Tracing the Role of Technology in Iranian Politics: From the Islamic Revolution of 1979 to the Presidential Election of 2009

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Abstract: This paper will attempt to examine the question: Given the advances in technology, why did the 2009 election protest movement fail to accomplish any of their goals while the participations of the 1979 Revolution were able to succeed in accomplishing their expressed objective? This question will provide a simplified test to a common tenant of those that support the use of technology as a means of bringing about regime change: that advances in communication technology are diffusing power away from governments and toward individual citizens and non-state actors. In order to answer this question this paper will examine the role of technology as an enabling factor in both the 1979 revolution and 2009 election protests. A brief historical context of the 1979 and 2009 conflicts will be provided, followed by a short history about the use of the Internet in Iran and finally the concluding remarks.

Shah Muhammad Reza Pahlavi was said to be "The Shah-in-Shah" or the King of Kings.[1] The head of the Iranian government, son of Reza Shah and architect of the White Revolution, Shah Muhammad Reza Pahlavi would also be the final ruling monarch of Iran. By 1977, conditions inside Iran had deteriorated to the point that Ervand Abrahamian describes Shah Muhammad Reza Pahlavi as sitting on top of a thundering volcano. Abrahamian writes that the 1979 Iranian Revolution "erupted like a volcano because of the overwhelming pressures that had built up over the decades deep in the bowels of Iranian society."[2] Just like in nature, time and pressure had combined to create an inevitable reaction inside Iran. Again, as it does in the natural world, the explosion that created the Islamic Republic of Iran in 1979 had far reaching effects on the geo-political climate. Gone was the monarchal, pro-Western government of the Shah. It was replaced by the anti-Western, increasingly militant Shia clerics headed by Ayatollah Ruhollah Khomeini.[3]

Ayatollah Khomeini was able to launch a successful revolution due to in part what John D. Stempel describes a "communications web" that was integral to the development of "trained cadres in each city that could get news to the masses quickly."[4] These cadres utilized a readily accessible technology as the main means for conveying messages from opposition leaders and relaying events to the larger population.[5] For the first time, "the regime's monopoly on the legitimate communications network ceased to be a severely limiting factor for the opposition."[6] The situation that Stempel described above occurred in Tehran in 1977-1979, yet it would be immediately recognizable to a portion of those living in Tehran today. Much as Ayatollah Khomeini used a "communication web" to circumvent the official media controlled by the Shah, the citizens of Iran have turned to the Internet as a means of obtaining news from sources not under the censorship of the Islamic Republic.

The use the Internet and social media platforms as a means of opposing the Islamic Republic of Iran became a widely debated topic after the Iranian Presidential Election in the summer of 2009. Initially reported as the "biggest unrest since the 1979 revolution"; the true nature of the protests are unknown.[7] Some analysts have dubbed the events that occurred as a result of the June 2009 Iranian Presidential Election as nothing more than the expressed grievance over a lost election. Others were quick to entitle the fallout from the election as the next Iranian revolution. What most people can agree on is that whatever began in 2009 has not reached a

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[1] Said Amir Arjomand . *After Khomeini: Iran Under His Successors*. (New York: Oxford University Press, USA, 2009) 150.

[2] Ervand Abrahamian . *A History of Modern Iran*. (New York: Cambridge University Press, 2008) ,122.

[3] https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html

[4] Stempel, John D. *Inside the Iranian Revolution*.(Bloomington: Indiana Univ Pr, 1981), 87.

[5] Jeffery Ulbrich. . "The Free Lance-Star - Google News Archive Search." Google News
http://news.google.com/newspapers?id=mG0QAAAAIBAJ&sjid=5IsDAAAAIBAJ&dq=iran%20cass ettes&pg=6546%2C2857808 (accessed April 22, 2015).

[6] Stempel, John D. *Inside the Iranian Revolution*. Bloomington: Indiana Univ Pr, 1981, 87.

[7] Al Jazeera English - Middle East - Poll results prompt Iran protests
http://english.aljazeera.net/news/middleeast/2009/06/2009613172130303995.html.

conclusion as of the time of the writing of this paper in May 2010. While there exists a wide variety of points of comparison between the events of 1979 and 2009 in Iran that are both worthy and indeed necessary of scholarly examination, this paper will examine both periods utilizing one primary factor. At the center of both the 1979 and 2009 communication webs rest technology; in 1979 the cassette tape and in 2009 the internet and cellular telephones[8].

This paper will attempt to examine the question: Given the advances in technology, why did the 2009 election protest movement fail to accomplish any of their goals while the participations of the 1979 Revolution were able to succeed in accomplishing their expressed objective? This question will provide a simplified test to a common tenant of those that support the use of technology as a means of bringing about regime change: that advances in communication technology are diffusing power away from governments and toward individual citizens and non-state actors. In order to answer this question this paper will examine the role of technology as an enabling factor in both the 1979 revolution and 2009 election protests. A brief historical context of the 1979 and 2009 conflicts will be provided, followed by a short history on the Iran and the Internet and finally my concluding remarks.

