

ANATOMY OF A PROTEST:
ACTIVISM, PEOPLE, SOCIAL MEDIA, AND URBAN SPACE

by

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ABSTRACT

ALIREZA KARDUNI, Anatomy of a protest: Activism, people, social media, and urban space. (Under the direction of Professor ERIC SAUDA)

The black lives matter movement has risen in response to social injustices in the African American community in the United States, specifically concerned with police shootings and brutality. Similar to many modern movements in the age of information, there have been many protests around the United States that utilize mobile technologies and social media to diffuse information, organize, and occupy public space to demand justice and equality. In this research, I studied activism in the United States from three separate layers: People, Social Media, and Urban Space. This will allow us to understand how the new forms of technology are manifested in the public space to demand justice. As a case study, I studied the series of protests in the aftermath of the shooting of Keith Lamont Scott in Charlotte, North Carolina that occurred in September 2016. To understand the relationship between these three layers, I conducted focus group studies with protesters and activists. Using the results of the studies as a guideline, I then used social network analysis and natural language processing on a large corpus of Twitter data to understand the dynamics of this event. I find that specific Urban Spaces in Charlotte are important to protesters. Furthermore, I find that the importance of these urban spaces is reflected in Social Media. And finally, I find that discussions in Twitter regarding these protests are highly polarized, Influential Twitter users who are supporters of the Black Lives Matter movement tend to use more specific spatial information in their tweets than individuals who are critical to the movement.

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INTRODUCTION

“The freedom to make and remake ourselves and our cities is, I want to argue, one of the most precious yet most neglected of our human rights” David Harvey, *The right to the city*.

For the first time in history, since 2013 the majority of the world’s population lives in cities. They are the place where people live, work, and innovate; but they are also the places where people face grave injustices and unfairness. The American city has consistently been a place where racial dynamics and injustice come to light. The 1960s civil rights movement focused on the public domain in an effort to narrow the racial divide. However, residential segregation has consistently remained a major feature of many American cities (Welch 2001). Segregation in American cities is not a purely geographic phenomenon: in 1995, extreme heat wave of Chicago, racially influenced factors such as access to public transportation, isolated living situations, and lack of daily social contacts lead to reports of 739 people dying. The death rates of African American to whites normalized by age were 1.5 to 1 (Klinenberg 2015). These inherent and unjust racial biases are evident in many other aspects of cities and societies of America. African American neighborhoods are prone to food disparities (Gordon et al. 2011), higher disability rates (Braut 2012), and unfair education system (Dobbins, McCready, and Rackas 2016).

Most recently, after George Zimmerman, the killer of Trayvon Martin, was acquitted for his crime, the problem of police bias and brutality led to the creation of the Black Lives Matter movement (“Black Lives Matter” 2017). The Black Lives Matter has

spurred demonstrations against the racial segregation and injustice in the United States. Black Lives Matter is expressed through social media and the hashtag #BlackLivesMatter and urban protests in many cities in response to deaths of unarmed African-Americans by the police force (Miller et al. 2017). These protests are the epitome of the demand of African Americans to receive equal treatment by the police, as part of a larger demand for reducing and eliminating the inherent institutional racism existent within the American city.

One of the key features of the Black Lives Matter movement, as highlighted by the hashtag before the name is the integral role played by social media. This is similar to many urban protests and revolutions around the world such as the Arab Spring in Egypt and Tunisia ,the Green movement in Iran and The Indignadas movement in Spain (Tufekci and Wilson 2012; Khonsari et al. 2010). Black Lives Matter supporters not only use social media as a means to show individual support, they also use this tool to organize protests, to connect with other supporters, communicate and discuss their goals and demands, and transmit their agenda and peaceful message (Carney 2016).

The aim of this research is to determine the specific role of 'place' in Black Lives Matter activists' and protesters' use of social media. In order to do so, I adopted the theoretical framework of Manuel Castell's analysis of protests (Castells 2015). I used it as a means to define the general research questions as well as to create a mixed methods research strategy to effectively answer those research questions.

In the next section, I will overview the existing literature regarding the relationships between protests, urban space, and social media. I will then briefly describe the theoretical framework of social movements in the network society as defined by

Manuel Castells. Next, I will describe the case studies, data sources, and methods which used to conduct this research. I will then continue by discussing the results of my analyses and their implications, first by describing the results of my focus group and interviews of activists and protesters, Then by using the knowledge derived from the focus group to conduct an in-depth anatomy of Twitter data related to the protests in Charlotte. Finally, I will conclude by offering some remarks on how the results of my research would help us to better understand the relationships between urban space, social media, and activism within the context of Black Lives Matter.

SOCIAL JUSTICE, URBAN SPACE, SOCIAL MEDIA

From the beginning of the 21st century, new terms have surfaced to describe an emerging form of activism. “Horizontalism” was coined by Juris and was used to describe how digital media has shifted the form of social movements to “leaderless” and “horizontal” movements (Juris 2005). Hardt and Negri use “swarms” as an analogy for describing how the new forms of communication creates a form of intelligence for social movements that is more than the agents in those movements (Hardt and Negri 2005) . Others have criticized the idea of horizontal movements by emphasizing that it is in fact the “collective identity” created through the rapid sharing of ideas and symbols is the main reason behind the integral role of social media in protests (Paolo Gerbaudo 2014).

Furthermore, the nature of social media and its effects on social movements are heavily debated. Alterman argues that even though social media such as Facebook and Twitter has in fact played an important role in mobilizing protesters in Egypt, news agencies such as Aljazeera made a greater impact on the events of the Egyptian revolution (Alterman 2011). In contrast, Earl and colleagues conduct research on a corpus of tweet related to the protest surrounding the G20 meeting in Pittsburgh in September 2009. They test a series of hypothesis regarding the usage of Twitter for sharing of protest location as well as police action and conclude that Twitter has played an integral role as the primary form of organization in these protests (Earl et al. 2013).

The extent of literature studying the relationship between social media and social movements illustrates the importance of this new type of media in the context of protests and social movements. However, there hasn’t been as much focus on the relationship

between the important public space and the dynamics of activism and social media. Hardt and Negri argue that in the current globalizing world, place is not of primary importance. “The multitude”, which they define as a new form of social class, is created in the globalizing world and by the new forms of network communication. They discuss that “the multitude” is irreducible to its individual agents and does not have a place (Hardt and Negri 2001). Gerbaudo, however, criticizes the idea and argues that place which is occupied by activists highlights a form of unity and togetherness that is inseparable from the process of mobilization (P Gerbaudo 2012).

In this research, I aim to study the impacts of social media with a specific focus on the role of public space. To do so I adopted the theoretical framework developed by Manuel Castells in his book “Networks of Outrage and Hope” which is an analysis of protests from the lens of network societies and how they are shaped by networks of physical space as well as networks of communication in the virtual space. In the next section I will briefly overview the framework developed by Castells and build the foundations for my study of the Black Lives Matter protests.

URBAN PROTESTS IN THE NETWORK SOCIETY

This thesis lies at the intersection of social media, urban space, and people. Our goal is to use the wealth of information that is created by usage of social media to understand how it can be used as an instrument of social change. The focus on the Black Lives Matter protesters and supporters will lead to understanding the relationships of protests and urban space.

Our framework to study these protests is through the lens of a “network society” as defined by Manuel Castells. Network societies are new forms of social structures influenced by globalization and the information and the communication revolution. Castells describes network society as “a society whose social structure is made up of networks powered by micro-electronics-based information and communications technologies” (Castells 2004). In network societies, the main sources of power are communication and information because “... the fundamental battle being fought in society is the battle over the minds of the people” (Castells 2007).

In these societies, power is expressed through the ability to create and control networks of communication (Castells calls this network programming power) as well as the ability to connect with other strategic networks (Castells calls this network switching power) (Castells 2011). To demonstrate this, Castells gives an example of a world-class research university such as MIT that exercises a great power to control disciplinary discourses and exclude the ideas of those outside their network. This power is established through a mutual relationship between the institution and the United States Military

through which, the military ensures funding and the university ensures the technological advancements (Stoddard and Collins 2016).

