



Revolutions Without Revolutionaries? Network Theory, Facebook, and the Egyptian Blogosphere

By David Faris

September, 2008. On the morning of April 6th, 2008, a small group of Egyptian bloggers and activists made their way from one internet cafe to another, updating web sites and Twitter feeds dedicated to the day's tumultuous events in Cairo and other cities. They generously allowed me to spend the day with them, to see what they were up to and how they were using the tools of Web 2.0 to facilitate political protest and social action in Egypt.ⁱ The afternoon took me from the overpriced coffee joints of Mohandiseen and Zamalek to the Judges' Syndicate, where a protest was the focus of several blocks full of plainclothes police, riot police, participants, and gawkers both Egyptian and foreign. The young men and women spent their time in the cafes aggregating reports from other activists about arrests and protests, and while they of course were doing everything they could to avoid being arrested, the general attitude seemed to be one of acceptance of that risk. They were doing all of these things at the same time, often talking on the phone, updating a Web site, and speaking with one another, engaging in what has been dubbed "continuous partial attention." As one of the organizers and writers told me, "With the Internet you can get online anytime, wherever, so now we are publishing all the same news the same minute. If someone got caught now, arrested now, we can write about it now, rather than the old style."ⁱⁱ By the old style, of course, this young blogger meant the traditional media, which has a built-in time-lag between an event and the delivery of news about that event, a delay that has been obliterated by the tools of new media.

The amazing thing is that much of this activity can be traced directly or indirectly to actions taken on the Internet – and also that it was facilitated greatly by it. Of course a number of people and organizations had a hand in the day's events but it is no exaggeration to say that none of us would have found ourselves in the midst of a protest if not for the efforts of one obscure woman from outside of Cairo. She is not the type of person you would have expected to be behind massive social protest in the past, but she is precisely the sort of person who has been most empowered by recent technological innovations in information communications technologies: the massive decline in the costs of mobile communications, the spread of the Internet in the developing world, the growth of blogs and social networking services, the ease of self-publishing and organizing, and the increasing ability of individuals to engage in many-to-many communications. These new communication forms have little to do with broadcast news media, the traditional focus of academics studying Arab media.ⁱⁱⁱ The day's events also had little to do with the kind of blogging we have come to associate with the form – the airing of opinion and analysis by non-professionals.

Esraa Abdel Fattah probably had no idea she was going to create a global phenomenon when she started a Facebook group in March of 2008. The group was devoted to a

sympathy strike with textile workers in Mahalla al-Kobra in the Delta. The workers of Mahalla had chosen April 6th as the day to go on strike to protest declining wages and rising prices, and together with other creeping developments in the Egyptian economy and political system, the strike had the potential to develop into something much larger than an isolated labor protest. For months prices of basic commodities had been rising in Egypt at the same time that official figures on the economy continued to look robust. The regime, as usual, didn't seem terribly interested in helping ordinary people out of trouble. Inflation was rampant, and yet the state still seemed determined to forge ahead with its program of neoliberal privatization.^{iv} In addition, the government's heavy-handed campaign against top leaders of the Muslim Brotherhood was reaching a crescendo in advance of the state's attempts to rig local elections on April 8th, and the state was still feeling the fallout of the army's failed attempts to take over the Nile island of Qursaya, which to many represented the apotheosis of regime arrogance and disregard for its ordinary citizens.^v Finally, massive dissatisfaction with the state's position vis-à-vis the besieged residents of the Gaza Strip was serving to further delegitimize the state. These gathering elements of disgruntlement formed a kind of perfect storm, but in a climate that has proved particularly impervious to inclement weather. The original impetus for the strike lay with the besieged Mahalla textile workers, but it was only with the bridging and amplifying capabilities of Web 2.0 that a textile strike turned into a national event. In other words, April 6th was the day when organizing tool met political reality to create elements that were strong enough to form storm clouds on the regime's horizon.

