The Role of Science and Technology as Empowerment of Person and State

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Introduction

Information and communication technologies (ICTs) are empowering individuals and allowing them to exercise self-determination and impact their governments and foreign policy in an unprecedented manner. ICTs are also creating "global citizens" and extending their influence to political elections and domestic agendas outside of their own countries. For example, the 2008 U.S. presidential election was clearly impacted by the gushing support that Europeans displayed for Barack Obama; his speech in Berlin was broadcast around the globe and widely distributed over the Internet. By declaring, "People of Berlin, people of the world, this is our moment. This is our time," he expanded the circle of influence upon American voters to the entire world.

A more recent phenomenon involves the role that social networking technologies are playing in the recent uprisings in the Middle East and North Africa (known as the "Arab Spring"), and the way they are changing the cultures of these countries. Individuals are also using ICTs to disclose information and impact global events. For example, Pfc. Bradley Manning's alleged theft of confidential U.S. diplomatic cables and Julian Assange's disclosure of them through his organization WikiLeaks provided a treasure trove of information that weakened and embarrassed governments and empowered protestors in numerous countries.

ICTs also strengthen the nation state. Satellites, the Internet, landline and mobile telephony, cable, radio, and broadcast have converged into a powerful weapon that can be manipulated by governments through their ownership of communication gateways, regulatory authority, and control over broadcast licenses and spectrum. They represent a serious capability in the correlation of forces that a nation can bring to bear against its adversaries. Government-owned media, such as Al-Jazeera (Qatar) and Al-Arabhiya (Saudi Arabia), enable countries to exercise a shadow power that broadens their sphere of influence and, in the case of Al-Jazeera, extends Qatar's diplomatic clout far beyond usual zones.

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Individuals and governments alike have learned lessons from the Arab Spring uprisings. Similar to the Tunisian and Egyptian demonstrations, the recent riots in London were fueled and organized using Facebook, Twitter, and messaging systems. Also, equally similar to the actions taken by Egypt and other Middle Eastern governments, a frustrated U.K. government responded with proposals/threats to cut off social media communications, alarming activists and communications providers.

The interests of the nation state against the rights of the individual are colliding, with ICTs being the tool of choice to assert power by both sides. How governments are leveraging their control over communications, especially when used to restrict or cut off the individual right to freedom of expression, is raising serious legal and policy issues that merit a wide discussion. These are hard issues that cannot be dismissed with declarations that the Internet must never be shut down or that people must retain the right to freely communicate no matter what the circumstance. There may be situations when the Internet may need to be cut off for a period of time, just as the U.S. closed all air traffic on 9/11. For example, such action might be prudent if an exploit that came through Internet-connected control systems was causing water systems to be contaminated. Likewise, some instances of personal communication may be outside the right to freedom of speech, as noted by the U.S. Supreme Court in *Brandenburg v. Ohio,* when it ruled that freedom of speech does not extend "where such advocacy is directed to inciting or producing imminent lawless action and is likely to incite or produce such action."[2]

Empowering the Individual

Article 19 of the Universal Declaration of Human Rights (UDHR*)* guarantees the right to freedom of expression:

> Everyone has the right to freedom of opinion and expression; this right includes
> the right to hold opinions without interference and to seek, receive and impart
> information and ideas through any media and regardless of frontiers.[3]

Drafted in less than two years and passed with only eight United Nations (UN) member nations abstaining and none opposing, the UDHR stands as one of the lasting, positive outcomes of World War II. A member of the drafting sub-committee, Hernán Santa Cruz of Chile, later wrote about the UN's agreement on sweeping language at a time when the world was divided into Eastern and Western blocs:

> I perceived clearly that I was participating in a truly significant historic event in
> which a consensus had been reached as to the supreme value of the human person,
> a value that did not originate in the decision of a worldly power, but rather in the
> fact of existing—which gave rise to the inalienable right to live free from want
> and oppression and to fully develop one's personality. In the Great Hall…there
> was an atmosphere of genuine solidarity and brotherhood among men and women

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[2] *Brandenburg v. Ohio,* 395 U.S. 444 (1996), http://supreme.justia.com/us/395/444/case.html ("Freedoms of speech and press do not permit a State to forbid advocacy of the use of force or of law violation except where such advocacy is directed to inciting or producing imminent lawless action and is likely to incite or produce such action.").

[3] United Nations General Assembly Resolution 217A (III), Dec. 10, 1948, http://www.un.org/en/documents/udhr/.

from all latitudes, the like of which I have not seen again in any international setting.[4]

Although the UDHR is not directly binding on UN member states, portions of it, including Article 19, have acquired legal force as customary international law.[5]

The right to freedom of expression is also guaranteed in the International Covenant on Civil and Political Rights (ICCPR), a treaty that has been ratified by 167 countries. Also in Article 19, the ICCPR language parallels the UNDR, but goes farther and specifies that the right applies regardless of whether the expression is made "orally, in writing or in print, in the form of art or through any other media of his choice."[6] In addition, the right to freedom of expression is set forth in the three major regional human rights treaties: the American Convention on Human Rights (Article 13),[7] the European Convention on Human Rights (Article 10),[8] and the African Charter on Human and Peoples' Rights (Article 9).[9]

The reach of the protection of the right to freedom of expression was succinctly set forth by the European Court of Human Rights:

> [F]reedom of expression…is applicable not only to "information" or "ideas" that are favourably received…but also to those which offend, shock or disturb the State or any other sector of the population. Such are the demands of pluralism, tolerance and broadmindedness without which there is no "democratic society….In its social dimension, freedom of expression is a means for the interchange of ideas and information among human beings and for mass communication.[10]

It is important to note that the guarantee of freedom of expression is particularly applicable to the media, including broadcast media, because it is the primary conduit of information to the public. Strong statements of protection for freedom of expression by the general media have been put forward by the Inter-American Court of Human Rights, the European Court of Human Rights, and the African Commission on Human and Peoples' Rights. Since the legal obligations for ensuring freedom of expression apply to member states, public media stations are particularly bound to uphold it.[11] The infringement of this right by government leaders for their own purposes is, therefore, particularly egregious.

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[4] "The Universal Declaration of Human Rights: History of the Document," http://www.un.org/en/documents/udhr/history.shtml.
[5] *See, e.g., Barcelona Traction, Light and Power Company Limited Case* (Belgium v. Spain) (Second Phase), ICJ Rep. 1970 3 (Int'l Court of Justice); *Namibia Opinion*, ICJ Rep. 1971 16, Separate Opinion, Judge Ammoun (Int'l Court of Justice).
[6] UN General Assembly Resolution 2200A(XXI), Dec. 16, 1966, entered into force Mar. 23, 1976.
[7] Adopted Nov. 22, 1969, entered into force July 18, 1978.
[8] Adopted Nov. 4, 1950, entered into force Sept. 3, 1953.
[9] Adopted June 26, 1981, entered into force Oct. 21, 1986.
[10] *Handyside v. the United Kingdom,* Application No. 5493/72, para. 49, Dec. 7, 1976.
[11] Toby Mendel, *Public Service Broadcasting: A Comparative Legal Survey,"* United Nations Educational, Scientific and Cultural Organization, 2011, 2nd ed. at 9-12.

