Digitally networked grassroots

Social media and the development of the movement for black lives and immigrant rights movement in the United States

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Chapter 1

Introduction – Analyzing the Development of Digitally Networked Movements
The overall aim of the project is to understand the role of social media in the development of social movements. It examines how social media bring together people who would otherwise remain unconnected, to forge networks “between struggles abroad and struggles at home, relationships of inspiration and mutuality” (Davis, 2016, p. 90). Accordingly, the project focuses on two relational dynamics that are central to the development of social movements: scaling and leadership. The first part of this research project is about the role of social media in the scaling of social movements. The second part of this project focuses on leadership in digitally networked movements. The third part of this project consists of a methodological reflection on the implementation of computational methods. These themes will be introduced in the following three vignettes.

Vignettes Part I: Social Movements, Social Media, and Scaling
In April 2015, Freddy Gray died after suffering a spinal cord injury in police custody. At the time, I was in Chicago for a conference. My colleagues and I watched events in Baltimore and elsewhere around the country unfold on television. The Movement for Black Lives was already in full swing, after the hashtag #blacklivesmatter was first used on social media by Patrisse Cullors, Alicia Garza, and Opal Tometi in July 2013. The movement had gained momentum since then, particularly after Michael Brown’s death in August 2014 in Ferguson, Missouri. Again, we witnessed how emotions in Baltimore turned into a flashpoint that reverberated nationwide, as we tried to make sense of what we saw on the news. Simultaneous reports on social media provided a broad range of perceptions, including ones from locals within those communities experiencing events firsthand. Social media allowed us, and others, to feel connected to the movement.

Two weeks later I was in Selma, Alabama, where I struck up a midnight conversation with a young night clerk at the St. James Hotel. The St. James is a beautiful hotel, with a colonial history of its own, located next to the infamous Edmund Pettus Bridge, named after a confederate commander and Alabama Ku Klux Klan leader. The bridge was also the setting for the Bloody Sunday standoff during the civil rights movement’s Freedom March in March 1965. This location, with all its divisive historical symbolism, is where activists, including Dr. Martin Luther King, were confined and assaulted by police and attack dogs. Having read about Bloody Sunday, it began to sink in just how high that bridge is, as I stood looking at it from the hotel balcony. I saw the night clerk at the front desk when going out for a late-night smoke and, one thing leading to another, we talked for
an hour or two. He told me how his parents’ legal advocacy during the civil rights era “sort of” made him feel he should become an activist, motivating his interest in Black Lives Matter. He had decided to study media and animation the next year, a decision inspired in part by the same idealism. In his parents’ history, he found a moral obligation to be politically aware and active. But those footsteps could only lead him to law school, which seemed tedious and boring to him. He felt stuck in his current job, and the night shift was just a way for him to get by until he could go to college and strike out on his own. To him, despite the history of Selma, the place felt far away from where the real action was.

Rather, his dreams were fueled by social media feeds during the long and quiet graveyard shifts. One way for him to tune in to politics was to follow DeRay Mckesson on Twitter, one of the most prominent voices of Black Lives Matter on social media. Having never met DeRay, the night clerk nevertheless found it easy to connect to him after hearing about him from friends. By the time I met him, the clerk felt like he knew DeRay personally from following his reporting. In DeRay’s posts from Ferguson, he found inspiration in what modern activism is, for being in the thick of things, for being politically active as a young African American in the US today. Recognizing the importance of how protest is portrayed online made him want to pursue media studies in college.

The encounter in Selma stuck with me. It was puzzling, because the feeling of being connected to the movement seemed based on social media rather than a local history – in what arguably is the most highly symbolic location of civil rights activism in the country (McAdam, 1982b; Payne, 1995). In my understanding, social movements rely on local communities for their development. Yet, someone in Selma, of all places, felt more connected to protests through a stranger living far away, than through the activism of his parents and the rich local history of inspiring leaders like John Lewis and Martin Luther King. That sense of online community with strangers through social media was hard to pin down and describe accurately. While neither of us had known anyone in Ferguson or Baltimore personally, we both felt connected to what was going on there, and through social media those events inspired action around the world. This raises questions about how social media allow protests to scale up in such a way so that we feel connected to other places, sharing anger, sadness, joy.
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Vignettes Part II: Leadership in Digitally Networked Movements

The second part of this research project is about social movement leadership dynamics on social media. Leaders are crucial for the development of social movements, and social media arguably play into the relational dynamics of leadership. People from around the world used social media to connect with the Movement for Black Lives as it gained momentum. Countering those who criticized it for being leaderless, activists emphasized how social media provided new avenues for community voices to rise up, dubbing it instead a leaderful movement. People came to identify specific activists who shared information and emotions on social media as leaders, potentially inspiring activism in places other than the site of the initial spark. These networked communities of “outrage and hope” (Castells, 2012) gave rise to a variety of voices, of those who became prominent as leaders. These relational dynamics will be introduced in the following empirical vignettes about a number of prominent leaders in the Movement for Black Lives.

