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PERSPECTIVE

Bridges Between Cultural and Digital Worlds in Revolutionary Egypt

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Networks are both imagined and directly experienced. While most people have trouble concretely explaining what networks are and how they structure our world, very few doubt their prominence in an increasingly globalized world where information moves at a dizzying pace. Networks speak to the link between the local and global—linking an event in a small village in Tunisia to the evening news in London. Yet they bind peoples and ideas not only across distance, but also in proximity. How are such networks imagined by peoples across dimensions of class, religion, gender, and generation in the dynamic environment that is revolutionary Egypt today? This article presents initial findings from initial ethnographic and interview-focused fieldwork conducted with Egyptians across a range of demographics. It presents insights around how technological, institutional, and human networks coordinate to present convergent and divergent actions, insights that shape an ever-changing Egyptian political reality.

Networks are both imagined and directly experienced. While most people have trouble concretely explaining what networks are and how they structure our world, very few doubt their prominence in an increasingly globalized world where information moves at a dizzying pace. Networks speak to the link between the local and global—linking an event in a small village in Tunisia to the evening news in London. Yet they bind peoples and ideas not only across distance, but also in proximity.

The seduction of the term "network" relates, at least in part, to the expansion of technologies across the world. It is understood that accompanying an increased access to technology is the globalized movement of peoples, organizations, images, ideas, and capital worldwide (Castells 1996, 2009; Appadurai 1996; Hardt and Negri 2009; Sassen 1998). With 5 billion mobile phone users, 2 billion on the Internet, and 750 million on Facebook, most agree that power is largely determined by one's ability to control and monitor networks. This dynamic may challenge the hegemony of authoritarian states, which consolidate power based on tradition, history, and inertia.

As a researcher studying how technologies shape networks worldwide and the implications this holds for global communities, I have been fascinated with the question of how networks and technologies impact democratic movements. Western media have become fixated on this question in the last five years, often leaving me with two questions: First, why do we assume that increased access to technologies brings equality? Empirical research has shown that increased access to networks, whether through technologies or some other medium, tends to maintain rather than redistribute power (Sassen 1998; Castells 1996, 2009). Moreover, many researchers have shown that such technologies only promote equality when other factors like economic well-being, infrastructure, and information/media literacy (Toyoma 2010, Agre 2002, Srinivasan 2012) are considered. Second, what do we mean when we speak of "social media" today? The term generally relates to media that empower the user by enabling bottom-up interaction in new ways, for example, Facebook, Twitter, and YouTube. Yet the interactions enabled by one technology differ from those of another, and what it means to actively participate also differs in each case (Preece and Shneidermann 2009; Fish et al. 2011).

From Andrew Sullivan's "The Revolution Will Be Twittered" (2009) to *Time*'s February 28, 2011, cover story,

a public narrative has surfaced of fearless youth activists, working in tandem with the masses to unhinge dictatorial power, armed with cellphones, Twitter feeds, and Facebook groups. Technologies, in this view, afford the opportunity to contest power and oppression. U.S. Secretary of State Hillary Clinton has devoted substantial resources to eDiplomacy objectives, giving major speeches where she argues that the Internet is the 21st-century's public sphere. Yet dystopic pundits warn us about the seductive delusions we ascribe to networked technologies. Malcolm Gladwell, for example, has argued in *The New Yorker* that social media facilitate "weak ties" that rarely correspond to the type of strong organizational power needed to empower democratic revolutions (2010). Complementing this, Evgeny Morozov (2011) argues that governments, not citizens, effectively exploit technology, monitoring activists by following them on Twitter, distributing false propaganda, attacking systems using DDOS (distributed denial of service) requests, and using double agents.

The debate on social media and revolutions, though fascinating and contemporary, tends to lack cultural, social, and political context. In contrast, when one adopts an ethnographic or observational stance, technologies can be seen in situ, contextualized within a set of practices that may ultimately empower or stifle democratic causes. Learning about cultural and social practices allows us to reconcile the paradoxes technologies introduce—at times empowering elements of a regime, at times empowering some but not all activists, and at times largely serving a secondary, if not irrelevant, factor shaping a social movement. My colleague Adam Fish and I, working in Kyrgyzstan in 2007, found that the story of social media there was complicated and nuanced, belying the binaries of critical versus utopic positions (Srinivasan and Fish 2008, 2011). We found that blogs were critical for maintaining strong, not weak, ties among a few influential activists who scrambled their IP addresses to e-meet and share their visions with foreign sympathizers. Online media were critical because these individuals were often physically monitored, with a few having already faced assassination attempts. However, we found that other, nondigital networks were more instrumental to mobilizing the Kyrgyz masses. These networks consisted of the media that most people used (word of mouth, print), and the individuals personally known and trusted by activists. Thus, Kyrgyz activists' use of technology was based on an imagination of networks that considered local and global audiences. How these imaginations root themselves in the eyes of communities and cultures is a question that inspires this article's focus on actors and networks that are rooted in culture, history, and environment.

