

#Euromaidan: The Power of Digital Activism

Introduction

“Ukrainians are being killed fighting for democracy.” “Ukraine is literally burning down.” “Riot police in #Ukraine use molotov cocktails against protesters.” “Riot police use cell phones to track protesters.” These are some of the tweets that I first uncovered when I began this project on January 25th. These initial tweets capture the beginning thoughts and malaise regarding the ongoing revolution in Ukraine, dubbed the Euromaidan. These public demonstrations protest the government’s suspension of the E.U. Association Agreement and Free Trade Agreement, the corrupt status quo, and exigent constitutional violations which have included horrendous acts of police brutality. The first of the protests are largely believed to have been sparked by initial tweets from journalists and activists, and many thousands have coordinated and shared using social media throughout the timespan of my tweets.

The Euromaidan long ago surpassed being a mere protest movement and will now be remembered a revolution. The riot police have kidnapped, tortured, and murdered numerous protesters. I chose to follow the #Euromaidan primarily because it is such a relevant current event that may be the impetus behind a lasting democracy in Ukraine. This civil disobedience has also been intertwined with social media since day one, and it has been fascinating to track the evolution of the hashtag as this revolution played itself out. The timing of my tweets also was

perfectly aligned with the events since the internal revolution had largely resolved itself by the end of my tweets.

Over 700,000 tweets (N=714,225) compiled between January 25th and February 24th reveals the impassioned angst of Ukrainian protestors. Virtually all of the English tweets are in support of the Ukrainian people out on the streets, fighting for their rights. In this way, Twitter data are heavily biased towards the revolutionaries. The tweeters are likely either in the frontlines, directly experiencing and participating in the movement, or are on the sidelines championing those who are fighting back against their government. The demographic of the tweeters makes sense in light of the Euromaidan's utilization of social media as the medium by which it has mobilized protestors and garnered international support.

The most burning questions for me were those regarding the complete story of the Euromaidan movement. I wanted to understand the impetus and context of the movement, and how the battle was being fought. To understand the background of the Euromaidan and the seeds of malcontent, I looked to historical and census data. To better comprehend the battle taking place on Ukrainian soil and in the digital realm, I looked to Twitter data. In particular, I was curious about how people used Twitter and how Twitter shaped the Euromaidan. My hypothesis regarding the origin of the Euromaidan was that the data would illustrate the Euromaidan as a direct result of political and historical factors. My hypothesis regarding the real-time clash of those in the Euromaidan was that the data would be unanimously supportive of the protestors in Ukraine.

Literature Review

Since social media is relatively new, there are not yet many academic sources available observing the role of social media in political movements akin to the Euromaidan. However, I was able to find a few sources that have direct implications on the Euromaidan. I will begin by discussing the general use of social media in political participation, then move onto case studies of social media use in Chile and Arabic countries.

There is a heated debate about the relationship between the Internet and civic engagement. Some scholars argue that the political participation via the Internet is nothing more than “slacktivism,” which “may make the active individual feel good, but have little impact on political decisions and may even distract citizens from other... forms of engagement” (Christensen 2011, 7). There are also concerns that the Internet creates a divide based on participatory activity, since the more well-educated and politically interested are the ones taking advantage of protesting via the Internet. These factors may belie the overall level and efficacy of political activism. Technology like Twitter may just be used for its “ease of access, speed and efficiency of online mediums,... and a positive feeling about oneself through participation” (Rotman et al. 2011, 3).

Rotman et al. argue that activism through the Internet cannot just be dismissed since technology has been proven to be useful for social welfare in a variety of applications. For example, Twitter has been used to gather and distribute information quickly during times of crises (Rotman et al. 2011). Furthermore, Christensen claims that there is not enough data to conclusively determine the efficacy of online activism (Christensen 2011). He goes on to note that several studies indicate that online participation actually promotes off-line participation, contrary to concerns. This is true, as evidenced by the following case studies.