Castells asserts that these powers are exercised for the dominant and privileged social positions. At the same time, a form of counter-power network comes into existence to represent the values and demands of groups that are excluded or are under-represented in the network society. These resistance and counter power networks use the same two methods, namely programming and switching. Castells mentions three specific methods of influencing power networks.

Social movements, individually and collectively, aim to introduce new programming into the power networks. For example, for the case of global financial networks, new programming means that under conditions of extreme poverty for some countries such as the recent case of Greece, debt should be pardoned (Castells 2011).

They also use a mechanism that consists of “blocking the switches of connection between networks that allow the networks to be controlled by the meta-program of values that express structural domination”. For instance, this could be accomplished by filing lawsuits to change the rules of connections between a government and the media businesses (Castells 2011).

Finally, the resistance could take shape through a disruption that takes place in real-time and real-space: “radical disruption of the switchers that affects material infrastructure of the network society” (Blondel et al. 2008). An example of this would be an act blocking the transportation facilities of a city in order to make demand for a mayor to step down.

In this research, I observed protests through the lens of the network society and as an act of counter power that utilize these mechanisms to make demands:

Individuals use social media to form virtual networks with other supporters of their cause. They use them to quickly and efficiently spread video and images of police brutality that start a protest, and they also use them to repel the forces against their ideas. The usage of social media, however, does not stop here. The internet is used to call supporters to action in the street, highways, and squares (Castells 2015). A very clear example of this type of connection between virtual space and public space was the Tunisian rebellion. In his book, *Networks of Outrage and Hope*, Manuel Castells calls this phenomenon “a hybrid public space of freedom”: “The connection between free communication on Facebook, YouTube, and Twitter and the occupation of urban space created a hybrid public space of freedom that became a major feature of the Tunisian rebellion, foreshadowing the movements to come in other countries”.

He then continues to define the counter power processes of protests from the lens of networks and he uses Tunisia as an example. He describes social uprisings as an expression of protest against many issues such as dire economic, social and political conditions, and police brutality:

“...But from these objective conditions emerged emotions and feelings – feelings of outrage often induced by humiliation – and these feelings prompted spontaneous protests initiated by individuals: by young people using their networks; the networks where they live and express themselves. Certainly, this includes the internet’s social networks as well as mobile phone networks. But this also means their social networks: their friends, their families, and in some cases, their soccer clubs, most of them offline. It

was in the connection between social networks on the internet and social networks in people's lives where the protests were forged”

The movements are hybrid: a connection between social network in the virtual space and social network in society. The protest is manifested in the symbolic public space: “social movements need to carve out a new public space that is not limited to the internet, but makes itself visible in the places of social life. This is why they occupy urban space and symbolic buildings. Occupied spaces have played a major role in the history of social change, as well as in contemporary practice...”

Based on the above narrative of social movements in the network society as defined by Castells, I will study Black Lives Matter protests through these three layers:

- 1- Social Media, mobile social network, the internet: where the information is shared communication is rapidly made, thoughts are shared, and protests are planned. This will help us to understand how information technology is used to influence the networks of power.
- 2- Human societies and social networks: the network of people, friends, and families; the physical connections of people. How people connect with each other and distribute ideas and concerns. This will allow us to understand the networks of protesters as well as the switches and networks they aim to influence and change.
- 3- Urban Space: the areas where the overlap of both social networks (virtual and physical) comes to light. The symbolic urban space where communities

form, demands are made, and rules are changed. This will help us to understand how public space influences success of protests.

I started my analysis by studying protesters and their real-world social networks. First, I interviewed protesters to understand whether and how they use the mechanisms of counter power in the network society to reach their goals. Furthermore, I asked them about their demands, how they organize using social media, and whether specific urban spaces have been crucial in their activism. The findings from the focus groups and interviews with protesters will help us further shape the questions of this research and study the other two layers of the protests.

Next, I studied social media through a data analytical approach. I mined tweets related to the Black Lives Matter movement using natural language processing methods to rapidly process a large corpus of data. I used Named Entity Extraction to automatically derive mentions of specific places in Charlotte. Using these information, I studied the dataset as a social network to understand what role spatial information plays in the network of people in social media.

In the next section, I will describe the methods for our two parallel approaches: A plan for my focus group studies with protesters in Charlotte. As well as the data analytical methods on a corpus of Twitter data related to the same series of protest.

METHODOLOGY

This research was conducted through a case study of one Black Lives Matter protest in the city of Charlotte North Carolina. It is important to note that Black Lives Matter is a chapter based organization that is active throughout different cities in the United States. However, the organization does not have a chapter in Charlotte. The protests in Charlotte could be considered as a sister movement that took place in solidarity. Thus, organizations in Charlotte may employ tactics that are not standardized or used by the official chapters of the Black Lives Matter movement. The Charlotte protests took place in the aftermath of the shooting of Keith Lamont Scott on September 20th 2016¹. Analyzing this protest through the three different layers will allow us to gain an in-depth understanding of the interactions between these layers.

FOCUS GROUPS AND INTERVIEWS TO LEARN THE MEANING BEHIND ACTIVISTS' ACTIONS

For the qualitative analysis of social networks of protesters, I adopted a focus group/interview approach. The focus groups interviews were held in person in Charlotte. The sessions were semi structured, with some open-ended questions and some structured questions. The focus groups mainly consisted of discussing the multiple days of protest in Charlotte while focusing on the “why” and “how” of activists’ actions. I asked questions regarding the places activists go to and the significance of those places. I also inquired

¹ please see <http://www.charlotteobserver.com/news/local/crime/article111056262.html> for a narrative of the Charlotte protests

about the different types of social media they have used and the role each social media plays in their actions.

The focus groups will allow us to understand the nature of counter-power strategies made by protesters in both social media and urban space and how protesters influence the existing networks, programming new networks, disrupting and affecting the connections between networks, and how urban space affects and is affected by these actions. Using the results of these interviews I analyzed data from Twitter using a dataset we obtained by using Black Lives Matter hashtags during the times of the protests.

SOCIAL MEDIA ANALYSIS TO UNDERSTAND HOW A SPECIFIC SOCIAL MEDIA RESPONDS TO A SPECIFIC PROTEST

The analyses of social media data consists of two main parts. First I conducted natural language processing on the text of the tweets to extract meaningful information about locations of protest from the large collection of data.

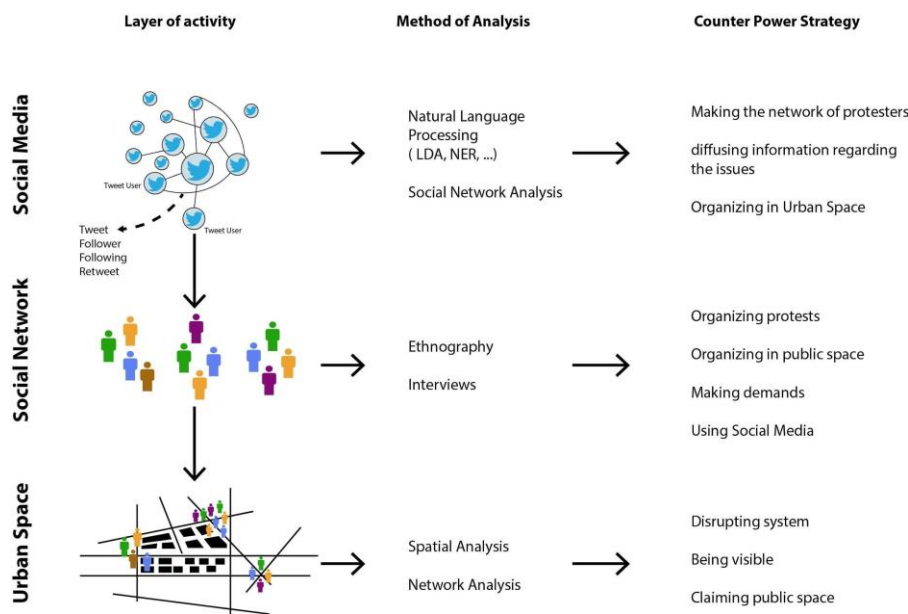


Figure 1: The mixed methods approach of this research to study urban protests

I used the Stanford NLP's Named Entity Recognizer (NER) to extract location information from the tweets (Manning, Surdeanu, Bauer, Finkel, & et al., 2014). NER is a method that tags words in a document as being about a Location, Date, Person, Organization, or other similar tags. The words tagged as location by this method, were then converted to geographical information using geocoding (converting named places to latitude and longitude). For example, using NER to tag the sentence "My name is John Doe. I live in Charlotte, North Carolina. I work at Bank of America" we would get:

(John Doe: Person), (Charlotte North Carolina: Place), (Bank of America: Organization)

This method will allow us to find which places in Charlotte are being mentioned most in the social media and then analyze in what ways these places are being mentioned.