Time and Pressure: A Brief History of the Political Climate of the Islamic Republic of Iran

The analogy of a volcano used by Ervand Abrahamian to describe Iran in 1977 is fitting. Shah Muhammad Reza Pahlavi faced opposition from the beginning. The Shah took control of Iran following the successful 1953 coup lead by the United States Central Intelligence Agency to overthrow Muhammad Mossadeq.[9] The close ties to the United States and Britain maintained by the Shah were highly criticized and seen as a rebranding of traditional Imperial politics.[10] The Shah instituted a series of reforms that would come to be known as the White Revolution in 1963[11]. The White Revolution "wiped out in one stroke the class that in the past had provided the key support for the monarchy in general and the Pahlavi regime in particular: the landed class of tribal chiefs and rural notables."[12] The Shah failed to provide the rural communities with much needed services and a mass migration of people in search of better living resulted in the establishment of shantytowns around many Iranian cities.[13] By 1976 the anti-Shah sentiment had become pervasive in Iranian society. Abul-Hassan Bani-Sadr authored a critique of the Shah's regime entitled "Fifty Years of Treason" which was a compilation of fifty grievances against the Shah, ranging from collusion with the West, assassinating political opponents, to anti-Arabism and establishing a dictatorship and ruining the economy.[14]

In addition to the criticism launched by Bani-Sadr, another voice could be heard levying heavy accusations at the Shah and his supporters. Ayatollah Ruhollah Khomeini framed his criticism of the Shah and the Pahlavi regime in the context of Islam. The Shah's supports for secular modernizations, especially those with any links to the West, were Ayatollah Khomeini's main grievance with the Shah. Khomeini was a very staunch supporter of the implementation of Islamic Law (Sharia Law) and the formation of an Islamic government in Iran.[15] The fusion of Bani-Sadr's economic and political criticisms and Ayatollah Khomeini's religious assault on the Shah resonated strongly with a large portion of the citizens of Iran. By 1978 the people of Iran had had enough, and major strikes began to occur. From August through December 1978 strikes and massive political demonstrations were inspired by Ayatollah Khomeini that all but crippled Iran.[16] Following the exile of the Shah in mid-January 1979, Ayatollah Khomeini returned to Tehran to a greeting by several million Iranians[17].

After the ruling monarchy was overthrown and Shah Mohammad Reza Pahlavi was forced into exile, Ayatollah Khomeini became the Supreme Leader of Iran. The years following the 1979 Revolution saw the rise of conservative clerical forces. Iran became the Islamic Republic of Iran and the monarchy was replaced by a theocratic system of government headed by The Supreme Leader Ayatollah Khomeini.[18] The position of Supreme Leader is the highest authority in Iran. The Assembly of Experts provides the only check on the authority of the Supreme Leader as it charged with the ability to remove the Supreme Leader and name his

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[8] http://blogs.reuters.com/great-debate/2009/06/26/its-not-a-twitter-revolution-in-iran/

[9] Ervand Abrahamian . *A History of Modern Iran*. New York: Cambridge University Press, 2008,122.

[10] Ibid,

[11] Ibid, 131.

[12] Abrahamian. *A History of Modern Iran* , 156.

[13] ibid

[14] Foreign Relations Senate Committee, *US Military Sales to Iran* (Washington, DC: US Printing Office, 1976), p. 5.

[15] Algar, Hamid. *Islam and Revolution I: Writings and Declarations of Imam Khomeini (1941-1980)*. First Edition ed. Bandung: Mizan Pr, 1981, 215.

[16] Abrahamian. , 158.

[17] Ibid, 162.

[18] https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html

successor.[19] The thirty years following the 1979 Revolution have been very turbulent for Iranian citizens. The anti-Western backlash that accompanied Ayatollah Khomeini's rise to power resulted in the 1979 hostile takeover of the United State's Embassy in Tehran on November 4, 1979.[20] From 1980-88, Iran and a United States backed Iraq were engaged in a violent war.[21] Iran was placed under heavy sanctions by the United States and the United Nations and the relationship between the U.S. /U.N. and Iran have further been strained by the Iranian quest to obtain nuclear weapons.[22] 1989 saw the death of Ayatollah Khomeini and the appointment of Ayatollah Ali Hoseyni Khameini as his replacement.[23] Akbar Hashemi-Rafsanjani was elected President in August 1989 and would serve two terms. During Rafsanjani's second administration the economic difficulties brought on by nearly a decade of war with Iraq and increasing U.S. sanctions resulted in a small demonstrations calling for economic and social reform.[24] Mohammad Khatami, a reformist cleric, was elected as President in 1997. Khatami and his fellow reformers faced strong opposition from the Supreme Leader Ayatollah Khameini and his followers. Khatami tried to transform Iranian civil society by holding popular elections for local government office, creating a divide between the "theocratic government and participatory representative government."[25] The attempt at reform was met with strong opposition from the Supreme Leader and those loyal to maintaining the spirit of the revolution and the status quo. This is due in part by the reformist's efforts to transform Iran from within the apparatus and language established by the revolution. The effort to incite change from within was tantamount to a "tactical mistake" or the lack of "courage to dissociate themselves (reformist) from it (the ideology of the revolution) because they were afraid of being called traitors."[26] The final blow to the reform movement in Iran came with the 2004 Majles (Iranian Legislature) and the election of conservative Mahmoud Ahmadinejad as President of Iran in 2005. President Ahmadinejad's support for "populism, social justice and unflinching loyalty to the martyrs of the revolution and war" are congruent with the views held by the founders of the revolution.[27] Arguably, the aforementioned similarities between Ahmadinejad and the founders of the Islamic Revolution represent the limits of any recognizable connection. Before he was President Ahmadinejad was a member of the Basij (Revolutionary Militia established by Khomeini in 1979) and mayor of Tehran.[28] Ahmadinejad's rise to power is credited to his ties to the Basij and the Islamic Revolutionary Guard Corps (IRGC). The Basij and IRGC are alleged to have engaged in ballot fraud and the "2005 presidential elections could indeed be accurately described as their first electoral coup d'état."[29] The presidential election of 2005 seems to have been a precursor to the changes that would take place in Iran under President Ahmadinejad.