In Chile, as in other parts of the world, youths “typically exhibit low rates of political participation” (Valenzuela et al. 2012, 301). This rate was lower than 9% in 2009. However, the authors argue that “social network sites... facilitate access to a large number of contacts, thereby enabling social movements to reach critical mass” (Valenzuela et al. 2012, 302). In their 2010 study, Valenzuela et al. conducted a survey of 1,000 individuals aged 18-29 inhabiting Chile’s three largest urban areas. They found that respondents with a Facebook account engaged in 60% more protest activities than their counterparts without Facebook (Valenzuela et al. 2012, 306). Protest activities had been defined as attending public demonstrations, attending political forums and debates, signing petitions, and participating in meetings with authorities. The authors concluded that “social network sites seem to reduce the costs of collective action, enabling citizens to organize themselves more easily and to voice their concerns more publicly” (Valenzuela et al. 2012, 311).

In early 2011, Egyptian protestors took to the streets around Tahrir Square. These demonstrations successfully compelled President Mubarak to resign soon after. Less than two weeks later, 1,200 interviews were conducted with participating protestors to ascertain the link between social media use and their political activities (Tufekci and Wilson 2012). The authors found that 48.4% of the respondents first heard about the protests through face-to-face interactions and 28.3% first learned through social media (Tufekci and Wilson 2012, 370). Moreover, almost half the respondents (48.2%) spread videos and pictures of the movement in real time via social media. They were able to conclude that social media like Facebook and Twitter played a central role “in the protests leading up to the resignation of Egyptian President Mubarak” (Tufekci and Wilson 2012, 374).

The authors found that Twitter had been used by protestors to communicate about the demonstrations in real time. Overall, Twitter was used by 16% of the respondents and over 80% of these people used it to communicate about the protests. About 98% of those with Facebook accounts (52% of total respondents) communicated about the protests via Facebook (Tufekci and Wilson 2012, 369). Furthermore, the results suggested that Twitter was a bridge between Egypt and the rest of the world since “much of the early news of the protests to outside world spread through Twitter, and then to traditional news media” (Tufekci and Wilson 2012, 366). In short, social media was a valuable tool used by protestors since the first day. I hoped to see these results corroborated in my findings.

Methods and Analysis

My tweets were collected via ScraperWiki from January 25th to February 24th. I reset the scraper every week, which resulted in data not being collected on January 28th, January 29th, February 20th, and February 21st due to Twitter throttling. Despite this problem, I was still able to collect data from 714,225 tweets. I performed statistical analysis using Excel, network analysis using Gephi, and text analysis using Wordle. I also used data available from the 2001 Ukrainian Population Census. Specifically, I used their data regarding the “national composition of the population” and “urban and rural population.” These data were analyzed using R.

Findings

A preliminary analysis of the dataset reveals that a little less than half of all tweets are in English. Ukrainian and Russian came in at second and third with about 37% of the total, collectively (see Figure 1). The vast majority of the tweets contain powerful images taken of the

fracas in Kiev, including pictures of the fallen, defiant protestors, and acts of police brutality. These kinds of tweets cannot help but unambiguously garner support for the protestors, lending credence to Kurgan’s argument that “there is no such thing as neutral data. Data are always collected for a specific purpose” (Kurgan 2013, 35). There were virtually no tweets in support of the riot police or Ukrainian government. In this sense, the data have always been in control of the protestors, being used to the advantage of the Euromaidan movement.

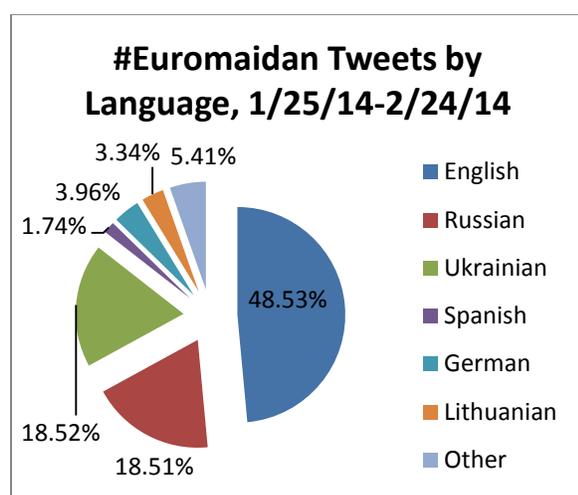


Figure 1. #Euromaidan Tweets by Language, 1/25/14-2/24/14.
Source: Twitter dataset and Excel.