The Kyrgyz experience fueled my desire to understand how networks are being imagined in the context of political action in the Arab world. I decided to travel, listen, and learn, ultimately by immersing myself in revolutionary Cairo, as discussed in detail in subsequent sections. This was only part of my ethnographic process, however. The other piece to this puzzle has been to reflexively experience how networks and revolutions are theorized and discussed. As Bourdieu observed, it is difficult to truly speak about culture without participating oneself in a "field of cultural production" (Bourdieu and Johnson 1993). So I have spent the last two years participating in a measured way as a pundit and theorist of technologies, networks, and power.

This process started with my sharing the Kyrgyz story in a response published in *The New Yorker* to Malcolm Gladwell's article (Srinivasan 2010). I asked us to remember that technologies sometimes serve strong ties rather than weak ones, and that the case of Kyrgyzstan defied claims made by Gladwell. I also reminded readers that revolutions can sometimes also be "leaderless," unlike what Gladwell claimed, citing the *Battle of Algiers*, a film about Algerian networks of resistance during the 1950s, where activists did not know who one another were, which worked to their advantage when apprehended by French police.

I also began to participate in the Twitterverse, trying to understand the positions of major figures such as National Public Radio's Andy Carvin and media pundit Mona Eltahawy. I was interested in understanding how both these figures could have so much global popularity, including within the locations of the world they were tweeting about (particularly the Arab world), yet live and largely remain in the West. How widely were they known in Egypt to non-Twitter users? How did their networked commentary inspire action and activism, or frame the political environment 8000 miles away? I followed both on Twitter, doing what I could to provoke reactions to the questions or comments I would send their way about networks and political life. I noted that fewer than 5 percent of Egyptians were users of Facebook, and 135,000 were registered Twitter users (Dubai School of Government 2011). And only a subset of these users is likely to be politically active.

These concerns only grew as I began to find that most studies describing Egyptian networks around the revolution start and end with the digital world, analyzing corpuses of Tweets or other digital activity during key time periods (Couts 2011; Lotan et al. 2011). One recent study (Koehler-Derrick and Goldstein 2011) focused on analyzing Google Insight data, studying how search queries within Egypt pattern the emergence of new political figures and actors during and after the revolution. I became concerned about the prevalence of such studies because of the troubles we run into when we assume that decentralized access to information is sufficient to bring about democratization, confusing what Sassen (2005) calls the "technical logics" with the "social logics." Moreover, Sassen points out that social formations and institutions must also work to democratically organize

themselves, and not just rely on technological decentralization, and that through this process local activists can tap into global support networks. This insight echoes what I observed in Egypt in terms of the power of street and institutional networks, which include neighborhoods, institutions, mosques, and other classic organizations.

I decided to travel to Egypt in June 2011 with the intention to speak to and observe how individuals from different walks of life imagined and engaged in political action, and what networks influenced them. I reached out to the Public Broadcasting Service (PBS) Frontline program, having seen its recent documentary *Revolution in Cairo*, which in spectacular fashion narrated a revolution driven by bloggers and young social media activists. Would this telling of the Egypt story resonate with my own experiences in Egypt? And why did the stories the program told largely feature younger, middle-class, educated protagonists? An associate producer from Frontline introduced me to a number of bloggers, scholars, and pundits, all of whom had written or spoken about networks as part of their public and political lives. As I began to reach out to my friends, I realized that those I was connected to via digital networks were homophilous (McPherson et al 2001)—that is, similar to me educationally, professionally, and to some extent politically. The list that came my way often featured Western-educated or -born Egyptians who occupied positions of power and influence. I knew that to tell a more inclusive story, I'd need to resist what would seem natural to me, that is, those who speak and tell stories based on experiences and ways of living similar to my own. Of course that story would understandably foreground technology as naturally linked with networks, given the many hours all of us spend in front of laptops and smart phones. The goal was to defamiliarize myself as I began planning and thinking about my trip to Egypt. Academia and a former life as an engineer have taught me the importance of analytical skepticism, and the power of empiricism. Yet an important humanist and anthropological turn has also taught me the biases and coloring of reflexivity, that telling the stories of others is actually telling a story of oneself and one's own interpretive frame. My goal then was to speak to as many as I could, try to hold my own suspicions and predilections at bay, and try to tell stories of what I read and observed. But first, in the next section, I present some of the main voices that discuss technology and networks within the Egyptian revolution.

TECHNOLOGY AND NETWORKS

The previously introduced Andrew Sullivan, blogger from *The Atlantic*, remarks, "That a new information technology could be improvised for [revolutionary purposes] so swiftly is a sign of the times. . . . You cannot stop people any longer. You cannot control them any longer. They can bypass your established media; they can broadcast to one another; they can organize as never before" (2010, online).

Here Sullivan makes several points that inform my story. First is that networks relate to the actions of people, who are unstoppable when their networks are facilitated by technologies. Second is that technologies serve grass-roots democratic objectives shaped by the masses. And third is that the era of technologically facilitated grass-roots networks is here to stay. You can no longer hide, implies Sullivan, if you are a despot. Whether via the grass-roots desire to elect a mainstream party candidate in the West (with Obama in 2008), or via the green revolution in Iran (in 2009), top-down, state-controlled media have been overcome by technologies powered by the people.

The grass-roots networks Sullivan speaks to are primarily technological, facilitated by the rapid spread of information and communication technologies worldwide, though a close look at Egypt with her limited infrastructure, media literacy, and actual social media use debunks this myth. Still, Sullivan's arguments invoke a widely held Western view, summed up by Clay Shirky's observation that "When we change the way we communicate, we change society" (Shirky 2008).