Economically, little has improved in Iran since before the 1979 Revolution. The majority of the economy is controlled by the state. The private sector which is limited to "small-scale workshops, farming and services" is further strained by the prevalent "price controls, subsidies and other rigidities."[30] Without a doubt, oil is the main source of income for Iran. Iran is deeply dependant on the sale of its natural resources, specifically oil and natural gas production. Iran ranks 5th in the world in terms of natural gas production and 2nd in natural gas reserves.[31] In terms of oil production, Iran places 6th in the world with 3.7 million bbl/day and ranks 3rd in terms of untapped oil reserves.[32] Unemployment is estimated to be at 11.8 percent for 2009, the 128th highest out of 200 states analyzed.[33] The real growth rate of Iran's Gross Domestic Product has shrunk

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[19] https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html

[20] http://www.state.gov/r/pa/ei/bgn/5314.htm

[21] http://www.state.gov/r/pa/ei/bgn/5314.htm

[22] https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html

[23] http://www.state.gov/r/pa/ei/bgn/5314.htm

[24]http://www.state.gov/r/pa/ei/bgn/5314.htm

[25] Arjomand, Said Amir. *After Khomeini: Iran Under His Successors*. New York: Oxford University Press, USA, 2009, 110.

[26] Colin Freeman, "Iran Elections: Revolt as Crowds Protest at Mahmoud Ahmadinejad's 'Rigged' Victory," *The Telegraph*, June 13, 2009, accessed Mar. 13, 2015, http://www.telegraph.co.uk/news/worldnews/middleeast/iran/5526721/Iran-elections-revolt-as-crowds-protest-atMahmoud-Ahmadinejads-rigged-victory.html; Nazila Fathi, "Iran's Top Leader Dashes Hopes for a Compromise," *New York Times*, June 19, 2009, accessed Mar. 13, 2015

[27] Ibid.

[28] Nikki R. Keddie and Yann Richard, *Modern Iran: Roots and Results of Revolution* (New Haven, CT: Yale University Press, 2006). 137

[29] Ibid,138

[30] https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html

[31] Ibid

[32] Keddie and Richard; Moin; Annabelle Sreberny, *Small Media. Big Revolution : Communication, Culture, and the Iranian Revolution* (Minneapolis, MN: University of Minnesota Press, 1994) 125.

[33] Ibid, 126

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from consistently for the last three years, dropping from 6.5 percent to 3.5 percent and 2.6 percent for 2006, 2008, 2009 respectively.[34] The state-sanctioned nepotism of Ahmadinejad has ensured that little will be done to alleviate any of the problems that continue to plague Iran.[35]

Within the four years between 2005 and 2009, Ahmadinejad managed to increase his support and control over the Iranian military in general, specifically the IRGC. This is due in part to the "74 percent increase in the development budget designed to help the Basij win government contracts" granted to the Basij by President Ahmadinejad and the establishment of the Basij Construction Organization for the securing of highly lucrative "no-bid government contracts".[36] The IRGC was also the recipient of 1,200 lucrative no-bid government contracts including the "Tehran Metro, Assaluyeh-Iranshar pipeline and South Pars natural gas fields' worth well over $1 billion each."[37] What is more, in 2008 a new relationship was formed between the Basij and the IRGC, resulting in the "closer integration of some 2,500 battalions of 300-250 each with units of the IRGC and regular army, thus blurring the line between their function as militia, morality police and combatants against internal enemies and the Western cultural onslaught."[38] The IRGC has also managed to infiltrate the Majles in 2008, leading the IRGC commander, General Ja'fari, to exclaim that "the hardliners now controlled the Executive and the Legislative."[39] No doubt that the close ties between the IRGC, the Basij, Ahmadinejad and his conservative backers were motivated by their success in "taking over" the Executive and Majles encouraged their second foray into electioneering in the June Presidential Elections of 2009.

