



Social Accountability, Ethics, and the Occupy Wall Street Protests

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Abstract

This study examines the 3.5 m+ English-language original tweets that occurred during the 2011 Occupy Wall Street protests. Starting from previous research, we analyze how *character* terms such as “the banker,” “politician,” “the teaparty,” “GOP,” and “the corporation,” as well as *concept* terms such as “ethics,” “fairness,” “morals,” “justice,” and “democracy” were used by individual participants to respond to the Occupy Wall Street events. These character and concept terms not only allowed individuals to take an ethical stance but also accumulated into a citizen’s narrative about social accountability. The analysis illustrates how the centrality of the different concepts and characters in the conversation changed over time as well as how the concepts ethics, morals, fairness, justice, and democracy participated within the conversation, helping to amplify the ethical attributes of different characters. These findings contribute to our understanding of how demands for social accountability are articulated and change over time.

Keywords Citizenship arenas · Citizen voice · Ethical narratives · #OccupyWallStreet · Social accountability · Social media

On August 15, 2011, at the tail-end of the most recent financial crisis, Kalle Lasn sent an email to the 9000 subscribers of *Adbuster*, an anti-consumerist pro-environmental magazine. The email contained a one-page, deceptively simple call to action along with an image of a female standing on top of a bull in a ballerina pose. The image had minimal text: “what is our one demand?” #occupywallstreet, September 17th. Bring Tent.” The one page stated: “A worldwide shift in revolutionary tactics is underway right now that bodes well for the future...The beauty of this new formula, and what makes this novel tactic exciting, is its pragmatic simplicity: we talk to each other in various physical gatherings and virtual people’s assemblies ... we zero in on what our one demand will be.” That one demand—to #Occupy Wall Street and protest the corruption of

democracy by Wall Street—incited local and global protests: protests that took place in the streets and in virtual assemblies such as Twitter. People did bring their tents and occupied Zuccotti Park near Wall Street. They also occupied public spaces in more than 950 cities across 82 countries (NPR, 2011). While these protests involved physical bodies on the street (Butler, 2015), the protests also involved vibrant citizens’ conversations on social media (Tufekci, 2017). In contrast to the anti-globalization protest that took place in Seattle twelve years earlier, the Occupy Wall Street movement utilized newly emergent social media—including Twitter—to create a virtual people’s assembly. The 3.5 M+ original tweets that occurred between August 1, 2011, and July 31, 2012, and which we analyze were an integral part of this people’s conversation.

The current study examines the digital social media conversation that accompanied the physical protests: more specifically how Occupy Wall Street Twitter participants use concepts such as ethics, fairness, morals, justice, and democracy as well as characters such as the banker, politician, and the corporation to voice their concerns and to articulate the need for social accountability. Following from previous research, we assume that tweets are voicing activities that occur in a public arena of citizenship (Whelan et al., 2013, p. 779) and that are focused on the absence of and need for social accountability. In turn, we view social accountability

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as a process that attempts to hold governments and their allies accountable (cf. Agarwal et al., 2009; Castelló et al., 2013) and to thus bridge the “accountability gap between citizens and government” (O’Meally, 2013; see also Fox, 2015). Efforts include demanding that governments not only distribute societal resources in an equitable and transparent fashion but also set appropriate regulatory frameworks which encourage corporations to act in a socially responsible manner. This perspective emphasizes how citizen’s voicing is directed at the prevailing forms of governance—especially the financial and physical securitization assemblages that divide the rewards and risks among the population (Foucault, 2007)—with the purpose of understanding and articulating the need for social accountability. Furthermore, it foregrounds how individual forms of civic engagement come together and thereby help “build accountability through the collective efforts of citizens and civil society organizations” (UNDP, 2013, p. 3).

To help us to understand how Occupy Wall Street Twitter participants use concepts and characters, we draw upon previous linguistics-oriented and ethics-oriented research. This research suggests that citizen’s voicing activities can be viewed as individualized yet inter-subjective normative narratives (Jones, 2014, p. 8) that are articulated through the enlistment of concepts and characters and that, over time, accumulate into a collective social accountability narrative. These word terms are important discursive building blocks in that they key (Goffman, 1974, p. 45) a normative, ethical vision of how society should be governed and how societal rewards and risks should be distributed. Concepts and characters can function separately in that both, individually, imply an ethical stance (cf. Kockelman, 2004, p. 129) but they also can work together in that the use of concepts interact with and amplify the presumed ethical behavior and/or ethical roles of different characters. The current study assumes that the enlistment and placement of characters and concepts are salient components of citizen’s voicing activities.

The study considers three aspects of citizen voicing activities. First, which characters and concepts were central components within the conversation? This first research question (R1) focuses on semiotic practices, recognizing that social accountability conversations, like other ethical narratives, require a setting and a cast of characters (cf. Preuss & Dawson, 2009; Winkler, 2011). The provided analysis contributes to our understanding of such narratives by not only identifying the concepts and characters that are enlisted but also by highlighting which are central. Second, how did the positioning and centrality of the different characters and concepts change over time? Previous research highlights that social media-based demands for social accountability are both emergent and tenuous (Castelló et al., 2013; Gerbaudo, 2012; Tufekci, 2017). Social

media platforms like Twitter have very short attention spans and are subject to drift and disruption (cf. Allcott & Gentzkow, 2017; Lazer et al., 2018; Shachaf & Hara, 2010). For these reasons, this research question (R2) considers what happens to the Occupy Wall Street people’s conversation over time and whether the subsequent conversation remains ‘true’ to the initial events that initiated/precipitated the citizen’s conversation. The third research question (R3) examines the relationship between the concepts ethics, morals, fairness, justice, and democracy and characters such as the banker, politician, and the corporation. Prior research suggests that normative narratives can be constructed, and an ethical stance articulated, through the ‘global’ invocation of words such as ethics, morals, fairness, justice, and democracy as well as by the ‘local’ placement of such concepts alongside characters (Jones & Song, 2014; Jones, 2014). At the same time, narratives tend to be centered around a cast of characters and not abstract concepts, in part perhaps, because characters are easier to animate and ‘bring to life’ than are concepts (cf. Manning & Gershon, 2013). For this reason, it is important to analyze and understand whether concepts operate as stand-alone devices within citizen’s voicing activities or whether they are used to selectively draw attention to the ethical attributes/responsibilities of different characters. Taken together, the three research questions help us to understand the normative aspects of citizen’s voicing activities (cf. Beekun & Badawi, 2005; Neville & Menguc, 2006; Ruf et al., 2001).

