important role in bringing content from the streets to a broader audience. Though many prominent activists in Tunisia and Egypt chose to use French and English respectively, a considerable amount of content written solely in Arabic was also posted to Twitter and Facebook. Projects like Global Voices, as well as Meedan, have sought to bring Arabic blog and social media content to mainstream readership.³⁰

Translation played its most vital role when Egyptians were cut off from the Internet on 27 January.³¹ In response to the shutdown, protest supporters quickly sprang into action in an effort to provide dialup and other connections out of the country. One project created in the aftermath was Speak2Tweet. The service, which was created by Google and Twitter, allowed users to call an international number and leave a voice message, which would then be uploaded to the Internet and posted to Twitter.³² As Arabic language messages began to flow in, several ad-hoc translation projects were cobbled together, including one by Alive, an Egyptian media project, which utilized a public Google spreadsheet to crowd-source translations.³³

on the use of Twitter and Facebook for organizing protests, the effects of the tools on amplifying citizen accounts and attracting international attention was becoming increasingly apparent. While international attention from the West helped spur diplomatic dealings in Tunisia and Egypt, as well as the entry of NATO forces into Libya and the placement of sanctions on Syria, trans-national attention and cooperation from within the Arab region undoubtedly led to collective action.³⁵

Nevertheless, international attention should not be linked solely to action. Videos emerging from Syria over the course of the past few months have solidified what was already known, but often overlooked—the sheer despotism of the Assad regime. The act of witness-

What to many seemed sudden, however, was in fact the culmination of nearly a decade of efforts.

As the domino effect began to take hold, with protests spreading first to Bahrain and Morocco, then to Libya, Syria, and beyond, it became clear that the term “Twitter revolution” was honest and relevant. Organizers in Bahrain (#Bahrain, #feb14, #lulu), Libya (#feb17), Syria (#syria, #daraa, #mari5), Tunisia (#sidibouzid), and Morocco (#feb20) selected hashtags to popularize their causes on Twitter; the hashtags they created were later spotted on t-shirts and in street protests.³⁴ Hashtags have, in many cases, become short-form symbols of protest.

Although reports placed emphasis

ing raw events that were previously only available via the reports of foreign correspondents and censored of their most disturbing elements has undoubtedly shifted the thinking of individuals and state actors alike.

A Decade of Efforts. The year 2011 will go down in history as the year that changed the face of the Arab world. From the early triumphs of January and February to the ongoing conflicts in Libya, Yemen, and Syria, and the nascent movements in Algeria and Kuwait, alien observers would not be blamed for thinking that a sudden

fever had befallen the region.

What to many seemed sudden, however, was in fact the culmination of nearly a decade of efforts. For Egyptian anti-torture workers, Tunisian free expression activists, labor unions, and human rights organizations, revolution was an inevitability that would occur when the timing was right.

Tunisian activist Sami Ben Gharbia, who spent thirteen years in exile, calls the role of the Internet during the Tunisian revolution “the work of at least a decade,” noting that Tunisians who were already activists in the traditional sense then became bloggers. These bloggers subsequently engaged in online and offline organizing, forming a movement against online censorship.³⁶

The viewpoints of individuals like Ben Gharbia appear in sharp contrast to those of the mainstream media, which have relied heavily on the narrative that the opportunities for connectivity made available by digital tools sparked revolution. In reality, it seems the opposite: activists who had before been stifled by censorship and restrictions on movement embraced digital tools to assist in organizing that had previously proved difficult.

While the use of such tools has clearly proved conducive to change in some places, it has accomplished little—or perhaps even worked against opposition forces—in others. The factors that contribute to the success of digitally enhanced organizing are vast. One is Internet penetration, which likely has a success threshold, but seems to have mattered little in Bahrain where, despite 88 percent Internet penetration, the opposition has seen little suc-

cess.³⁷ There are of course countless offline factors: the level of press freedom in a country, economic comfort of its citizens, and the divide between urban and rural communities.

The most important factor is perhaps reflected in Ben Gharbia’s words, “[The networks built by Tunisian activists online] fostered the spirit of change and the shockwave that we witnessed in the region after the Tunisian revolution.”³⁸ The fact that Tunisians had spent up to a decade building online networks left them well prepared for leveraging those networks when the opportunity for revolt presented itself. In contrast, Syria, which has a small active blogosphere and somewhat lower Internet penetration, lacks the cohesiveness found in Tunisia’s online community. When coupled with a strong, anti-opposition online diaspora, this creates difficulty for activists attempting to mobilize other citizens using online tools.