How does this story resonate with the Arab Spring? David Wolman (2008) of *Wired Magazine* places technologies at the center of his writing on Egypt, profiling the April 6th movement's cofounder Ahmed Maher as a shy, streetwise, politically idealistic young man aided by a suite of technologies. Maher is part of a "new generation in the Middle East that through blogs, YouTube, Flickr, Twitter, and now Facebook is using virtual reality to combat corrupt and oppressive governments" (online). Wolman further argues that the problems of slacktivism, where people protest online or sign petitions but rarely physically mobilize (as in Free Tibet campaigns), do not apply to Egypt, stating that in Egypt "these visual gatherings are a big deal . . . uniting 70000 people is no easy feat in a country where collective action is so risky . . . it is changing the dynamics of political dissent" (online).

Wolman's more expansive *The Instigators* (2011) fleshes out a story that PBS Frontline's *Revolution in Cairo* also profiles, where technological networks are at the center of the Egyptian political environment. His central characters emerge out of the political left, from labor unions and universities, and are shaped by international influences. Ahmed Maher, a civil engineer, and Wael Ghonim, a Google marketing executive based in Dubai and *Time's* person of the year, are prominently featured. Maher, who I would later meet, is shown in a full-page photo, staring at his mobile phone, presented as a man inseparable from this tool of mobilization. Wolman explains in detail how the virtual world has empowered Egyptian activists who have on-the-ground experience with protests to maintain their movement and bypass emergency laws that

outlaw freedom of assembly. "The very idea of a leaderless, politically neutral uprising was conceived, nurtured, and brought to fruition by young activists using the new digital tools suddenly at their disposal" (Wolman 2011, 6).

Yet skeptics abound, quickly dismissing technological networks as incidental and peripheral to the core of political mobilization. Gladwell follows up from his earlier article in *The New Yorker* with the comment that "the least interesting thing (about the protests from Egypt) is that some of the protesters may (or may not) at one point or another employed some of the tools of new media to communicate with one another" (Melber 2011, online). Hassanpour's (2011) analysis, which employs a dynamic threshold model for participation in network collective action, suggests that if Egyptians had been fully technologically connected, it might have compromised rather than promoted collective action. He points out that the "digerati" only hit the streets when they have no alternative, such as when the Mubarak regime hit the Internet "kill switch."

A number of writers try to situate rather than dismiss or evangelize technologies in their discussion of Egyptian politics (Edwards 2011; Srinivasan and Fish 2011; Tufekci 2011). Brian Edwards (2011), after visiting Egypt over many years, writes, "Yet I am determined not to fall into the trap of calling this a digital revolution. Too much blood was spilled in Tahrir; too much happened during those six days when the Internet was turned off by the government (January 27–February 2) for one to accept the account that pits the technologies of globalization against the 'medieval' tactics of the Mubarak regime" (496).

Edwards reminds us that the foregrounding of technological networks is seductive and understandable, given the incredible capacity to share information, "like," and "friend" through these media. Yet these media are new, limited in their reach, and appropriated by a wide range of actors with an even wider range of intentions. The simplification and reduction of political networks to "its inhabitants' response to modern communication technologies is echoed in much of the current discussion of the role of social networking media" (Edwards 2011, 497).

CONSIDERING NETWORKS AND TECHNOLOGIES IN THE ARAB SPRING

Over the past several months, sociologist Zeynep Tufekci has traveled to Egypt and Tunisia to study links between technological networks and activism. She argues that scholars must pay attention to the "hows" of networks to move past an inappropriate debate of binaries that ignores the power of social context around technology use and appropriation. In words that resonate with my experiences in Kyrgyzstan, she argues that social media technologies may best foster strong ties in highly policed environments—and that these ties may ultimately empower oppositional networks.

> The 'how' of social organizing matter because means of connectivity impact the nature of a movement, the chance for its success, the tactics it can adopt—which in turn, impact its character—, the roles it can play, and the measures the state can deploy against it. All of these shape the nature, outlook, and the reach of the movement. (Tufekci 2011, online)

Tufekci and others argue explain that new media environments opened up a space for political discussion and dialog in Egypt that, while not inclusive of the total population, at least presented the potential for bridging dialogs. As journalist Linda Herrera (2011) put it:

> Nobody [in Egypt] ever discussed politics openly, ever. . . . Then they would pause and add, "Well, except online, of course. We all discussed politics online." And this is exactly what these autocrats had been able to stifle for many decades: an oppositional information/action cascade. (online)

Yet again even if social media present a space for dialog in theory, writers such as Bamiyeh (2011) argue that in practice they do little to drive political action, and that spontaneity and timing were more critical to collective action within Egypt. This insight is consistent with arguments made by prominent bloggers such as Wael Abbas who if anything thanked the government for shutting down the Internet so that even more would come out to the streets. For example, activist blogger Hossam Hamlaway argues that while social media may "speed things up" they are neither necessary nor sufficient in the making of contemporary revolution (Agence France-Presse 2011).