The 3.5 M+ dataset of tweets that we have assembled is significant as well as useful. The Occupy Wall Street conversation was one of the first large-scale social media-based people’s conversations. It precedes and foreshadows subsequent social media conversations such as the Indignados movement (Anduiza et al., 2014), the Panama Papers and Paradise Papers (ICIJ, 2018; Neu et al., 2020), as well as the more recent Black Lives Matter conversations. In this regard, the Occupy Wall Street Twitter conversation is an important research moment that has the potential to augment our understandings of how collective citizen voicing activities emerge and are articulated, including how word terms such as ethics etc. participate in these conversations. Our focus on the social media aspects of the Occupy Wall Street movement complements and extends a series of recent studies that consider the role(s) of social media in encouraging accountability and ethics (cf. de Bakker & Hellsten, 2013; Feiseler et al., 2010; Lyon & Montgomery, 2013; Whelan et al., 2013). It also complements prior research on citizen protests, especially research on the prefigurative and performative aspects of physical gatherings (Castañeda, 2012; Munro, 2014; Reinecke, 2018). We return to both of these literatures in subsequent sections.

Speaking with Concepts and Characters

Popular protests such as the Occupy Wall Street movement are intimately intertwined with the broader context: that is, with the modes of financial and physical governance that organize and govern economic and social activity (Foucault, 2007, pp. 104–108). Like the Seattle anti-globalizations protests in 1999 (Juris, et al. 2012; Murphy & Pfaff, 2005) and the Spanish *Indignados* popular protest in Spring 2011 (Castañeda, 2012; Postill, 2014), the Occupy Wall Street movement was a citizen's protest against neo-liberal forms of governance and the financial securitization assemblages that underpin neo-liberal governance (Graeber, 2011, p. 3; Graeber & Hui, 2014, p. 4). As commentators note, Occupy Wall Street and the protests that preceded it in Europe were responses to the 2008 financial crisis (Barthold et al. 2018; Calhoun, 2013, p. 28; Castañeda, 2012; Graeber, 2011). They were, as Hardt and Negri (2011, p. 302) note, an “obvious and clear message... that the bankers and finance industries in no way represent us: What is good for Wall Street is certainly not good for the country (or the world).”

Popular protests have always involved physical gatherings as well as discourse (cf. Butler, 2015; Tufekci, 2017). These discursive activities, however, have become increasingly visible and increasingly important with the advent of social media. Tufekci, for example, notes that social media participated in the Arab Spring protests and the gatherings in Tahrir Square (pp. 125–126) whereas Butler states that social media conversations help to construct a ‘we the people’ and to sometimes incite a spilling out of social media and onto the streets (cf. pp. 175–176). Mason (2013) summarizes the importance of social media to popular protest, stating that:

Saying social media caused the revolutions of 2011 is like saying the printing press, or pamphlets caused the English Civil War... while the social media—and the more fundamental technologies that enable them—did not cause the upsurge, they have played a massive role in mobilising the forces to spark revolutions (p. 4).

In terms of the Occupy Wall Street protests, commentators suggest that preparatory discursive work contributed to the successful construction and mobilization of the Occupy Wall Street movement in the periods before any actual physical gathering took place (cf. Asenbaum, 2018; Coleman, 2014).

Our emphasis on social media-based discourse is not meant to downplay the importance of physical gatherings. In terms of the Occupy movement, accomplishing large and sustained physical gathering in 82 different cities worldwide (NPR, 2011) is clearly an accomplishment. Physical gatherings are important because such gatherings visually depict the power of the people in that “the assembly is already

speaking before it utters any words” (Butler, 2015, p. 156). Furthermore, physical gatherings give voice to what people are thinking and feeling. Shrivastava and Ivanova (2015), for example, show the types of image-based and textual-based messaging that participants displayed on signage as well as on their bodies. Included in these communications were somewhat universal slogans such as ‘we are the 99 percent’ and ‘people over profits’ as well as more local and individualized expressions. Physical gatherings also are more than simply a site of appearance in that they function as arenas of conversation and communication (Butler, 2015) where participants can, through dialogue, participate in a prefigurative imagining (Graeber, 2002, 2011) of what needs to be changed (cf. Reinecke, 2018, p. 1309). Following from Butler (2015) and Tufekci (2017), we assume that physical gatherings and social media digital conversation are mutually constitutive in that what is happening ‘on the ground’ and ‘on social media’ inform and influence both sets of practices.

Within social media conversations, we are particularly interested in the use of *characters* and *concepts*. Characters such as the accountant, banker, politician, and police and concepts such as ethics, morals, justice, fairness, and democracy are pervasive in public sphere conversations. Both character and concept words, albeit in slightly different ways, key (Goffman, 1974, p. 45) underlying frames of meaning that allow the speaker to communicate a message.¹ Characters are central to most public narratives since plots tend to be built around casts of characters involving villains, victims and heroes (Jones, 2014, p. 8). It is not surprising that public narratives are built around characters since character words, compared to concept words, are easier to animate and to have emotions toward (cf. Manning & Gershon, 2013, p. 120). At the same time, concept words are also selectively enlisted within public discourse since they frame what is at stake and thus provide a justification and support for adopting a particular narrative vantage point (Taylor-Neu, 2020, p. 22).² While concept words are more difficult to animate, they enlist a cognitive register that speaks to audiences in ways that characters cannot (Neu et al., 2020, p. 476).

Characters and concepts also help to communicate a normative vision and ethical stance. According to Kockelman, an ethical stance is “a way of categorizing and judging

¹ In more technical terms, we assume, following from Kockelman, that characters and concepts are signs that stand “for its object on the one hand, and its interpretant on the other, in such a way as to make the interpretant stand in relation to the object corresponding to its own relation to the object” (2005, p. 234). Kockelman’s formulation is a re-phrasing and clarification of Peirce (1958, p. 99).