Second, I used social network analysis using tweets and retweets of different users to understand the different actors and their role in the network. I constructed a network re-tweets of Twitter users. More specifically, in this network, Twitter users are nodes and edges between the nodes are if one retweets another. For example, if *user A* retweets *user B*. There will be a directed edge between B and A. If this re-tweet act happens multiple times between these users, the weight of the edge between them will increase. This method results in a weighted directed social network which will allow us to study this protest through the lens of social networks.

I used different social network analysis methods and metrics to understand the features of this network and how different groups of people interact with each other in Twitter in the context of a protest. The first method to analyze the social network is community detection which automatically categorizes the users into different tightly

connected groups. Community detection allows us to understand whether different users shape different clusters and whether they behave differently in these clusters. I used maximum modularity community detection to automatically detect major community structures in the social network (Blondel et al., 2008).

In order to analyze the importance of Twitter users in the network, I used the Pagerank (Page, Brin, Motwani, & Winograd, 1999) and betweenness centrality (Brandes, 2001) metrics. Pagerank was originally created by Larry Page of Google to measure the importance of Web pages in the World Wide Web based on their number of links and their proximity to other important nodes. The pagerank algorithm produces a probability distribution for each node representing the likelihood of a random surfer ending up on a specific node.

Betweenness centrality is a measure of connectedness between nodes. A node with high betweenness centrality is more central in the graph in a sense that it lies between shortest paths of many nodes. The output for betweenness centrality is a fraction of all shortest paths between all nodes that go through a specific node.

The extracted information from tweets, as well as the time of posting, and the location of posting (if available), can then be compared with the results of the interviews from our two case studies. These analyses will respond to the network making (programming) counter-power strategies as defined by Castells, as well as a means to understand where the symbolic urban space is.

The final part of the analysis consists of merging the results of the social media data analysis and interviews through the context of urban space. I first analyzed the social

network by observing the users who mention the most detailed spatial protest information in comparison to ones that do not. This serves as another measure of “importance” for nodes in the network. I simply counted the number of times nodes are mentioning specific places in their tweets and studied nodes with high place mentions in the context of their social network.

ACTIVISTS' AND PROTESTERS' PERSPECTIVES

In my attempt to gain a comprehensive understanding of the events during the protests in Charlotte in September 2016, I conducted a series of interview/focus groups that greatly helped to understand the motives and goals of activists and to move forward with data analysis. For this study, I interviewed a total of 10 individuals who participated in the protests that occurred between September 20th and September 23rd in Charlotte. The interviewees consisted of 3 individuals who did not identify with being an activist and 7 individuals who did consider themselves as activists. During the focus group/Interview sessions, I asked the activists to give a narrative of their participation in the protest. I also occasionally put focus on the whys and hows of going to certain spaces and utilization of specific social media. The discussions focused on the first two nights of the protests. In this section, I describe a collective narrative and findings for each night.

FIRST NIGHT: OLD CONCORD RD. WHERE THE SHOOTING HAPPENED AND THE PROTESTS STARTED

The first night of the protests was definitely an impromptu and unplanned one. All activist interviewees participated in the first night of the protest which happened in the vicinity of Old Concord Rd. and Harris Blvd in Charlotte, an area in close proximity of UNC-Charlotte's campus.

Initial communication was organized through Facebook chat, and organizing efforts were coordinated via text messages to rally protesters to the shooting location. Based on the observations of the interviewees, physical proximity to the location of the incident was the first draw for the initial student group. One of the interviewees who did

not identify as being an activist, mentioned that he first heard people shouting and went to the location to observe. It was only after hearing about the details of the event from the other protester that he started to protest against the police.

When I asked the interviewees why they went to Old Concord, almost everyone mentioned that to give support to the family of the victim and that it was the most natural place to go to protest as it was close to UNCC. When asked about why old concord was chosen, one of the activists summarized this point “The reality is that it [the protest] had to be big because that area is so separated and it would be easy for police to surround or block off people”. Other protesters mentioned that the fact that Old Concord Road is not well-connected and it was very easy for the protesters to be contained, they took the protests to the interstate and highways to make the message louder.

Regarding how the first night protest became big and how people were motivated to participate. Interviewees mentioned that Facebook live, Periscope, and Instagram were all used to live stream the events. One of the interviewees said, “everyone was live streaming, so when they got one of our phones, others would still show what was happening”. The news coverage, along with texting friends and live videos helped the first night of the protest to become loud and impactful. “By the end of the night, there were people protesting who came from Raleigh (the capital of North Carolina). A lot of them stayed with me that night”

SECOND NIGHT: UPTOWN CHARLOTTE, A MORE ORGANIZED CONTINUATION OF THE PROTESTS

The second night of the protests happened with more organization and planning. The location of the protest changed from the University Area to Uptown Charlotte. All of

the interviewees told a similar story about the sequence of events. One interviewee who did not identify as being an activist said that she was contacted by one of her friends and was told about a gathering at a church in Uptown. The church was a place that some of the in-person organizations took place. One of the activist interviewees was also present in the church.

Most of the other interviewees started the second night's protest in Marshall Park, which is a place where most protests are sanctioned: "Marshall Park is one of the most central locations in the city, it's where all protests pretty much start at. It's also right by the jail, government center, etc." Another interviewee said, "It's easiest to find parking for free around Marshall Park and it's easy to identify and use as a meeting place for people coming from different directions." Another interviewee had a different perspective about the park: "Even though it's close to Uptown, it is still separate from most of the activities..." Marshall Park is a place where many of the protests are sanctioned.

After Marshall Park, protesters flowed into the center of uptown, namely the intersection of Trade and Tryon streets which one of the activists described as "literally the center of the city." Another interviewee described this interaction as: "I think that Trade and Tryon ended up being an important place because police tried to corner people into that area." This shift caused a direct response from police officers who were in fact not concerned with the protests in the sanctioned area of Marshall Park. Epicentre is another location in the immediate vicinity of Trade and Tryon where many of the protests was pushed to: "Epicentre and the areas surrounding represents really what this city was made for right [wing], white people. It represents that these are the areas to disrupt."

There were other places that were mentioned by some of the interviews but were not as prevalent. A Football stadium that is also very close to Trade and Tryon: “It was really difficult to disrupt people in front of Panther's games at the stadium because the stadium is technically "private" property so in order to avoid arrest we had to stay on "public" property which made it more difficult to interrupt as we were separated from the stadium and the people whose attention we were trying to get.”

Social media played an important role in motivating people to participating in the protests. One of the protesters who did identify as being an activist said that he would not have participated if he did not see a live stream of the protest in Trade and Tryon. “When I saw the video on Facebook, I just had to go.... you could see exactly what was happening and that is powerful”.

Encrypted text messaging was also considered as an important tool for communication. Activist interviewees mentioned that after the first night where there were lots of phones investigated by the police, they started using encrypted text messages for security purposes. Networks of friends was also very important factor in bringing more people in the protest as described by one of the interviewees: “if my roommate didn’t text me, I wouldn’t have gone because I had a long day and I was really tired”.

Every type of social media was used in the duration of the protest but for different purposes. Events in Facebook were used to organize people for future protests. Photo sharing apps such as snapchat and Instagram were used to share photos of protests as they happened. Chat applications were used to give support to other people and ensure their safety. Other social media such as Twitter were used to read and publish news about the

protest in real time. Finally, live streaming the event played a crucial role in motivating people and contextualizing the protests for people who were not present at the protests.