About 346,000 tweets were in English, for about 49% of the total number. The next most widely used languages were Ukrainian and Russian, at 18.52% and 18.51% respectively. The remaining languages account for 103,175 tweets, for roughly 14.45% of the total. The distribution of languages makes sense in light of the fact that English is the most widely spoken language in the world and English is the universal language of Twitter. I suspect that the majority of the English tweets are by individuals not directly affected by the conflict, since the violence has been primarily contained in Kiev and the most directly affected are those who speak Ukrainian and/or Russian. The majority of the protestors identify Ukrainian as their native

Figure 2. Prevalence of Words in #Euromaidan Tweets, (2/5/14-2/12/14). Source: Twitter dataset and Wordle.

Consider now the descriptive statistics of the daily frequencies of #Euromaidan tweets. The mean number of #Euromaidan tweets per day was 23,039.52. This means that people around the world tweeted 23,040 times every day on average about the Euromaidan. The standard deviation was 18,625.82. Since this data cannot be assumed to be normal, Chebyshev's Inequality says that at least 75% of the days between January 25th and February 24th saw between 4,414 and 41,666 #Euromaidan tweets daily. The median number of tweets was 19,929 and the mode was 0. The mode was 0 because ScrapperWiki failed to scrape data on four separate days, resulting in counts of 0. Since the mean is larger than the median, the data are skewed right since the upper 50% of the data are big enough to drive the mean higher. The count was 31 and the range was 81,164 since the maximum was 81,164 and the minimum was 0. There was a peak of 81,164 tweets on January 27th and a low of 214 tweets on February 18th. The daily frequency of tweets is illustrated below, in Figure 3.

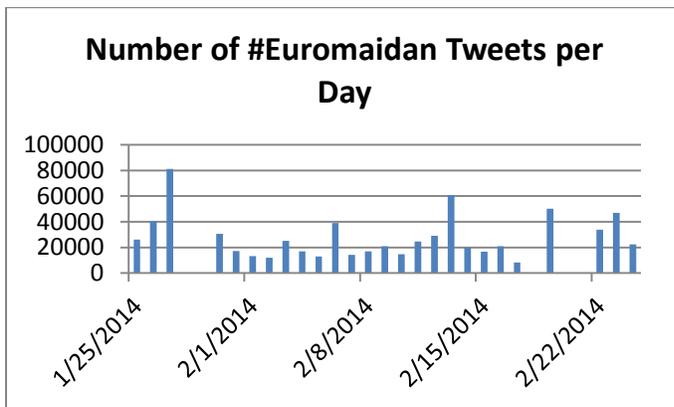


Figure 3. Number of #Euromaidan Tweets per Day. Source: Twitter dataset and Excel.

An analysis of the 2001 Ukraine census data using R reveals the political context of the Euromaidan and the dominance of Russia in key political areas of Ukraine. Figure 4 suggests