² Taylor-Neu (2020) shows how concept terms such as ‘science’ were used to para-cite academic research and to, thus, selectively undermine climate change conclusions.

experience particular to a group or individual that turns on some notion of the good or true” (2004, p. 129). Concept terms such as ethics and democracy are “signs that speakers treat as stance-like” (2012, p. E107) and thus that signal to the audience that the utterance is about ‘the good.’ Character terms, in turn, help to build a normative social accountability narrative through the hierarchical juxtaposition of different characters as well as the placement vis-à-vis concept terms. Concept and character words, as well as a series of grammatical devices such as “intonation, exclamations, modal adverbs, discourse particles, hedges, adjectives, verbs of mentation, and so on,” are semiotic resources for marking the speaker’s stance or attitude toward narrated states of affairs” (Kockelman, 2004, p. 130). The use of the deictic ‘we’ in the slogan ‘we are the 99 percent’ is a good example of how language, including the use of deictics (cf. Briggs & Bauman, 1992, p. 150, 156) can signal an ethical stance.

Prior ethics-focused research also emphasizes the importance of both normative concepts and characters within discourse. For example, concept terms such as ethics explicitly frame the conversation as involving values thereby explicitly denoting a stance. Prior research also suggests that characters play a salient role in narratives about ethics and accountability. Winkler (2011), for example, suggests that such narratives are built around characters. He notes that “language represents social actors in particular ways, i.e., producing a certain meaning of them” (p. 656). These narratives not only assume that characters behave in certain ways and apply an ethical interpretation of the appropriateness of such behavior patterns but also juxtapose the assumed behaviors and ethics of different characters; that is, these narratives propose “particular understandings of individuals and groups, how they are interrelated and how they should behave” (Winkler, 2011, p. 654). Winkler’s research is provocative in that it hints at the ways that character terms are positioned vis-à-vis ethical concepts (cf. p. 662).

The suggestion that concept terms can work separately from, or jointly with, character words within citizen voicing activities is a key premise of the current study. For example, concept words can stand alone (or with other concept words) within a tweet to explicitly signal that the protest is concerned with normative topics. Examples such as “we demand justice,” “democracy is at stake,” “more ethics less corruption,” “shame on immoral behavior,” and “democracy requires justice” contain concepts but not characters. Alternatively, concept words can be placed alongside character words to foreground the attributes and/or responsibilities of different characters. Examples of the local placement of concept words include: “excess profits are unethical,” “the teaparty has no morals,” “justice for the poor,” “we demand tax fairness,” and “ethical politicians don’t exist.”

Our focus on normative narratives is not meant to imply that the Occupy conversations are not political. Rather, it

is to emphasize that political conversations and, indeed, physical gatherings themselves, often start from an ethical and normative stance (Butler, 2015, p. 16). Ethical stances inform how participants make sense of Occupy Wall Street as well as influence how participants speak and otherwise participate. In this regard, Twitter-based conversations are pre-figured in that participants come to the conversation with an ethical stance and normative vision of what is wrong with neo-liberalism, what needs to be changed and with a mode of participation that is somewhat consistent with this stance/vision. As Reinecke (2018) notes, the phrase ‘being the change that you want to see’ (p. 1299) encapsulates the importance of modeling and enacting some features of one’s prefigurative imaginings (p. 1301). However, these stances and visions are always somewhat open-ended in that there is a space for the sequential working out of a collective stance and vision. Graeber, for example, comments that the Occupy movement can be seen as a “demand to finally have a conversation” (2011, p. 1): presumably a conversation with the elites that are benefiting from the current form of neo-liberalism (Graeber & Hui, 2014, p. 3) as well as among the people themselves (Butler, 2015, p. 157). It is this open-endedness and collectiveness of conversation that motivates our study of the Occupy Wall Street tweets.

The preceding suggests that concepts and characters are semiotic resources within citizen voicing activities in that these word terms help to articulate a narrative about social accountability, including how neo-liberal governance currently functions and why more social accountability is needed. This said, we propose that is important to consider which concepts and characters are used, what happens to the people’s conversation over time, and whether such conversations are built around concepts or characters. It is these more detailed questions, we suggest, that help us to understand the micro details of the Occupy Wall Street people’s conversation.

Our first question (R1) focuses on the concepts and characters that participated in the Occupy Wall Street Twitter conversation. Within this setting, the selection of concepts and characters influences how the story is told and understood by other participants since it is these concepts and characters that are on the stage, so to speak. Following from previous research, we expect that characters will be more central than concepts to the conversation since character terms are more “human like” and seemingly less abstract than concepts such as ethics, morals, fairness, justice and democracy.³

³ In the subsequent analysis, we include profit and tax as types of characters. Given the initial “people over profits” rallying cry, it is important to include these word terms. We view profit and tax as characters that are seemingly more abstract than the other characters but less abstract than the concept terms.

The second question (R2) focuses on how the people's conversation changes over time. As Preuss and Dawson (2009) note, narratives "have a fluid character as they can get changed, even challenged every time they are re-told." Within social media settings, conversations can drift and be disrupted as well as atrophy as participants turn their attention to other topics (Neu et al., 2020). We expect that the nature of the topic and the characteristics of the Twitter social media platform will result in a situation where the centrality of different characters and concepts change over time; however, we are uncertain as to whether the ending conversation—at least in terms of concepts and characters—will be significantly different than the beginning one and whether the endpoint will be 'true' to the original intent of the protest.

Our third question (R3) examines the participation of concept and character terms. We are particularly interested in whether abstract concept terms are used as stand-alone terms or whether they are bundled with characters to make explicit the presumed ethical attributes of certain characters. As mentioned previously, this distinction draws attention to the ways that concept terms can be used as a global stand-alone normative signifier or as a localized amplifier of ethical attributes.