In this section, we learned about many of the important places that shaped the protests and events of protests in Charlotte. We also acquired some understanding about the significance of each place, as well as how social media was used to achieve different results such as organizing, communicating, streaming, and discussing the events of a protest. In the next section, I will overview the geographic and demographic features around the most important mentioned areas in the interviews to understand whether these areas have any specific spatial features.

GEOGRAPHIC FEATURES OF PROTEST LOCATIONS IN CHARLOTTE

The interviews showed that there are a few prominent places that were important during the Charlotte protests. Old Concord road in University Area, and Marshall Park, Epicentre, and the intersection of Trade Street and Tryon Street in Uptown Charlotte. The interviewees had ideas about the significance of these places: Old Concord road was impromptu and symbolic, to show support the family of the victim. Marshall Park was considered a convenient location to park and it was considered to have close proximity to important government building. Other locations in Uptown Charlotte however, were more accessible and in the economic center of the city and were considered places where the message of the protesters would be heard well. In this section, I will briefly study the geographic features of these areas to see whether they are in fact places of economic and connectivity significance. To do this, I looked at population density, housing density, housing value, income, and number of businesses around these areas².

² Business locations data are derived from the Yelp Academic dataset. All other values are retrieved from US Census American Community survey 2011-2016.

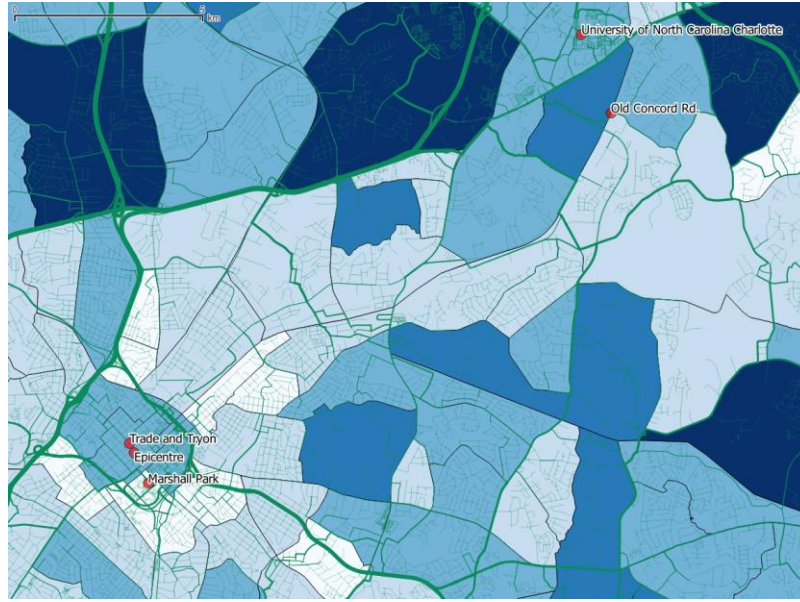


Figure 2: population density around protest areas. Colors are based on 20% quantiles. Darkest blue is the highest quantile and white is the lowest.

In terms of population density, Old concord Rd is in fact in close proximity to an area with higher population density than Uptown Charlotte (See Fig 2). This in fact is not surprising, because Uptown Charlotte is mostly businesses and offices with some apartment housing. In terms of housing density, however, both protest locations are within areas within the highest housing unit density quantile (See Fig 3). These facts show that in Charlotte, residential features are not of primary importance in protests and many of the protesters in fact join from around the city.

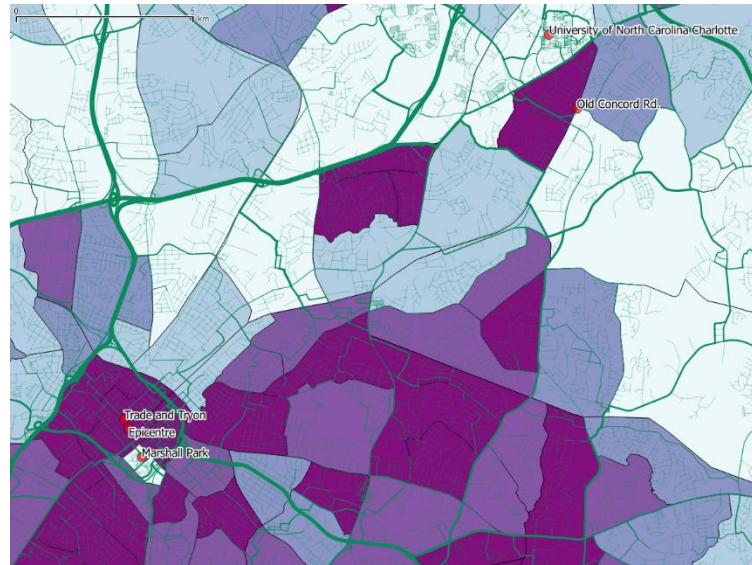


Figure 3: Housing unit density around protest areas. Colors are based on 20% quantiles. Darkest blue is the highest quantile and white is the lowest.

Housing income data shows that the protest areas in Uptown are in fact in the top quintile areas with median household income but Old Concord road are close to third 20% quantile (See figure 4). It is interesting to mention that Marshall Park which is the place where most protests are sanctioned by the city is in an area with very low population, housing density and therefore housing income and value. Furthermore, median housing value shows that Uptown areas are again placed in the area with the highest median housing value in the city See (Fig 5).

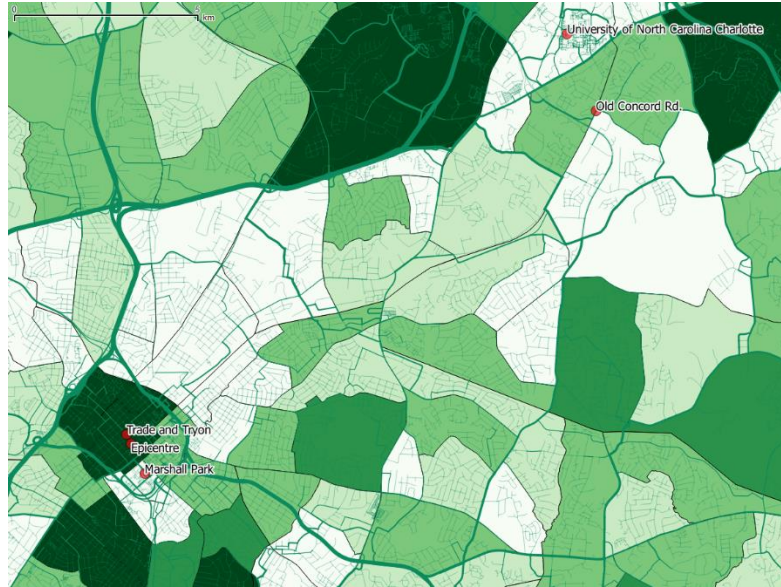


Figure 4: Median household income around protest areas. Colors are based on 20% quantiles. Darkest green is the highest quantile and white is the lowest.

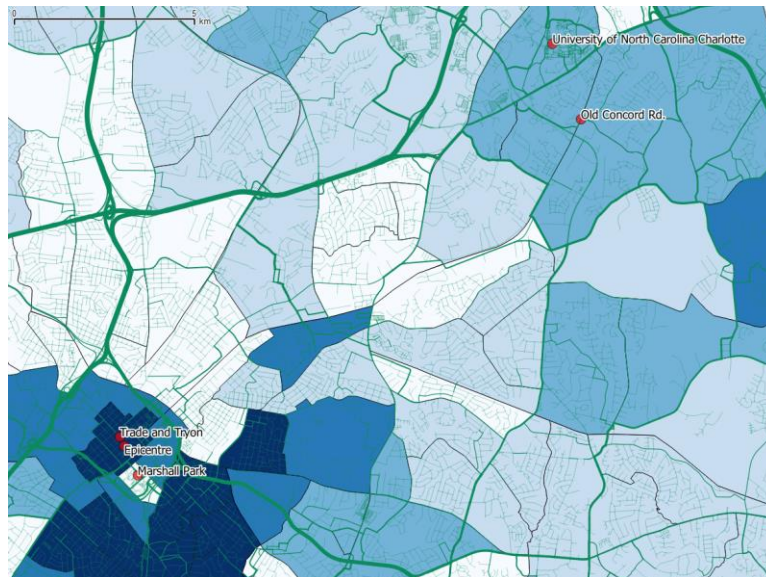


Figure 5: Median housing value around protest areas. Colors are based on 20% quantiles. Darkest blue is the highest quantile and white is the lowest.