If social media had allowed for different leaders to become prominent, my respondents each felt connected to different parts of a diverse, and sometimes contradictory, network. Social media had allowed DeRay Mckesson and others to become prominent online for tweeting about Black Lives Matter, and like the night guard I met in Selma, many identified with DeRay and felt in the thick of things by following his tweets. He travelled 550 miles from Minneapolis to Ferguson, networking with Johnetta Elzie and other locals and reporting directly from the scene (Mckesson, 2015, 2018). Building a following on Twitter within a few weeks brought him recognition as an authoritative voice in the movement. Other respondents I met felt connected to other leaders on social media. In Los Angeles I met Yasin. Like many other young Angelinos, he struggled to make ends meet, taking medical school classes, volunteering at a hospital, driving an Uber 30 hours each week to provide for himself and three brothers. Asked about his view on the movement’s leadership, he mentioned Shaun King as an example of what he liked about today’s activism. Yasin did not believe “traditional protest” was effective (he is convinced that political elites are corrupt), and was too busy to participate in marches and rallies anyway. For reasons unclear to me, Yasin had never heard of other leaders such as Cullors, Deray, or TefPoe, and was unaware of any controversies surrounding Shaun King. King’s online activism inspired him: among other things, King put out mailing lists with news about propositions, petitions, and suggested interventions such as calls to representatives. “Every week
it's like three or four pages! With detailed information and links and everything.” Yasin had closed his bank account with Wells Fargo when he learned about their investments in the Dakota Access Pipeline from King's newsletter. Like the night guard in Selma, Yasin was inspired by strangers on social media to take concrete actions that had very real impact, and online leadership played a crucial role. Through social media, respondents had found ways to connect to a variety of different leaders, who themselves used social media to quickly rise to prominence as leaders of the movement.

Patrisse Cullors, one of the co-founders of Black Lives Matter, could not believe it, she told high school children on a December 2016 morning in the west of Amsterdam. The man who had shot Trayvon Martin got away with it. Her disbelief was the starting point of her story about the origins of Black Lives Matter. Standing in front of the crowd of teenagers, she described hearing the verdict on the news and how sad it made her, how it made her want to connect with other people. The meeting in her honor at the local high school was organized by the venue, de Balie, where she delivered the Freedom Speech the prior evening¹ along with Janaya Khan, founder of the Toronto Black Lives Matter chapter. This leg of their tour was packed with meetings and events, including networking with anti-racism activists campaigning against blackface in the Netherlands.² Jetlag kicked in during the black heritage tour that afternoon in Amsterdam, at three in the morning Pacific Time.³ After a few days at home in Los Angeles, she would fly to Ohio for the activism art performance #PowerOhio, working with children. As one of its most prominent leaders, she worked tirelessly to organize the Movement for Black Lives.

If thus far I had focused on social media to explain how remarkable leaders rose to prominence in social movements, that didn't seem to do justice to the determined work and vast experience Cullors brought to bear on the situation. It seemed to me that the educator Cullors was as much at home talking to teens in Amsterdam as she was in her capacity as celebrated leader addressing the crowd the night before. She let the children know early on that she would help them stay concentrated. “Focus!” Whispering boys were quickly told by the smiling Cullors. She encouraged them to speak their mind and ask questions. She helped

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them relate their own experiences and issues of racism in the Netherlands to the injustice she perceived in Zimmerman’s acquittal. “Is that fair?” she asked them after sharing Trayvon’s story. “It’s because he was white, yes,” she replied to a girl. Asked in a magazine interview a year earlier, what she wants her work to impart to youths, she explained: “It was really my younger brother [who is in his late teens] who inspired me to get involved in this kind of work. I’ve learned a lot from him and his life, and when Trayvon Martin was murdered and George Zimmerman was acquitted, he was the first person who came to my mind. This movement and the new tools that we’re using allows for new generations to get involved and see themselves as part of the change that’s possible in our country” (Ohikuare 2015, n.p.; see also Khan-Cullors and Bandele 2018). A trained and experienced community organizer, Cullors embraced new tools like social media because they allowed for new ways for organizing a movement that eschews formal, organizational, top-down command by a single charismatic leader. 