Regardless of the possibility that the protests surrounding the 2009 Presidential Election are evidence of larger revolutionary movement in Iran, it was the results of the election that ignited the current situation. President Ahmadinejad would face off against the reformist candidate Mir-Hossein Musavi. Musavi's campaign was quite effective. Former Presidents Hasemi-Rasfanjani and Khatami both supported Musavi both privately and in public.[40] Public support for Musavi grew as Election Day neared. A massive voter turnout on June 12, 2009 resulted in the extension of polling hours and due to the large number of votes cast, the results were not expected to be delivered until June 14.[41] The announcement of a victory by Ahmadinejad less than twelve hours after the polls closed came as quite a shock. The official results declared that Ahmadinejad was re-elected with 63 percent of the vote with Musavi receiving 34 percent.[42] The election results were confirmed by Ayatollah Khameini "even before they were presented to him by the Guardian Council as required by law".[43] The election results were immediately contested by the reformists, angered by what they saw as blatant electoral fraud. The reformist anger over the election results "rekindled the power struggle between the hardliners and the reformists, which was immediately fueled by the massive public outrage at the theft of the popular vote."[44] In the weeks following the election technology would play an integral role in the largest public demonstrations Iran has seen since the 1979 Revolution. By the time Ahmadinejad took office on August 3, 2009 nearly 200 people had been killed and "the number of detainees must have remained at least ten times as many."[45] The pressure inside of Iran was beginning to reach levels equivalent to those found in the early days of the Iranian Revolution.

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[34] Ibid.

[35] Said Amir Arjomand. *After Khomeini: Iran Under His Successors*. New York: Oxford University Press, USA, 2009, 153.

[36] Ibid, 154

[37] Keddie and Yann , 140

[38] Ibid.

[39] Ibid, 141

[40] Arjomand.. *After Khomeini: Iran Under His Successors*, 167.

[41] Ibid.

[42] Carter Presidential Library and Carter Center, Iran Files, The. "Access to Information." Accessed Mar. 14, 2015, *http://www.cartercenter.org/peace/americas/information.html*

[43] Ibid,

[44] Ibid,

[45] . Keddie, Richard and Moin. *Small Media.* 127

I.   REVOLUTIONARY TECHNOLOGY: THE ROLE OF TECHNOLOGY IN FORMATION OF THE ISLAMIC REVOLUTION OF 1979

The argument exist that Ayatollah Ruholla Khomeini's audio cassette tapes were the deciding factor that "won Iran" in 1979.[46]   Indeed, the audio tapes were a part of a large network inside of Iran that utilized traditional methods for relaying the revolution's messages such as family and peer groups, in addition to technology designed to disseminate messages to the masses such as the radio and print media.[47] Determining if the tapes were the primary factor in the success of the 1979 Revolution exceeds the boundaries of this paper. What is certain is that the audio recordings of Ayatollah Ruholla Khomeini were an integral part of the revolutionary movement. Ayatollah Khomeini's exile in 1964 did little to ebb his personal hatred of the Shah. The exile did manage to all but cut off any communication between Khomeini and Iran. The sovereignty of the Shah's regime extended well into the mass media, effectively nullifying any chance the Ayatollah had of utilizing standard forms of communication to reach the people of Iran.[48] Denied the obvious forms of spreading his revolutionary message, Khomeini cleverly turned to the cassette tape as the vehicle for spreading his word and he could not have made a better choice.

The audio cassette, having become mass-produced in the 1970's, was well established across the globe by the time it was enlisted to help the revolution.[49] The ready availability of audio cassette blanks, recorders, and cassette players ensured that Khomeini was limited only by the amount of audio tapes that could be smuggled into Iran. The compact nature of the audio cassette allowed for it to be easily smuggled from his exiled location in Nejef, Iraq to his supporters in Qom, Iran. Once in Qom, the tapes were delivered to mullahs that supported Khomeini and in turn played his speeches in their mosques. Allegedly it was in these mosques that "the phrase 'Islamic republic' was heard for the first time" on a tape of one of Khomeini's speeches.[50]

The contents of Khomeini's speeches were often custom tailored to his audience. The easy of production and quick dispersion allowed Khomeini to quickly issue a statement to the people of any given location "blaming the shah for their woes."[51]   This informatory tactic is exemplified by Khomeini's swift attribution of the Rex Cinema fire which occurred on August 18th, 1978 in the city of Abadan which and killed "several hundred of our countrymen in that calculated manner."[52] Admitting that he had "not yet been informed of all the details" pertaining to the Rex Cinema fire as he delivered his speech on August 21st, 1978 Khomeini wasted no time is assuring the people of Abadan and Iran that:

" this inhuman act, contrary to all the laws of Islam, cannot have been committed by the opponents of the Shah, who have risked their lives for the sake of the interest of Islam and Iran and the lives and property of the people and are devoting themselves to the defense of their fellow countrymen……evidence points to the criminal hand of the tyrannical regime, which wishes to distort the image of the humane Islamic movement of our people."[53]Also of note were speeches given on the "massacre of demonstrators that took place in Qum on January 8th, 1978"[54], another to the people of Tabriz which contains the popular revolutionary slogan of "Death to the Shah!"[55], also a declaration regarding the anti-demonstration violence that occurred in Tehran on September 9, 1978 known as "Bloody Friday"[56] and finally the speech given before the 1978 celebration of Imam Husayn's martyrdom known as Muharram.[57]

Khomeini's audio cassette production reached its pinnacle when he relocated to the French village of Neauphle-le-Chateau in October 1978. The saturation of Iranian markets was so pervasive that an estimation made by Parviz Sabeti, head of the Shah's anti-subversion unit, places the number of cassette tapes containing the messages of Ayatollah Khomeini, including those that had been reproduced by supporters inside of Iran well over "100,000" tapes by the end of 1978.[58] Sabeti also relayed that despite the strong suggestion to the Shah to

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[46] Jeffrey Ulbrich. "The Free Lance-Star - Google News Archive Search." Google News. http://news.google.com/newspapers?id=mG0QAAAAIBAJ&sjid=5IsDAAAAIBAJ&dq=iran%20cassettes&pg= 6546%2C2857808

[47] Ibid.