Finally, by calculating the betweenness centrality of streets in Charlotte which has been used as a metric for accessibility and connectivity. We can again see that as perceived by the interviewees, the Uptown areas are within very close proximity of the

most connected roads and streets in the city. Old Concord road is within a half mile radius of University of North Carolina at Charlotte (See figure 6). In terms of public transportation, Charlotte does not have a very strong public transportation system but the existing bus and train lines all connect to Uptown Charlotte.

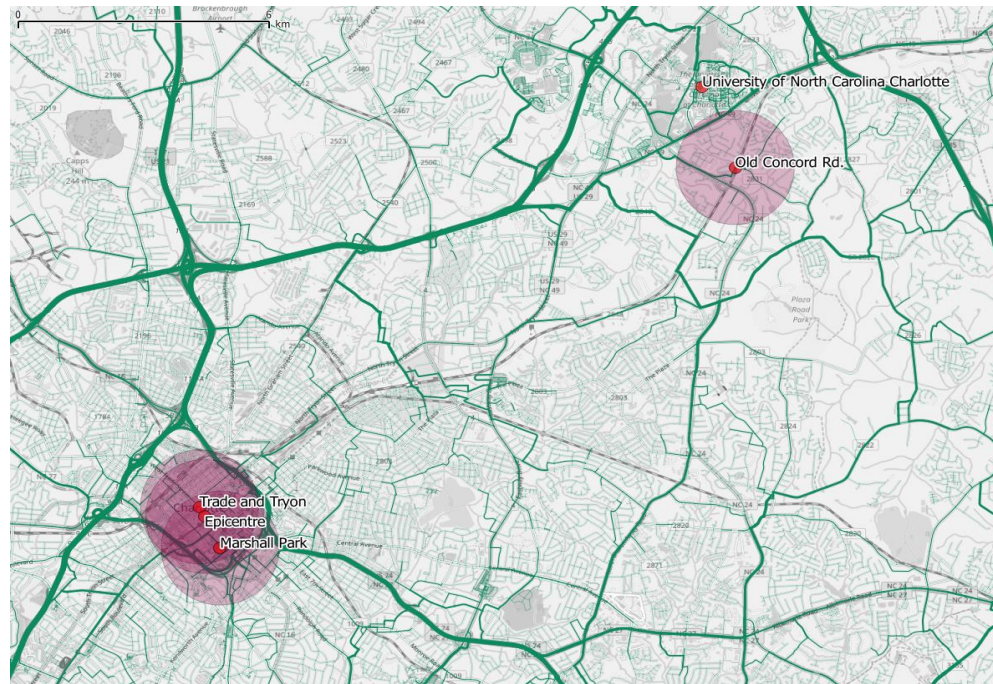


Figure 6: Accessibility of protest areas. The thickness of the street lines corresponds to betweenness centrality of road segments. The buffers are all half mile radiuses around protest areas.

These results show that the protest areas in Uptown were placed in the highest economic and connected areas of the city as perceived by the activists interviewed for this research. In the next section I will start the analysis of tweets with a focus on understanding what role these spatial information play within the social network of people mentioning these protests in Twitter.

TWEETS: TIME, SPACE, AND SOCIAL NETWORK

In order to analyze the Charlotte Protest through the lens of social media. I obtained a dataset of Tweets that included keywords and hashtags such as #keithlamontscott, #charlotteprotest and #charlotteriot. The dataset consists of approximately 1.3 million tweets between September 20 and 23rd. In this section I first briefly study the temporal and spatial nature of these tweets and then analyze the dataset as a social network.

TIME

Tweets seem to respond to the time protests events fairly closely. A group of researchers using the same dataset analyzed the peaks of tweet count over time and matched important events which showed many of the major events in the protest. Figure 7 shows the timeline of our tweet dataset and some of the major events as they correspond with the timeline. Point A shows the first protest in Old Concord Rd., Point B shows the shooting of Justin Carr in Uptown Charlotte, and point C is when Governor McCrory declared a state of emergency. (Wesslen, n.d.)

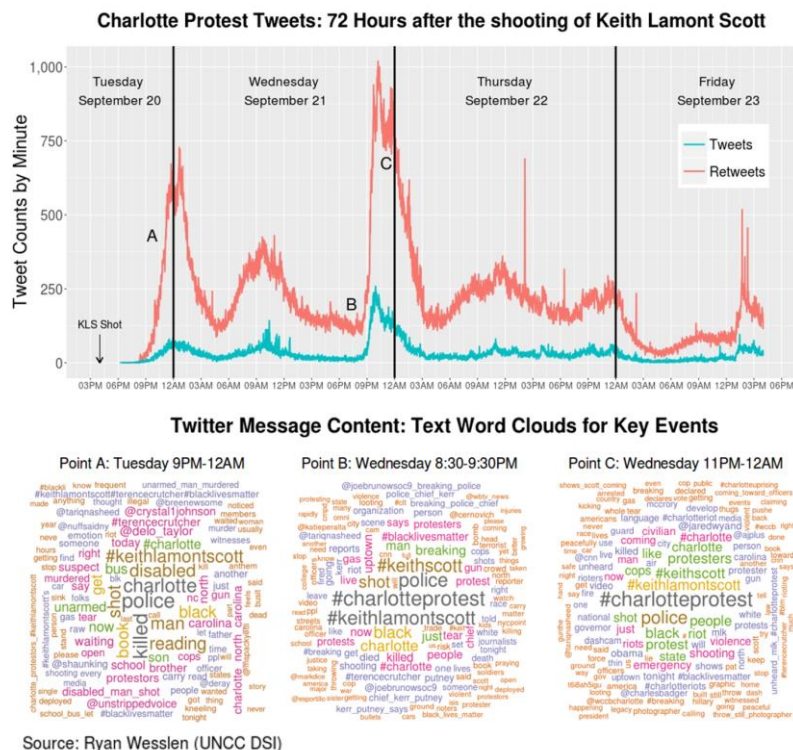


Figure 7: Timeline of tweet frequency and three major events highlighted: Source: Digital Footprints Blog

These results show that Tweets respond to the events of Charlotte protests fairly well. By analyzing these data as a social network, my aim is to understand the relationship between people in social media, how they utilize Twitter as an instrument and how they respond to the events.

SPACE

The central theme of my research is the relationship between urban space, social media, and people. Extracting geospatial information is crucial to understanding the spatial nature of social media usage. Unfortunately, the dataset is almost without geolocated tweets (less than 200 tweets have geolocation information). This lack of geolocation information is in line with the low rates of geolocation information in Twitter

(around 1%). It could also be a strategic action to shield one's location. This issue was not discussed during the interviews and would require further investigation.

To rectify this problem and mine geolocation information from other sources, I conducted Named Entity Recognition on the text of all of the tweets to find all of the mentions of places in the text body of the tweets. The results of this NER analysis were saved in a database for further analysis. Figure 8 shows a visualization of the count of each place that is mentioned in the dataset.

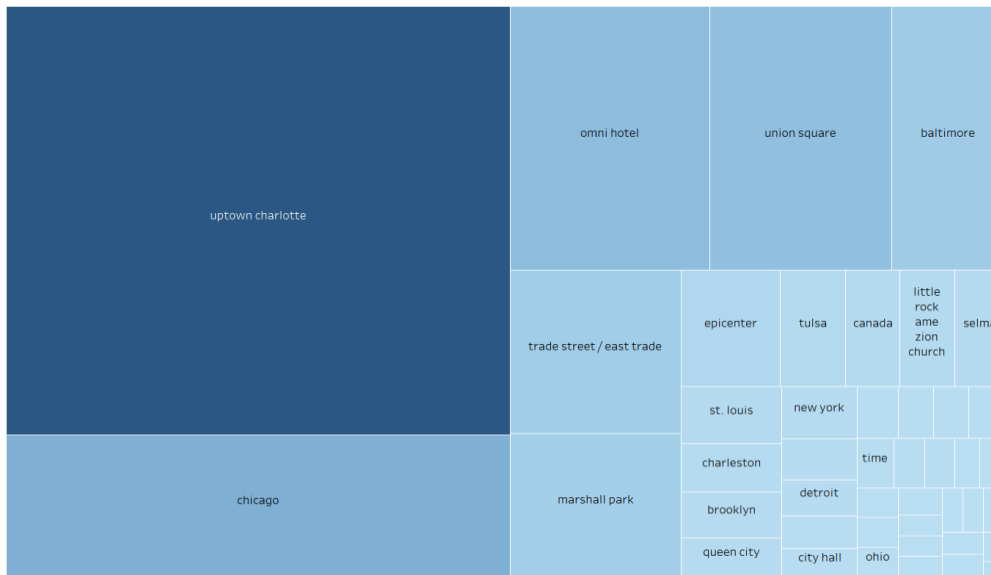


Figure 8: Visualization of mentions of specific place names in the text of tweets in the dataset. color and size correspond to frequency.