In my understanding, these stories raised questions about the development of leadership in social movements (Gerbaudo, 2017; Milan, 2015b; Poell, Abdulla, Rieder, Woltering, and Zack, 2016; Tufekci, 2013). The closer I looked at the relational structure of this movement, the more ambiguity became apparent in these networks (Beraldo, 2017; Duyvendak and Jasper, 2015a; Fligstein and McAdam, 2012; cf. Hajer and Versteeg, 2005; Uitermark, 2017). Different respondents connected with different leaders, each with different ideas about the movement. For instance, the prominence that certain leaders had achieved through digital networking not only garnered them acclaim, but had also made them controversial among others in different parts of the movement. Some respondents shared concerns with me that online prominence was motivated by personal ambitions while distracting from local Ferguson legends (“Day One’s”) like Tef Poe. For others, the prominence of figureheads detracted from key issues of relevance to the movement, such as the historically ignored leadership roles of women (Davis, 1983). Different communities were all part of the same network configuration, but were also worlds apart. The configuration of these networks was, to some degree, rooted in community organizing efforts. Social media alone could not suffice as an explanation of leadership that I saw in the Movement for Black Lives. In short, I began to question the role of leadership on social media, and the power dynamics thus (re)produced.
Vignettes Part III: Computational Black Boxes

The third part of this research project concerns a reflection on the methods of computational social science. As will be discussed in Parts I and II, social media play a role in the development of social movements (Barberá et al., 2015; Borge-Holthoefer, González-Bailón, Rivero, and Moreno, 2014; Castells, 2012; González-Bailón, Borge-Holthoefer, Rivero, and Moreno, 2011). At the same time, social media generate digital data that afford unprecedented means to analyze the development of social movements (Centola, 2010; Goel, Watts, and Goldstein, 2012; Tucker, Metzger, Penfold-Brown, Bonneau, and Jost, 2016). For instance, we can now map with a measure of precision how, where, and when people interact about specific topics online. With computational methods, we can model the development of a social movement in terms of structural relations among millions of people (Borge-Holthoefer, Banos, Gonzalez-Bailon, and Moreno, 2013; Freelon, McIlwain, and Clark, 2018; Tucker et al., 2016).

However, the implementation of these computational methods raises epistemological and technical challenges (Crossley, 2010b; Törnberg and Törnberg, 2018; Tufekci, 2014a). Epistemological challenges came up when trying to make sense of network structures. My aim is to better understand the development of social movements by examining the relationships among people on social media. To do so, I adopted a relational approach that combined computational analysis with qualitative inquiry. Network analysis allowed me to map relational structures among social movement participants (Borge-Holthoefer et al., 2011; Conover, Ferrara, Menczer, and Flammini, 2013; Diani and McAdam, 2003; Tremayne, 2014). Doing field work allowed me to interview respondents who had turned up as important in the networks I examined computationally. As suggested before in the empirical vignettes, respondents often challenged the assumptions I had based on network measures. To one respondent, I suggested she took up a central position in the network of activists in Los Angeles, based on the mentions she received. Not impressed, she told me: “You don’t understand Twitter, my friend”. In part, I believe she was being humble, downplaying her importance and position of prominence, which she demonstrably was working hard for. Explaining that she had once been important in “certain parts of the old LA left”, she had deliberately distanced herself from that scene. Disillusioned by quarrelsome old comrades, she “moved on to social media” to engage in ways that were more about “exchanging ideas”. Now, she “builds followers like everyone else”, something that her centrality in my network analysis suggested she was quite adept at. She did not agree. What
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had been abstract nodes in a graph were now speaking back, refuting relational positions attributed to them. How could I be sure? Making sense of relational structures, while accounting for the lived experience of respondents, demanded ways of distinguishing methodological artifacts from noisy data.