Data and Measures

The data for the current study are 3.5 M original English-language tweets that contained some variation of the hashtags #occupy and that were tweeted between August 1, 2011, and July 31, 2012. This batch of tweets was purchased from Twitter and was provided to us in a data file. The data file contained the tweet id, the user id, the tweet text, when the tweet was sent, the number of times the tweet was retweeted, and the number of followers that the tweet sender had. The data file was read into the open source statistical package R and then cleaned with the text-processing function that is part of the STM module (Roberts et al., 2014). The text-processing function both removed any extraneous *ascii* characters and generated a word frequency listing that summarized the population of words contained in the corpus of tweets. We also partitioned the original 3.5 M tweets into quarterly data. Q1 (August–October) has 543,630 observations, Q2 (November–January 2012) has 2,186,442 observations, Q3 (February–April) has 623,971 observations and Q4 (May–July) has 215,944 observations, for a total of 3,571,079. The Q1 period corresponds to the preparatory and early days of the movement, Q2 is the period when most of the discursive and physical protest activity took place and the Q3 and Q4 periods saw a gradual diminution of activity.

The first step in the analysis utilized the word frequency listing to identify salient characters and concepts. Our

reading of the literatures on popular protest suggested four types of characters: accounting/financial, police/military, government/political, and people/protestor. It also suggested that terms such as democracy, ethics, morals, fairness, and justice would be salient. We expect that the accounting/financial figures and police/army figures will be important because both are related to securitization assemblages. Butler (2015, p. 185), for example, suggests that the use of police/army figures is not surprising since "every claim that we make to the public sphere is haunted by the prison and anticipates the prison." Government/political figures, in turn, key the roles of the political class and government bureaucracy in enacting government (cf. Miller & Rose, 1990, p. 10). Finally, figures of the people/protestor key a larger narrative about the importance of speaking for the people and speaking truth to the powerful (Butler, 2015). With these groupings in mind, we reviewed the word frequency listing. This review identified accounting/financial figures (profit,⁴ tax, the bank, the corporation, ceo, rich, poor),⁵ physical security figures (police/cop and NYPD), government/political figures (the government, the politician, republican, democrat, GOP, and the tea party), people/protestor figures (the people, the activist, the protestor, zuccotti park), and the concepts ethics, morals, fairness, justice, and democracy. Table 1 shows descriptive statistics for all the binary variables we created indicating tweets that contained the above characters and concepts (see the Appendix in Table 5 for formal variable definitions).

To give the reader a sense of the types of tweets that were sent, Table 2 contains a sampling of tweets that enlisted the identified characters and concepts as well those that did not contain any of these terms.

The variables contained in Table 1 are the starting point for our subsequent analyses. The following analysis sections are organized around the previously mentioned research questions. The first analysis section examines the centrality of characters and concepts within the Twitter conversation (R1) as well as how the narrative changes over time (R2). The second analysis section then considers how concept terms are used within the tweets (R3).

The Centrality of Characters and Concepts

This first section enlists social network analysis methods to examine the centrality of the different characters and concepts within the Occupy Wall Street conversation. Social

⁴ The review identified singular (i.e., 'profit') and plural forms (i.e., 'profits') of each of the figures.

⁵ We included rich and poor in the financial figure section since the rich were often positioned vis-à-vis taxes.

Table 1 Descriptive statistics

Variable	<i>N</i>	Mean	Min	Max
Period	3,569,987	2.143	1	4
Profit	3,569,987	0.003	0	1
Tax	3,569,987	0.012	0	1
Bank	3,569,987	0.020	0	1
Corporation	3,569,987	0.006	0	1
Ceo	3,569,987	0.002	0	1
Rich	3,569,987	0.008	0	1
Poor	3,569,987	0.004	0	1
Government	3,569,987	0.023	0	1
Politician	3,569,987	0.004	0	1
President	3,569,987	0.006	0	1
Gop	3,569,987	0.018	0	1
Republican	3,569,987	0.002	0	1
Democrat	3,569,987	0.001	0	1
Teaparty	3,569,987	0.032	0	1
Police	3,569,987	0.047	0	1
People	3,569,987	0.045	0	1
Activist	3,569,987	0.002	0	1
Protestor	3,569,987	0.001	0	1
Zuccotti	3,569,987	0.010	0	1
Nypd	3,569,987	0.018	0	1
Democracy	3,569,987	0.008	0	1
Ethics	3,569,987	0.0003	0	1
Moral	3,569,987	0.001	0	1
Fairness	3,569,987	0.001	0	1
Justice	3,569,987	0.004	0	1

network analysis methods start from graph theory to identify nodes and edges within a social network. The nodes in this case are the terms whereas the edges are the connections among the different nodes. Edges are coded 1 (zero otherwise) when an individual tweet contains more than one node. For example, a tweet containing the words profit and banks would result in a profit/bank edge. We used the *igraph* package in R to loop through the population of 3.5 M tweets and to generate a graphical representation of the connections among the linguistic types. More central nodes appear in the center of the graph and the distance between nodes depicts how close the different nodes are within the network. Such network mappings have been used extensively in previous social science and management research (e.g., Borgatti & Cross, 2003; Chapman, 1998; Richardson, 2009, 2017).

Figures 1a–d depict the Occupy Wall Street discursive network by quarters. This mode of presentation illustrates if the network changes over time.

The Q1 period (August–October) depicts the early days of the Occupy Wall Street movement and can be viewed as the baseline from which the subsequent conversation morphs. The Q1 graph (Fig. 1a) shows a core comprised of people,

police, NYPD, and bank with democracy just slightly outside the core. It is not surprising that people, the police/army (police and NYPD), are at the core since the phrase “people over profits” was one of the rallying cries (cf. Lupo, 2014) and because the police are often called in to protect capital such as in the Seattle anti-globalization protests (Tufekci, 2017). In this initial period, the government/political figures of the republican and democrat are peripheral as are the concepts ethics/fairness/morals.