NOT JUST HOW, BUT WHO

The literature I've reviewed indicates that it's not just the "how" that matters but also the "who" (Tufekci 2011; Srinivasan and Fish 2011). Field reports I have read point out that networks, technologies, institutions, and grievances relate in different manners to people from a wide range of economic, social, and cultural backgrounds within Egypt (El-Rashidi 2011). By paying attention to actors one can understand the proper and valuable place of social media networks without distortion or deification. So while technologies may be central in the lives of certain youth activists and drive their communications and outreach, this may not be the case for others who are inspired by political parties they identify with, mosques they may go to, neighborhoods in which they may live, and unions they may have joined. For example, while Facebook as a technology may play a positive role in the life of Wael Abbas, perhaps Egypt's most famous blogger, the company may concurrently play a harmful role in stifling the activism of another. Gigi Ibrahim, blogger and activist, has pointed out in conversations with me that the company itself may not always align itself with the anonymity that

activists require. Moreover, Abbas himself has explained that it is important not to give technologies too much credit. While certain youth activists from the American University of Cairo may occupy a central point in an internationally visible network, to the extent that they appear on the front page of *Time,* in other networks of political action they may be seen as peripheral and even disreputable.

Inspired by actor-network theory (Latour 2005), I looked for networks, narratives, perceptions, and practices from the point of view of as wide a variety of Egyptians as I could speak with, and later analyzed these data using grounded theory (Glaser and Strauss 1967), to observe and uncover patterns. I attempted to identify confluences of networks that would not be constrained by the arbitrary boundaries we tend to draw around organizations, institutions, and communities and thereby resist oversimplification.

The insight of Edwards to "pay attention to the 'dynamic transfiguration of forms across circulatory matrices' (quoting Gaonkar and Povinelli, 2003, p. 388) . . . [where] forms make . . . their way across publics, from one *node* in the circulatory matrix to another . . . [to] achieve various *ends*" (Edwards 2011, 499–500) speaks to the importance of doing multisited, grounded, open-ended fieldwork that traces the lives and stories of a variety of Egyptians. The plea here is to look at flows, actors, intentions, perceptions, in other words, materiality, within networks.

I thus interacted offline and online with dozens of Egyptians in Cairo, the Western Desert region, and the Luxor region over a period of several months in 2011. I spoke with these individuals about how they experienced and imagined networks of political activism in current Egypt and during the 18 days of revolt in January and February. As mentioned, I was first introduced to educated, technologically literate, and politically active individuals. However, with some perseverance, I met a number of working-class Egyptians in the last two weeks of this visit—none of whom were technologically active or held a university degree. Overall, I interviewed a diverse group of people, including university students/faculty, taxi drivers, hotel laborers, corner store workers, factory laborers, engineers, journalists, political aspirants, and labor union organizers. Of the 35 with whom I spoke, 15 were female, and the ages ranged from 22 to 73 years.

By grounding the stories in the voices with whom I spoke and my own reflexivity, I hoped to tell stories about networks and activism that considered technologies within a larger narrative of networks and activism.

A THICK MESS: TELLING SNAPSHOTS

I here provide snapshots, in the form of vignettes, that bring to fore the multifaceted nature of revolutionary Egypt.

Vignette 1—Tweet Up, June 21, 2011

I have gotten to know a few of the hip, technologically savvy, elite American University of Cairo activist crowd, and have been invited to attend the Tweet Nadwa, also known as "Tweet Up." These events have been held with some regularity in the past months. This one, in a divey yet artsy district in inner city Cairo, perhaps a 15-minute walk from Tahrir, is held in a warehouse, where I would normally imagine seeing experimental theater or painting exhibitions. I walk in with a friend I met just two days before, who has been living in Cairo for two years working with non-governmental organizations. I see approximately one hundred and fifty 20- and 30-somethings jammed onto risers and bleachers, all holding smart phones, iPads, and laptops. A makeshift projection screen is at the front of the room and four speakers are seated at the front of the room, three men and one woman. Cigarette smoke fills the room (Figure 1).

I turn to my neighbors in the room to ask for translation since the speakers address the crowd in Arabic. I notice that behind them the projection is of a live Twitter feed organized under the hash tag #tweetnadwa. The tweets reflect questions, comments, and thoughts related to the session. Tweets tend to celebrate the speakers, who are seen as brave revolutionaries in the eyes of the demographic around me. Some of my neighbors on the risers nod every few seconds, heartily agreeing with the speakers, while furiously tweeting and blogging responses via their connected devices. At the front of the room is one of Cairo's leading digital activists, a charismatic 24-year-old lady without any headscarf who I met only the previous day, and who has been featured in *Time Magazine*, PBS, and John Stewart's *Daily Show*.

As I reflect on the meeting later that night, I note in my field notes that technologies, ideals, and youth cultures form the basis of this community's imagination of networks and political activism.

Vignette 2—Giza, June 23, 2011

I receive a call from a gruff voice and in terse words, and am instructed to meet a leading activist in inner city Giza, about 12 miles southwest of central Cairo. Never having taken the Cairo subway and not speaking Arabic, it takes some time and confusion before I find my way there. As I arrive, after a few disorienting minutes of looking around, my contact, male, spectacled, and in his mid-40s, finds me. He leads me—"We must hurry. There is no time." (Figure 2).