Within two weeks of forming the group, Esraa's Facebook group had more than 60,000 members, quite astounding given that only approximately 790,140 Egyptians are even members of Facebook to begin with.^{vi} The idea was for the group members to stay home on the day of the strike, April 6th and the idea soon took on a life of its own. In the heavily policed state of Egypt, organizing demonstrations is technically illegal, and calling for a general strike particularly so. This does not, of course, prevent them from happening regularly, but demonstrations are generally small affairs, thought of by many as the domain of liberal and left-wing activists surrounded by blocks full of black-clad riot police and plainclothes thugs. Certainly no one could have expected a 27-year-old human resources coordinator to catalyze an event that would grip the national consciousness for the better part of a week.^{vii} It perhaps seemed even less likely that Facebook, a social networking scheme hatched by Harvard undergraduates just a few years ago and still associated largely with American college students, would be the chosen platform for this massive action. After all, Egyptian blogs can claim some significant victories vis-à-vis the state in the past few years, including exposing police torture and cases of sexual harassment, and a number of articles have been written about the growing power of bloggers.^{viii} **[see also in this issue Tom Isherwood on blogging's political impact and Courtney Radsch on the developmental stages of the Egyptian blogosphere]** But when examined against developments in the scale-free Egyptian blogosphere and the innovations in network theory, the choice of Facebook makes much more sense.

Scale-free networks, blogs, and social network sites

What is Facebook, and what kind of network is it? Facebook, Myspace and other social networking sites (SNS's) are defined by Boyd and Ellison as sites that have three features.^{ix} First, SNS's allow their users to construct a profile, available either to everyone on the Web, every member of the site, or only to their friends on the site itself. The

second feature of an SNS is that it allows users to build a network of “friends” or connections to other users. Users can send messages to these friends, write on their public spaces (in Facebook users have “walls” where their friends can leave comments, pictures, and links), and browse one another’s profiles. This profile typically features pictures and personal data like interests and tastes. In other words they allow you to take your existing social network and publicly articulate it. The third feature is the ability to browse your own connections or friends and those of other people in the system. The degree of browsing freedom varies from site to site, but even when profiles are closed to you on Facebook, you can still browse that person’s friend list. The history of SNS’s is replete with individuals using the sites for purposes other than those intended by the designers. For instance, Myspace was launched to compete with the failing SNS Friendster, but almost immediately became a platform for bands to share their music, advertise upcoming gigs, and gain new fans.^x Facebook was intended as a closed network for Harvard students, and has evolved into an organizing tool for political oppositions in authoritarian systems, among many other uses.

The state itself certainly recognized the power of these social tools and the threat that they represent to the state’s control of information. Shortly after the strike, the Egyptian regime undertook a campaign of delegitimization against Facebook and other Internet sites deemed a threat to their authority.^{xi} Esraa Abdel Fattah, who was arrested and imprisoned for more than two weeks for organizing the protest group on Facebook, became a kind of celebrity within the country, and a cause célèbre for international NGOs. And on a personal level the state’s intimidation worked, since she emerged from prison telling reporters she would not be getting involved in any more online organizing.^{xii} But the state’s demonization of the strike’s organizers did not seem to succeed in convincing the political class or prominent media voices that Facebook is illegitimate, that the day’s events were a failure, or that everything is fine in Egypt. No less a heavyweight than *al-Dustur* and *al-Ahram* columnist Fahmy Howaidy declared the Facebook organizers “hope for the future in Egypt.”