The Q2 period (November–January) graph (Fig. 1b) illustrates a change in the network. The people and police/army are still part of the core group but the core itself appears much larger with accounting/financial figures (tax, rich, bank) and government/political figures (government/GOP/teaparty) moving toward the core. However, similar to Q1, the concepts ethics/fairness/morals remain on the periphery. The Q3 network (Fig. 1c) is noteworthy in that GOP and teaparty join the core along with people, tax, government, and bank. The police and NYPD are still near the center of the graph but appear to be just outside of the core. The final Q4 period network (Fig. 1d) is similar to Q3 and seems to suggest that the social accountability conversation has coalesced into a pattern where the characters of the people, police, teaparty, and government are the primary protagonists within the narrative.

Figures 1a–d visually depict the emergence, mutation, and consolidation of the Occupy Wall Street conversation including how the centrality of different nodes, the connections among nodes, and how the network changes over time. While the representations are invaluable, social network algorithms provide us with quantitative measures of centrality that make visible network characteristics that are difficult to discern within the graphical representations. These algorithms start from Freeman et al.’s (1979) suggestion that there are three types of centrality. The first type, degree centrality, measures the number of direct connections that a node has to other nodes, with the assumption being that more central nodes are those with more direct connections. The second type, closeness centrality, measures the shortest path between the different network nodes with the assumption that more central nodes are those with shorter distances to other nodes. The third type, betweenness centrality, measures what happens to the network if a node is removed. Here, the assumption is that more central nodes are the ones that, if removed, will fragment the network. Previous social network research suggests that each type of centrality measure draws attention to different salient aspects of the network (Borgatti & Everett, 2006).

Table 3 presents a rank order of the degree, closeness, and betweenness measures on a quarterly basis for the Occupy Wall Street discursive network. The eigenvector value measures degree closeness, the Lin value provides a shortest path measure, and fragmentation measures

Table 2 Sample tweets

Category	Sample tweet
Profit	The rich don't care if the costs are greater than the profits—so long as it is their profits and our loss. #ows
Tax	#documentary INSIDE JOB http://t.co/C86bAoIq #occupywallstreet #ows tax big oil profits at 90%
Bank	Nancy Pelosi sides with #OccupyWallSt protesters to keep them from coming after her for leading the Bank Bailouts
Corporation	#OccupyWallStreet #F29 Shut Down The Corporations: Leap Into Action! Reclaim Our Future!: submitted by thepi... http://t.co/Gtv17m8W
Ceo	Wall St protestors know where CEO's live. Tea Party struggle to find local Dennys. #occupywallstreet
Rich	this isn't about upward mobility, every piece of legislation that lifts regulations- is just to make the rich guys richer #occupywallstreet
Poor	#OWS = Obama's Welfare Slaves. That's what Obama wants you to be, and you fell for it. You're all equally poor now, change has arrived
Government	The drug war encourages violence. Government violence against nonviolent users. #RonPaul #TeaParty #OWS #Anonymous #tcot #tlot #p2
Politician	@paulmasonnews Yes, U R right #OWS people demonstrating already believe mainstream politicians R trapped by vested interests + all crooked
President	On March 8, the President signed a law making it illegal to protest him http://t.co/YJcoYsAL #p2 #tcot #ows #teaparty #ocra #sgp
Gop	MT @hateGOP: #OccupyWallStreet! No One Succeeds If Their Brothers Fail. The GOP is Against 99% of Their Brothers http://t.co/JM5aEGIF
Republican	That cop who pepper sprayed the protesters in NYC is a coward & bully. Must be a Republican. His ass needs to be fired. #occupywallstreet
Democrat	When a #Fox #News #Democrat attacks #OWS— http://t.co/bTCi7EzK Doug Schoen #Corporatist #Lackey #Wall #Street. #Media. #OccupyWallStreet
Teaparty	It's not like I'm just trying to win & get elected. I'm trying to change the course of history #RonPaul #TeaParty #OWS #Anonymous #tcot #p2
Police	Terrorism report is suspect to be a lone wolf bomber targeting government workers http://t.co/inzHOM0B Police Source states @Newyorkist #ows
People	@pulmyears when people realize they can stay in their homes with the help of occupy I have no doubt the support for #ows will rise
Activist	Establishment #TeaParty Activist Supports #Romney Presidential Bid http://t.co/Q7tnrVFU #Infowars #RonPaul #OWS #tcot #tpot #Koch #Soros
Protestor	WARNING—GRAPHIC VIDEO: @NatlParkService police tase peaceful @Occupy_DC protestor http://t.co/MyKZpDNE #OWS
Zuccotti	Get involved: ACTIVIST TECH DEMO DAY http://t.co/veCLKMG8 Jan. 28 #ows #occupy #occupywallst @occupywallst #Zuccotti #ReOccupy #LibertyPlaza
Nypd	@CarrieM213 looks like good documentation of the "grab that guy" (who's doing nothing illegal) policy of random #nypd #ows arrests. WTF?
Democracy	Democracy requires participation! If you can't be there, go here: http://t.co/HJyYOJtj Donate, large or small! #OccupyWallStreet #OWS
Ethics	What should be the headline? 1. Stock Market has its Best Month in a Decade 2. 16.1 million children live in #poverty in the US #OWS #Ethics
Moral	The Turning Point: The Moral Example of UC Davis Students Psychology Today— http://t.co/jOGhSaj8 #OccupyWallStreet
Fairness	#ows is about fairness—capital markets that compete & are not bought—suggest articles, help my research http://t.co/FLn5FNvN #99percent
Justice	#OWS Is About Justice, Not Wealth or Class http://t.co/WNaftnF1

what happens to the network if a node is removed. The Centiserve (Jalili et al., 2015), CINNA (Ashtiani et al., 2018) and Keyplayer (An & Liu, 2016) modules within R were used to identify the appropriate degree, closeness, and betweenness measures given the structure of the network and to then calculate the values. We use rank orders numbers instead of absolute centrality numbers so that the reader can easily see the changes in the centrality of different figures over time.