[48] Amir Taheri. *The Spirit of Allah: Khomeini and the Islamic Revolution*. Bethesda: Adler & Adler Publishers, 1986, 213.

[49] Keddie, Richard and Moin. *Small Media*. 129

[50]"Compact Cassette – History- http://vintagecassettes.com/_history/history.htm (accessed March 10, 2015).

[51] Ibid.

[52] Taheri. *The Spirit of Allah: Khomeini and the Islamic Revolution*, 231.

[53] Kiddie, 142

[54] Ibid, 144

[55] Ibid, 147

[56] Ibid, 149

[57] Ibid, 149

[58] Taheri. *The Spirit of Allah: Khomeini* , 213.

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ban all travel to Najaf and find and punish those who had been distributing the tapes inside of Iran, the Shah refused on the grounds that it would contradict the path towards modernization and liberalization.[59] It is impossible to determine how many ears the tapes of Ayatollah Khomeini fell upon, but if the conservative estimate given by Amir Taheri is remotely reliable, the number would be measured in the "millions."[60]

The tapes produced by Ayatollah Khomeini were the initial link in the "communications web" described by John D. Stempel.[61] The telephone, satellite/television and radio were arguable the fastest means of transmitting a message at time of the 1979 Revolution. While capable of reaching the greatest number of people in the shortest amount of time, these technologies were also limited in their application. The telephone and radio require the least amount of effort to use and are capable of instantaneous feedback. However, both the radio and telephone require the use of a pre-established infrastructure in order to function. The operation and maintenance of a television or satellite feed is technologically more difficult and considerably more expensive than that of a telephone line or radio signal with the same perquisite of an establish infrastructure in order to even make use of the technology. All of the technologies listed above were either too costly, could easily be monitored, manipulated or disabled placing them outside the realm of possibility of use for Ayatollah Khomeini while in Najaf. The small and easily transported cassettes were capable of being mass produced at a low cost and use of the technology was already a well established practice that did not require any pre-established infrastructure to use, making it the ideal choice for Khomeini to employ in the revolutionary cause. A tape could be produced in response to an event and in distribution in as little as three days as illustrated by Khomeini's response to the Rex Cinema fire in Abadan. The audio cassettes provided Khomeini and his aides located outside of Iran with the ability to convey both operational instructions to his supporters inside of Iran and simultaneously address the local populations of Iran with customized messages in hopes of gaining support for the revolution. The Ayatollah's tapes also functioned as an alternative news source for those who were not satisfied with the state controlled traditional media outlets such as the newspaper, radio and television. Through the use of technology Khomeini was able to effectively nullify his exile and continue to spread support for the Islamic Revolution. Once Khomeini relocated to France in October 1978, the revolution saw an increase in coverage both within the mainstream Iranian media and the world press and many of Khomeini's statements were transmitted using radio, television and print media.[62] Upon gaining the reigns of state, Khomeini quickly subjugated all forms of technology to government monitoring in the name of supporting the spirit of the revolution. In the decades since the 1979 revolution, Iran has become known for its strict monitoring policies and quick deliverance of punishment for anyone suspected of opposing the Islamic Republic.[63] Any hope of changing the power dynamic of the Islamic Republic of Iran would require a seemingly impossible technology. A technology that would enable its users to communicate instantly on a global scale in order to combat the propaganda of the current regime and serve as a unifying source for the opposition movement; essentially taking a page from Ayatollah Khomeini's playbook and magnifying it a thousand-fold. Few would have guessed that it would take one generation removed from the 1979 revolution to develop such a technology.

II.   IRAN AND THE INTERNET: A CULTURAL REVOLUTION
John D. Stempel would have had no clue that a "web of communication" would be developed that would span the globe, allowing users to communicate instantaneously through text, audio and video when he wrote his book in 1981. The World Wide Web or Internet as it is commonly referred to began in the United States in the early 1990's and quickly spread around the globe. By the beginning of the new millennium, the number of Internet users had increased globally from 150 million users in 1999 to more than 400 million users in 2001[64]. The 2001 regional percentages of Internet users are as follows, North America accounted for 40 percent of all Internet users, with Europe and Asia splitting the remaining 60 percent, which translate into roughly 26 percent of U.S. citizens, 7 percent of Russian citizens and 1 percent of those living in the Middle East, Africa and South Asia with access to the Internet.[65] These figures essentially mark the "birth" of the Internet and have grown significantly over the last decade. Despite the heavy government regulation and monitoring, Iran has managed to keep pace with the rapid transition into the digital age. During Ahmadinejad's

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[59] Ibid, 213.

[60] Ibid 213

[61]John D Stempel. *Inside the Iranian Revolution*. (Bloomington: Indiana Univ Press, 1981), 87.