Much of the coverage of the April 6th strike struck the tone of marveling at the sheer novelty of Egyptians using the Internet to do their organizing dirty work. But the Internet has been working terrifically as a social organizing tool for years, and it’s useful to understand why exactly that is. It is also necessary to note the distinctions between kinds of Internet use, what makes Facebook different from a blog, and the different types of social action that each media form enables. Why wasn’t the action on April 6th coordinated through blogs? It is also necessary to note that a kind of a fatigue with Egyptian blogging has set in, which is driving the organizing and activity in opposition politics to other places. If you ask many observers – journalists, bloggers themselves, ordinary people, what they think of Egyptian blogs, they will tell you that their time has passed. As the Sandmonkey told me about blogs having a real-world impact, “It’s rare. We’re talking three stories in three years.” He was referring to a handful of major stories that were brought to the mainstream press by the bloggers, who he referred to as “pushers.”^{xiii} And even if they are still sold on the relative importance of Egyptian blogging, they tend to cite the same few bloggers – Hossam El-Hamalawy, Wael Abbas, and Nora Younis – among a very small handful of others. While these individuals do terrific work, their importance has made it more difficult for new voices to be heard in the blogosphere. The reasons for this can be found in the science of networks.

As opposed to Facebook, the Egyptian blogosphere might be considered more of a scale-free network. A network, according to Watts, is merely anything that is connected to any

other thing. Or as he puts it, a network is “a collection of objects connected to each other in some fashion.”^{xiv} You can have networks of car dealers, soccer enthusiasts, shisha smokers, or American ex-pats. The number of connections for most nodes in a network is random. But some networks, which Watts termed “scale-free” operate according to different principles. According to Watts, what distinguishes a scale-free network from most of these ordinary networks is that “most nodes will be relatively poorly connected, while a select minority of hubs will be very highly connected.”^{xv} And these well-connected hubs operate according to the principle of the rich getting richer – they tend to attract more connections because they are already well-connected, transforming them from ordinary nodes into super-connected hubs. This is called the principle of preferential attachment. In other words, while most Egyptian blogs have a few readers at most, the few highly-read blogs have many times the average, and because they are well-known and widely-read, they tend to become even more dominant in the blog market. Other bloggers link to these blogs, as do newspapers, online media, international groups, and others. These hubs operate by “providing routing, coordinating, and information functions that increase the ease and efficiency of navigating the network.”^{xvi} Whether the Egyptian blogosphere actually has, strictly speaking, the mathematical qualities of a scale-free network is less important than recognizing that some bloggers are vastly more influential than others, continue to gain further influence, and make it harder for newer bloggers to crack the scene. The prominence of certain bloggers has been incredibly important for the human rights scene, at the same time as properties of the system interfere with the ability of new voices to be heard.

This might explain why organizing has migrated from the scale-free Egyptian blogosphere to the realm of Facebook: the next generation, while of course free to start and maintain blogs, might find the door to internet fame and success closed to them in a way that it had never been previously. For an analogous example in the U.S., consider the success of the left-wing site Daily Kos, which is so popular that its traffic dwarfs that of even relatively well-read sites in that community, like MyDD and Firedoglake.^{xvii} In other words, the reason we haven’t seen another *3Arabawy* or *Misr Digital* is that the previous two sites might be so much more popular than their competitors that the properties of the network make it exceedingly unlikely that anyone else will gain such popularity. And while those communities may have great numbers of readers, there are several reasons why Esraa probably chose Facebook over either starting her own blog or going through existing ones to organize the general strike. First, the most popular Egyptian blogs are not participatory (if not democratic) communities like Daily Kos. This is not to suggest that they don’t have communities of active participants and commenters, but rather that there is no “diary” function that allows individuals to generate unique content to contribute to the site. As Karpf notes, “Community blogs are designed to enable collective action.”^{xviii} So unless the owner of the blog were to get enthusiastically behind the strike action, it would be difficult to coordinate the action in that way. Second, while blogs do facilitate the formation of ad-hoc alliances around certain issues, they do not make social connections transparent and easier to use, and they do not lend themselves easily to the formation of groups. Finally, blogs start off with the tiny number of readers who are initially told about the project (we’ve probably all received a “Hey guys, check out my new blog!” message from one of our friends and then never visited the site), whereas your audience in Facebook begins with the number (often in the hundreds) of social connections you’ve already made on the site, and then multiplies rapidly through network connections. For all of these reasons and more, while observers have long been looking at blogs as the predominant medium of online action and protest in Egypt, there are alternatives that might work better.