that Ukrainians outnumber Russians by a factor of 4 to 1, as of 2001. However, this graph illustrates the ubiquity of Russian-Ukrainians in the urban regions of Ukraine. While a slight majority of Ukrainians occupy urban areas as expected, those of Russian nationality overwhelmingly inhabit urban areas. This is of concern because urban regions usually have more political influence, embody higher standards of living, and provide higher wages. Figures 5 and 6 corroborate this story, revealing Russians as the majority in important eastern regions such as Crimea and Sevastopol City. Crimea is known for its bountiful agriculture and vibrant metal working and energy industries (Wikipedia, s.v. “Crimea,” last modified May 12, 2012, http://en.wikipedia.org/wiki/Crimea#Strategic_value). Both Crimea and Sevastopol have been historically valuable and strategic for their Black Sea ports and harbors (Wikipedia, s.v. “Sevastopol,” last modified May 12, 2012, <http://en.wikipedia.org/wiki/Sevastopol>). Empires throughout history have vied for control of these naval bases that have also been significant to trade. It is no surprise then, that Russia has maintained majority control over these two key regions (see Figures 5 and 6). Figures 5 and 6 also reveal a diffusion of Russians into all regions of Ukraine over time, gradually annexing the country nonviolently.

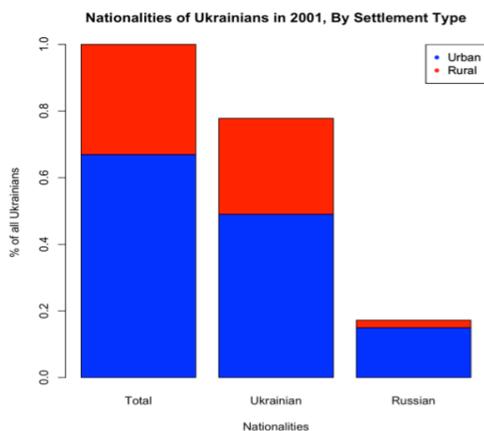


Figure 4. Nationalities of Ukrainians in 2001, By Settlement Type. Source: Twitter dataset and R.

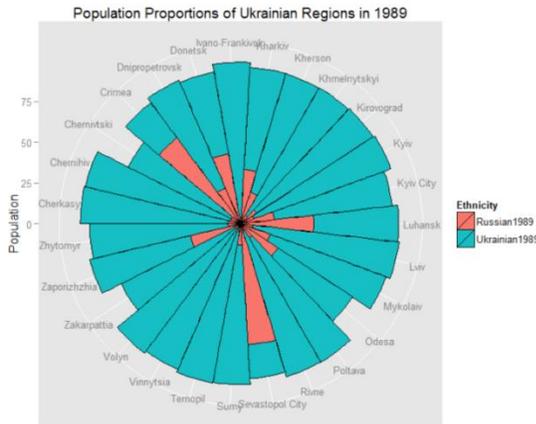


Figure 5. Population Proportions of Ukrainian Regions in 1989. Source: R.

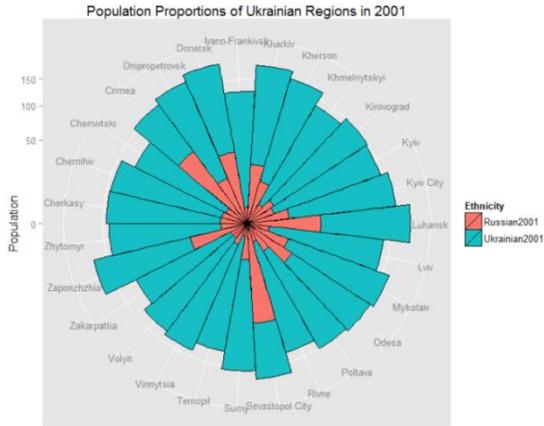


Figure 6. Population Proportions of Ukrainian Regions in 2001. Source: R.