Harnessing the Flow of Information.

There are, however, no easy answers to the question of how to harness the flow of information for the greater good. Nevertheless, international analysts, foreign governments, and even technology companies would be well advised to listen beyond the analysis of Western pundits. Instead, they should pay attention to the very source: voices emanating from the citizen journalists and documentarians at the heart of the uprising.

As digital tools are used increasingly for worldwide activism, there are a number of issues at stake. First and foremost is the question of freedom of speech. The arrests of bloggers over

the course of the last decade in various regions of the world is indicative of the fear struck into the hearts of dictators and less dictatorial politicians by the rise of citizen voices. More troubling, bloggers and social media users are increasingly tracked and censored by their governments, often with the assistance of Western-built technology. In Libya, for example, it was recently uncovered that the regime had been using surveillance technologies built by French company Amesys, a subsidiary of Bull SA.³⁹ The governments of Saudi Arabia, Kuwait, and Bahrain all use SmartFilter, a filtering tool built by American company McAfee. In Syria, logs released by hacktivist group Telecomix indicate the use of deep packet inspection technology by American company Bluecoat.⁴⁰ The U.S. Department of State's "Internet freedom" policies put forward the rhetoric of online freedom for all, but the export of surveillance and censorship technologies to authoritarian regimes by American companies puts the gravity of such policies at risk. Therefore, steps should be taken to regulate the sale of such technologies.

Another concern is that of state-sponsored online propaganda, the most famous example of which is China's 50 Cent Army, which first emerged in 2008.⁴¹ Since then, more examples have emerged from the Twitter trolls and site defacements of Syria's Electronic Army.⁴²

Indeed, such attempts at propaganda muddy the playing field and make

it harder to discern genuine voices. They may also silence critics. Using the "#Bahrain" hashtag in support of the opposition, for example, frequently results in a torrent of responses ranging from violent threats to "corrective" statements in support of the regime, discouraging users from expressing support.⁴³

Finally, there is the ever-present question of activism versus what some have called "slacktivism." As evidenced by the uprisings in Egypt and Tunisia, on-the-ground action, not social media, was the primary catalyst in bringing down the regimes. Therefore, in cases where online demonstration has exceeded offline—such as, perhaps, the protests surrounding the 2009 Iranian elections—there can be false hope for success. Social media activists must remain wary of what writer Eli Pariser has dubbed "the filter bubble," thus ensuring they do not overestimate support for their cause.⁴⁴

There are, nonetheless, plenty of reasons to be optimistic. Social media has created an unprecedented environment in which like-minded individuals and disparate networks are able to connect across geographical boundaries, which will no doubt allow new movements to flourish. The ability of youth to communicate across both linguistic and geographic barriers is sure to have as-yet-unfathomable effects. It is therefore even more imperative that networks remain open and speech remains unfettered.

NOTES

¹ Jenna Wortham, "After 10 Years of Blogs, the Future's Brighter Than Ever," *Wired*, Internet, http://www.wired.com/entertainmenttheweb/news/2007/12/blog_anniversary.

² Marc Lynch, "Blogging the New Arab Public," *Arab Media & Society* 1 (2007), Internet <http://www.arabmediасociety.com/?article=10>.

³ Bruce Etling, et al., "Mapping the Arabic Blogosphere: Politics, Culture and Dissent," *New Media & Society* vol. 12 no. 8 (2010): 1225-1243.

⁴ Marc Lynch, "Blogging the New Arab Public," *Arab Media & Society* 1 (2007), Internet <http://www.arabmediасociety.com/?article=10>.

⁵ Haitham Sabbah, "Blogging in the Arab World," *Sabbah Report* (blog), Internet, <http://sabbah.biz/mt/archives/2005/10/06/blogging-in-the-arab-world/>.

⁶ Marc Lynch, "Blogging the New Arab Public," *Arab Media & Society* 1 (2007), Internet <http://www.arabmediасociety.com/?article=10>.

⁷ Ibid.