Reducing Transactions Costs

Shirky writes about the obstacles – the transaction costs – that modern society has placed between individuals and the building of social capital.^{xix} Building on the insights of Putnam (2000) that Americans are increasingly reluctant to engage in the group activities that forged bonds of shared trust and social capital, he argues that the Internet, and particularly, the new social networking sites that have exploded in the past 5 years, have entirely changed that dynamic. The tools of Web 2.0, he argues, make it easier for like-minded individuals to find each other in spite of their physical separation in far-flung suburbs and their immersion in long workdays and commutes.^{xx} Fans of obscure television shows and supporters of unpopular political candidates can now find each other with great ease through social networking sites like Meetup and Facebook. And it not only makes joining groups of like-minded people easier, it makes forming them immensely simpler as well.

For it to be useful, Facebook must do something for organizers in the Egyptian opposition that they had difficulty doing with other tools. As Shirky argues, “a good social tool is like a good woodworking tool—it must be designed to fit the job being done, and it must help people do something they actually want to do.”^{xxi} For our purposes, we can easily imagine the kinds of transaction costs that Facebook reduces. For starters, in an authoritarian system in which opposing the state can earn you an arrest or worse, Facebook allows you to identify other individuals who share your antipathy to the regime, and, crucially, you can check out that persons friends list to see if they are on the up-and-up. Not every Egyptian on Facebook is an opposition activist – far from it – and so another feature of the site provides another transaction cost reduction, which is the forming of groups. The group function is particularly popular on Facebook, where the application allows each group’s administrators to post a mission-statement on the front page, manage their own wall, and coordinate activities together. Joining a group allows you to come together with a set of like-minded people on any particular issue (fans of Amr Khaled, or devotees of Fahmy Howeidy, for instance). There is a sense of legitimation in this kind of group-formation.

Most groups are entirely frivolous. But of course, you can imagine the problems that anyone interesting in going out on strike on April 6th might have encountered in Egypt – the physical distances between Cairo and other parts of the country, social apprehension that a friend or acquaintance might look upon such an activity with scorn, worries about losing a job, the fear of retribution from the state – the typical problems of collective action, in other words. What Esraa’s group allowed people to do was to join an increasingly large set of individuals who wanted to make a statement about the political situation in Egypt – people who didn’t need to be localized in any one place. As Hassan Khalil notes, “The people of Facebook are sons of the middle class....located throughout the country.”^{xxii} As the group got larger and larger it appeared that more young Egyptians were willing to disregard their fear of state retribution and join the group. After all, as strong as the Egyptian state might be, it cannot go around arresting 70,000 people, many of them wealthy and connected elites, particularly if all they’ve done is stay at home. And indeed in parts of Egypt the strike seemed to be successful, with high rates of absenteeism reported on the 6th and with countless reports of deserted streets and abandoned shops.^{xxiii} As *Al-Ahram Weekly’s* Shaden Shehab noted, “Cairo’s often impassable streets were rendered navigable, given that so many people had decided to

spend the day at home.”^{xxiv} Moreover the inclusion of Facebook as an organizing tool – and the information bridging that it brought – meant that the April 6th got a great deal of international press attention, with articles on all of the wire services as well as such far-flung publications as *Huffington Post*.^{xxv}

Crucially, forming a group on Facebook costs no more for the individuals involved than paying the costs of internet access. The costs of official political organizing in Egypt are, needless to say, quite high. Even maintaining an official headquarters, as do many human rights organizations, incurs administrative and coordination costs, and invites scrutiny and harassment by authorities – not to mention the high price of earning the regime’s permission to operate in the first place. Under such circumstances the costs of joining these organizations for individuals can be very high. The regime has very successfully kept a lid on large-scale political organizing in the country, convincing a large portion of the elite that the alternative – the Muslim Brotherhood – is worse than what is currently in place, and that economic growth could be endangered by any changes or unrest. Under these circumstances, old-style organizing would have to first bring people together and then have them collaborate on goals, platforms, and methods, whereas the new social tools allow this to happen almost effortlessly.