The first section of Table 3 summarizes the eigenvector values. The eigenvector value indicates “the extent that someone knows everybody who is anybody” (Borgatti & Everett, 2006, p. 471). The results are consistent with the graphical representations in that the people remained central across all four periods as did the police. The results also show how the teaparty became increasingly important over time and was the most central node in Q3 and Q4. Similarly, government moved to the center in Q3 and Q4. Somewhat

Table 3 Degree, closeness, and betweenness centrality measures for Occupy Wall Street discursive network by quarter

	Degree centrality rank order				Closeness centrality rank order				Betweenness centrality rank order			
	(Eigenvector measure)				(Lin measure)				(Fragmentation measure)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Profit	16	16	17	17	13	12	16	12	10	14	10	6
Tax	9	9	6	7	15	8	4	3	13	18	20	23
Bank	4	4	7	6	2	4	15	17	24	22	12	7
Corporation	10	12	9	9	5	13	13	6	21	12	14	17
Ceo	19	19	22	19	22	23	12	25	4	4	13	1
Rich	8	10	10	10	3	11	11	4	23	15	15	22
Poor	12	15	12	13	20	14	9	20	7	13	16	10
Government	7	6	2	3	4	3	2	15	22	23	24	11
Politician	15	17	11	12	12	16	24	7	15	10	3	20
President	17	13	8	15	21	15	7	14	8	11	18	13
Gop	11	7	5	5	8	2	5	1	20	24	21	25
Republican	21	18	18	18	6	19	14	21	17	8	7	3
Democrat	22	22	23	22	14	22	25	13	14	3	2	14
Teaparty	6	3	1	1	9	6	1	2	18	20	25	24
Police	2	1	4	4	7	5	8	16	19	21	19	12
People	1	2	3	2	1	1	3	8	25	25	23	21
Activist	20	20	19	20	18	18	23	10	9	7	4	15
Protestor	18	21	21	23	17	24	20	5	5	2	1	19
Zuccotti	13	8	16	16	24	9	18	18	3	17	5	9
Nypd	3	5	15	8	11	17	22	9	16	9	6	18
Democracy	5	11	13	11	16	7	10	11	12	19	17	16
Ethics	25	25	25	25	23	25	17	23	2	1	11	4
Moral	23	23	20	21	19	21	21	19	6	5	8	5
Fairness	24	24	24	24	25	20	19	24	1	6	9	2
Justice	14	14	14	14	10	10	6	22	11	16	22	8

Table shows rank ordering of all discursive network nodes on the degree centrality, closeness centrality, and betweenness centrality measures, calculated each quarter (Q1–Q4)

terms, even though the terms are not part of the conversational core, have the potential to fragment the network by “breaking bridges” between salient characters. For example, the removal of fairness in Q1 and Q4 or ethics in Q1, Q2, and Q4 would increase fragmentation. As we discuss in the subsequent section, these results are consistent with the suggestion that the power of concept words depends on the ability to selectively amplify the ethical attributes of specific groups of characters.

The graphical and numeric results make three contributions to our understanding of citizen’s voicing activities. First, it shows which characters and concepts were central components at different moments in time. In the initial Q1 period leading up to the occupation of Zuccotti Park and other physical spaces, the conversation was built around a dichotomy between the people and the police/army with the police/NYPD presumably being a constraint on the will of the people. During this period, the phrase “people over profits” may have been a rallying cry but the conversational

focus was more on the people and the police. Perhaps this reflects an anticipation (Butler, 2015, p. 185) of what might happen to protestors when they, as citizens, give voice to their concerns.

Second, the conversation changed over time, becoming something quite different than what it was originally. By Q3, the teaparty, and to a lesser extent, the GOP, became core characters. People’s voicing activities focused less on “people over profits” and the role of the police/army in “protecting” financial capital and more on governance, especially the roles of government/politicians in buttressing the status quo. On the one hand, this shift can be viewed as an evolution in that social accountability ultimately depends on the government and politicians since it is these two groups of social actors that enact governance via the use of financial and physical securitization assemblages. On the other hand, this shift has the potential to blunt the force of the protest since, by Q3 and Q4, it is the teaparty and not the people that is the center-point of the conversation. In this regard, it

Table 4 Logit regressions where dependent variables are five concepts

	<i>Dependent variable</i>				
	Ethics	Moral	Fairness	Justice	Democracy
Profit	2.491*** (0.157)	0.293 (0.280)	-0.252 (0.358)	-0.087 (0.152)	-0.563*** (0.142)
Tax	-0.235 (0.250)	-0.874*** (0.238)	1.868*** (0.092)	-0.369*** (0.090)	-1.562*** (0.115)
Bank	-0.045 (0.203)	-0.919*** (0.205)	-0.454** (0.206)	-0.170*** (0.062)	-0.831*** (0.062)
Corporation	-0.092 (0.321)	0.181 (0.215)	-0.350 (0.304)	-0.401*** (0.125)	0.763*** (0.051)
Ceo	-0.137 (0.709)	-0.824 (0.707)	-0.472 (0.708)	-0.342 (0.236)	-1.532*** (0.316)
Rich	-0.351 (0.329)	0.151 (0.182)	0.346** (0.173)	-0.321*** (0.107)	-0.098 (0.077)
Poor	1.516*** (0.214)	1.075*** (0.164)	0.042 (0.284)	0.468*** (0.104)	-0.946*** (0.146)
Government	0.141 (0.183)	-0.355*** (0.130)	-0.072 (0.152)	-0.391*** (0.066)	0.156*** (0.036)
Politician	1.018*** (0.291)	-0.652* (0.355)	0.045 (0.355)	-0.520*** (0.172)	0.340*** (0.079)
President	0.136 (0.355)	-1.527*** (0.499)	0.235 (0.269)	-0.555*** (0.138)	-0.851*** (0.116)
Gop	0.820*** (0.160)	-0.503*** (0.138)	0.640*** (0.125)	-0.603*** (0.087)	-0.113** (0.049)
Republican	-1.043 (1.008)	0.528* (0.319)	0.390 (0.388)	-1.024*** (0.318)	-0.169 (0.148)
Democrat	0.748 (0.714)	-1.231 (1.007)	0.748 (0.513)	-0.580 (0.410)	-0.071 (0.216)
Teaparty	-0.922*** (0.235)	1.373*** (0.060)	-0.191 (0.137)	-0.864*** (0.071)	-0.269*** (0.038)
Police	-0.615*** (0.192)	-0.997*** (0.140)	-1.903*** (0.290)	-0.316*** (0.044)	-0.649*** (0.038)
People	0.237* (0.124)	0.091 (0.084)	0.071 (0.110)	-0.208*** (0.043)	0.167*** (0.026)
Activist	0.143 (0.708)	-0.114 (0.501)	-10.953 (85.796)	0.344** (0.172)	-0.256 (0.170)
Protestor	-0.039 (1.001)	-0.300 (0.708)	0.365 (0.709)	-0.387 (0.302)	-1.043*** (0.317)
Zuccotti	-0.655 (0.448)	-1.041*** (0.334)	-2.659*** (1.000)	-1.004*** (0.137)	-0.618*** (0.084)
Nypd	-1.592*** (0.501)	-0.601*** (0.194)	-1.962*** (0.501)	-0.500*** (0.077)	-0.545*** (0.058)
Moral	2.351*** (0.304)		0.638 (0.504)	1.315*** (0.145)	-0.484* (0.251)
Ethics		2.340*** (0.305)	1.017* (0.589)	1.615*** (0.195)	0.469* (0.252)
Fairness	1.117* (0.584)	0.608 (0.505)		3.516*** (0.070)	
Justice	1.627*** (0.193)	1.314*** (0.145)	3.517*** (0.070)		1.178*** (0.050)
Democracy	0.463* (0.252)	-0.493** (0.251)	0.452** (0.185)	1.170*** (0.050)	
Constant	-8.075*** (0.033)	-7.102*** (0.021)	-7.702*** (0.028)	-5.373*** (0.009)	-4.748*** (0.006)
N	3,569,987	3,569,987	3,569,987	3,569,987	3,569,987
Log Likelihood	-10,453.53	-24,082.08	-15,223.37	-100,043.30	-169,092.60
χ^2	351.44***	691.53***	1711.8***	2389.2***	2093.0***
Pseudo-R ²	.017	0.014	0.053	0.012	0.006