[62] Ulbrich. "Fought Shah From Exile: Khomeini Cassettes Won Iran," The Lance – Star, Dec18, 1979.
http://news.google.com/newspapers?nid=1298&dat=19791218&id=mG0QAAAAIBAJ&sjid=5IsDAAAAIBAJ&pg=6546,2857808

[63] United States Department of State. "Relations with Iran".   http://www.state.gov/r/pa/ei/bgn/5314.htm

[64] Joshua S Goldstein. *International Relations, Tenth Edition*.(. New York: Longman, 2013) , 406.

[65] Ibid.

first term (2005-2009) Iranians became active online at a rate of 48 percent a year bringing the Iran's total online population to 23 million in 2009, just 3 million less than the worlds leading Internet user in 2001.[66] Ahmadinejad also managed to usher in a new era of government sponsored censorship during the same timeframe. Unlike the television, radio and print sources which are highly regulated by the Iranian government, the Internet started out as a relatively free speech zone.[67] The rise in popularity of the Internet has coincided with increasing government restrictions. Iran is home to a fraction of the websites that are available on the Internet. 45,678 websites are hosted from inside Iran as compared to the 338 million websites hosted within the U.S.[68] The inability of the Iranian government to directly prevent objectionable content from being published online has resulted in the use of filtering software to prevent users inside of Iran from accessing material deemed inappropriate.[69] Websites, emails, online-chats, and search terms are all monitored for any activity that endangers the Islamic Republic of Iran or its citizens, attacks or criticism of Shia Islam and excessively pro-Western material. Websites that are found to be objectionable are often blocked, and any users trying to access objectionable material are electronically recorded.[70]

In spite the great lengths the Iranian government has gone to limit the access of the Iranian people to the Internet Iranians are the most "wired", or technologically connected, nation compared to any other nation in the Middle East. According to a 2009 OpenNet Initiative report 35 percent of Iran's population is now online, compared to the Middle East average of 26 percent.[71] With a population of 66 million people and a combined land-line and mobile/cellular saturation of 67 million (24 million landline and 43 million mobile/cellular); Iran is very much involved in the digital world.[72] This is due in part to the development of infrastructure and also to the fact that Iran is a relatively young country. Twenty percent of Iranians are between the ages of 1-14 and 72 percent are between the ages of 15-65 with median age of the Iranian citizenry at 27.[73] Just as Iranians lead the Middle East in terms of Internet connectivity, they rank third globally in one of the oldest forms of communication on the Internet, the blog. A blog is a user created webpage that allows the user to upload a variety of information including documents, pictures, and movies. The Iranian blogospeher (network of blogs) is the 3rd largest active blogging community in the world with an estimated 60,000 active blogs ranging in content from pop-culture, Persian literature and poetry, to religion and politics.[74] In addition to email and blogs, Iranians are also able to connect with each other and with those outside of Iran through the use of social networking sites such as www.twitter.com, www.youtube.com and www.facebook.com.

Whereas a blog gives the user total creator control, other websites provide users with a prefabricated webpage that can be customized to fit their needs. Facebook and Twitter allow users to create an online profile that can be then be linked to other users profiles for the purpose of sharing photos, movies, links to other Web content and personal updates also known as status updates. Twitter allows users to post a brief message or status update on a topic determined by the user. Common topics can be linked together through the placement of the hash symbol before a word; for instance a post that contained #Iran would then be placed on a list with all other updates from users that also contain #Iran. A study of the Iranian blogosphere in 2008 found that despite the "repressive media environment in Iran today, blogs represent the most open public communications platform for political discourse."[75] The Internet has changed how Iranians, and indeed the entire world, communicates. It remains to be seen if the same technology can overthrow a government.

III.   REVOLUTIONARY TECHNOLOGY: THE ROLE OF TECHNOLOGY IN THE 2009 PRESIDENTIAL ELECTION

That Iran's communication network was offline on June 12, 2009 is no coincidence. The Telecommunication Company of Iran (TCI) is the sole source of the Internet in Iran. TCI is also a state run organization with close connections to the Iranian Republican Guard Corps.[76] While there is no concrete proof that the cord was deliberately pulled on the Iranian Internet, there is certainly ample motivation for such action. Presidential candidate Mir-Houssein Musavi had been gaining in popularity and his campaign had a large online

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[66] Open Net Initiative- Iran file. http://opennet.net/research/profiles/iran#footnote3_ijozwby

[67] Ibid.

[68] https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html

[69]Open Net Initiative. http://opennet.net/research/profiles/iran#footnote7_9zeh9t7

[70] Ibid.

[71] http://opennet.net/research/profiles/iran#footnote3_ijozwby

[72] https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html

[73] Ibid.

[74] Kelly, John, and Bruce Etling. "Mapping Iran's Online Public: Politics and Culture in the Persian Blogosphere. *Berkman Center. For Internet and Society*, Harvard University: Cambridge, MA. 2008.Pp 8-9

[75] Ibid, 24.