Reducing Social Distance

Anyone who has ever used a social networking site can attest to the small pleasures of being reconnected electronically with someone you have almost completely forgotten about – some friend-in-law from college, or an old flame. You browse their photos, see how they’ve changed, ask them how they are, promise to meet back up when you get a chance, and then most of the time, the connection returns to its previous state of near-total disuse. The difference in the electronic world is that this kind of connection is now vastly easier to activate or at least keep in some state of quasi-activity. In Facebook-land, most users see “news feeds” of their distant acquaintances’ (largely trivial) activities. But every once in a while, you might see a news feed item from an old friend – about attending a demonstration, signing a petition, screening or reviewing a movie, and so forth – and that little news feed might lead you to take action, to join a group, or to do something you would not have otherwise done.

Most people are familiar with versions of the old parlor game six degrees of separation, in which you can connect anyone (like Kevin Bacon as the version popular during my high school years would have it) in six steps or less to any other person. Less well-known is that this little game has spawned an entire academic sub-discipline devoted to investigating the “small world phenomenon”. Intuitively, it seems almost impossible that a Jordanian human rights lawyer would be connected to, say, a Brazilian cocoa farmer in under six steps, but recent academic research indicates that the number of steps separating any two people may be even smaller than had previously been imagined.^{xxvi} Other discoveries include the idea that people tend to sort themselves into social “clusters,” with small groups of well-connected people clustered around common interests or locales. Instead of all people having an equal number of social connections, however, it turns out that these small clusters are connected by small groups of people with almost fantastical numbers of connections – what Gladwell called “connectors.” It turns out though, that weak ties – i.e. acquaintances – are just as important as strong ties in bridging these clusters.^{xxvii} This is because even a single connection bridging two distinct social groups has the dramatic effect of “shrinking mathematical worlds.”^{xxviii} If so, then social networking tools may solve one of the conundrums of small-world social

reality – the limited cognitive ability of most people to sustain more than a few hundred connections at a time.

The crucial point is that if weak ties are critical to building bridges between different tight-knit social networks, then blogs and social networking sites like Facebook might have an incredibly important role to play in amplifying weak ties, making them transparent and usable, and simplifying the process of activating them. In other words, Facebook takes dormant social ties and makes them active, takes musty acquaintances and wipes the cobwebs from them, and can potentially plug you into social networks you never even knew you wanted to be a part of. This is important for the idea of social movements because of past difficulty in simply transmitting information to people who might conceivably want to join your group if they wanted to. It helps build what Shirky calls “bridging capital” between diverse groups of people who might otherwise not think to work together for a common cause. To bring it back to the dominant trend here, Facebook is what allowed the Mahalla strike to “bridge” between the community of labor activists and the community of college-educated Cairo elite. While a few of these bridges surely existed in real-life, they were multiplied and magnified, effortlessly, through the easy group-forming and group-joining capabilities of the Internet.

Creating resiliency against the state

Scale-free networks are not invulnerable to destruction, but they do present unique challenges to anyone seeking to undermine them. As Matthew and Shambaugh argue, “networks are easy to access but difficult to destroy.”^{xxix} For activists seeking to oppose the state, the disembodied networking of blogs, social networking sites, wikis and other forms of technological opposition all make it both more difficult to take out hubs, and lessens the consequences of doing so. A large number of nodes need to be removed from the system before the network itself will cease to operate properly. To put it more directly, while the state can conceivably shut down any one human rights organization, it cannot erase the accumulated experiences, knowledge, and wisdom of its members, which exists independently of their physical headquarters and is situated in a larger, denser network. On the other hand, it is exceedingly easy for the state to reach out and use repression on individual members of the network, as it did with Esraa. It remains to be seen what kind of an effect such targeted repression will ultimately have on the activism scene in Egypt. It could be that Egyptian opposition figures, bloggers, Facebook organizers, and human rights activists are creating a kind of amorphous network that will be impervious to anything but an all-out assault by the state, something that is unlikely in a semi-authoritarian state like Egypt, which seeks to maintain a façade of democratic practice and liberalism both for its citizens and for the outside world.