Figures 7 and 8 below suggest a different story at first glance. Figure 7 indicates that propinquity to Russia causes greater proportions of Ukrainians who identify Russian as their native tongue. Figure 8 shows that this is also highly correlated with support for the pro-Russian president Yanukovich, who was largely responsible for the initial protests which eventually led to his removal from power. Crimea and Sevastopol are in close proximity to Russia by happenstance. Thus, this might naturally explain the greater Russian presence and concomitant greater prevalence of Russian-Ukrainians without any conscious manipulation by Russia. However, a closer examination reveals that this may not be the case. Note that Luhansk, Donetsk, Crimea, and Sevastopol are the most decidedly pro-Russian regions of Ukraine. The regions separating Donetsk from Crimea are not as colonized by Russia. Furthermore, regions that border Russia such as Kharkiv and Sumy are not as dominated by Russia, either. The only explanation is strategic value and industry. As previously explained, Crimea and Sevastopol are invaluable regions. Donetsk, as Ukraine’s center for coal mining and steel production (Wikipedia, s.v. “Donetsk,” last modified May 12, 2012, <http://en.wikipedia.org/wiki/Donetsk>), and Luhansk, as a major exporter of trains to Russia (Rosenberg 2013), are also important to Russia. Other regions that are not as valuable are simply not as controlled by Russians,

regardless of their proximity to Russia. It is no wonder then, that Russia's heavy presence in parts of Ukraine generates unease on the Ukrainian people which culminated in enough politics being manipulated to spark the concomitant revolution.



Figure 7. Russian as a native tongue in Ukraine. Source: Al-Jazeera



Figure 8. Support for Viktor Yanukovich, 2010 presidential elections. Source: Al-Jazeera

An analysis of the later part of the February 6th #Euromaidan tweets using Gephi shows that the Euromaidan has been for the people, by the people (Figure 9). In the aftermath of one of the first bloody days of protests on February 6th, people tweeted the news as much as possible to spread the news of deaths and to help the injured. But there doesn't appear to be any large hubs, as people all shared the tweeting load and contributed democratically to share the sacrifices of the targeted protestors. Moreover, Figure 9 demonstrates the streamlined system of sharing news for the activists. Crucial to the underdog protestors is the need to spread information quickly in order to organize and help each other before pro-Russian troops are able to respond or regroup. I think this graph provides a good story of how the Russian influence has forced protestors to adapt and maneuver. Figure 9 also demonstrates how well Twitter has been employed to best assist the protestors, since it has been one of the only political weapons available to them.

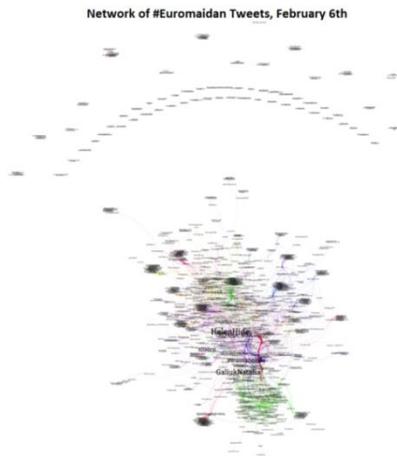


Figure 9. Network of #Euromaidan Tweets, February 6th. Source: Twitter data and Gephi.

The diameter is 11, the average path length is 4.066, and the number of shortest paths is 23,246. Diameter is the number of edges between the two furthest apart nodes. The fact that diameter is 11 with an average path length of about 4 indicates that Tweepers are fairly separated. The average degree of separation is about 4. The diameter is 11 so the farthest apart tweets have 9 mutual tweets between them (likely people from different countries tweeting about someone else). This makes sense since although about half the tweets are in English, the news sources are likely the ones in Ukrainian (18.5%). The number of shortest paths is the number of times tweets are connected by the shortest length paths. This suggests that many people (likely protestors in Ukraine) are connected to each other, or at least tweeting at the same groups of people.

I see a lot of individuals in the tweets, within the singular major social cluster (Krebs 2010). This is in line with what I had thought I would see. Because the #Euromaidan is a people's movement, it built on a foundation of many individuals. Two of the biggest contributors or "hubs" are HelenHide and IRO4KA_USA (Krebs 2010). They are spatially very close to each other and tweet to each other often. It is clear that these two Tweepers are major sources of information and are among the first to release news about #Euromaidan events such as the

devious bombing that took place on this day. These two tweet at people like EastofBrussels, njooro, and CWynnykWilson who in turn relay the tweets to the masses. I would guess that HelenHide and IRO4KA_USA are more closely related to the movement, and may be Kiev protestors themselves or close to protestors.