As seen in Figure 8 the highest number of place mentions found in the dataset was Uptown Charlotte which fits well with the focus group results. Marshall Park, Trade Street, and epicenter were also mentioned both in the interviews and in the NER results:

- “Protesters rally at **Marshall Park** Wednesday in uptown #Charlotte”
- “Lot of folks gathered at **Trade/Tryon** - @CMPD officers on bikes, backed up by National Guard @TWCNewsCLT #KeithScott”

- “For those not from #Charlotte it's called **Uptown**, the rioting is going on around the **Epicenter** on the map...”

There were places in the NER results which were not discussed greatly during the focus group interviews. Omni hotel for example had a high number of mentions in the dataset. It turns out that on trade street in front of Omni Hotel Justin Carr was shot on Wednesday the 21st of September:

- “#CharlotteProtest near **Omni**, where #JustinCarr was shot, is on the move.”

One of the other highly mentioned places was Little Rock Ame Zion Church which two of the interviewees also went to before the second night of the protest:

- “I am at **Little Rock AMEZ church** and the juxtaposition of the peacefulness of the church and the sound of helicopters is jarr...”

Interestingly, there are mentions of places outside of Charlotte. Chicago and Union Square in New York were especially mentioned highly. Studying the tweets containing mentions of these places shows that protests were held in support of the protests in Charlotte. Two example tweets mentioning these two places:

- “NYC Today. Emergency Action for #KeithLamontScott. 7PM, **Union Square**. #KeithScott. #CharlotteProtest.”
- “**Chicago** standing with the #CharlotteProtest tonight!”

These results show that tweets responds to specific places where protests occur. Important places mentioned in the interviews are also found with higher numbers in the tweets datasets. However, not all tweets contain mentions of specific places. In fact the majority of dataset contains of tweets discussing the shooting or details of the event such

as the video of the shooting which the family of the victim demanded to be released or whether the victim held a gun in his hand or a book. Understanding how these places are mentioned and by which groups of users will help us better understand the relationship between social media and public space. To do so, I combined the results of the NER analysis with social network analysis to understand how different groups of people use geographic information in social media.

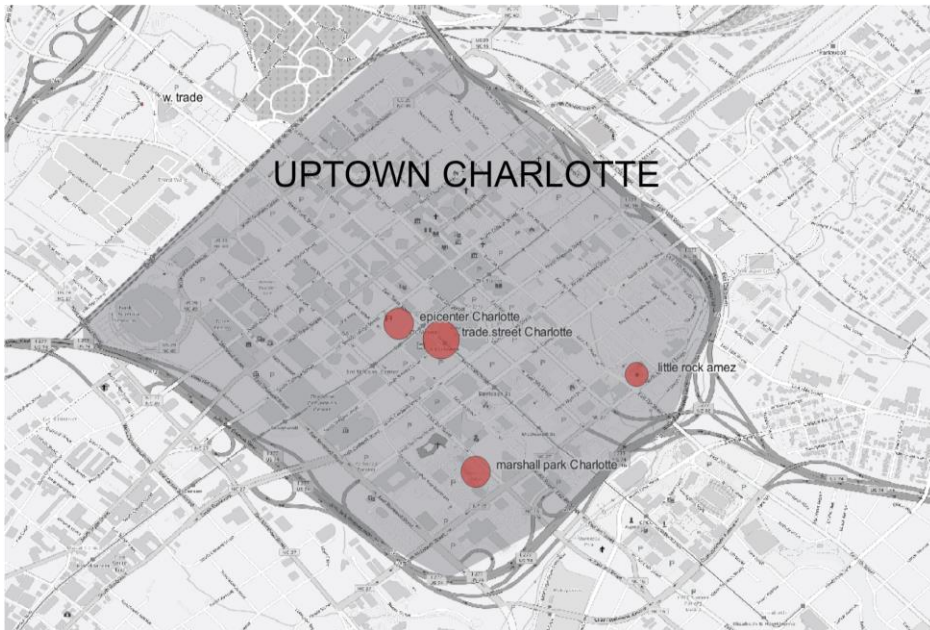


Figure 9: Map of place mentions in Charlotte protests Twitter dataset. Size of circle corresponds to the count of each place.

In the next section I will discuss the results of social network analysis of the tweet dataset.

SOCIAL NETWORK

I constructed a social network of the Charlotte protest by considering each Twitter user as a node in the network and the existence of a mention or a retweet between them as

an edge. The accuracy and representativeness of this social network in comparison to other types such as ones constructed by first-person interviews or through Twitter following information has not been studied and requires further investigation. The constructed network was a directed graph with 341066 nodes and 899237 edges. The weight of edges in this network are the count of retweets between these two nodes. Each node also has the number of times they mention any of detailed places in Charlotte such as Marshall park, Epicenter, Trade and Tryon, and Omni hotel in the text of their tweets (I call this the placeMention of each node).



Figure 10: Social network constructed from retweets in the dataset. Nodes are individual users and edges are retweets between them. The color of nodes and edges correspond to Community detection results.

I first started by conducting community detection on the whole network. As seen in figure 10 the results show two main clusters that are highly connected within the cluster and less connected to the other. The community detection produced other clusters

which were too small to visible. I then calculated the pagerank and betweenness centrality of each node in the network. We can think of Pagerank as a metric for the importance of each node and betweenness as a measure of how “in between” each node is to all other nodes regardless of cluster.

I then used the results from these algorithms to explore the content of tweets and get an understanding of the different groups of users and the different ways twitter content was used in the Charlotte protest. To do so, I sorted the nodes based on their pagerank, betweenness, and palceMention as well as based on the two main communities of tweet users. I then read tweets by the top 20 users in each group and studied their Twitter page (if it existed) and tagged them based on whether they were charlotte local or not, whether they were pro, neutral, or against Black Lives Matter protests, I noted their occupation based on their Twitter user profile, and noted whether they they are the Twitter handle for a person, and organization, or a news agency.

Table 1: Top Pagerank nodes in Charlotte protest network

id	placements	degree	Community	pageranks	Local	Position	Notes	Type
159764	9	1953	52	0.015189	Yes	Neutral	News Reporter	Person
341063	0	4241	52	0.015010	No	Pro	political analyst Reporter	Person
334131	1	7170	52	0.011286	No	Pro	Activist	Person
155828	2	5083	52	0.006851	No	Pro	Political analyst and activist	Person
142117	1	4161	0	0.006485	No	Against	Media Analyst, Youtuber	Person
78783	31	2193	52	0.005200	Yes	Neutral	None	News Agency
49814	0	24277	0	0.005166	Unknown	Against	can't find account	?
286112	0	12470	52	0.005058	Yes	?	Charlotte police department	Institution/organization
239813	0	2289	0	0.004543	No	Against	News Agency	News Agency
327629	0	736	0	0.004412	No	Against	None	Institution/organization
334280	0	7279	52	0.004109	Yes	Pro	Journalist	Person
134055	15	1920	52	0.004095	Yes	Pro	Reporter	Person
336391	0	987	52	0.004080	Yes	Neutral	Reporter	Person
151486	0	3952	52	0.003871	No	Pro	Reporter	Person
199473	0	46	52	0.003827	No	Pro	Journalist	Person
155816	2	421	52	0.003814	Yes	Neutral	Digital Reporter	Person
274031	0	2473	0	0.003775	No	Against	Podcast Host	Person
21218	1	12239	0	0.003667	No	Against	Youtuber	Person
153098	12	3136	52	0.003633	Yes	Neutral	None	News Agency
321568	0	1404	0	0.003598	No	Against	Journalist	Person

Studying the top 20 nodes in the network immediately highlights important points about the nature of the Charlotte protest Twitter data as a social network. First we can see that in the top 20 most influential nodes in the network, there are some users that are not local to Charlotte. This point highlights the scale of the impact these events had in the United States. Furthermore, we can see that there are users who are against the protests and criticize the actions and there are users who are supportive of the protests. Moreover, we can observe that users who are against the protests are from the “0” community (colored purple in the tables and in the graph visualization) and the people who are neutral and pro the protests are almost uniformly from the “52” community (colored green in the tables and in the graph visualization). These results clearly show the bipolar nature of how society reacts to the Black Lives Matter protests.