The Arab Spring uprisings were ignited by a young fruit merchant who set himself on fire in Tunisia following police harassment,[12] and it spread to Egypt after a 28-year-old Egyptian man named Khaled Said died from a beating by police. When a young Google executive, Wael Ghonim, dedicated a Facebook page to Mr. Said that "went viral" and spread globally in a very brief period of time, it inspired the Egyptians' ouster of Mr. Mubarek.[13]

There was no videotape of the scene when the Tunisian fruit vendor, Mohammed Bouazizi, argued with a retaliatory policewoman and then set himself on fire in protest of repeated abuses by police that kept him from earning a living. Following his death, however, his cousin filmed a small demonstration about the treatment of vendors that was held in front of the city hall and posted it on Facebook. Tunisia has the highest Internet usage of any Arab country, but it has been one of the most restrictive in censoring online content. Social networking sites, however, were a step ahead of government censors. One day after the Facebook posting, Al-Jazeera picked up the video clip and repeatedly broadcast it. A reporter for a Tunisian radio station summed up the electrifying effect of the video and story of Bouazizi: "Every family here has somebody who lost a job or was denied a raise or was called in by state security. Bouazizi just gave us the courage to let it out."[14]

A revolution was born. Former president Zein al-Abidine Ben Ali was forced from office after a 23-year stronghold, largely due to the Internet's ability to show Tunisia's youth how their lives differed from people in democratic societies. When U.S. diplomatic cables released by WikiLeaks confirmed long-standing rumors about corruption in the Tunisian government, particularly within the families of the president and his wife, a frustrated population turned angry.[15] Young, disenfranchised men and women shed the cloak of fear their government had wrapped around them, and used the Internet and social media to ignite a revolution that toppled their own regime and inspired a region.

The Egyptian uprising began with demonstrations of striking workers, which were largely leaderless and organized over the Internet.[16] The anger of the people was stoked by the Facebook page that Google executive Wael Ghonim posted of murdered Khaled Said[17] and news accounts detailing corruption and enrichment of those in power.[18] Mr. Said's problems were, ironically, born from the Internet. He was in his upstairs apartment working on his computer when his Bluetooth picked up a video clip that was being viewed by police officers in an Internet café beneath him. The video showed officers dividing up seized narcotics and cash. Mr. Said showed the video to friends and forwarded it to others. Two of the officers pictured in the video tracked Said and grabbed him outside of the Internet café. They proceeded to brutally beat him to death. Authorities then told his family that he was at the morgue and had died of a heart

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[12] Marc Fisher, "The spark that ignited a Revolution," *The Washington Post,* Mar. 27, 2011 at A1, A10-11.
[13] Andrew England and Heba Saleh, "Freed hero steps into a dead man's shoes," *Financial Times,* Feb. 10, 2011 at 4; Ernesto Londono, "Fatal beating became symbol of callous state," *The Washington Post,* Feb. 6, 2011 at A10.
[14] Marc Fisher, "The spark that ignited a Revolution," *The Washington Post,* Mar. 27, 2011 at A1, A10-11
[15] Roula Khalaf, "Time for Arab leaders to watch cable TV – and quake," *Financial Times,* Jan. 15-16, 2011 at 7.
[16] Heba Saleh and Roula Khalaf, "Opposition strives to exploit anger," *Financial Times*, Jan. 28, 2011 at 6.
[17] Andrew England and Heba Saleh, "Freed hero steps into dead man's shoes," *Financial Times,* Feb. 10, 2011 at 4.
[18] Andrew England, Michael Peel, and Heba Saleh, "Egyptian workers stage fresh strikes," *Financial Times,* Feb. 20, 2011 at 4.

problems related to a drug overdose. Disbelieving the authorities, the family bribed a guard to take a photo of Said's body. When Egyptian prosecutors were confronted with the evidence of a horribly beaten young man, they were reluctant to pursue the case. Said's father held a news conference and set up a Facebook page, showing the police brutality.[19] Similar to the impact that Bouazizi's plight had on Tunisians, the killing of Said reminded Egyptians of the injustices that they themselves had suffered under Mubarek's regime, and it lit a revolt.

The protests that toppled Mubarek's 30-year regime was largely fueled by Facebook and Twitter and assisted by television. The messages and images sent around the world revealed the incredible courage of young men and women, who had been protesting peacefully, as they suddenly faced systematic and coordinated attacks from government-sponsored thugs and dodged Molotov cocktails, charging camels and horses with riders bearing whips and machetes, and vehicles wildly careening through crowds of protesters.[20] Journalists from CNN, BBC, The Washington Post, Associated Press, Danish TV2 News, and Swiss television also were assaulted.[21] These images enhanced the Egyptian public's distrust of the Mubarek regime, and they responded to the attacks by flooding Tahrir Square with an estimated 100,000 people chanting "Down with the regime" and calling for the Mubarek to leave.[22]

The Egyptian protesters also were emboldened by the Wikileaks disclosure of confidential U.S. diplomatic cables that revealed the Egyptian army was hardly the cohesive force it presented to the public, and that it was not in favor of Mubarek's son succeeding him as president. Cables from high ranking U.S. diplomats revealed factionalism and mistrust within the military and referred to the Egyptian defense minister as "Mubarek's poodle." These diplomatic cables gave the Egyptian protesters hope that they were not alone in their discontent; the military also might stand with them.[23] Other cables disclosed by WikiLeaks revealed the true depths of the close relationship between the U.S. and Omar Suleiman, the former head of Egyptian intelligence and then-vice president, whom the Obama Administration had deemed central to an orderly transition of power from Mubarek to a new government. One cable referred to Suleiman as "the most successful element" of the U.S.-Egypt relationship.[24] Further revelations in the cables revealed the unfavorable views of Suleiman by Israel and his close ties with Iraqi Sunni insurgents.[25] All in all, the cables turned the protesters against Suleiman and surely contributed to the protestors' demands that he also go from office.

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[19] Ernesto Londono, "Fatal beating became symbol of callous state," *The Washington Post,* Feb. 9, 2011 at A10.
[20] Will Englund and Leila Fadel, "Mubarek supporters confront protestors," *The Washington Post,* Feb. 3, 2011 at A1, A11; *see also* Ahmed Alaidy, "I thought one day my grandson might see this. But here I am." *The Washington Post,* Feb. 6, 2011 at B4.
[21] Christopher Torchia, "Journalists are attacked in Cairo," Feb. 3, 2011 at A12.
[22] Michael Peel, Andrew England, and Steve Negus, "Anti-regime protests regain impetus," *Financial Times,* Feb. 5-6, 2011 at 2; *see also* Heba Saleh, "Besieged leaders struggle to find a strategy," *Financial Times,* Feb. 5-6, 2011 at 2.
[23] David Blair and Helen Warrell, "WikiLeaks cables portray army riven by factionalism," *Financial Times,* Feb. 5-6. 2011 at 2.
[24] Helen Warrell and David Blair, "Leaked cables reveal faith in Suleiman's ability," *Financial Times,* Feb. 7, 2011 at 3.
[25] *Id.*

The use of the Internet and social networking sites, particularly Facebook and Twitter, has been instrumental in the dissemination of information among protestors across the Middle East and has facilitated their ability to organize. These technologies have become a fount of courage, hope, and inspiration and are fueling the determination of these people to risk their lives for freedom. Beyond these beneficial uses, however, ICTs have been used by ruthless and desperate leaders to attack peaceful protestors, spread propaganda, and stop the flow of communications for strategic advantage. In the days prior to the coordinated attacks on the Egyptian protestors, Mubarek tried to curb the demonstrations by shutting off the Internet. The individual response to the Egyptian shutdown of the Internet was broadened when the international hacking group known as Anonymous showed support for the protestors by orchestrating a distributed denial of service (DDOS) attack against important Egyptian government websites.[26]

To counter communication blockages and relay the events as they unfolded, the major media channels relied upon scientific-derived technologies, such as satellites and Google maps, to broadcast and report events, even when heavy censorship has been in place. The ability to bring instant information and visual depictions to the global population helped protect the human rights of the protestors, as images of brutality against unarmed citizens resulted in condemnation by leaders of nation states and international action by the United Nations and NATO.