Table shows logit coefficients, with standard errors in parentheses

Pseudo-R² is McFadden

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

is difficult to conclude whether the ending conversation is “true” to the initial premise of Occupy Wall Street.

Third, the results highlight how the social accountability conversation was a narrative in that it was built around a cast of characters more than concepts. The degree and closeness centrality results show that the concepts ethics/morals/fairness/justice/democracy were peripheral to the conversation. The result is not surprising given that narratives require a cast of characters. This said, the betweenness centrality measure results imply that concepts may play a salient local role within the Occupy Wall Street people’s conversation. The next section examines this possibility.

The Placement of Concept Words

To assess whether concept words complement and amplify certain characters, we ran a series of logistic regressions where the concept words are the dependent variables and the characters words are the independent variables. These regressions also included the other concept words (i.e., the words that are not the dependent variable) as independent variables. Given that both the dependent and independent variables are 1/0 indicator variables, we are primarily interested in the independent variables that are positive and significantly associated with the dependent variables. Positive,

significant associations suggest that the dependent concept word and the independent character word are more likely to appear together within a tweet and thus are proximate within the social network.⁶ Furthermore, the results also allow us to tentatively identify the characters that are being bridged by a particular concept word in that the characters being bridged should both be positive and significantly associated with the dependent variable. Table 4 presents the results.

The results illustrate three aspects of the placement and participation of concept terms. First, the column data for each dependent variable indicate that concept terms are not randomly distributed throughout the tweets but rather tend to appear in tweets about certain characters. For example, the word ethics is most likely to be included in tweets talking about profit, the poor, politicians, and the GOP whereas fairness is most likely to appear in a tweet about taxes, the rich and the GOP, and democracy is most likely to appear in a tweet about the government and politicians. These results suggest that concepts are used as localized “helper” words to make explicit and/or amplify the ethical attributes of certain characters and/or their ethical responsibilities. The results also suggest the character terms that are being bridged by the different concepts.

Second, the Table 4 results can be read horizontally to show that not all concept words are paired with all characters. For example, in the five regressions there were eight characters that were positively and significantly associated with a single concept word: profit with ethics, tax with fairness, corporation with democracy, rich with fairness, government with democracy, teaparty with moral, people with democracy, and activist with justice. Other characters were positive and significantly associated with two concept words: politician with ethics and democracy, and GOP with ethics and fairness. Finally, there was a group of concept words that were not positive and significantly associated with any concept words (bank, president, republican, democrat, police, protestor, Zuccotti, and NYPD). These results show that not all characters are amplified/modified by the inclusion of a normative concept word. The vertical and horizontal reading of Table 4 illustrate that concept words are localized helper words that both amplify the ethical dimensions of certain characters *and* act as a bridge between characters.

Third, the results illustrate that concept words are often complementary in that certain concept words are more likely to appear together: ethics with moral and justice, fairness with justice and democracy, and justice with moral, ethics, fairness, and democracy. These positive and significant

associations among concepts imply that some tweets remained on the level of concepts and did not include characters. This latter usage is consistent with the idea that concept words, in some situations, are used as global signifiers rather than as local amplifiers.

Taken together, the regression results highlight how the concepts ethics, morals, fairness, justice, and democracy participated in a limited yet significant way within the Occupy Wall Street Twitter conversation. Concept words were neither pervasive nor were they central in terms of degree centrality and closeness centrality. However, the removal of concepts like ethics, morals, and fairness would fragment the network, in part, because these concepts provided a bridge between different characters. These findings illustrate the specific ways that concept words participated in and contributed to the people’s conversation.

Discussion

This study examined the 3.5 m+ original English tweets that occurred during the 2011 Occupy Wall Street protests. Starting from previous linguistically oriented and ethics-oriented research, we analyzed how character terms such as the banker, politician, the teaparty, GOP and the corporation as well as concept terms such as ethics, fairness, morals, justice and democracy were used by individual participants to respond to the Occupy Wall Street events and to articulate their vision of what was happening. These character and concept terms not only allowed individuals to take an ethical stance but also accumulated into a citizen’s narrative about social accountability. Our analysis showed how the Twitter conversation changed over time, shifting from being about the people to being about the teaparty, the GOP, and the government. It also illustrated how the concepts ethics, morals, fairness, justice, and democracy were placed alongside character words to amplify the ethical attributes of different characters. Taken together, the results foreground the micro details of citizen voicing activities during the Occupy Wall Street protests.