Toward the future

The trouble with relying on past successes in social activism is that it often does not work the same way the second time around. Consider the fate of the May 4th strike, the planned follow-up to the at least moderately successful general strike of April 6th. From the get-go the second effort suffered from a number of problems that Facebook, as an application, seemed incapable of resolving to everyone’s satisfaction. The first problem was the splintering of the strike group into dozens of smaller groups, so that even if you were an Egyptian and you were riled up by the idea of going out on strike on May 4th, there was really no way for you to know which group to join. In other words, while it may be possible to organize without organizations, it is not possible to organize without

organization. The second was that earlier instances of state-sanctioned repression had the effect of dampening down the enthusiasm for the day's events – Esraa's imprisonment was particularly chilling, since it indicated that the state was aware of Facebook organizing and was prepared to take steps to put a stop to it. Since the idea of Facebook is to create an open network with your friends – away from the potential anonymity of the blogosphere – Esraa's arrest and long detention sent an unmistakable message to potential organizers that they were being watched and might be punished for their successes. Early adopters of new technologies, and the social groups that use those technologies, have a limited window in which to take full advantage of the novelty of their new tools. This might be particularly true in authoritarian environments, where activists and opposition members are engaged in a seemingly endless game of cat-and-mouse with the state. It might be necessary for such groups to constantly innovate, using new technologies, strategies, and tactics to combat the state's built-in strategic advantages in resources, manpower, legitimacy, and strength.

Another drawback to organizing through Facebook has to do with the flip side of how easy it is to join the groups in the first place. As Schultz notes, groups with exceptionally low barriers to entry also have exceptionally low commitment levels from individuals.^{xxx} Any user who spends a great deal of time on Facebook knows how often groups are formed, joined, and summarily left or abandoned, largely because most groups don't offer any value-added for the individual who joins them. Most times, joining a Facebook group is a one-and-done affair – users rarely return to the site of the group they formed, and often they have just joined the group only to make some kind of political statement or to show solidarity with their friends. The many May 4th strike groups on Facebook were failures not because the technology suddenly stopped working for them, but because the members of those groups were insufficiently dedicated to actually striking on the day in question. In this sense a group has to be tied to some tangible event or shared interest in the real world – such things cannot be invented out of whole cloth. The linking of the May 4th strike to Hosni Mubarak's birthday apparently did not resonate the way it was supposed to.

Another potential pitfall in Facebook organizing, and “ridiculously easy” group forming, as Shirky calls it, is the danger of over-estimating the actual degree of support enjoyed by your particular cause. Because the truth is that these technologies do not, in and of themselves, necessarily generate new enthusiasm for striking at the Mubarak regime – what they have done, in all likelihood, is to make it easier for those who are already opposed to the state's economic, judicial, and foreign policies to come together and form groups on that basis. In other words, what has changed is not the number of people who oppose the state, but rather the number of people who oppose the state who are now able to come together and virtually share their dissatisfaction with the state. Perhaps this is why the May 4th strike remained a relatively small affair – it's not that those who pledged support for the strike didn't stay home and hang their black banners, but rather that the movement did not succeed in securing the support of the wider population.