As reporter Marc Fisher noted:

> In Tunisia and then in Egypt and across the region, people who had complained only to friends and family felt the fear that their rulers depended upon dissipate like air from a pierced balloon. The wizards who commanded seemingly omnipresent secret police forces were revealed to be just old men behind a curtain, running state security operations that didn't even know how to handle a virus of rebellious Facebook pages.[27]

Kathleen Parker brilliantly dubbed the Egyptian uprising as the "digitally inspired revolt" that was waged on a "digital battlefield" whose "front lines were manned with typists."[28] She further noted:

> The transformation taking place isn't only for Egypt but for mankind....Perhaps we are not doomed after all....Unarmed men and women inspired by tweets of freedom stared into the bullying armaments of dead ways. It was a stark image of the prolonged battle between good and evil....This time, enabled by what we casually call social media, evil may finally be outgunned.[29]

The common Western view that the only alternative to these autocratic regimes is Islamic fundamentalism is being tested by individuals who are charting a new path.[30]

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[26] rwaters, "Anonymous Strikes Egypt," Digital Forensic Investigator News, Feb. 4, 2011, http://www.dfinews.com/e-newsletter/february-4-2011-anonymous-strikes-egypt-photographer-faces-child-porn-charges-doj-seeks.

[27] Marc Fisher, "The spark that ignited a Revolution," *The Washington Post,* Mar. 27, 2011 at A1, A10-11.

[28] Kathleen Parker, "Tweets vs. tanks in Tahrir, *The Washington Post,* Feb. 13, 2011 at A25.

[29] *Id.*

[30] Roula Khalaf, "Time for Arab leaders to watch cable TV – and quake," *Financial Times,* Jan. 15-16, 2011 at 7.

The repercussions from the Egyptian and Tunisian uprisings spread like a tsunami across the Middle East and triggered responses from governments. Media around the world reported protests in Iran, Bahrain, and Yemen,[31] Libya, Morocco,[32] Syria, Jordan, Saudi Arabia, and Oman.[33] Rulers from country after country appeared before the media announcing concessions to their people, fearful that they might be next to topple. Jordanian King Abdullah fired his cabinet and appointed a new prime minister, Yemen's president announced he would not seek re-election,[34] Algeria's president announced that he would lift the 19-year emergency rule and allow opponents access to television and radio,[35] and Syrian officials said that bans on Facebook and YouTube would be lifted for the first time in three years.[36] Money also began to flow from kingdom coffers to the people. Kuwait's Sheikh Sabah Al Ahmed Al Sabah Kuwait's ruler said he would give grants of about US$ 3,500 and food coupons to all one million Kuwaiti citizens,[37] and Saudi Arabia's King Abdullah announced he was allocating $35 billion to address affordable housing and youth unemployment.[38] In the midst of this, the Palestinian cabinet resigned and did not deny that the regional turmoil had been a factor.[39] The release of 1,600 documents on Palestinian concessions to Israel during peace talks that were made public by Al-Jazeera a couple of weeks earlier angered the Palestinian population.[40] The documents, posted on the Al-Jazeera website called Palestine Papers, included memoranda, emails, maps, minutes, and notes of high-level meetings from 1999 to 2010.[41]

Individuals also played a significant role in bringing news updates to the international press via their mobile phones, Skype, Facebook, Twitter, and email. For example, a Syrian who fled to Beirut, spends his days in his apartment collecting information from Syrians via Skype and then passing it on to media organizations that were expelled from Syria soon after the protests began. He retweets threats that he receives from the Syrian government and sends tips to Syrians on how to upload videos to YouTube.[42] Government actions captured on video also helped empower the Syrian protestors. One video showing Syrian security forces placing weapons on

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[31] Sudarsan Raghavan, "Egypt's revolt stokes fires regionwide," *The Washington Post,* Feb. 15, 2011 at A1, A10.

[32] Sudarsan Raghavan, "Arab leaders use varying tactics to try to calm anger in the streets," *The Washington Post,* Feb. 21, 2011 at A9.

[33] "The Arab spring: the first three months," *Financial Times,* Apr. 2-3, 2011 at 3.

[34] Janine Zacharia, "An uncertain path to political change," *The Washington Post,* Feb. 6, 2011 at A1, A13; Tobias Buck, "King of Jordan promises reform, *Financial Times,* Feb. 2, 2011 at 3.

[35] Christian Lowe and Lamine Chikhi, "Snap analysis – Algeria to lift emergency rule soon," Reuters.com, http://www.reuters.com/article/2011/02/03/uk-algeria-emergency-repeal-snap-idUKTRE71268320110203.

[36] Bassem Mrouh, "Syrians see social-media sites; 3-year-old ban could be over," *The Washington Post,* Feb. 9. 2011 at A11.

[37] "Kuwait ruler orders to give money, food coupons to all citizens," albawaba, Jan. 17, 2011, http://www.albawaba.com/main-headlines/kuwait-ruler-orders-give-money-food-coupons-all-citizens.

[38] Deborah Amos and Steve Inskeep, "Saudi Arabia Uses Money to Address Protestor Issues," National Public Radio, Feb. 24, 2011, http://www.npr.org/2011/02/24/134017770/Saudi-Arabia-Update.

[39] Janine Zacharia, "Palestinian cabinet quits amid regional turmoil," *The Washington Post,* Feb. 15, 2011 at A12.

[40] Joel Greenberg, "Palestinian Erekat says he quit to set example of accountability," *The Washington Post,* Feb. 16, 2011 at A 10;

[41] Janine Zacharia, "Al-Jazeera will release 'Palestine Papers,'" *The Washington Post,* Jan. 24, 2011 at A7; *see also,* Tobias Buck, "Ramallah accuses al-Jazerra of plot to weaken Abbas," *Financial Times,* Jan. 25, 2011 at 6.

[42] Tara Bahrampour, "In Syria, a push to end decades of isolation," *The Washington Post,* Apr. 17, 2011 at A1, A16.

the bodies of dead protestors was posted on YouTube by activists to show how desperately the Syrian government wanted to mask the protests as an armed revolt.[43]

Another aspect of how ICTs can empower the individual was evidenced by a protest campaign launched by Qatari citizens against the country's primary telecommunications provider, Qtel. Using social media sites, such as Facebook and Twitter, the organizers asked Qtel subscribers to shut off their phones for an hour on July 7, 2011, as a campaign for better coverage and lower rates. Protesters tried to lessen the risk of getting jailed for their actions by clarifying that, "We are happy with the political set-up [of the country], we are not happy with the service."[44] The campaign eventually led to a meeting between the organizers and QTel officials. The organizers were emboldened by the role that their country has played in reporting on the Middle East uprisings through the Qatari government-owned television channel, Al-Jazeera,[45] which is an interesting twist on how government use of ICTs worked to empower its own citizens.