We run up and down concrete stairs, dodging throngs at the station, and climb over a 4- foot-tall wall to cross a freeway. Cars are whizzing by at 50-mph speeds. "You've got to be kidding me," I think, but already am so at the mercy of the situation that there is little I could do. Besides,

FIG. 1. Live from Cairo's Tweet Nadwa (color figure available online).
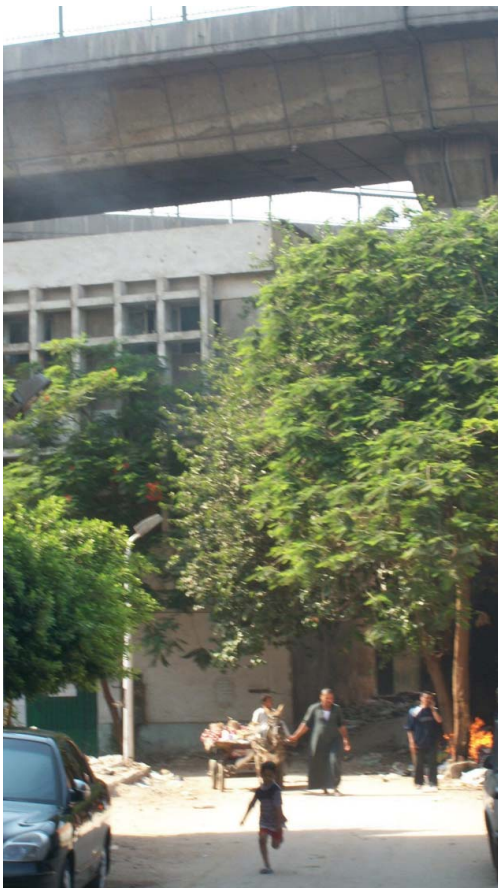

FIG. 2. From the street in Giza, Cairo (color figure available online).

it is just my second day in Cairo and it is important for me to prove myself to this activist, who is speaking to me of his imagination and experience of networks and revolution that dismissed the role of technology. We cross the freeway and walk through an alley featuring broken glass, kids in rags playing in mud, street vendors, and pigeons lodged in buildings. We walk into a dilapidated building, surprisingly similar to the one that houses the Al Jazeera television network in central Cairo next to Tahrir Square. After a six-flight climb, we enter his office. Mobile phones are buzzing, a window keeps slamming open and closed, and the entire situation reeks of fragility and instability.

My informant proceeds to talk to me about how a true revolutionary activist leader (himself, ostensibly) must live and work in these conditions, to really "know the street," be trusted by the people, to make democratic change possible. He must know the people, the masses, who put their bodies in harms way and to this day confront the police thugs hired by the Supreme Council of Armed Forces (SCAF). All those "technologists" were merely chained to their keyboards. "It is us, who really know the street, really know the people. It is us who knew the true networks of change, of the masses."

In the imagination of this activist, networks of political change relate to history, local cultures and families, neighborhoods, and the experiences of the working-class masses. The technology community of Vignette 1 lived in a fantasy world while he and his colleagues were putting their lives at risk. Networks of activism and revolution as experienced in this vignette have everything to do with working class masses, street knowledge, and physical confrontation with police.

FIG. 3. Live-Tweeting a protest at the Ministry of Interior in Cairo, Egypt (color figure available online).

Vignette 3—Tahrir Square, June 28, 2011

I am barraged on Twitter by reports of a violent confrontation between police and protesters in and around the Interior Ministry in Tahrir Square. Some report live rounds being fired, while others report that 10,000 people gathered in and around the square are being doused with teargas and rubber bullets. Explosions are being reported. I head to Tahrir by taxi with two Amnesty International bureaucrats staying in my hotel. As I head into the thick of the protest, where I see smoke and the police in the distance, I am fortunate to meet a few Egyptians who speak some English and help me communicate with those at the front lines, who are mostly male, in their 20s and 30s, and from working-class and poorer families. These young men, showing me their wounds, broken limbs, and the American-made tear gas canisters fired on all of us, tell me that they must confront the police because it is their only chance of ensuring that what they fought for in January and February will actually come to be. They tell me they will keep fighting for jobs, salaries, affordable food (specifically, the price of tomatoes!), and the ability to pay a future wife's family so they can get married. I notice that none I meet know what Twitter is, nor are any carrying the "smart phones" needed to connect to Facebook, Twitter, or other social media sites.

As I move to different locations within the protest, and further away from the front lines, I see some incessantly typing into their phones, not unlike what I witnessed at the TweetNadwa. I recognize some of these people from the TweetNadwa yet am wondering how they are able to report on front-line clashes given that they are not physically present where the young men are. I also notice reports being Tweeted of live rounds being fired, though in my time at the front lines I had no such experience. I see these reports re-Tweeted by pundits like Mona Eltawahy, who is likely sitting in New York at the time we are at the protest. My mind is directed to how potentially inaccurate Twitter reports, compounded by re-Tweeting from distant locations of the world, may create echo chambers and fuel distorted perception of the realities on the ground. This experience presents a third imagination of networks and political life—that networks can be embodied yet also technological, and that depending on one's own position within a protest or a network, different stories are told (Figure 3).