Technical challenges came up when trying to distinguish methodological artifacts and noisy data. Software packages that make computational analysis feasible and convenient, like igraph, have become well-established and widely used (Csardi and Nepusz, 2006). Although easy to use, it is difficult to determine exactly how results derive from data in igraph’s algorithms. Understanding how these black boxes transform input into output requires technical finesse and critical reflection on assumptions. Accordingly, it became a secondary aim of this research project to contribute to advancing the computational methods that can be used to study social movements. I argue that the implementation of computational methods involves inconspicuous technical decisions that have non-trivial impacts on the interpretation of findings. In short, this dissertation turned out to be about the development of digitally networked social movements, but also about the development of analytical approaches to examining questions about digitally networked social movements.

Research Questions

As suggested by the empirical vignettes, social media play a role in the development of social movements, and in the way we can study movements. I focus on two interrelated relational dynamics of movement development: scaling and leadership. Together, these dynamics are key to understanding how social movements develop beyond local settings and allow for the rise of inspirational voices. In addition, questions are raised about the methodological approaches that are made possible by digital networks.

First, social media play a role in the scaling of social movements. Explaining the connection between the night guard in Selma and the events in Ferguson asks us to consider how social media helps to transcend geographical barriers to scaling processes, transforming localized activism into national movements (Coleman and Freelon, 2015; McAdam, Tarrow, and Tilly, 1996; Soule, 2013; Tarrow and McAdam, 2005). Social movement scholars call attention to the barriers that activists face in terms of resources, political opportunities, and the transmission of emotions (Nicholls, 2009; Nicholls and Uitermark, 2017; Routledge, 2003; Sikkink, 2005; Soule, 2013; Tarrow, 2005; Tarrow and McAdam, 2005). Although
central to popular accounts of how events in Ferguson sparked “networks of outrage and hope”, empirical analysis of the ways emotions are mediated online is scarce (Castells, 2012; Collins, 2011; Goodwin, Jasper, and Polletta, 2009; Jasper, 2011). Simultaneously, the affordances of social media are leveraged by counter-movements, possibly allowing for the scaling of antagonism through similar means (Colson, 2016; Nicholls and Uitermark, 2018; Zald, 1979).

Second, social media raises questions about leadership in digitally networked movements. Explaining the roles of leaders like Cullors, Garza, Tometi, as well as McKesson, asks us to consider how leadership develops on social media (Diamante and London, 2002; Gerbaudo, 2017; Mckee and Massimilian, 2006). Online leaders appear to rise from the grassroots, allowing them to connect diverse communities. While social media ostensibly allow anyone to rise to prominence among millions of users, only a select few gain a following like Mckessons’ (Freelon, McIlwain, and Clark, 2016). While leaders leverage digital networking to connect communities, this also (re)produces power dynamics (Gerbaudo, 2017; Milan, 2015b; Poell et al., 2016).

Third, the implementation of computational analysis raises methodological questions. Social media data provide unprecedented opportunities to unpack the dynamics of social movements (Beraldo, 2017; Borge-Holthoefer et al., 2011; Freelon, McIlwain, and Clark, 2016; Milan, 2013). At the same time, these methods introduce technical and epistemological challenges (González-Bailón, 2013; Milan and van der Velden, 2016; Morstatter, Ave, Ave, and Carley, 2013; Törnberg and Törnberg, 2018). These invite further reflection in their own right, with the aim of advancing our analytical tools.

In short, digital networking affords new ways of developing and analyzing social movements, raising questions about the relational dynamics in the literature on social movements through the lens of digital networking (Castells, 2000; Diani, 2003; Duyvendak and Jasper, 2015b; Goldstone, 2015; Milan, 2013; Nunes, 2014). The central questions that guide this research are:

1) **What is the role of social media in the relational dynamics of digitally networked movements?** and;

2) **How can these dynamics be analyzed using computational methods?**

Intentionally exploratory, this research project adopts a relational approach that integrates computational methods with qualitative inquiry. As signposted in the empirical vignettes, asking wide open questions allows for exploration of how
social media impacts movement development from complex data (Lieberson and Lynn, 2002). Accordingly, conducting research was an iterative process, bringing respondents and field observations from various contexts into conversation with assumptions and findings from computational methods. The following interrelated themes bring these relational dynamics into focus:

- What is the role of social media in the relational dynamics of scaling in digitally networked movements?
- What is the role of social media in the relational dynamics of leadership in digitally networked movements?
- How can these relational dynamics be analyzed using computational methods?

Together, the answers to these questions constitute the contributions this research project makes to the field of social movement studies in the digital age. The body of literature which inspires my research questions will be discussed in detail in the theoretical framework presented in Chapter 2. In what follows, this introduction outlines my methodological strategy and terminology for answering the questions posed. It concludes with an overview of the structure and chapters of the book.