The Chinese government has historically engaged in heavy censorship of its citizens, including blocking Internet websites and filtering communications. The desire for individual expression is great, however, and Chinese citizens are increasingly innovative in using cutting edge technologies to circumvent government controls. A U.S.-based group of Chinese activists formed the Global Internet Freedom Consortium to provide technologies to allow the Chinese people unfettered Internet access.   The Consortium also empowers individuals in other authoritarian regimes. For example, it opened up its network and technologies to individuals in Iran who were seeking to use the Internet during protests in 2008 and played a significant role in getting news of the events out of Iran.[46] Microblogs, the140-character messages called "weibo," are the newest means of disseminating opinions and debating issues in China. A step ahead of the government censors, an associate professor at Peking University, Hu Yong, has noted that, "Weibo has become the most prominent place for free speech in China."[47]

Empowering the Nation State

Authoritarian regimes have become ever more aware of the threat that ICTs pose to their control over their populations. The U.S. State Department's 2011 annual report on human rights notes that:

> Today there are more than two billion people with Internet access spread across most countries of the world, and around five billion mobile phone subscriptions. These numbers are projected to grow dramatically in the next 15 years. And as more people gain access to these remarkable technologies, and use them both to gather and impart information on human rights and to communicate with other activists, an increasing number of governments are spending more time, money, and attention in efforts to curtail access to these new communications outlets.

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[43] Liz Sly, "Syria says protestors killed security forces," *The Washington Post,* June 7, 2011 at A1, A7.
[44] Abeer Allam, "Revolts inspire Qataris to take on telecom group," *Financial Times,* July 20, 2011 at 6.
[45] *Id.*
[46] John Markoff, "Iranians and Others Outwit Net Censors," *The New York Times,* Apr. 30, 2011, http://www.nytimes.com/2009/05/01/technology/01filter.html?pagewanted=all.
[47] Keith B. Richburg, "In China, microblogs serve as free-speech forum," *The Washington Post,* Mar. 28, 2011 at A6.

More than 40 governments are now using a combination of regulatory restrictions, technical controls on access to the Internet, and technologies designed to repress speech and infringe on the personal privacy of those who use these rapidly evolving technologies.[48]

The Egyptian government used the full array of ICTs available to them in its desperate attempt to manipulate whomever would listen and remain in power. In an attempt to counter the influence of Mohamed ElBaradei, the Mubarek government launched a media campaign against him, which included putting up a Facebook page of Mr. ElBaradei's family that contained photographs of his daughter in a swimsuit – images certain to inflame many Muslims.[49] Hosni Mubarek appeared on ABC News to claim that he wanted to step down as president, but he feared that chaos would result. Thus, he argued that he should remain in office to protect the people. He then used state-owned television to try to convince the public that the protestors were foreigners acting against their interests and creating unnecessary hardships.[50]

Recognizing the role that the Internet and social media sites were playing in helping the protestors organize and spread their message, Mubarek took the extraordinary measure of shutting down the Internet for five days by leveraging the country's ownership of the lines that carry communications in and out of Egypt and by threatening to pull providers' licenses if they did not immediately shut down service.[51] He then sent pro-government text messages over Vodafone and France Telecom's networks, putting the companies at risk of reputational damage and backlash from customers and activists.[52] The government's restoration of Internet service coincided with violent and coordinated attacks on the protesters in Tahrir Square,[53] providing the Mubarek government with the capability to coordinate the attacks and maintain situational awareness.[54]

Finally, Mubarek stunned the world by using global media channels do an about-face and defiantly refuse to step down from power as expected. In the end, his use of the media was his undoing. The crowds in Tahrir square were inflamed by Mubarek's refusal to step down, and foreign leaders were embarrassed and dismayed.[55] A spokesman for the Egyptian army then

[48] *2010 Country Reports on Human Rights Practices,* U.S. Department of State, at 3, http://www.state.gov/g/drl/rls/hrrpt/2010/#.

[49] Heba Saleh and Roula Khalaf, "Opposition strives to exploit anger," *Financial Times*, Jan. 28, 2011 at 6.

[50] Michael Peel, Andrew England, and Steve Negus, "Anti-regime protests regain impetus," *Financial Times,* Feb. 5-6, 2011 at 2.

[51] James Glanz and John Markoff, "Egypt's Autocracy Found Internet's 'Off' Switch," *The New York Times*, International Edition, Feb, 16, 2011 at A1, A10; Tim Bradshaw, "Telecoms blackout condemned," *Financial Times,* Jan. 29-30, 2011 at 2.

[52] Andrew Parker and Jennifer Thompson, "UK Tackles Cairo over networks abuse allegations," *Financial Times,* Feb. 5-6, 2011 at 10; Andrew Parker, "Vodafone protests over mass texting," *Financial Times,* Feb. 4, 2011 at 2.

[53] Bill Woodcock, "Overview of the Egyptian Internet Shutdown," Packet Clearing House, Presentation to the DHS Infosec Technology Transition Council, Feb. 11, 2011, www.pch.net/resources/misc/Egypt-PCH-Overview.pdf.

[54] Will Englund and Leila Fadel, "Mubarek supporters confront protestors," *The Washington Post,* Feb. 3, 2011 at A1, A10-11.

[55] Roula Khalaf and Heba Saleh, "Mubarek defies calls to resign," *Financial Times,* Feb. 11, 2011 at A1; Roula Khalaf and Andrew England, "Jubilation turns to seething anger," *Financial Times,* Feb. 11, 2011 at 4; Craig Whitlock, "Mubarek refuses to step down," *The Washington Post,* Feb. 11, 2011 at A1, A8; Ernesto Londono and Leila Fadel, "For joyous throngs, history never materializes," *The Washington Post,* Feb. 11, 2011 at A1, A9

appeared on television in a somewhat "quasi-coup" to effectively announce that the military would protect the people and the stability of the country.[56]

Mubarek's heavy-handed tactic to shutdown the Internet was not without a price, economically, politically, and personally. The Organisation of Economic Co-operation and Development (OECD) estimated that the shutdown cost the Egyptian government at least US$ 90 million due to lost revenue from communication services. The economic hit to its thriving IT sector, tourism, and other activities central to Egypt's economy was certainly substantial.[57] On the personal front, an Egyptian administrative court fined Mubarak US$ 33.5 million and two of his colleagues an additional $57 million for "causing damage to the national economy."[58] The political costs to the Mubarek government were even greater; Egyptians sympathetic to the protestors were furious, and there was international uproar over the attacks on protestors and journalists and the shutdown of communications.[59] The UK government lodged a complaint with Egyptian authorities about the misuse of Vodafone's mobile network to send pro-government text messages,[60] and U.S. Secretary of State Hillary Clinton warned governments that blocking the Internet would impede economic growth and cause unrest.[61]

The Libyan uprising that followed Egypt, which now has turned into a full-fledged civil war, is replete with similar anecdotes and reports of the use of ICTs by Muammar Gaddafi and his regime. Gaddafi and his sons have used state media for propaganda, threats, and rants vowing to fight to "the end" or die as a martyr.[62] WikiLeaks played a familiar role as leaked cables revealed the wealth amassed by the Gaddafi family over four decades of rule, fueling the anger of long-repressed Libyans.[63] Other cables revealed the depths of his manipulation and ability to marginalize all those around him, even his children.[64] Following Egypt's lead, Gaddafi also blocked Facebook and new websites, and then shutdown the Internet prior to broad attacks on protestors. Since Libya is a monopoly telecom provider, Gaddafi's ability to shut off communications is rather straight forward, but the effect of the shutdown was not felt as acutely as in Egypt or Tunisia because Libya's connectivity is much lower than either country.[65]