[76] http://opennet.net/research/profiles/iran

presence. Shutting down the Internet and Iran's telecommunication system would certainly dampen the ability to share information across the nation. While this could easily be seen as an act of desperation in the face of rising support for Musavi, others have alleged that it was the first step in a plot to manufacture the election results.[77] The communications network was not down for long though. Messages posted to Twitter soon began to report the announcement of Ahmadinejad's victory.[78] The messages ranged from confusion over the sudden declaration of a winner, "Mir Hossein Mousavi says he's won in Iran; so does Mahmod Ahmadinejad. Too early to tell; polls closed#IranElection" to that of frustration, "#IranElection looks absurdly rigged. Polls were closed and Mousavi declared victory but Ahmadinejad's up 67-30."[79] The weekend following the election marked a significant shift in both the attitudes of those questioning the authenticity of the election results and Adhmadinejad's supports. As protest of the elections began to intensify, they were met with the use of extreme force by the government.[80] On June 14 the Twitter stream was rife with reports of violence and mass protest: "students being killed in Tehran university dorm in Amirabad right now. This must stop, ahmadiejad must stop. #Iranelection" and "4am and people still on the streets and rooftops shouting 'death to the dictator'. #iranelection" are two examples of the messages posted on June 14.[81]

The weeks of June 14-20, 2009 marked an increase in violence as well as the use of online social networking. On June 14 the Basij launched an attack on the University of Tehran resulting in the deaths of at least seven students.[82] Basij and pro-Ahmadinejad supporters worked with TCI to try and limit the protesters support of online resources.[83] Proxy servers that would allow Iranian's access to an unfiltered internet hosted in a country outside of Iran began to surface as a means of circumventing the government's efforts to limit the flow of information.[84] On June 20, a woman by the name of Neda Agha-Soltan was shot and killed by an unknown sniper while she was protesting the election. Her death was captured on a 37 second video and uploaded to YouTube.[85] The death of Neda Agha-Soltan illustrated in graphic detail what the status updates and blog posts had been reporting for the past week. Her death quickly became a rallying point for the protest movement as a Twitter post which featured a link to a picture of Neda bleeding in the street illustrates: "http://twitpic.com811gn This is neda! Don't ever forget her #iranelection #neda #tehran."[86]

The Pew Research Center's Project for Excellence in Journalism (PRJ) publishes a weekly analysis of social media and networking and tracks the top stories appearing on the Internet. During the week of June 15-19, 98 percent of all links posted from Twitter were focused on Iran.[87] Posts related to Iran accounted for 65 percent of the blog and social media content posted online during the same time period; Iran was also the topic of the 1st and 2nd most watched YouTube videos for the week.[88] Compared to the coverage the topic of Iran received during the same time frame in the traditional press, 26 percent, it is clear that social media was dominated by the Iranian election and the growing protest that ensued.[89] The following week June 22-26 would see a decline in the content relating to Iran across the board, with the exception of the video depicting the death of Neda Agha-Soltan being the most watched video on the site: 64 percent of Twitter post, 20 percent of the blogosphere and 18 percent of the traditional press contained content on Iran.[90] The only mention of Iran in the PRJ report for the week of June 29-July 3 that Iran accounted for 48 percent of the total content linked on Twitter[91] With the exception of the resurgence in Twitter activity (78 percent)[92] during the week of July 6-10 the social media postings relating to Iran continued to make a steady decline. One week after Ahmadinejad's

[77] Arjomand. *After Khomeini*, 167.

[78] Ben Parr. Iran Election Crisis: A Social Media Timeline. *Mashable.*, June 21, 2009.
http://mashable.com/2009/06/21/iran-election-timeline/

[79] http://mashable.com/2009/06/21/iran-election-timeline/

[80] http://topics.nytimes.com/top/news/international/countriesandterritories/iran/index.html?scp=1&sq=iran%20election%202009%20smmary%20&st=cse

[81] http://mashable.com/2009/06/21/iran-election-timeline/

[82] Arjomand., 170.

[83] http://online.wsj.com/article/SB124562668777335653.html#project%3DIranGov09

[84] http://www.nytimes.com/2009/06/16/world/middleeast/16media.html?_r=4

[85] http://www.nytimes.com/2010/02/22/business/media/22polk.html?scp=6&sq=neda&st=cse

[86] http://mashable.com/2009/06/21/iran-election-timeline/

[87] http://www.journalism.org/index_report/iran_and_%E2%80%9Ctwitter_revolution%E2%80%9D

[88] Ibid.

[89] Ibid.

[90] http://www.journalism.org/index_report/deaths_michael_jackson_and_%E2%80%9Cneda%E2%80%9D_grip_blogosphere

[91] http://www.journalism.org/index_report/blogosphere_walkman_and_pitchman_supplant_michael_jackson

[92] http://www.journalism.org/index_report/lipstick_white_gloves_and_protests_divide_attention_social_media

inauguration on August 3, 2009 all content relating to Iran accounted for only 2 percent of the total post on Twitter.[93]

The Internet is the fastest and most versatile means of communication in the world today.   The Internet provides the user with the ability to instantly communicate with others in a way that other technologies don't. Most traditional communications media, such as telephone radio and television services, have been redefined using the technologies of the Internet. The radio and newspaper and television allowed for the dissemination of ideas over great distances, but are one way technologies. A dialog using these types of media would require the production or publication of a response, an endeavor that is far from instant.   With the Internet, it is possible to post content that can be instantly delivered to an audience and allows for the audience to instantly reply using the same media such as Facebook, YouTube and Twitter.   Initially telephones/cell-phones only allowed for instant audio communication. The Internet allows for instant audio and visual communication between users through websites such as www.skype.com.   Internet access has expanded rapidly across the globe and if this rapid growth is any indication it appears that the Internet is quickly becoming the technology of choice when it comes to communication. For the Iranian's upset over the results of the election, it would seem the Internet would be the perfect way of voicing their discontent.