Shared Stories

It is a rare moment of synergy when peoples who are as different as similar come together for different reasons to confront a collective source of oppression. And this is what is understandably celebrated worldwide with the Arab Spring. Yet these stories present three grounded, yet completely different experiences of networks and political activism: from a technology, youth-driven world, to the world of the street and urban poor neighborhood, to finally, the experiences and mediated truths of confronting police in Tahrir.

Together, these stories raise a set of themes that are consistent with major points of discussion that emerge from the interviews and ethnographies I conducted. I organize these into three final sections, each revealing the modalities by which actor-networked ethnographies untangle the layers of networks that characterize contemporary Egypt.

THREE THEMES: STORIES OF LAYERED NETWORKS

We here reflect on the preceding discussion from the perspective of scholarship and research.

Leaderless Movements and Technology

Those I met spoke of the importance of organizing in a so-called "leaderless" manner, which for the most part describes populist contemporary Egypt. Here the power lies in the fact that apprehension of an activist does not yield significant insight into the inner workings of the network. One activist I spoke with explained that he was able to communicate with other activists worldwide without revealing his identity, as he and others worked with pseudonyms on social media. The anonymity social media enables is indeed empowering.

During the Arab Spring, Tunisian activists were motivated by support they received from disgruntled Egyptians and on their part they shared some of their success stories with Egyptians who were trying to develop strategies for organizing street demonstrations. Now, networks are being used to pass on tactics that worked in Egypt to activists in other parts of the Middle East and Africa. In this vein, a politician told me that she used her e-mail account to administer an international anti-Mubarak propaganda website, through which the now famous Wael Ghonim, whom she had only met once in person, would log in under her account so that he could not be traced.

Thus, a number of informants who could be described as activists, as well as several journalists I spoke to, explained that networks are fluid enough to allow groups with similar end visions of criticizing Mubarak and enacting "change" to come together. Here the information flows over social media helped create a sense of "shared grievance," and that in turn fostered sharing of information, at least virtually, across groups that did not see eye to eye on other matters. One informant, a political scientist in Egypt, made the following observation about this flattened, leaderless power:

> People at any single point can be a leader on social media. . . . anyone at any point can make a Facebook page without any investment. Even if the government closes it down, people can reestablish it the same day without any effort.

Yet when I pressed him further, he also explained that not just anyone could really achieve popularity, status, or power with social media. Much of this had to do with the resources one brought to bear when one came to the "digital table." He cited the famous Khaled Said page[1] as an example of how the hierarchy of digital popularity, like the analog world, relies on marketing and branding. According to him, Ghonim's management style "allowed people to feel ownership of the group . . . using poems, rap songs, online videos, and participation in voting online . . . it was the power of marketing and spin in a nutshell."

Others I spoke with explained that emergency laws and the extreme difficulty of traveling across Egypt with its poor infrastructure (and Cairo's horrendous traffic) made digital information sharing a useful approach. As one informant explained, "Social movements can expose splits and spaces within the regime." As another informant, a prominent journalist put it:

> Even if elites are the ones using social media, they are key opinion leaders and their opinions matter. . . . Even in the best of democracies, some peoples opinions matter more than others. Because they are richer, more educated,. . . . [they are] a source of information for those in the larger population.

Thus, on the level of planning, organizing, and international networks, social media's ability to cement strong ties was critical. Of course, while others were weakly tied to these technologies in terms of getting information about planned protests, my interviews reveal that this rarely translated into the action needed to get onto the street and confront police. In this sense, the use of digital tools to reinforce strong rather than weak ties is similar to what my colleague and I observed in Kyrgyzstan.

Technological and Media Ecologies: The Impact on Journalism

Networks not only impact mobilization but also are fundamental to how information is transmitted. The nature and scale of transmission are dependent on mediation, or the processes by which content are shared, interpreted, and passed onward. And in this space digital technologies that can rapidly share information far and wide play a major role. Speaking about digital networks, several informants explained that Egyptian mobilization was deeply influenced by how born-digital content was re-mediated into forms that the masses could access. Here the more familiar and widespread older media platforms (such as televisions and radio) where journalists were well known were the garner of trust, in contrast to the anonymous communicators on the Internet. At the same time, new media technologies strongly influenced older media in ways that impelled the working class peoples to put their bodies in harms way.

Scholars describe the translations and communications between older and newer media platforms as a "media ecology" (McLuhan 1962). Here we see that while media ecologies present dramatic possibilities for information to rapidly travel across and between diverse populations, media ecologies may also work to unintentionally distort and misrepresent information.

The story of Mohammed Boazizi, the Tunisian street vendor whose self-immolation captured the eyes of the Arab World, is intertwined with media ecologies. An act of defiance was announced. It was enacted and the witnesses were limited to hundreds who were there in person.

But then, once this act of defiance was captured via mobile phones and other digital devices, it could be shared with hundreds of thousands via video-sharing sites, Facebook, Twitter, and more. This story ultimately reached millions as satellite "older media" news networks broadcast the viral videos to their audiences. Such processes over linked networks empower an individual to amplify a personal message. According to one leading journalist I interviewed:

> The single most important tool of this revolution were of how networks spoke to one another. Social media was the bullet broke the fear factor and the gun was the frustration and suffocation of people. … 500 people in real time may see a protester being attacked by a fire hose versus 40 million on Al Jazeera. The ways in which these images move from in-person to phones to YouTube to our television networks is really the story of this revolution. In this way, social media is a forum for social justice.