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[56] Roula Khalaf, "Dramatic twist unfolds as military steps in," *Financial Times,* Feb. 11, 2011 at 4.
[57] "The economic impact of shutting down the Internet and mobile phone services in Egypt," Organisation for Economic Co-operation and Development, Feb. 4, 2011, http://www.oecd.org/document/19/0,3746,en_2649_201185_47056659_1_1_1_1,00.html.
[58] Shaimaa Fayed, "Court orders Mubarek to pay fine of $33.5 million," *The Washington Post,* May 29, 2011 at A13.
[59] *See, e.g., Michael Peel, Andrew Englund, and Heba Saleh, "Egypt clashes intensify,"* Financial Times, Feb. 4, 2011 at 1.
[60] Andrew Parker and Jennifer Thompson, "UK Tackles Cairo over networks abuse allegations," *Financial Times,* Feb. 5-6, 2011 at 10.
[61] Mary Beth Sheridan, "Clinton warns other nations; Blocking Internet will backfire," *The Washington Post,* Feb. 16, 2011 at A11.
[62] *See, e.g.,* Sudarsan Raghavan, "Gaddafi vows to fight until 'the end,'" *The Washington Post,* Feb. 23, 2011 at A1, A8; Andrew England and Heba Saleh, "Desperate Gaddafi clings on," *Financial Times,* Feb. 22, 2011 at 1; Heba Saleh and Andrew England, "Gaddafi vows to fight to the death," *Financial Times,* Feb. 23, 2011 at 1.
[63] Michael Peel, "Fortune amassed in 41 years of tyranny," *Financial Times,* Feb. 23, 2011 at 1, 3.
[64] Craig Whitlock, "Behind eccentricities, Gaddafi has deft control," *The Washington Post,* Feb. 23, 2011 at A9.
[65] Steven J. Vaughan-Nichols, "Libya turns off the Internet and the Massacres begin," ZDnet.com, Feb. 20, 2011, http://www.zdnet.com/blog/networking/libya-turns-off-the-internet-and-the-massacres-begin/711.

Following the entry of NATO into the Libyan conflict, numerous stories appeared regarding Gaddafi's use of television to try to convince the Libyan people that the NATO forces killing them instead of supporting them. In one instance, as journalists crowded around a baby who reportedly was killed by a NATO airstrike, a Reuters reporter was given a handwritten note that said the baby was the victim of a road accident.[66]

The Syrian uprisings most parallel those of Tunisia and Egypt. Images of Hamza al-Khateeb, a thirteen year-old boy who had been cruelly tortured at the hands of Syrian officials, were broadcast on Al-Jazeera. The resulting outrage caused him to become the face of the Syrian protests, similar to Khaled Said in Egypt and Mohammed Bouazizi in Tunisia.[67] The broadcast resulted in a call for "Children's Friday," to protest the deaths of children that had occurred since the protests began, and 50,000 protestors took to the streets. The Syrian government responded by shutting off Internet service.[68]

Bahrain's protests followed a similar pattern with Al-Jazeera coverage of the protestors followed by concessions from the government, the firing of ministers,[69] government shutdowns of the Internet,[70] and blockages of Facebook and websites.[71] Al-Jazeera showed the Saudi military entering Bahrain to help the government clamp down on protestors,[72] but, as in Libya, much communication was cutoff prior to military assaults against peaceful demonstrators.[73]

In Yemen, the pattern was repeated, with the heightened prominence of Al-Jazeera. One protestor held up a sign written in English declaring that, "Al Jazeera is part of our revolution."[74] Foreign journalists were detained and deported,[75] and dramatic televised addresses from the president were aired, but this time from Saudi Arabia, where he had fled.[76]

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[66] Simon Denver, "Libyan regime failing to prove its accusations against NATO," *The Washington Post,* June 7, 2011 at A8.

[67] Liz Sly, "Apparent torture of boy, 13, sparks protests in Syria," *The Washington Post,* May 30, 2011 at A12.

[68] Elizabeth Flock, Syria internet services shut down as protesters fill streets," *The Washington Post, blogPost*, June 3, 2011, http://www.washingtonpost.com/blogs/blogpost/post/syria-internet-services-shut-down-as-protesters-fill-streets/2011/06/03/AGtLwxHH_blog.html.

[69] Robin Wigglesworth and Simeon Kerr, "Bahrain rulers put 'all options' on the table," *Financial Times,* Feb. 26-27, 2011 at 3.

[70] Steven J. Vaughan-Nichols, "Libya turns off the Internet and the Massacres begin," ZDnet.com, Feb. 20, 2011, http://www.zdnet.com/blog/networking/libya-turns-off-the-internet-and-the-massacres-begin/711.

[71] "Internet Enemies 2011: Countries under surveillance – Bahrain," United Nations High Commission on Refugees, http://www.unhcr.org/refworld/country,,RSF,,BHR,,4d82268a21,0.html.
Bahrain: More websites and blogs blocked by authorities," Facebook,

[72] "Saudi soldiers sent into Bahrain," Al-Jazeera, Mar. 15, 2011, http://english.aljazeera.net/news/middleeast/2011/03/2011314124928850647.html.

[73] Dan Goodin, "Internet use disrupted in Bahrain as protests turn bloody," *The Register*, Feb. 18, 2011, http://www.theregister.co.uk/2011/02/18/bahrain_internet_disruption/; Joe Weisenthal, "The Mideast Right Now: Internet Shutdown In Bahrain, Violence In Yemen, Media Blackout In Iran," *Business Insider,* Feb. 16, 2011, http://www.businessinsider.com/mideast-update-march-16-2011-2.

[74] "Yet more cracking down," *The Economist,* Mar. 19, 2011.

[75] *Id*.

[76] Michael Peel and Noah Browning, "President adds twist to Yemen crisis," *Financial Times,* July 8, 2011 at 6.

Other governments are learning by watching how individuals' use of ICTs have trumped years of diplomatic efforts. Ezzedine Choukri, political science professor at the University of Cairo and former diplomat and UN advisor, succinctly noted:

> [T]he protests show the limits of foreign intervention. The regime had defeated eight years of pressure from the Bush administration (and ignored President Obama's more hesitant attempts) aimed at achieving modest reforms. Yet eight days of protests convinced Hosni Mubarek to accept far-reaching reforms and an end to his rule. International players figured in the script, but only in supporting roles.[77]

As Nobel laureate, Joseph Stiglitz recently noted, "On its own, Tunisia has done more to advance the cause of democracy than any of the west's military actions in the Middle East."[78]

The U.S. government is trying to leverage the power of ICTs to promote democracy. In early 2011, the U.S. State Department began using Twitter to send U.S. messages in Arabic and Farsi to the Middle East, calling the feed the "Department of State Arabic Media Hub."[79] It already has feeds in French and Spanish and will add Chinese, Hindi, and Russian Twitter feeds in the near future.[80] U.S. Secretary of State Hillary Clinton offered to personally answer online questions from Egyptians and received more than 6,500 responses. In responding to a fraction of the questions, she acknowledged that the U.S. government had to go beyond diplomatic exchanges and include grassroots movements in its formulation of foreign policy. If nothing else, the online session highlighted the role that the Internet is sure to play in U.S. foreign policy.[81] More recently, President Obama held the U.S. government's first town hall meeting via Twitter on July 6, 2011, and will use the data gleaned from the feeds to better understand citizens' concerns and views. [82]

Although some local Chinese communist party officials, government propaganda personnel, and municipal police officials in China have begun to use microblogs,[83] restrictive governments like Iran and China reacted negatively to the uprisings. Iran, alarmed by the anger in Tahrir Square after Mubarek refused to step down, promptly put one of its most prominent opposition leaders and a couple of his colleagues under house arrest until the threat of a protest died down.[84] The

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[77] Ezzedine Choukri, "All Arabs will hear my street corner chatter," *Financial Times,* Feb. 5-6, 2011 at 7.