**A Relational Approach**

This section lays out the overall strategy used to answer the research questions. The respective empirical chapters provide full technical details. A reflection on the implementation of computational methods in social science is the key methodological contribution this research project makes, and is therefore (somewhat unorthodoxly) discussed at length in Chapter 11.

To better understand the role of social media in the development of movements, I adopt a relational approach, combining computational and qualitative analyses. The central premise of this approach is that social constructs shape, and are shaped by, networks of relations among people (Crossley, 2015; Emirbayer, 1997; Melucci, 1980). The development of these relational structures can be examined by means of network analysis (Diani and McAdam, 2003). To do so, the approach I develop relates network patterns to interpretations of everyday social life. It focuses on the relations that develop among people and the inequalities thus (re) produced (cf. Emirbayer and Desmond, 2015). The relational patterns that arise from interactions can be studied by means of computational network analysis,
based on the assumption that, although the fabric of social life appears chaotic, relations do not form at random. While subjective social movement experience is different for different people in different places, there are evidently patterns to relational dynamics. This presents us with the challenge of accounting for the emergent nature of movement development in specific contexts (Crossley, 2015; Elias, 1995, 2000; Emirbayer, 1997; Lind and Stepan-Norris, 2011; Uitermark, 2017).

Empirically, this study draws upon two cases: the immigrant rights movement and Movement for Black Lives in the United States. The purpose of analyzing these cases is to better understand the relational dynamics of digitally networked movements. To that end, the case studies allow for investigation of networks relations in real-life contexts, guiding interpretation of relational dynamics (Yin, 1994). The cases were selected as different, yet similar, examples of digitally networked action, allowing for simultaneous computational and qualitative inquiry with respondents as the studied dynamics unfolded. The cases are similar in explicitly embracing social media to build movements, and the development of both movements is intricately interwoven with the use of social media (Cobb, 2016; Cox, 2017; Day, 2015; Freelon, McIlwain, et al., 2016; Hope, Keels, and Durkee, 2016; Mckesson, 2018; Nicholls, 2013; Tometi, Garza, and Cullors-Brignac, 2015). Both cases sustained ongoing attention in the United States, mobilizing hundreds of thousands of people, with important impacts on national politics and policy agendas. The movements are asymmetrical in period, size, and scope, selected as complementary, rather than as contrasting or comparative cases. The different contexts of the cases allow for cross-examination of underlying relational dynamics generated by similar adoptions of digital networking—similarities and differences that increase confidence in the study's validity (Eisenhardt, 1989, p. 542). The relatively well-documented immigrant rights movement allowed qualitative inquiry to carry greater weight in the early research stages, in concert with established computational methods, whereas the widespread adoption of digital networking by Black Lives Matter and the sustained salience of the hashtag #blacklivesmatter on social media offered unique opportunities to further develop more advanced computational analyses over a long period of time. Most importantly, both cases exemplify movements in which grassroots mobilizing and digital networking are core features (Costanza-Chock, 2014; Freelon, McIlwain, et al., 2016; Nicholls and Uitermark, 2017).
Computational analyses draw upon various sets of digital data to describe relational dynamics. For analysis of the immigrant rights movement, data was collected from January 2013, when the hashtag first appeared on Twitter, to August 2014. This dataset contains 108,198 tweets from 16,113 people, which generated 168,393 network ties. For Black Lives Matter, data was collected from Twitter and Instagram. From Instagram, 1,127,248 posts were collected in the 10-month period from June 15, 2015 to March 15, 2016. From Twitter, 18,501,785 tweets were collected over a 30-month period between June 15, 2015 and December 15, 2017. This dataset yielded 23,991,665 interactions among 4,632,350 people engaging with the hashtag #blacklivesmatter. In total, nearly 20 million social media posts inform the quantitative analysis for both cases.

I used qualitative analyses to inform an understanding of the relational dynamics in digitally networked movements. The project draws on fieldwork, interviews, and written sources that include IRS records, White House visitor records, policy documents, and newspaper databases. Contextualization is further informed by 92 interviews and informal conversations, participatory observation, as well as a wide range of primary and secondary sources such as blog posts, lectures, videos, and biographies. These data were collected in a range of U.S. cities, including Los Angeles, Sacramento and San Francisco, California, New York, New York, Cannon Ball, North Dakota, Ferguson, Missouri, Selma and Birmingham, Alabama, Seattle, Washington, Chicago, Illinois, Grand Rapids, Michigan, and Phoenix, Arizona. Interviews were conducted with both activists and their opponents, including a number of prominent leaders.