The preceding point adds important inflection to this article's study of networks, of how while networks of social media users may be limited, circumscribed, and actually not directly connected to street action, they still may communicate, or bridge, with other networks that reach and stir peoples across social classes and geographies. In my time in Egypt, I observed how despite minimal use and engagement with social media, many living in garbage-filled shacks had televisions with satellite dishes. If social media networks influence these mass-consumed older media networks, then a story of networks and activism is one of the relationship between these layers within the media ecology of a place. As one youth activist explained:

> Our people could visualize the possibility [of creating change] by viewing pieces created using social media, these videos broke the fear barrier. … the story here is one of the unofficial marriage between alternative new media and mainstream media. Television is really the key factor in our country.

As I gathered data and conducted ethnographies, I became convinced that the links between media networks, rather than a single form of mediation, were critical to the type of heterogeneous mobilization that characterized the revolutionary environment in Egypt. Even more so, when I observed young, male, early 20-year-old working class protesters and rioters in the front line and asked them about how they got their information, they explained that they watched television and spoke to others in their neighborhoods and that impelled them to put their lives at risk. Similarly, taxi drivers I interviewed in the working-class slum region Imbebba told me that they would listen to the radio and watch the television, discuss what they saw with others who they trusted and were close to, and then decide to physically join protests.

This interconnected media ecology arose from the space opened up by the Mubarak regime's deregulation of the media industries in 1990s. One informant, a scholar studying Egyptian politics, explained that this liberalization was part of a "safety valve" strategy of the government, allowing citizens to "let some of their steam out" and creating the appearances of a democracy. At the same time, government elites kept up with "business as usual"—crony capitalism that ensured money and power stayed within elite circles, according to another informant, a human rights worker. In many ways, Egypt under Mubarak was more of a mafia style system than a Soviet-era police state. It seems that while neither a critical television network nor the blogosphere was sufficient on its own to foment revolt, the works across and between these and other networks (including word of mouth, neighborhood and familial connections, and institutional affiliation) were key ingredients to the events of January and February 2011.

Thus, a study of networks must highlight the efficacy of bridges between different local media ecosystems. Social media then can be better analyzed through the study of how journalists work with one another and how the blogosphere is re-mediated into other networked communities. My more technologically literate informants pointed out how the Supreme Council of Armed Forces (SCAF) now posts its official announcements first on Facebook, anticipating that media ecologies will take this information and carry it far and wide. I also observed journalists, as is common worldwide, commonly checking one another's reports either in person or via telephone, and commonly looking to the blogosphere and Twitterverse for news leads that they would report on. For example, even though Al Jazeera English and Arabic offices are centrally located just steps from Tahrir, journalists there told me that they check sources on the blogosphere "minimum every five minutes."

Yet this interaction between different spheres of networks is not without problems. An American freelance journalist, observing the Egyptian scene, expressed concern about the ways in which this supposed trust between networks may destroy the legitimacy of each.

> [It's] really dangerous for journalists sitting in DC, New York, or [elite parts of Cairo] to rely so heavily on Twitter as the gauge of the pulse of the Egyptian street. So many tweeters they follow have excellent command of English which means they are upper middle class, elite or the small section of Egyptian society that is being relied upon for all the news. … they are just breakers not makers. … with a heightened, misplaced revolutionary fervor. Journalists need to get off their smart phones.

As discussed in Vignette 3, I observed this dynamic in play when participating in the protests of June 28 and 29, as well as on July 2. Some widely followed Tweeters were present, but far off from where the direct confrontations were taking place between protesters and police, though they were reporting on this with some detail via

their Tweets at this exact time. I also noticed a discrepancy between what they were posting on Twitter and what I observed as an eyewitness from the front lines, perhaps due to their placement within the protest geography and perhaps due to the hysteria within which we found ourselves. The game of telephone seemed to be at work, as one urgent Tweet citing hearing gunshots would be reported by others as "live rounds being fired at us!" Re-Tweeting, where the Tweets of one can be spread on by others, worked as an echo chamber with the most fervent rather than verified Tweets being rapidly passed on. I also noted that many of the most active and widely followed Tweeters discussing the protest were individuals located in Europe and the United States.

This experience presents many important questions and challenges that those of us interested in networks and activism must grapple with, such as: Whose grievances are getting shared via media ecologies, given that most social media users in Egypt are middle to upper middle class and educated? Not only is this issue problematic in terms of the nature of difference in grievances (between abstract notions of human rights often referred to on Twitter versus material issues like food prices and wages by those in the working classes), but it also points to the issue of who is where when reports are entering into information networks. It is also an example of how stories are often framed according to dominant discursive narratives that regimes and industries wish to tell. For example, as one informant pointed out, Bouazizi was not just a random street vendor setting himself on fire whose story was empowered by social media, but was actually an active member of other networks of opposition including labor unions and had commonly participated in strikes supporting the opposition of Tunisian dictator Ben Ali. Yet this part of the story never circulated widely via the media ecologies at hand.

Journalists thus have the challenge at hand of balancing their ability to access decentralized, real-time reports with the issue of verification and falsification. Given that the information universe is now dominated by a 24-hour news cycle, how can journalists engage with digital networks mindful of their limitations and potential?