In the first weeks of what has been called the Iranian Election protest, social media sites like Facebook and Twitter served two purposes: providing an instant newsfeed to interested parties and organizing the initial protest.[94]   These sites were able to reach thousands if not tens of thousands of people instantly; Musavi's Facebook supporters page had a following of 50,000 users as of June 15, 2009, and prominent Twitter feeds had followings of 10,000 or more.[95]   By the week of July 10th, 2009 the social media platforms had lost much of their organizational utility.[96] Using technology acquired from technology manufactures Siemens and Nokia, the TCI was able to provide the Basij with information gleaned from an advanced Internet monitoring method known as deep packet inspection.[97] Deep packet inspection involves
"inserting equipment into a flow of online data, from emails and Internet phone calls to images and messages on social-networking sites such as Facebook and Twitter. Every digitized packet of online data is deconstructed, examined for keywords and reconstructed within milliseconds. In Iran's case, this is done for the entire country at a single choke point."[98]

The Internet is a transparent technology that has no political master. All of the technology that enabled the protest movement to quickly disseminate information and organize rallies also enabled the Basij and Ahmadinejad supporters to gather real time intelligence on the opposition movement. Of the hundred of citizens arrested by mid-July 2009 many were involved in the online protest movement.[99]   Once those involved in the protest movement realized that their communications network had been compromised they most likely switched to a different method of conveying operational plans. Despite the diminished role in the protest movement, social media still was one of the best ways of obtaining non-state sponsored news.

IV.   CONCLUSION

This paper was framed as a test of the belief that advances in communications technology are eroding power from government and placing it in the hands of the people and non-state entities. Assuming that this premise is true and technology is having a decentralizing effect on state power, one would expect to find that given the incredible advances in technology between the time of the Iranian Revolution in 1979 and the 2009 Iranian Presidential Election the people of Iran should easily be able to oppose an obvious case of election fraud. If increased technology consistently yields increased freedom, Ahamadinejad would not be serving his second term or at the very least, a run-off election should have been conducted. Obviously this is not the case, but why?

The first possibility is that there was very little use of social media inside of Iran and therefore the technology never played a factor in the protest movement. This argument hinges on the idea that majority of the blog activity and Twitter updates were created by individuals outside of Iran and sympathetic to the cause of the protesters. The social media sites were dominated for a few weeks by the events in Iran and over time the story grew old and died out.   The fact remains that the true number of Iranian's who actually used Twitter, Facebook or uploaded YouTube video is unknown due the inability to verify with complete certainty both identity and location of any of the users of social media sites. The establishing veracity of an online post requires a little bit

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[93] http://www.journalism.org/index_report/heated_health_care_battle_explodes_blogosphere
[94]http://www.journalism.org/index_report/lipstick_white_gloves_and_protests_divide_attention_social_media
[95] http://www.nytimes.com/2009/06/16/world/middleeast/16media.html?_r=4
[96]Ibid.
[97] http://online.wsj.com/article/SB124562668777335653.html#project%3DIranGov09
[98] Ibid
[99] Arjomand ,170

of trust and a good amount of cross-referencing the details of the post. Once a social media post has consistently been corroborated by other trusted sources, there is little reason to doubt the accuracy of the information. This argument also undermined the extensive actions taken by the Iranian government to prevent users from gaining Internet access and the trails of those accused of spreading inflammatory content online.

The most likely answer is that is that the inherent transparent nature of the Internet provides those in power with the same opportunities as it does those challenging the state authority. The only limitation as to what can be shared on the Internet rest with the user. However, once uploaded the information is never really as private as what one might expect. All the information that passes across the Internet in Iran must travel through the Telecommunications Company of Iran's chokepoint. This chokepoint is the only gateway between World Wide Web and Internet users inside of Iran with the exception of those operating on a proxy server hosted by another country.

The application of deep packet filtering at this chokepoint allows the Islamic Republic of Iran the incredible ability to essentially monitor the entire Internet activity of Iran. What was originally thought of as a tool for the liberalization and democratization of the world has now become the most important instrument of a repressive regime. While this might ultimately turn out to be true, the theory of negation only accounts for part of the story in my opinion.

Ayatollah Khomeini used audio tapes because they were the best way to get his message to his followers in Qom. Audio cassettes were not the latest cutting edge technology. Instead, they were a well established means of communication that had been diffused well across Iran. After Khomeini moved from Najaf to France in October of 1978, the revolution had become more popular both in Iran and worldwide and Khomeini began to use more advanced technology such as satellite, television and radio broadcast to deliver his message. It is my belief that if the election protests of 2009 really are indicative of a larger social movement inside Iran, the use of the Internet as a means of coordinating strategy has been replaced by a lower technology that is not as easily interdicted. If this is the case then time will continue to pass and the pressure will continue to build until the opposition can gain enough acceptances that it is able to resurface on the Internet and truly take advantage of the revolutionary technology that is available.

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