[78] Joseph Stiglitz, "The Arab spring is at risk without aid now," *Financial Times,* May 26, 2011.

[79] Ed O'Keefe and James Buck, "State Dept. launches Arabic tweets," *The Washington Post,* Feb. 10, 2011 at A17; Mary Beth Sheridan, "Clinton warns other nations; Blocking Internet will backfire," *The Washington Post,* Feb. 16, 2011 at A11.

[80] "Hillary Clinton: Internet repression 'will fail,'" BBC, Feb. 15, 2011, http://www.bbc.co.uk/news/world-us-canada-12475829?.

[81] Mary Beth Sheridan, "Clinton fields online questions, criticism from young Egyptians," *The Washington Post,* Feb. 24, 2011, http://www.washingtonpost.com/wp-dyn/content/article/2011/02/23/AR2011022306812.html.

[82] Mary Beth Sheridan, "Clinton warns other nations; Blocking Internet will backfire," *The Washington Post,* Feb. 16, 2011 at A11.

[83] Keith B. Richburg, "In China, microblogs serve as free-speech forum," *The Washington Post,* Mar. 28, 2011 at A6.

[84] Thomas Erdbrink, "Security forces quell protests at several locations in Tehran," *The Washington Post,* Feb. 21, 2011 at A8; Thomas Erdbrink, "Iranian opposition leader under house arrest before possible protest," *The Washington Post,* Feb. 11, 2011 at A11.

crackdowns in Iran have been so swift and communication channels so restricted that the country has seemingly blocked individual empowerment through ICTs.

China, which has routinely blocked Facebook, YouTube, and Twitter,[85] also seemingly took preemptive actions to squelch any protests that may have been inspired by the Middle Eastern events. In response to an online call for a "jasmine revolution," Chinese authorities tracked and detained activists, disconnected some texting services, filtered related Internet searches,[86] and censored television programming.[87] Subsequently, the professional social networking site LinkedIn was blocked after a discussion group called "Jasmine Voice" was started, filtering terms were expanded and Western media chiefs were called to Beijing police headquarters and reminded of rules governing interviews.[88] A few weeks later, Google accused China of disrupting its Gmail service inside the country as part of its Jasmine blockages.[89] Virtual private network services, which are commonly used to circumvent government restrictions, also experienced blockages.[90]

As evidence that the Chinese government was rattled by the Middle Eastern uprisings, a long-time business executive and 17-year resident of China declared, "We have never seen this level of control in the time that I have been here, and I have been here since the beginning of the Internet."[91] Chinese censorship and control of communications has reached such a peak that the China Digital Times website, run by a Chinese human rights activist out of Berkeley, California, has begun posting Chinese government directives and guidelines to the print media. Website editors receive instant messages and emails regarding censoring instructions.[92]

The path to freedom via ICTs may be rocky as more governments are likely to take a hard line at the first signs of unrest, fearful that events could escalate out of control as they did in Tunisia, Egypt, and Libya. There is no clearer evidence of this risk than BBC's report during the recent London riots that, "The [UK] government is exploring whether to turn off social networks or stop people from texting during times of social unrest."[93] Twitter refused to shut down accounts of London rioters.[94]

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[85] Sharon LaFraniere and David Barboza, "China Tightens Censorship of Electronic Communications," *The New York Times,* Mar. 22, 2011 at A4.
[86] "Officials crack down after protest threats," *The Washington Post,* Feb. 21, 2011 at A7.
[87] Kathrin Hille, "Beijing steps up censorship of TV," *Financial Times,* May 31, 2011 at 5.
[88] Keith B. Richburg, "Wary China tightening its Internet restrictions," *The Washington Post,* Feb. 26, 2011 at A6.
[89] Richard Waters and Kathrin Hills, "Google claims Beijing is disrupting e-mail service," *Financial Times,* Mar. 22, 2011 at 18.
[90] Loretta Chao, "Google Objects to China's Acts," *The Wall Street Journal,* Mar. 22, 2011 at B3.
[91] Sharon LaFraniere and David Barboza, "China Tightens Censorship of Electronic Communications," *The New York Times,* Mar. 22, 2011 at A4.
[92] Keith B. Richburg, "Chinese censorship, uncensored," *The Washington Post,* Apr. 13, 2011 at A6.
[93] Charlie Cooke, "Cameron's Conclusion: To Curb Speech?" *The National Review,* Aug. 11, 2011, http://www.nationalreview.com/blogs/print/274344.
[94] Emma Barnett, "London riots: Twitter says all tweets must continue to flow," *The Telegraph,* Aug. 9. 2011, http://www.telegraph.co.uk/technology/twitter/8691663/London-riots-Twitter-says-all-tweets-must-continue-to-flow.html.

One of the most striking examples of government empowerment through ICTs is the indirect role played by the state-backed television channels, Al-Arabhiya (Saudi Arabia) and Al-Jazeera (Qatar). Although not as well known as Al-Jazeera, it was Al-Arabhiya that provided the first images of the Tunisian protestors and gave them a voice. The channel provided coverage throughout Tunisia and has been credited with helping to bring about the quick fall of former president Zein al-Abidine Ben Ali. Al-Jazeera was slower to report on the Egyptian uprisings than Al-Arabhiya, but as the conflict escalated, the station provided full coverage and asked the Egyptian authorities to allow it to openly cover the protests. As a consequence, Al-Jazeera's live channel was removed from the Nilesat platform used for public television to a different frequency. In addition, Al-Jazeera's offices in Cairo had its phone lines cut and experienced signal interference on its Arabic news channel.[95] This infuriated the activists, who responded by Twittering other links to watch Al-Jazeera's coverage, and Al-Jazeera used its own Twitter feed to advise viewers that it was switching to "clandestine" coverage and urged protestors to contribute to the news reporting by uploading pictures, videos, and news information to dedicated websites and phone lines.[96]

The shadow power of government-owned media is an important aspect of nation state empowerment from ICTs. It is beyond question that the Qatari government played an indirect role fueling the Arab Spring uprisings through its state-owned television channel, Al-Jazeera, and broadened global support for the protestors. The coverage has been credited with speeding the fall of the governments in Tunisia and Egypt.[97] Some claim that Al-Jazeera is a "foreign policy tool used by Qatar to expand the Gulf state's diplomatic ambitions."[98] This view is supported by U.S. diplomatic cables released by WikiLeaks indicating that Qatar uses the station to enhance its clout in regional affairs.[99] It also uses it for clout in global affairs. News reports have surmised that a recent script jointly written by the U.S., France, and Britain regarding military action against Gaddafi, was carefully drafted to keep the support of Al-Jazeera, which has supported the revolution but criticized U.S. aggression against Muslims in Afghanistan and Iraq.[100]