This is not meant to situate the discourse over blogs and new social tools within the same discourse that plagued the academic and popular debate about al-Jazeera – a discourse about the democratizing potential of new media forms.^{xxxii} It should be obvious that there is nothing inherently democratic about Facebook, which is after all a corporation with financial motives, or about blogs, which can be used by people with malicious intentions, and which can also lead to greater extremism.^{xxxiii} Those who read only certain types of blogs and Web sites, for instance, can be led to believe dangerous and untrue

things. Understanding new social tools involves understanding everything they make possible, not just what we might like to be made possible. There are pro-Mubarak groups on Facebook, and there is nothing particularly democratic about the site's structure itself, which is still controlled from its corporate headquarters, fending off lawsuits from former partners and game companies, and quite far from the concerns of Egyptian human rights activists.

Return to the initial story of young, networked activists coordinating dissent on April 6th by blog, mobile phone and internet café. In the past, these groups of people would not have been able to share information so quickly – intermediaries would have been sent back and forth on the crowded streets of Cairo to update everyone about arrests and demonstrations, which themselves may have remained under the cloak of official media silence. The only way they could have passed communication between large numbers of people was by gathering together in precisely the ways that the state has become so adept at disrupting. The many-to-many communication enabled by the strike website, sympathetic blogs, Twitterers, and citizen journalists allowed a glimpse into the potential future of political and social organizing, not just in Egypt, but in authoritarian societies all over the world – regimes that have thrived and survived by preventing people from gathering, sharing knowledge, recognizing shared interests, and building dissenting movements. Although social networking technologies can't overthrow tyrannical regimes themselves, they can make it easier under certain circumstances, for the revolutionaries to come together, spread information, and press strategic openings created by economic crises, natural disasters, or political fiascoes.

The Mubarak regime is not going to fall because college students wearing funny glasses and sipping lattes start a Facebook group. In the aftermath of the failed May 4th follow-up strike, Hossam El-Hamalawy lectured his fellow activists and readers that “this technology should be complimentary and a logistical support for whatever we do ON THE GROUND.”^{xxxiii} El-Hamalawy argues that “the general *strike* is coming, but from below,” and of course he is right. There will be and can be no revolution without revolutionaries. But Hamalawy himself has elsewhere noted the enhanced communicative capabilities offered by new technologies to those seeking revolutionary change.^{xxxiv} The amplifying, coordinating, cooperative possibilities of these technologies should not be loaded with unrealistic expectations about their potential to magically usher in a revolution. April 6th was as much about the sacrifice and suffering of the workers in Mahalla – and their street battles with forces of the state – as it was about privileged Cairo elites. But Egypt's activists understand better than anyone the advantages offered by these new technologies in such moments of crisis. Their importance should not be underestimated.

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ⁱ Web 2.0 refers to trends in Internet development that emphasize collaboration, information sharing, and linkages among users. Examples include the auction site eBay, the social networking site Facebook, del.icious, a service that lets users share links, and the photo-sharing site Flickr.