Unintentional misrepresentations present one major challenge to the power of networked, media ecologies. Yet another is more sinister, and repeated to me several times by informants: a belief that journalists of international stature are Westernized, and therefore only care about Egyptian elites, rather than the working class.

One journalist echoed this popular opinion when she told me, "All anyone in the West wanted to write about was the dirt on the streets in Egypt. Suddenly journalists decided they needed to make a story . . . they did not know how to speak to people on the streets who were doing the real activist and showed their true bravery so instead they found a few pretty faces. The revolution was broken down—Twitter, Facebook, and six activists."

My ethnographies suggest that a simple evangelizing of networks, particularly ones that bridge populations, is neither necessary nor sufficient. Instead, we must peer into the networks, look at who is telling what story and at what is being told and what is being omitted, and try to unpack realities not just by studying actors but studying the ways they communicate and the ways they tell one another's stories.

Silos, Bridges, and the Power of Ideas

As awe-inspiring as the images of citizens confronting police and oppression in Tahrir Square have been, the revolution in Egypt has opened up more complications than solutions. As many explained to me, something either far better or worse stares Egypt in the face—free and fair elections or continued oppression and civil strife. The vision, generally agreed upon in today's Egypt, of creating a democratic state that respects a plurality of voices is far more complicated than confronting a particular symbol or node of power. Different agendas, voices, communities, and, most importantly for this article, networks came together around the common vision of removing Hosni Mubarak from power. Yet despite the fact that Egypt is a society where many seem to talk with and know one another, including in the media, the challenge of creating a democratic state that is accountable to the diversity that is Egypt is turning out to be even more complicated than navigating traffic in Cairo.

The removal of Mubarak from power has not meant the end of dissatisfaction. Since February, and in my own eyewitnessed experience, throngs of protesters have confronted police, at times resulting in violence, injury, and flames. Most lack trust in a previously revered military, explaining that its leaders continue to abuse power. While their sons and brothers may be part of the military, the generals are determined, they say, to continue crony capitalism and stifle democracy. Many demands around resignations, release of political prisoners, and ending brutality, remain unmet. Egyptians have a great deal of work to do—in terms of trying to keep SCAF accountable and standing up for their demands.

Yet those I spoke with in June and July approach their country's future with unmistakable love and idealism, explaining that the energy generated by the 18 days in January in Egypt has opened a space that many never believed would exist. This is a sphere of conversation, action, and democratic imagination that was suffocated under the many years of Mubarak's rule, and with the lid off the bottle, it's clear that Egyptians, much like in other regions of the Arab World, will no longer stay silent or back off.

Thus, the story of this article has been to move us past a denial or embrace of particular mediated networks, toward

the goal of making all of them visible. No longer do we need to tell a story of the Arab Spring that foregrounds technology, while diminishing the power of mosques, neighborhoods, unions, and foreign funding and influence. Instead, we can understand how all are powerful and problematic. Instead, I believe we must all place our eyes on bridges and interfaces that allow networks to communicate with one another. Binaries must be thrown aside and multiplicity and incommensurability recognized, as no single network can be truly subsumed by another. Telling stories that are isolated to one technology, neighborhood, mosque, or organization may highlight particular voices and grievances while ignoring others. As one political leader of the April 6 movement explained:

> Our revolution is not over. No, it is an ongoing and long process. It means changing political structure and institutions, basically the regime and the whole state. We have to build from the ground up, speaking to many people and learning how their stories and experiences connect or disconnect with others . . . Just like our struggle united people, we now must politically organize to bring people together.

Very few would have expected the Western world—jaded with perhaps even more cynicism than what we saw in the Arab Spring—to embrace movements of its own. But like the Arab Spring, I write during a period where citizens throughout the Western world have begun to occupy and protest in public spaces, initiated by what is now known as Occupy Wall Street. Some thinkers and

protesters I have spoken with tell me that the actions occurring next to my home in Los Angeles would not have happened without the example of Tahrir Square. If so, this presents an example of how humans can work not just to build bridges between technological and institutional networks, but to cooperate across geographies, pursuing collective aims despite the constraints of distance and infrastructure (Figure 4).

Like Egypt, the end game of the protests throughout Europe, now Russia, and North America is still in question. Yet it intrigues me how in perhaps Biblical fashion, those most vilified after the events of September 11, 2001, may have presented a way out for those in the West increasingly alienated by the corporate and militaristic domination of their own lives. It seems clear that in a globalized world, with or without Twitter, ideas and imaginaries move nearly simultaneously between the Arab Spring and Occupy Wall Street. Yet what does this tell us about how networks have come together, been interpreted differently in different contexts, and the nature of place and community? These questions are at the forefront of contemporary inquiry into the nature of globalization, political, and democratic life. And they are the ones that we must continue to ask, study, and act upon.

NOTE

1. This page was created via Facebook to commemorate the death of Khaled Said in Alexandria under disputed circumstances on June 6, 2010. Many asserted that his death was due to unfair police brutality. The now well-known Wael Ghonim, working for Google at the time, was one of the creators of this Facebook page dedicated as a memorial.

FIG. 4. The imaginary of the Arab Spring within Occupy Los Angeles (color figure available online).

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