Saudi Arabia and Qatar are cautious, however, to limit the impact of state-owned Al-Jazeera and Al-Arabhiya to their countries' external affairs. While indirectly advancing the protestors' agendas for reform via Al-Jazeera, the Qatari government has simultaneously ensured that ICTs are not used to weaken their own government, which has no parliament, free press, or civil society.[101] Despite Al-Arabhiya's role in the Tunisian revolt, during the Egyptian uprising, Saudi Arabia repeatedly called Mubarek and expressed its "support and concern about Egypt's safety and security."[102] In addition, the head of Al-Arabhiya published a newspaper article

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[95] Abeer Allam, "Slow response from al-Jazeera signals Qatar's anxieties," *Financial Times,* Jan. 29-30, 2011 at 2.
[96] Abeer Allam, "Journalists lean on social media to gain vantage point," *Financial Times,* Jan. 31, 2011 at 2.
[97] See, e.g., Abeer Allam, "Revolts inspire Qataris to take on telecom group," *Financial Times,* July 20, 2011 at 6.
[98] Abeer Allam, "Slow response from al-Jazeera signals Qatar's anxieties," *Financial Times,* Jan. 29-30, 2011 at 2.
[99] *Id.*
[100] Roula Khalaf, "Al-Jazeera's support is key for allies," *Financial Times,* Mar. 21, 2011 at 3.
[101] Abeer Allam, "Revolts inspire Qataris to take on telecom group," *Financial Times,* July 20, 2011 at 6.
[102] Abeer Allam, "Journalists lean on social media to gain vantage point," *Financial Times,* Jan. 31, 2011 at 2.

pointing out that Mubarek did not address the concerns of his population, which included his son's succession to the presidency.[103]

The Clash of Idealism and Realism

The idealism of the protesters in Tunisia, Egypt, and Libya is clashing with the realism of damaged economies, fractured diplomatic structures, and a stressed population. The youth that banked on ICTs to free them from tyranny are yearning to build lives that compare with those they view in democratic countries via the Internet. Donor organizations, however, operate in very traditional ways and funds are commonly allocated to infrastructure, health, civil society, and legal/judicial reform projects that have broad goals. Whether democracy can find root in these unstable environments and flourish remains to be seen. In part, it will depend upon whether Western nations can rise to the occasion and offer innovative forms of assistance to spur entrepreneurs, raise skill levels, incentivize changes in legal frameworks, and improve the business environment. Joseph Stiglitz has encouraged private sector companies to help ensure that the Arab Spring goes in the right direction:

> A second [idea] is enlisting companies (such as Google and Facebook, which played such an important role in sparking the revolution) to provide venture capital funds, innovation prizes, and so on to help create new small and medium enterprises.[104]

Tunisia's interim prime minister was quick to realize the role of international assistance and has asked for funding to "protect the Tunisian experiment."[105] His words were prescient. Although Freedom House placed Tunisia among Iran, Myanmar, Cuba, and China as one of the most restrictive regimes for online communications, following the fall of Ben Ali, Tunisian authorities opened the Internet. Now, however, the Tunisian military has ordered censorship of Facebook pages calling for violence.[106]

The idealism of government secrets is also giving way to the realism that the Internet enables instant global dissemination. WikiLeaks played an important, if tangential, role in the Middle East uprisings. Michael Peel of the Financial Times noted the breadth of their impact when he wrote:

> The documents included claims of Saudi Arabia urging a US military strike on Iran, of Yemen's government taking the blame for American missile attacks – and in a possible catalyst of recent events, of allegations of large-scale graft around the ruling family of Tunisia.[107]

Silicon Valley is also having to sort through the idealism of a connected social network and the realism of government's power to hunt down the users of the network and prosecute them.

[103] *Id*.
[104] Joseph Stiglitz, "The Arab spring is at risk without aid now," *Financial Times,* May 26, 2011.
[105] Eileen Byrne, "Tunisian leader appeals for aid to safeguard democracy," *Financial Times,* Feb. 7, 2011 at 2.
[106] Steve Stecklow, "Openness of Internet is Being Tested in Tunisia," *The Wall Street Journal,* July 8-10, 2011 at 9.
[107] Michael Peel, "Tunisia sets the tone for the year," *Financial Times,* Special Report, The World 2011, Jan. 26, 2011 at 10.

Google has been a forerunner in calling for a free and open Internet, and Eric Schmidt publicly announced his support for Wael Ghonim.[108] Facebook has five million subscribers in Egypt, the most of an Arab country, and seemed caught off guard by the sudden limelight it caught from its role in the Egyptian and Tunisian uprisings. David Kirkpatrick, author of *The Facebook Effect,* noted that the company was internally struggling with the question of whether other authoritarian governments would impose restrictions or bans on the use of Facebook out of fear that it could be used as a tool to foment unrest. The company, which requires users to use their actual names, also is discussing whether to allow political activists some measure of anonymity. Facebook has supported activists by providing technical assistance to counter government intrusions against Facebook users, such as when Tunisian officials infected Facebook users' computers with malware to collect user IDs and passwords. The company rerouted Tunisia's Facebook traffic to a site that could not be reached by local Internet Service Providers. Facebook's chief security officer carefully walked a neutral line in discussing this assistance:

> Certainly there's a political context to the particular circumstance in Tunisia, but from Facebook's perspective, what happened was a security problem that required a technological solution: we prevented an exploit that was making Facebook accounts vulnerable and restored the integrity of the compromised accounts. We would have taken the same approach to any situation where we saw a systematic exploit.[109]

Silicon Valley companies, Twitter, Google, and SayNow, have been more proactive and offered Egyptians with an alternative when Internet service is disrupted. The companies set up a service called Tweet2Speak that enables people to call a phone number and leave a message, which is then transcribed and posted on the Internet.[110]

The demographics of the Middle East are a factor that no one can afford to ignore, whether a Silicon Valley company, a government leader or policymaker, or a donor organization. Young people aged 15-29 make up the highest proportion of the population in most countries in the Middle Eastsern region.[111] They are intense users of ICTs, less numb to the cruel realities of authoritarian regimes, and more idealistic than their elders.

One cannot consider individual freedoms, however, without also taking into consideration national security interests. All countries are creatively exploring the use of ICTs for purposes of national security and defense. NATO, for example, has used drones to strike Muammar Gaddafi's mobile rocket launchers when traditional weapons failed. The drones are operated remotely by Central Intelligence Agency (CIA) operatives who are located thousands of miles from their targets. Military leaders argue that the drones actually help them comply with the laws of armed conflict (LOAC) by pinpointing attacks and minimizing damage and harm to civilians. Critics call for drone operations to be transferred from the CIA to the U.S. Department of Defense (DoD) because the intelligence community is not within the military chain of command, is not used to complying with the LOAC, and are less inclined to be accountable to or

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[108] Jenna Wortham, "Google Praises Executive's Role in Egypt Revolt, *The New York Times,* Feb. 15, 2011, http://www.nytimes.com/2011/02/16/world/middleeast/16google.html.

[109] Cecelia Kang and Ian Shapira, "Facebook's Egypt conundrum," *The Washington Post,* Feb. 3, 2011 at A13.