Lara Setrakian, "The Arab Digital Vanguard: Cyber Activists Reshape the Middle East – The US/Saudi Arms Deal – Water Woes, Water Wars?", *ABC News*, Internet, <http://abcnews.go.com/blogs/headlines/2010/09/the-arab-digital-vanguard-cyber-activists-remaking-the-middle-east-billion-dollar-bullets-why-america/>.

⁸ Facebook's "social graph" has been described as "the global mapping of everybody and how they're related."

⁹ Facebook Timeline, Internet, <https://www.facebook.com/press/info.php?timeline>.

¹⁰ Marshall Kirkpatrick, "The First Hashtag Ever Tweeted on Twitter – They Sure Have Come a Long Way," *ReadWriteWeb*, Internet, http://www.readwriteweb.com/archives/the_first_hashtag_ever_tweeted_on_twitter_-_they_s.php.

¹¹ Lev Grossman, "Iran Protests: Twitter, the Medium of the Movement," Internet, <http://www.time.com/time/world/article/0,8599,1905125,00.html>.

¹² "Google to Acquire YouTube for \$1.65 Billion in Stock," Google Press Release, Internet, http://www.google.com/press/pressrel/google_youtube.html.

Lev Grossman, "You—Yes, You—Are TIME's Person of the Year," *TIME*, Internet, <http://www.time.com/time/magazine/article/0,9171,1570810,00.html>.

¹³ Haitham Sabbah, "Google-bombing for Alaa: Press Release," *Sabbah Report* (blog), Internet, <http://sabbah.biz/mt/archives/2006/05/10/google-bombing-for-alaa-press-release/>.

Internet search engines determine ranking of a site according to how many sites link to it; therefore, by linking a particular word or phrase to a URL, individuals can—en masse—manipulate search engine results.

¹⁴ Prominent examples include the Free Kareem (<http://www.freekareem.org>) and Free Monem (<http://www.freekareem.org/2007/04/18/another-egyptian-blogger-detained-abdul-monem/>) cam-

paigns, involving two very different individuals—one an atheist, the other a member of the Muslim Brotherhood—whose campaigning teams supported one another.

¹⁵ Global Voices Online, *About*, Internet, <http://globalvoicesonline.org/about/>.

¹⁶ Marc Lynch, "Blogging the New Arab Public," *Arab Media & Society* 1 (2007), Internet <http://www.arabmediасociety.com/?article=10>.

¹⁷ *CNN World*, "YouTube shuts down Egyptian anti-torture activist's account," Internet, http://articles.cnn.com/2007/11/29/world/youtube.activist_1_youtube-videos-police-brutality?s=PM:WORLD.

¹⁸ Andy Plesser, "YouTube Is Managing Graphic, Violent Videos From The Middle East With Community Help," *Business Insider*, May 6, 2011, Internet, http://articles.businessinsider.com/2011-05-06/entertainment/30063062_1_videos-youtube-beettv.

¹⁹ Jillian Kestler-D'Amours, "Calm, Cunning And Courageous: Noha Atef Speak Out For Victims Of Torture," *Fridgy Bulletin*, Internet, <http://fridaybulletin.com/?p=1773>.

²⁰ Torture in Egypt, Internet, <http://tortureinegypt.net/>.

Mark Allen Peterson, "Egypt's Piggipedia: Transparency as Resistance," *Connected in Cairo* (blog), Internet, <http://connectedincairo.com/2011/03/11/egypts-piggipedia-transparency-as-resistance/>.

²¹ Layal Abdo, "Morocco's 'video sniper' sparks a new trend," *Menassat*, Internet, <http://www.menassat.com/?q=en/news-articles/2107-moroccos-video-sniper-sparks-new-trend>.

²² International Telecommunications Union 2005 Statistics, Internet, http://www.itu.int/ITU-D/icteye/Reporting>ShowReportFrame.aspx?ReportName=/WTI/InformationTechnologyPublic&ReportFormat=HTML4.0&RP_intYear=2005&RP_intLanguageID=1&RP_bitLiveData=False.

²³ Mohamed Marwen, "Echoes from the Tunisian blogosphere," *Global Voices Online*, Internet, <http://globalvoicesonline.org/2006/05/29/echoes-from-the-tunisian-blogosphere-19/>.

²⁴ Threatened Voices, Profile: Zouhair Yahyaoui, <http://threatened.globalvoicesonline.org/blogger/zouhair-yahyaoui>.