In short, this study develops a mixed-methods relational approach. Computational methods and digital data allow for combining scale and precision in the unpacking of relational dynamics in social movements. Yet, at the same time, these methods introduce new black boxes, which are challenging to unpack due to implicit assumptions and technical finesses. This research demonstrates how iterative qualitative and computational engagement enhances sophisticated analyses, while advancing existing computational methods—such as network and content analysis, image recognition, and the modeling of power law distributions.

**Ethical Issues and Positionality**
Researching digitally networked movements necessarily raises issues concerning ethics and positionality (Eysenbach and Till, 2001; Glasius et al., 2017; Milan, 2014; Tufekci, 2014a). Three key issues are discussed here: risks for participants,
my position as a researcher, and the use of digital data. First, the participants in this research are engaged in political action, often from situations of marginalization, which makes them vulnerable to risks of harm (Crenshaw, 1991; Weiss, 1994). This is particularly true for respondents in precarious legal situations, who may be exposed to legal action or immigration enforcement should they be identified. Because of this, no individuals are identified in this research project, unless such identifiable information is already widely available from other sources or agreed upon explicitly by the respondent. Participation was voluntary and could be withdrawn at any time. Extensive measures were taken to protect privacy and encrypt any digital records. These steps and measures were reviewed by the ethics board of the University of Amsterdam.

Second, my own position has influenced how this research was conducted. I approached both movements as a sympathetic outsider (Becker, 1966). Having participated and studied a range of other social movements before, I am sympathetic towards improving the position of underprivileged communities in society, and feel personally involved in anti-racist struggles. This has strongly influenced case selection and a focus on migration and anti-racism. Personal experiences have, to a degree, sensitized me about my own privileges as part of the systems that I study, as a white male academic (Smith, 1992). These factors influenced my own perceptions and how I was perceived by respondents, which was a key reason for seeking to integrate computational analysis and field work, in efforts to better understand the communities I was studying (Harding, 2004). In interactions with respondents, I have always been open about my intentions and attempted to learn from available resources before contacting them, drawing on their writings and prior interviews wherever possible, to let them speak in their own voice and to minimize claims on their time. My main concern has been to understand the development of digitally networked movements from a wide array of perspectives, while maintaining a capacity for critical analysis (Collins, 2004). This commitment meant continually challenging my own views and inviting criticism from respondents, and led me to interview not only activists but also their opponents on social media. As one example, I initially focused primarily on leadership on social media in terms of prominence among supporters, until I interviewed prominent leaders who shared their experiences with the backlash and burdens their prominence incurred from their adversaries. Access to the field was not always easy, and in some cases, my approach was too direct. As an example, one respondent was baffled to be approached through
Facebook messenger, yet eventually she carefully explained her concerns about privacy. I am grateful that many respondents patiently taught me how to navigate more elegantly the tension between the publicness and intimacy of social media. Activists are justifiably careful about surveillance from authorities (Glasius et al., 2017). The extensive networks of friends and colleagues in activist scenes were indispensible for connections.

Third, the use of data collected from social media raises a unique set of ethical concerns. Generally speaking, computational methods make it easy to ignore power imbalances in the uses of social media (Flesher Fominaya and Gillan, 2017; Moreno, Goniu, Moreno, and Diekema, 2013; Tufekci, 2014a). More specifically, the demographics of social media platforms (re)produce power imbalances and potentially introduce biases (González-Bailón, Wang, Rivero, Borge-Holthoefer, and Moreno, 2014; Mislove, Lehmann, Ahn, Onnela, and Rosenquist, 2011; Tufekci, 2014a). The relationship between culture and usage of platforms is complex (Greenwood, Perrin, and Duggan, 2016; Souza et al., 2015) and access is not only stratified by gender, but also by location, class and race (Murthy, 2008). For instance, Instagram’s user base is estimated to consist of 62% females and 38% males, they tend to be young (median ages 18 and 23 respectively), and not everyone uses the platform in the same way (González-Bailón, Wang, Rivero, et al., 2014; Tufekci, 2014a). Similarly, not all users are equally likely to disclose their location (Rainie, Kiesler, and Madden, 2013). This is particularly true for activists engaged in contentious politics due to risks and inequalities both external and internal to the movement (Clark, 2014; Sobieraj, 2017).