- ⁱⁱ Interview with anonymous blogger, Cairo, April 6th, 2008.
- ⁱⁱⁱ Armbrust, Walter. "New Media an Old Agendas: The Internet in the Middle East and Middle Eastern Studies." *International Journal of Middle East Studies* 39 (2007): 531-533.
- ^{iv} Beinun, Joel. "Underbelly of Egypt's Neoliberal Agenda." Middle East Report Online, April 5th, 2008. <http://www.merip.org/mero/mero040508.html>
- ^v McDonough, Challiss. "Muslim Brotherhood to Boycott Local Elections in Egypt After Crackdown." *Voice of America News*. April 7th, 2008.
- ^{vi} Facebook data from <http://www.facebook.com/ads/create/> as of July 20th, 2008. There were probably considerably fewer members in March 2008.
- ^{vii} Mukkaled, Diana. "Egypt's Facebook Girl." *Asharq Alawsat* (English Edition), 4/28/08. <http://www.aawsat.com/english/news.asp?section=2&id=12582>
- ^{viii} Al-Malky, Rania. "Blogging For Reform: The Case of Egypt." *Arab Media & Society* (February 2007).
- ^{ix} Boyd, Danah M., & Ellison, Nicole. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), article 11. <http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html>
- ^x Ibid.
- ^{xi} Darabnee, Ahmed. "As-Suhuf al-qowmiya tashun Hamla Did al-Internet." ("The National Media Undertake a Campaign Against the Internet." *Al-Badeel*. April 26, 2008.
- ^{xii} Deknatel, Freddy. "A 'Failed' Strike in Egypt and Mubarak's Enduring Reputation." *The Huffington Post*. April 7th, 2008. http://www.huffingtonpost.com/freddy-deknatel/a-failed-strike-in-egypt_b_95480.html
- ^{xiii} Interview with Sandmonkey. Cairo, Egypt, April XXth, 2008.
- ^{xiv} Watts, Duncan. *Six Degrees: The Science of a Connected Age*. New York, NY: W.W. Norton and Co., 2003. p 27.
- ^{xv} Watts, Duncan. *Small Worlds: The Dynamics of Networks between Order and Randomness*. Princeton, NJ: Princeton University Press, 1999. p107.
- ^{xvi} Matthew, Richard, and Shambaugh, George. "The Limits of Terrorism: A Network Perspective." *International Studies Review* 2005 (7), 617-627.
- ^{xvii} Karpf, David. "Understanding Blogspace." Forthcoming (2008).
- ^{xviii} Ibid.
- ^{xix} Shirky, Clay. *Here Comes Everybody: The Power of Organizing Without Organizations*. New York, NY: The Penguin Press, 2008.
- ^{xx} Ibid. 200-202
- ^{xxi} Shirky, Clay. *Here Comes Everybody: The Power of Organizing Without Organizations*. New York, NY: The Penguin Press, 2008. p265.
- ^{xxii} Author's translation.
- ^{xxiii} Abdul-Raouf, Du'aa. "Was the April 6th Strike Successful?" *IkhwanWeb*. April 10th, 2008. <http://www.ikhwanweb.com/Article.asp?ID=16634&SectionID=86>
- ^{xxiv} Shehab, Shaden "Riding the Storm." *Al-Ahram Weekly*. 10-16 April, 2008.
- ^{xxv} see Deknatel, Freddy. "A 'Failed' Strike in Egypt and Mubarak's Enduring Reputation." *The Huffington Post*. April 7th, 2008. http://www.huffingtonpost.com/freddy-deknatel/a-failed-strike-in-egypt_b_95480.html
- ^{xxvi} Watts, Duncan. *Small Worlds: The Dynamics of Networks between Order and Randomness*. Princeton, NJ: Princeton University Press, 1999. p 12.
- ^{xxvii} Ibid. p 15.
- ^{xxviii} Freyberg-Inan, Annette. "Just how small is this world really? An application of small world theory to the study of globalization." *Global Networks* 6, 3 (2006), 221-224.
- ^{xxix} Matthew, Richard, and Shambaugh, George. "The Limits of Terrorism: A Network Perspective." *International Studies Review* 2005 (7), 617-627. p 618.
- ^{xxx} Schultz, Dan. A DigiActive Introduction to Facebook Activism. http://www.digiactive.org/wp-content/uploads/digiactive_facebook_activism.pdf
- ^{xxxi} Armbrust, Walter. "New Media an Old Agendas: The Internet in the Middle East and Middle Eastern Studies." *International Journal of Middle East Studies* 39 (2007): 531-533.

^{xxxii} Sunstein, Cass. *Infotopia: How Many Minds Produce Knowledge*. New York, NY: Oxford University Press, 2006.

^{xxxiii} El-Hamalawy, Hossam. "A Call to Blog-Arms." *3Arabawy*. February 26th, 2008.
<http://arabist.net/arabawy/2008/02/26/a-call-to-blogo-arms/>

^{xxxiv} El-Hamalawy, Hossam. "Egyptians Ignore Strike Call by Facebook Activists." *3Arabawy*. May 5th, 2008. <http://arabist.net/arabawy/2008/05/05/egyptians-ignore-strike-call-by-facebook-activists-group/>