Table 2: Comparison of two major communities in the Charlotte protests network

Community 0 : Mostly against Black Lives Matter

id	placements	degree	Community	pageranks	Local	Position	Notes	Type
142117	1	4161	0	0.006485	No	Against	Media Analyst, Youtuber	Person
49814	0	24277	0	0.005166	Unknown	Against	can't find account	?
239813	0	2289	0	0.004543	No	Against	News Agency	News Agency
327629	0	736	0	0.004412	No	Against	None	Institution/organization
274031	0	2473	0	0.003775	No	Against	Podcast Host	Person
21218	1	12239	0	0.003667	No	Against	Youtuber	Person
321568	0	1404	0	0.003598	No	Against	Journalist	Person
141731	0	2142	0	0.003381	Unknown	Against	Suspended account	?
125980	0	4073	0	0.003296	No	Against	documentary filmmaker	person
245463	1	1462	0	0.002838	No	Against	Twitter News	Institution/organization
209889	0	3942	0	0.002783	No	Pro	presidential nominie and secerat	Person
334553	0	927	0	0.002531	No	Neutral	Christian Conservative	Person
128052	0	2896	0	0.002486	No	Against	Twitter personality	Person
332142	0	1025	0	0.002230	No	Against	Twitter Personality	Person
156594	0	1224	0	0.002173	No	Against	None	Institution/organization
150156	0	2476	0	0.002130	No	Against	Twitter personality	Person
246906	1	1536	0	0.001975	No	Against	Twitter personality	Person
78340	0	7425	0	0.001883	No	Neutral	Reporter	person
165716	2	286	0	0.001856	No	Against	Twitter personality	Person
63912	0	1535	0	0.001762	No	Against	can't find account	
44539	0	6195	0	0.001716	No	Against	None	Institution/organization

Community 52 : Mostly pro or neutral to Black Lives Matter

id	placements	degree	Community	pageranks	Local	Position	Notes	Type
159764	9	1953	52	0.015189	Yes	Neutral	News Reporter	Person
341063	0	4241	52	0.015010	No	Pro	political analyst Reporter	Person
334131	1	7170	52	0.011286	No	Pro	Activist	Person
155828	2	5083	52	0.006851	No	Pro	Political analyst and activist	Person
78783	31	2193	52	0.005200	Yes	Neutral	None	News Agency
286112	0	12470	52	0.005058	Yes	?	Charlotte police department	Institution/organization
334280	0	7279	52	0.004109	Yes	Pro	Journalist	Person
134055	15	1920	52	0.004095	Yes	Pro	Reporter	Person
336391	0	987	52	0.004080	Yes	Neutral	Reporter	Person
151486	0	3952	52	0.003871	No	Pro	Reporter	Person
199473	0	46	52	0.003827	No	Pro	Journalist	Person
155816	2	421	52	0.003814	Yes	Neutral	Digital Reporter	Person
153098	12	3136	52	0.003633	Yes	Neutral	None	News Agency
336094	1	251	52	0.003466	Unknown	Pro	Twitter personality	Person
170847	0	6526	52	0.003376	No	Pro	Activist	Person
149381	1	6033	52	0.003297	Unknown	Pro	News for the new America	News Agency
340928	2	190	52	0.003250	Unknown	Pro	Activist, twitter personality	person
164509	3	35	52	0.002968	Yes	Neutral	News Anchor	Person
78036	0	1091	52	0.002769	No	Pro	Activist	person
165367	1	1350	52	0.002728	No	Pro	Activist Protestor	Person

Another interesting point visible in the top influential nodes in the protests social network, is the fact that none of the top influential nodes in Community 0 are local to Charlotte and there is an even distribution of local and non-local users in Community 52. This shows that supporters or critics of these protests are more likely to retweet each other and belong to the same community. We can also observe that there is very minimal mention of detail Charlotte places in the group against the protest, and we see more mention of places in the pro Black Lives Matter group.

To go more in depth to the role place plays I studied the nodes with highest mentions of Charlotte detailed places. With an exception of one user, all of the users with highest mention of specific Charlotte places are either pro or neutral to the protests and they are in fact from Community 52. Reading tweets from specific users shows that the users was not local, and in fact from the United Kingdom, all of the 29 mentions were retweets of one tweet that had the word “Marshall Park” in it. Furthermore, we can observe that 12 out of the top 20 users with high placeMentions are local to Charlotte. In fact, out of the top 100 users with placeMention (lowest count of 5 placeMentions), 85 nodes belong to Community 52 which are more likely to be supporters or neutral of Black Lives Matter.

Table 3: Top users that mention specific Charlotte places in the text of the tweets

id	placements	degree	Community	pageranks	Local	Position	Notes	Type
303903	56	3099	52	0.001482	Yes	Neutral	None	News Agency
78783	31	2193	52	0.005200	Yes	Neutral	None	News Agency
123051	30	912	52	0.000464	Yes	Neutral	None	Person
25731	29	13	0	0.000000	No	Against	self employed	Person
190314	23	422	52	0.000198	Yes	Neutral	Blogger	Person
284497	23	183	52	0.000079	Yes	Neutral	None	News Agency
307904	21	220	52	0.000251	Yes	Pro	Journalist	Person
53720	20	639	52	0.000940	Don't know	Pro	Black lives matter activist	Person
49516	19	249	52	0.000190	Don't know	Pro	Activist	person
226442	19	39	52	0.000124	Yes	Pro	artist, author, music	person
86847	18	140	52	0.000054	No	Pro	Musician	Person
224676	17	325	52	0.000685	Don't know	Pro		person
111033	17	36	52	0.000069	Yes	Pro	Activist organizer	person
117766	17	65	52	0.000065	yes	Neutral	None	News Agency
283555	17	195	52	0.000058	No	Neutral	News anchor	Person
134055	15	1920	52	0.004095	Yes	Pro	Reporter	Person
245421	15	47	52	0.000301	Yes	Pro	Activist	person
150045	15	110	52	0.000222	No	Pro	Activist	Person
117069	14	51	52	0.000071	Don't know	Pro	Don't know	person
125709	13	1020	52	0.000975	No	Pro	Activist	Person

Table 4: Top “in between” users in the Charlotte protests

id	placements	degree	Community	betweennesscentrality	Local	Position	Notes	Type
286112	0	12470	52	2542987.2	Yes	?	Charlotte police department	Institution/organization
105583	0	9076	0	1319096.0	No	Neutral	None	News Agency
282755	0	5924	0	1159881.2	Yes	Neutral	None	News Agency
209889	0	3942	0	994856.6	No	Pro	presidential nominie and secetary of	Person
21218	1	12239	0	765647.0	No	Against	Youtuber	Person
38823	0	20021	52	688080.1	No	Pro	Video journalist	person
125980	0	4073	0	667664.1	No	Against	documentary filmmaker	person
142117	1	4161	0	664128.0	No	Against	Media Analyst, Youtuber	Person
49814	0	24277	0	649739.3	Unknown	Against	can't find account	?
106183	1	10100	0	557121.0	Don't know	Against	Political Twitter account	Institution/organization
199389	8	3763	0	555745.1	Yes	Neutral	Talks about detail events of protests	News Agency
136842	0	2293	52	542722.1	Yes	Neutral	Governor	Person
209844	0	4070	52	485098.3	No	Pro	Activist revolutionary socialist	Person
151590	0	7214	0	478061.0	No	Neutral	News anchor	person
303903	56	3099	52	457590.4	Yes	Neutral	None	News Agency
44539	0	6195	0	446940.0	No	Against	Political Twitter account	Institution/organization
250923	0	2202	0	437951.5	No	Against	Presidential nominie	Person
199481	0	7068	0	409840.1	No	Neutral	Political anchor	Person
144400	0	2651	52	408203.3	No	Neutral	News agency	News Agency
153098	12	3136	52	406530.2	Yes	Neutral	None	News Agency

Studying the nodes with highest betweenness centrality shows that users that are in between both communities. The user with the highest betweenness centrality is the Twitter handle for the Charlotte Mecklenburg Police Department which is central topic to the Black Lives Matter protests in Charlotte. Other in between nodes are combinations of news anchors, politicians and users who identify as journalist or news anchors. These users are combinations of against and neutral to the protests with a few exceptions. Besides one notable news agency with high mentions of places, most in-between nodes do not discuss spatial details of the protests.