These biases are addressed by examining multiple platforms and hashtags and assessed carefully in each of the empirical studies. Extensive fieldwork plus familiarity with the field helped to make sense of individuals’ experiences and validating findings obtained through computational methods. The terms of service stipulating data use and user consent were adhered to for both Twitter (Twitter Inc., 2014) and Instagram (Instagram, 2013) at the time of data collection. User data was stored and encrypted on privately owned servers for educational and analytical purposes in the public interest (Moreno et al., 2013), without storing media files. In specific cases, these were later retrieved, making sure no files were included that users did not wish to display publicly. It cannot be assumed that users are aware that their activity online might be used for research (Moreno et al., 2013). To address this concern, no identifiable information is reported, and I contacted specific individuals requesting permission to publish their photography.
Information about specific activist locations or groups is not provided, reporting only aggregate geographical analyses.

A Note on Terminology
Situated in the literature on social movements, I focus on the influence of digital technology on the development of ‘digitally networked movements’. As defined in detail in Chapter 2, I seek not to conflate online interactions with social movements more generally, based on the awareness that digital networks form only part of what constitutes social movements. I adopt the (unhyphenated) term digitally networked movement (Bennett and Segerberg, 2012), and digitally networked grassroots (cf. Salvio, 2017, p. 82), rather than the more commonly used concepts of digitally mediated or digitally-enabled movements, to emphasize my focus on communities and the relational aspects of social media in movements (Beraldo, 2017; Earl and Kimport, 2011; Gaved, 2011; Milan, 2015b; Tufekci, 2014b). To refer to the relational dynamic of social movement activity diffusing between levels, Tarrow and others suggest the concept “scale shift” (Della Porta, 2005; Soule, 2013; Tarrow, 2005; Tarrow and McAdam, 2005). To avoid confusion with deterministic notions of scaling in networks (Barabasi and Albert, 1999; West, 2017), I adopt the term ‘scaling up’ to refer to the relational dynamic of social movement activity shifting between local communities.

Throughout this dissertation, I focus on two examples of digitally networked movements. I adopt the name ‘immigrant rights movement’ to describe the complex field of immigrant rights advocacy in the United States (Bloemraad and Voss, 2019), as described in more detail in Chapter 4. This movement includes a wide variety of individuals, organizations, institutions and other players large and small (Duyvendak and Jasper, 2015b). Featured prominently in this project are the Dreamers, a subset of undocumented youth activists deriving their name from the DREAM act: the ‘Development, Relief and Education for Alien Minors Act’ (Fiorito and Nicholls, 2016; Gnes, 2018; Nicholls, 2013). The Not 1 More campaign, and the accompanying hashtag #not1more, is an example of digitally networked action undertaken by a coalition of players that are part of the broader immigrant rights movement.

Despite overlaps, the Movement for Black Lives (M4BL) is not synonymous with Black Lives Matter (BLM), nor #blacklivesmatter (Freelon, McIlwain, et al., 2016; Weddington, 2018). The Movement for Black Lives is a coalition of “more than 50 organizations representing thousands of Black people from across the
country” (The Movement for Black Lives, 2019). One of those organizations is the Black Lives Matter Global Network, (Black Lives Matter, for short), a “chapter-based, member-led organization whose mission is to build local power and to intervene in violence inflicted on Black communities by the state and vigilantes” (Black Lives Matter, 2019). This network was predated by the hashtag #blacklivesmatter, the origins of which are explored in detail in Chapter 9. I think of the Movement for Black Lives as closest to my definition of a social movement as discussed in Chapter 2, signifying the complex field of anti-racism advocacy. Black Lives Matter features prominently throughout this dissertation as one social movement organization, which has more in common with “traditional advocacy institutions like the NAACP than with porous, digital-first activist networks like Anonymous” (Freelon, McIlwain, et al., 2016). I refer to digital networks with the shorthand #blacklivesmatter, as one among many interrelated hashtags such as #ferguson, #icantbreathe, and #sayhername (Bonilla and Rosa, 2015; Ince, Rojas, and Davis, 2017).

Please note that chapters published as a journal article adopt the style and spelling prescribed by that journal, while American English is adopted throughout the rest of this dissertation.

Structure of the Dissertation
This dissertation has three interrelated parts: about scaling, leadership, and methods. The first two chapters lay out the research design. Having introduced the research puzzle in this introduction, Chapter 2 details my theoretical approach, which is based on a combination of relevant bodies of literatures.