[110] *Id.*

[111] Alicia Parlapiano and Laura Stanton, *The Washington Post,* Feb. 16, 2011 at A12.

compensate civilians killed in attacks.[112] There is reason to agree with both sides of the discussion, but the broader question of how far intelligence organizations should insert themselves in military operations will become increasingly important as ICTs are used as weapons. Taking a positive step forward, however, the U.S. Secretary of the Air Force recently announced a new Air Force Policy Directive that prescribes guidance and procedures for the review of Air Force weapons and cyber capabilities to ensure legality under domestic and international law, including the LOAC.[113]

The increasing role of satellites in national security is another aspect of ICTs that must be considered when evaluating individual and nation state empowerment. The U.S. military has developed a space strategy that calls for better protection of its satellites and enhanced capabilities to use them as weapons. "It's a domain like air, land and sea….It's become a critical part in every other domain," noted Gen. Kevin Chilton, who previously led U.S. Strategic Command.[114] Secretary of State Hillary Clinton has stated that the U.S. needs to protect global positioning data, missile warning system information, and communications with fighters, unmanned drones, and other surveillance systems. General James Cartwright, former vice chairman of the Joint Chiefs of Staff, has called for a multilateral effort to develop acceptable rules for the use and movement of satellites. This is not likely to be an easy path, since China, Iran, and other countries have a significant interest in space capabilities. The world was stunned when China destroyed a satellite with a ground-based missile. It was the first country to do so.[115]

As countries draw protections around their Internet linkage points, satellites, and broadcast networks, individuals may benefit from the enhanced stability of these mediums or be more quickly shut out. The latter is more likely. The risk for individual rights cannot be pushed aside as these important issues are debated. The economic impact from government controls over media also looms large. According to a McKinsey study, the Internet has generated as much growth over the past 15 years as the Industrial Revolution did in 50 years.[116] It is also an opportunity issue. The McKinsey study also indicates that the Internet has been responsible for 21 percent of all growth in mature economies, and it has created 2.6 jobs for every one that it has eliminated.[117] As Karen Kornbluh, U.S. ambassador to the OECD, and Daniel Weitzner, deputy chief technology officer in the White House, noted in a recent editorial, "It's [the Internet's] power to generate innovation is rivaled only by its potential to help people realize their rights and democratic aspirations."[118]

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[112] "Drones and the man," *The Economist,* July 30, 2011 at 10.

[113] "Legal Review of Weapons and Cyber Capabilities," Secretary of the U.S. Air Force, Air Force Instruction 51-402, http://www.e-publishing.af.mil/?rdoFormPub=rdoPub&txtSearchWord=51-402&btnG.x=6&btnG.y=7&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs.

[114] Lolita C. Baldor, "Pentagon strategy stresses the importance of satellites," *The Washington Post,* Feb. 21, 2011 at A13.

[115] *Id.*

[116] *Internet matters: The Net's sweeping impact on jobs, growth, and prosperity,"* McKinsey Global Institute, May 2011, http://www.mckinsey.com/mgi/publications/internet_matters/index.asp.

[117] *Id.*

[118] Karen Kornbluh and Daniel J. Weitzner, "Preserving a worldwide Internet," *The Washington Post,* July 15, 2011 at A15.

Jeffrey Ghannam, author of a critical report on social media in the Arab world, correctly notes that, "The convergence of social media, satellite networks, and traditional media proved pivotal to spreading the protestors' messages."[119] If governments determine that these media must have controls to ensure national security, the same controls can be used by leaders to ensure their own power – at the expense of individual freedoms.

The U.S. Government has gone out of its way to promote freedom of expression on the Internet and to condemn China and other countries who have suppressed open access to the Internet and limited communication of their people.[120] The U.S. also, however, must consider when its assistance may indirectly contribute to nation state actions against the rights of its own people. For example, the U.S. Air Force recently solicited proposals to provide the Iraqi government with a system that will enable it to wiretap and store mobile and landline phone conversations, data transmissions, and text messages and boost Iraq's capabilities to counter "criminal organizations and insurgencies." In addition, the system will have advanced tracking capabilities and be able to develop a database of targets and their relationships. The Air Force has noted that Iraq's legal system has strong surveillance laws that require law enforcement to obtain a warrant before intercepting private communications. The *Washington Post* reported that the U.S. installed a similar system in Afghanistan three years ago to target drug rings.[121] What is worrisome is how these governments will use these systems, considering that their legal frameworks are fragile at best.

Against these concerns, however, lies a bright promise of how the Internet, through individuals, can provide a channel for peace that militaries and diplomats have failed to achieve. For example, Facebook page, Facebook.com/yalaYL, set up by a former Israeli diplomat, is designed to bring Israelis, Palestinians, and other Arabs together to discuss topics of interest, including regional peace. It has welcome messages from Israeli president Shimon Peres, Palestinian Authority president Mahmoud Abbas, Tony Blair, and actress Sharon Stone. By allowing people to meet virtually and discuss issues of their choice without interference or censorship, they are learning about common problems, sharing frustrations, and yearning to learn from one another. Its first month had 91,000 views and 60% of its 22,500 active users are Arabs: Palestinians, Egyptians, Jordanians, Tunisians, Moroccans, Lebanese, and Saudis.[122] As the uprisings have demonstrated, perhaps more progress can be made and more peace can be achieved through individuals and ICTs than years of diplomatic efforts.

Conclusion

The use of ICTs in the Arab Spring uprisings has highlighted the ways they empower the individual and boost the capabilities of the nation state. The exploitation and shut down of Internet communications by regimes across the Middle East has raised serious questions about

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[119] Jeffrey Ghannam, "Freedom, beyond 140 characters," *The Washington Post,* Feb. 20, 2011 at B3.
[120] Joby Warrick, "U.S. criticizes global limits on Web access," *The Washington Post,* Apr. 9, 2011 at A2; Mary Beth Sheridan, "Clinton warns other nations; Blocking Internet will backfire," *The Washington Post,* Feb. 16, 2011 at A11.
[121] "U.S. plans to give wiretapping system to Baghdad," *The Washington Post,* July 31, 2011, at A15.
[122] "Virtual Bridge Allows Strangers in Mideast to Seem Less Strange," *The New York Times,* July 10, 2011 at 9.

whether these governments have violated their citizens' right to freedom of expression and access to information.   Human rights groups, providers, and governments have condemned the shutdowns and declared future shutdowns must not occur. Such statements have been made, however, without the benefit of a full analysis of the rights of both sides: individuals and nation states. These proclamations also do not take into account competing legal issues, such as the right of governments to take action curbing communications to block communications that would incite lawless actions.

The urgency of this issue cannot be understated; the temptation for governments to shut off communications is great, as evidenced by calls to cut off social networking communications during the London riots. The role of providers also must be examined, particularly with respect to how they respond to government requests for information on users, whether they allow users anonymity to protect their rights and guard against persecution, and whether they refuse or comply with shutdown orders.

Since, "armies will increasingly fight with machines, not men,"[123] and civilians will increasingly be involved in modern day conflicts through their use of ICTs, it is important that military leaders, government officials, policymakers, scientists and technologies, and human rights organizations come together to examine the array of issues that have surfaced in the spring of 2011 and develop balanced principles. We must not lose a generational opportunity to advance democracy and the freedom of people around the globe. When dealing with the Internet, minutes matter and the urgency of the current situation cannot be overstated. New policies, laws, multilateral treaties, scientific advancements, and technological solutions will be required to ensure that government and individual use of ICTs is balanced and does not upset a delicate world order.

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[123] "Drones and the man," *The Economist,* July 30, 2011 at 10.