In the next section, I will discuss and offer some insights to the results of my mixed-method analyses across the three layers.

DISCUSSIONS

The protests that occurred in Charlotte in 2016 were spontaneous and had many news agencies around the world follow its events. In this research, I aimed to study these events as a case for understanding the dynamics of protests between people, social media and urban space. We learned from the focus group studies that social media and information technology played a crucial role in bringing people to the public space. The interviewees gave us a narrative about which places in the city were used and a rationale for why those places were important. Some places such as Old Concord served a symbolic role to support the family of the victim where the shooting happened. However, taking highways and interstates served as a way to disrupt the physical flow of the city for higher impact. Many other places were identified as being important due to their strategic location, better accessibility and their proximity to many economic activities in the city. Protests in the second and third nights moved to these areas in Uptown Charlotte.

However, these Uptown areas were not treated uniformly. In the second night activists purposefully moved from the areas around Marshall Park which is in the periphery of Uptown, to Trade and Tryon which is at the center. These responses caused a direct response from police officers, who were not concerned with the protests occurring in the sanctioned areas of Marshall Park. This strategy reveals the policies of segregation that motivated the separation of these two urban spaces. Analyzing the geographic and demographic features around these areas highlighted a gap between these two areas that are near each other but have very different features in terms of

demographics and accessibility. Privatization of public space was also another factor mentioned in the interviews that could be seen as a strategy to curb public protests. The data analysis showed little to no mention of the disruption of a football game that the protesters tried to disrupt.

The interviewees all used social media of different types to diffuse information, to contact friends and organize and plan future events. However, every social media was used differently. Text messaging was used to virtually connect with friends and acquaintances. Encrypted messaging was used to communicate without the fear of being monitored. Some social media such as Facebook with features such as Events and chat group enabled protesters to organize future events. Some social media such as Instagram and snapchat that are more multimedia focused were used to share images and videos of protests as they happen. Live streaming played a crucial role in motivating people by offering the most realistic snapshot of the protest. Twitter, which is the most public but most restricted platform in terms of content, offered a means for people to communicate with a large audience in a streamlined manner, spread news, discussing and some spatial organization were some usages of this form of social media.

While I recognize to recognize that different social media have different functions, I analyzed Twitter mostly due to the wide availability of the data and to get a better understanding of the dynamics of social media in the context of Black Lives Matter protests in Charlotte. The rich unstructured nature of social media data offers many challenges but enables us to learn greatly about how people interact in social media.

Analyzing the timestamp of tweets in the Charlotte protest showed us that Twitter responds rapidly to the events of a protest. This feature makes twitter a very powerful

tool for mobilizing and discussing protests as they happen. Even though Twitter allows users to geolocate their tweets, the public nature of the platform does not invite many people to enable this feature. Most of the spatial organization using Twitter happens through text, images, and videos.

Analysis of tweet texts allowed for extracting geospatial information. Many tweets in the dataset did not include spatial information, however, by studying the frequency of how each specific place in Charlotte was mentioned, I was able to show that the most important places in the protests identified by the interviewees are also the highest mentioned spatial information in people's tweets.

To go further in depth into this point, I analyzed a dataset of 1.3 million tweets through the lens of social networks. Social network analysis shed light to many interesting and important features about the usages of social media during the Charlotte protests. Community detection allowed us to see that users interacted mostly with individuals with similar stances towards the movement. Community detection resulted into two major communities. One community was supportive of the Black Lives Matter protests in Charlotte and one critical.

These two communities treated spatial information differently within our dataset. The social network showed that people who use spatial information in their text are mostly connected with the community with Black Lives Matter supporters as its most influential users. I also observed that most of the people who use detailed spatial information were Charlotte locals. This hints us to the fact that social media reflects the polarized views of regarding the Black Lives Matter protests. Individuals who were against the movement mostly criticize the demands and the actions of the protesters. On

the other hands, people who are supporters of the protests, diffuse information about the detail protest places to mobilize and influence people to attend more. These results further support a body of research that highlight the significance of location and place on social behaviors and specifically on protests (Endres and Senda-Cook 2011; Gül et al. 2014; Carter et al. 2016). Moreover, these results could show that behaviors in virtual social networks reflect our physical interactions and behaviors.

Finally, we can observe that the top influencers in the social network include many News agency and journalism related users, as well as politicians and professionals activists. This can again, hints us to the fact that during the Charlotte protests, different social media had different functions, and the public nature of Twitter allowed for more news related and on the ground information, while other media might have offered better capabilities in organizing future events.

CONCLUSIONS

Activism is a complex phenomenon. Indeed, in the current atmosphere and with the prevalence of information and communication technologies, activism happens across many different layers. But have these technologies completely transformed the way we demand justice and has place lost its significance in the fight for equality?

The study of the Charlotte protests showed that different places indeed have different functions for activists and protesters. Some serve a symbolic role, and some serve functional and strategic roles. This can be reflected in people's narratives and in social media data. Information and Communication technologies help to amplify the impact of these protests and transcend the localities of these movements. As seen in the immediate support for the Charlotte protests in Chicago and New York and participation of people from other cities of North Carolina and the United States in the protests.

Furthermore, it is evident that the stances people in the United States take towards Black Lives Matter is highly polarized and segregated. This polarization is also visible in social media data. People who are supportive have stronger connections with each other and the same goes for individuals who are against these movements. These differences are also reflected in the way information is used by these people. Detailed spatial information is spread strongly through the group that support the movement. This could implicate that the motivation to bring more people to protest causes stronger usage of detailed spatial information. While the motivation to criticize the protests does not require spreading these information.

This information is not spread only in textual format. One point evident from the interviews was the power live streaming. The amount of information included in video streams allows for motivating people from around the country to show physical and virtual support to the protests. As these technologies progress, more seamless and realistic information will allow for real-time communication of spatial, emotional and political information during protests.

It is also important to note that to get a more in depth understanding of the dynamics of protests within the mentioned layers, we need to study different cities with different spatial structures. One important question that remains unanswered is whether the limited amount of connected space in Charlotte curtails the protesters in having more choices and freedom in organizing protests in different places. It is possible that this lack structure of Charlotte allows for only a few places to be effective in protests. Other more dense and polycentric cities might require a more robust usage of spatial information during the protests. My goal to continue the study of protests within these layers with a wider variety of locations and events to allow for a comparative understanding of activism in the United States and in the world.

Finally, the results of my research could have implications for urban planners, designers, architects and anyone who is interested and sympathetic to the motives of protesters within their realm. Creating spaces that connect people both physically and socially (places like the intersection of Trade and Tryon that are rare in Charlotte) and allow for more impactful demonstrations for social justice. Creating connected urban spaces in the long run could mitigate some of these extreme segregations that exist in our physical and social spaces. Maybe talking with people that are different from us in the

real world and virtual world would enable us to empathize with others and reduce the injustices that exist in our world. Social media as a tool has helped us to connect with the people who are similar to us. My hope is for a future where we see every color, creed and culture in the same street and then retweet them all in the internet.

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