²⁵ OpenNet Initiative, "Country Profile: Tunisia," Internet, <http://opennet.net/research/profiles/tunisia>.

²⁶ Ethan Zuckerman, "The Cute Cat Theory Talk at ETech," *My Heart's in Accra* (blog), Internet, <http://www.ethanzuckerman.com/blog/2008/03/08/the-cute-cat-theory-talk-at-etech>.

²⁷ Jillian C. York, "Arab World: After Tunisia, Who's Next?" *Global Voices Online*, Internet, <http://globalvoicesonline.org/2011/01/16/arab-world-after-tunisia-whos-next/>.

²⁸ Tarek Amr, "Egypt: Will January 25 be the Day of the Egyptian Intifada?" Internet, <http://globalvoicesonline.org/2011/01/23/egypt-will-january->

25-be-the-day-of-the-egyptian-intifada/.

29 Lev Grossman, "Iran Protests: Twitter, the Medium of the Movement," Internet, <http://www.time.com/time/world/article/0,8599,1905125,00.html>.

30 Meedan, <http://meedan.net>

31 James Cowie, "Egypt Leaves the Internet," *Renesys Blog*, Internet, <http://www.renesys.com/blog/2011/01/egypt-leaves-the-internet.shtml>.

32 The Official Google Blog, "Some weekend work that will (hopefully) enable more Egyptians to be heard," Internet, <http://googleblog.blogspot.com/2011/01/some-weekend-work-that-will-hopefully.html>.

33 Chad Catacchio, "Alive in Egypt site launched to display translated voice messages from @Speak2Tweet," Internet, <http://thenextweb.com/media/2011/02/01/alive-in-egypt-site-launched-to-display-translated-voice-messages-from-speak2tweet/>.

34 I have personally compiled photographs of offline hashtag appearances here: <http://jilliancyork.com/2011/10/16/hashtagging-real-life/>.

35 The framework presented within the paper "Blogs and Bullets: New Media in Contentious Politics" (available here: <http://www.usip.org/files/resources/pw65.pdf>) sets forth a useful framework for analyzing the role of blogs and other new media; a useful analysis of the report may be found here (<http://whimsley.typepad.com/whimsley/2011/03/blogs-and-bullets-breaking-down-social-media.html>).

36 Bilal Randeree, "Inside the 'Arab Spring,'" *Al Jazeera English*, Internet, <http://english.aljazeera.net/indepth/features/2011/07/201177101959751184.html>.

37 Andrew Trench, "Predicting a revolution based

on internet penetration," *Andrew Trench* (blog), Internet, <http://www.andrewtrench.com/2011/02/02/predicting-revolution-based-internet-penetration/>.

38 Bilal Randeree, "Inside the 'Arab Spring,'" *Al Jazeera English*, Internet, <http://english.aljazeera.net/indepth/features/2011/07/201177101959751184.html>.

39 *Wall Street Journal*, "Foreign Firms Helped Gadhafi Spy on Libyans," Internet, http://online.wsj.com/article/SB10001424053111904199404576538721260166388.html?mod=WSJEurope_hpp_LEFT-TopStories.

40 Leila Nachawati, "BlueCoat: US technology surveilling Syrian citizens online," Internet, <http://advocacy.globalvoicesonline.org/2011/10/10/bluecoat-us-technology-surveilling-syrian-citizens-online/>

41 Michael Bristow, "China's internet 'spin doctors,'" *BBC News*, Internet, <http://news.bbc.co.uk/2/hi/7783640.stm>.

42 Helmi Noman, "Syrian Electronic Army: Disruptive Attacks and Hyped Targets," Internet, <http://www.infowar-monitor.net/2011/06/syrian-electronic-army-disruptive-attacks-and-hyped-targets/>.

43 J. David Goodman, "'Twitter Trolls' Haunt Discussions of Bahrain Online," Internet, <http://thelede.blogs.nytimes.com/2011/10/11/twitter-trolls-haunt-discussions-of-bahrain-online/>.

44 The "filter bubble" as described by Eli Pariser is the "personal ecosystem of information that's been catered by [the algorithms of sites like Google and Facebook] to who they think you are." (<http://www.theatlantic.com/daily-dish/archive/2010/10/the-filter-bubble/181427/>).