Discussion

As I had hoped, the visualizations of the Ukraine census data paint a picture of Russia's grip of power on Ukraine and its maintenance of influence on Ukrainian politics. I believed that Ukrainian demographics and geographical representations of Russian influences would motivate a greater understanding of the political and dialectical processes at play which led to the Euromaidan. The graphs and maps suggest that Russia's hold on Ukrainian politics led to a divide in the country, by first securing the election of a pro-Russian president by a small margin and then driving a wedge between Ukraine and the European Union. It is no wonder, then, that the Euromaidan was born.

The tweets themselves tell a telling story of the battle that was fought in Kiev. There was a peak of 81,164 tweets on January 27th, a result of a well-planned twitter storm. The coordinated awareness movement proved successful when #Euromaidan held its number one position on Twitter for most of the day on January 27th (Lokot 2014). This coordinated attack successfully contributed to a victory for the Euromaidan. As signs of concession and compromise on the 28th, Ukrainian parliament repealed laws restricting the freedom of speech and assembly, and the prime minister of Ukraine resigned (Kramer 2014). This, in conjunction with the centrality of the tweets from the Gephi results, demonstrates just how well Twitter has been harnessed for the powerful tool it is. Twitter was also used to raise awareness and coordinate the protestors,

illustrating that social media “are not so much creating new forms of protest as amplifying traditional forms of protest, such as street demonstrations” (Valenzuela et al. 2012, 311).

The smallest number of tweets was 214 on February 18th. This lack of activity could be attributed to the tens of thousands of protestors who marched on Ukraine’s parliament in support of returning the Constitution to its pre-2004 form (Kyiv Post 2014). A few dozen people died and more than a hundred were injured during the bloody skirmishes, suggesting that people were too preoccupied to tweet on this day. This lack of Twitter activity provides support for the theory that many of the tweets originate from those on the frontlines. The fact that about half of the tweets were in English, a language that most Ukrainians do not speak, shows that my results hold with findings from Valenzuela et al. and Tufekci and Wilson. It is likely that many protestors tweeted the protests in real time, and remote activists retweeted their tweets to promote awareness and support.

There are some significant limitations that must be addressed. First, the data that I used were certainly not neutral. It told a story of the Euromaidan because I was able to use it to form my argument and “make arguments relative” (Neff 2013, 119). In another researcher’s hands, the interpretation and conclusions might have been wholly different. I also probably faced the largest amount of data in class- over 700,000 tweets. Then technically my data might be considered “Big Data,” and I might have let the sheer quantity wrongly guide my thinking. My data still did not “represent ‘all people’, and it is an error to assume ‘people’ and ‘Twitter users’ are synonymous” (boyd and Crawford 2012, 669). In the case of my project, I posited that tweeters were people invested in the Euromaidan even though those tweeting form a very small subset of the local and remote protestors. I also assumed that my analyses and graphs of #Euromaidan

tweets were accurate, although Twitter throttling and removing certain tweets may have skewed the results (boyd and Crawford 2012).

Conclusion

My research questions were answered. I was able to find data that allowed for visualizations that beautifully told the story of the Euromaidan. My first hypothesis was confirmed because the census data clearly illustrated Russia's role in generating Ukrainian dissent in western regions like Kiev. My second hypothesis was also confirmed since my analyses of the Twitter data illustrated the exclusive use of data and Twitter by the protestors.

The last few days of my tweets were ones of hope for the Ukrainian people. President Yanukovich and many high level officials had fled the country, popular presidential candidate Tymoshenko was released from custody, and a new temporary president was chosen (Walker 2014). Unfortunately, Russian troops seized Crimea, a region of Ukraine, a few days after my tweets ended. This is not surprising, since the 2001 Ukraine Census data had illustrated Russia's vested interests in parts of Ukraine. I can only hope for the best for Ukraine, as we look to the future.

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