The study makes three contributions. First, the study explicitly maps and analyzes the Occupy Wall Street people’s conversation, including the position of characters and concepts, in ways that previous studies have not. The corpus of 3.5 m+ tweets, in conjunction with social network analysis methods, allowed us to analyze the centrality of different characters and concepts, including how centrality changes over time. The visual mapping provided an easy-to-understand representation of the placement of the different characters and concepts whereas the numerical centrality scores both allowed us to rank the centrality of different nodes as well as to distinguish among different types of centrality. The numerical results highlight that central characters

⁶ The use of a partial correlation matrix (where the correlation between two variables is calculated after controlling for all the other variables) generates similar results to Table 4.

and concepts are not only those that are close to influential nodes (degree centrality) or that offer the shortest path to other nodes (closeness centrality) but also those that hold the network together and prevent it from fragmenting. These findings draw attention to the component elements of the Occupy Wall Street conversation, how the conversation changed over time, and the importance of seemingly peripheral concepts such as ethics and fairness.

Second, the study contributes to our understanding of the possibilities and limitations of social media-based social accountability processes. The results show that large numbers of people did participate in the citizen's conversation and that individual voicing activities did accumulate into a social accountability narrative built around characters and concepts. This finding is consistent with the suggestion of Whelan et al. (2013) that social media arenas of citizenship can "lead to a relative increase in the participatory capacity of individual citizens." At the same time, it is unclear whether these voicing activities result in a clear and forceful message that encourages governments to change existing modes of governance (cf. Neu et al., 2020). While the results highlight that the initial citizen's conversation changed over time, becoming something it was not originally, we are not sure whether the ending conversation was a progression in that it recognized that politicians, political parties and governments ultimately determine how governance is enacted, or a demonstration that social media-based social accountability conversations are easily distracted. While the study was unable to distinguish between these two competing interpretations, it does foreground the importance of examining both where social accountability conversations start and where such conversations end since it is the nature of these changes that impact on the ability of citizen voicing activities to hold government and politicians accountable.

Third, the analysis illustrates the specific ways that the concepts ethics, morals, fairness, justice, and democracy participate within the Twitter Occupy Wall Street conversation. Building upon prior research, we distinguish between the use of concepts as stand-alone ethical stance markers and the local use of concepts to amplify the ethical attributes of specific characters. The results show that concepts are important bridges between different characters in that the removal of words/terms such as fairness and ethics would

fragment the discursive network. This finding is important because it highlights the specific, local ways that the placement of concept terms contributes to the social accountability narrative. Once again, an understanding of the placement of concept terms and the role of concepts in acting as a bridge between characters would not have been possible without the use of large-scale data and social network analysis methods.

The scale of our data encouraged the use of quantitative methods which, in turn, resulted in a series of findings regarding the centrality of characters and concepts within the Occupy Wall Street Twitter conversation. We strongly believe that small-scale data and qualitative methods are useful but, at the same time, would not have allowed us to understand these aspects of citizen voicing activities. This said, there is still much that we do not understand about such conversations. For example, what was the subject of the tweets that did not contain characters and concepts? Prior research suggests that many tweets were "organizational," helping to organize and maintain the physical encampments, but we do not know how organizational tweets interacted with character/concept tweets. Similarly, the current study did not consider the attributes of tweet senders nor did we consider whether the sender was speaking about the global Occupy phenomenon or about a specific, local, physical Occupy site. Furthermore, the results demonstrate how the Twitter conversation changed over time but we are uncertain as to whether this represents a sequential working out of an initial prefigurative vision or the disruption of this vision by outside events and/or agitators. Finally, little is known about whether participants were more likely to favorite and retweet tweets that included specific amalgams of characters and concepts. Additional research on these aspects will contribute to our understandings of the effectiveness of citizen voicing activity and, hence, the ability of social media-based social accountability conversations to bridge the accountability gap between citizens and government in ways that lead to positive social change.

Appendix

See Table 5.

Table 5 Variable descriptions

Variable	Description
<i>Temporal variables</i>	
Period	Indicator with values of 1, 2, 3, and 4 indicating in which of the four discrete periods the tweet was sent
<i>Financial characters</i>	
Profit	Binary variable indicating tweet contains this character
Tax	Binary variable indicating tweet contains this character
Bank	Binary variable indicating tweet contains this character
Corporation	Binary variable indicating tweet contains this character
Ceo	Binary variable indicating tweet contains this character
Rich	Binary variable indicating tweet contains this character
Poor	Binary variable indicating tweet contains this character
<i>Government/political characters</i>	
Government	Binary variable indicating tweet contains this character
Politician	Binary variable indicating tweet contains this character
President	Binary variable indicating tweet contains this character
Gop	Binary variable indicating tweet contains this character
Republican	Binary variable indicating tweet contains this character
Democrat	Binary variable indicating tweet contains this character
Teaparty	Binary variable indicating tweet contains this character
<i>Physical security characters</i>	
Police	Binary variable indicating tweet contains this character
Nypd	Binary variable indicating tweet contains this character
<i>Counter-conduct characters</i>	
People	Binary variable indicating tweet contains this character
Activist	Binary variable indicating tweet contains this character
Protestor	Binary variable indicating tweet contains this character
Zuccotti	Binary variable indicating tweet contains this character
<i>Concepts</i>	
Democracy	Binary variable indicating tweet contains this concept
Ethics	Binary variable indicating tweet contains this concept
Moral	Binary variable indicating tweet contains this concept
Fairness	Binary variable indicating tweet contains this concept
Justice	Binary variable indicating tweet contains this concept

The “character” and “concept” variables are all binary variables indicating the tweet contains the singular or plural version of the relevant word. For example, the variable *profit* receives a value of ‘1’ if the tweet contains the words ‘profit’ or ‘profits’

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Declarations

Conflict of interest The authors declare that they have no conflicts of interest.

Research Involving Human and/or Animal Participants This article does not contain any studies with human participants or animals performed by any of the authors.

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