Part I empirically examines the relational dynamics of scaling up digitally networked movements. Chapter 3 provides an empirical analysis of the development of digitally networked action, arguing that online interactions are configured by proximity. Drawing on Twitter data, it describes the spatio-temporal network patterns at the foundation of scaling up #not1more. This helps to understand how protest online is rooted in local communities, either based on geographic proximity or shared interests. Chapter 4 draws on qualitative data to describe how local immigrant rights struggles scaled up to a national social movement. This contextualization helps to clarify the role of digital networking, particularly by the Dreamers, as part of the broader organizational field of immigration rights struggles in the United States. Deliberate and strategic efforts at networking preceded the rise of the #not1more campaign. This helps to understand the context
within which activists succeeded in creating connections between a variety of communities. Chapter 5 examines how emotions are mediated between different communities. Randall Collins’ framework of Interaction Ritual Chains provides a compelling account how emotions are shared in social movements, but he is skeptical about entrainment in the absence of physical co-presence. Yet, the digitally networked Movement for Black Lives was sparked when events in Ferguson caused outrage and hope in communities around the world. Thus, the scaling process of #blacklivesmatter raises questions whether, and how, the transmission of emotions between different communities is possible online. This chapter pioneers a semi-supervised image recognition method, drawing upon data collected from Instagram. Chapter 6 examines the scaling up of opposition to #blacklivesmatter. It examines how relational structures among opponents develop. In doing so, the chapter extends the logic of connective action, as formulated originally by Bennett and Segerberg (2012), revealing two contrasting logics for organizing and how these are rooted in distinct geographies. The activists operate from within specific milieus and arenas, using digital networking to connect within and among such environments. By contrast, their opponents organized as a swarm, a logic that does not rely on local community. Operating from scattered locations that are isolated from activist arenas and milieus, the swarm exploits digital networking to converge on specific targets for brief and intense moments of connective action.

Part II empirically examines the relational dynamics of leadership in digitally networked movements. Chapter 7 considers the leadership of Dreamers in strategically determining the debates between reformist and more radical branches of the immigrant rights movement. By combining a range of data sources, the chapter highlights how online leadership relies on relations formed in specific places over extended periods of time, being embedded in local communities. Chapter 8 focuses on the burdens of digitally enabled leadership and the formation of (unlikely) coalitions in the immigration rights movement in the United States. It draws upon a hybrid approach that combines qualitative and quantitative data to explain the trajectories of the Dreamers in terms of distinction and stigma. This serves to highlight how digital networks develop as part of complex organizational fields, and, how networked leadership can (re)produce inequalities among the communities in which it is embedded. Following up on this, Chapter 9 provides a detailed context of digitally networked leadership in Black Lives Matter. Starting with events a few years before the hashtag was introduced, the chapter traces the trajectories of several key leaders and their networks. Their stories are interwoven in
a way that highlights two distinct, yet complementary perspectives on leadership in digitally networked movements. I argue that these perspectives stem from specific traditions, to show how leadership practices in digitally networked movements are shaped by, while shaping, the communities in which they are embedded. Chapter 10 examines how online leadership (re)produces inequalities in Black Lives Matter. Leadership in digital networks is conceptualized relationally in terms of prominence, and measured as concentration and consolidation of attention with statistical models. This approach reveals strong concentrations of prominence among select leaders, and little evidence of consolidation from all but the most prominent leaders. A select few leaders consistently receive disproportionate attention, which explains the sustained attention for the movement in highly volatile attention spaces on social media. Methodologically, the chapter raises questions about the methods of fitting power law distributions to network data: the volatility of the measurement over time is demonstrated, as well as its limited applicability to making claims about networks in their entirety. Theoretically, the chapter helps to understand how dynamics on social media can induce inequality in social movements.

Part III concludes the research by describing the contributions this study makes to the literatures on social movements and computational social science. Chapter 11 formulates the work's methodological contribution based on a critical reflection on computational methods. It focuses on power laws as a specific and widely employed measure of networks. Many design decisions involved in the method’s implementation, although seemingly trivial and often opaque, have a large impact on interpretation of its results. I argue that the identified technical and epistemological challenges extend to computational social sciences more generally. Finally, Chapter 12 concludes with contributions to the literature on social movements, summarizing the interrelated themes of scaling up and leadership. From both the methodological and theoretical contributions emerge suggested avenues for further research.