Introduction

The emergence of a significant, robust and durable protest movement in response to the perceived falsification of Russian parliamentary elections in December 2011 raises a number of questions, perhaps the most important of which is why it had not happened before. Russia has, for most of the period since Vladimir Putin replaced Boris Yeltsin as president in 2000, seen various groups mobilize in opposition to what they (and many Western analysts) felt was Putin’s authoritarian encroachment. While the majority of the people who came into the streets of Moscow and other cities in December 2011 and the ensuing months were new to protest, a core group of activists had been there before. Moreover, the parliamentary ballot of that month was far from the first in Russia alleged to have been falsified. Thus, something must have shifted in order to make this particular series of protest events more than the sum of its parts.

How and why this time was different is a matter of some debate, and not just among academics and outside observers. The most basic question at the heart of this investigation is why people who had previously failed to come together find themselves in the same place, at the same time and with the same agenda?

Subsidiary to this question is one of coordination. Supposing a crucial role for some sort of purposeful coordination – whether centralized or dispersed – requires asking how people and organizations that had failed in the past to rally more than a few hundred supporters in outwardly similar circumstances suddenly manage to mobilize more than a hundred thousand?

The only consensus among the ‘insiders’ is that it was, to a large extent, spontaneous. For varying personal reasons, several of those who ended up forming the core of the Protest Action Organizing Committee that would manage the logistics of oppositional activity well into 2012 came out to what had been expected to be a small and unexciting protest on Dec. 5 and found themselves – and each other – speaking to those gathered. While many of them had been acquainted, none of them, with
the exception of some of the politicians who shared party affiliations, had any formal ties to any of the others, nor had they worked together.\textsuperscript{1} According to Sergei Parkhomenko, a journalist and one of the group, the effect was akin to what happens when several people in one locker room try to take a shower simultaneously: when everyone turns the handles chaotically, no one gets the temperature they want, but when they coordinate and all turn the handles carefully in the same direction, it comes out right.\textsuperscript{2}

That street-level consensus – that there was a high degree of fortuitous coordination – suggests that a more rigorous analysis is warranted of the centrality of potential coordinators, i.e., established activists from various communities, in the movement network. But an argument about fortuitous, rather than purposeful, coordination suggests that we look not only at the actors of coordination, but also at the channels and mechanisms through which coordination is affected. And that leads us to one final question, which seems to lurk behind any discussion of contested politics in the 21\textsuperscript{st} century, namely, what was the role of the Internet?

One way or another, the Internet broadly and online social media services in particular have been linked to political protest and upheaval throughout the world, with ‘Twitter revolutions’ in Moldova and Iran, Facebook in the Arab Spring, and the broad use of online media in the Occupy Wall Street movement and similar protest waves in Europe. Some have gone as far as to call these ‘liberation technologies’, with all of the causal assumptions that term implies (Diamond 2010, 70-71). The debate on the degree to which the Internet alters the political and mobilizational landscape – and in whose favor, given the ability of governments to surveil and counter-mobilize using the same technologies – is rich and complex (see Morozov 2011). It is also broadly irrelevant to the purpose of this investigation: the Internet is a fact of the social existence of many Russian citizens, including many of the protesters, at least one third of whom may have been recruited to protest primarily through online media (“Opros na prospekte” 2011). As such, it is inevitable that the structures of communication that online media create will have had an impact on the production, distribution and reception of messages related to the elections and the protests; the task of understanding (at least in part) that impact is quite separate from the task of determining whether and/or how the Internet caused the protests. Moreover, the fact of that online presence behooves the researcher to

\textsuperscript{1} Interview with Vladimir Ryzhkov. December 26, 2011; Interview with Olga Romanova. December 27, 2011; Interview with Sergei Kanaev. March 1, 2012. All in Moscow.
\textsuperscript{2} Interview with Sergei Parkhomenko. May 21, 2012. Moscow.
ask what the observation of online behavior can tell us about a movement that is difficult to study adequately through off-line methods.

In the space that follows, I will explore what the use of online data – drawn from a strategic sample of Facebook users, and mobilizing a combination of data on both movement organization and media affinity, as well as basic network analysis – can tell us about who is in the movement, and how the participants and the various constituent parts of the movement relate to each other. In particular, I will argue that the “newness” in Russia's current protest movement is found less in the recruitment of new activists and participants – though this certainly occurred – than in the creation of new ties and relationships between already existing protest groups, which in turn allowed them to present a mobilizational argument that proved much more powerful than anything that had previously been on the table.

Thus, the movement benefits from the effects of frame-alignment and frame-bridging, more familiar to students of social movement theory than social network theory, rather than from the creation of new protest frames; at the same time, the available evidence suggests that the movement grew through the recruitment of people who already shared a politicized media space with long-standing activists, rather than the recruitment to politics of a previously apolitical 'hipster' demographic.

I will begin with a brief chronology of events, followed by a review of relevant theory on social and protest movements, in order to identify questions for empirical analysis.

_Bolotnaia and Beyond: A Chronology_

On Dec. 5, 2011, the day after the Russian Central Election Commission declared that the United Russia party, which has dominated Russian politics since 2001, won a bare majority of seats in the State Duma, several thousand protesters convened near Moscow’s Chistye Prudy metro station to declare their conviction that the results had been falsified (Barakovskaia 2011). Among those present were long-time opposition leaders Boris Nemtsov, Vladimir Ryzhkov and Ilia Iashin, environmental activist Evgeniia Chirikova, anti-corruption lawyer and prominent blogger Alexei Navalnyi, and journalists Olga Romanova, Dmitrii Bykov, Sergei Parkhomenko and Viktor Shenderovich (“Navalnyi, Iashin i eshche” 2011; Malashenko, Gavrilova et al 2011).

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3 Estimates range from 2,000 to 10,000 protesters, with the consensus somewhere in the area of 6,000-7,000.
It was there, according to interviews conducted in the ensuing weeks and months by the author with several of those present, that an informal decision was made to join together in organizing a sustained campaign of protest, aimed at rejecting what they felt were illegitimate parliamentary elections and altering the course of presidential elections scheduled for March 4, 2012. Joined quickly by journalists like Leonid Parfenov and Iurii Saprykin, pop-culture personalities like Kseniia Sobchak and Tatiana Lazareva, systemic opposition Duma deputies Gennadii Gudkov and Ilia Ponomarev, automotive activist Sergei Kanaev and numerous others, this core group formed the Protest Action Organizing Committee (Orgkomitet protestnykh deistviy). Meeting in cafes and other public spaces, sometimes numbering as many as 300, and often broadcast live over the Internet, the Committee devised a schedule and agenda for further rallies, raised money, and negotiated with police and municipal officials. On December 10, approximately 50,000-60,000 protesters convened on Moscow’s Bolotnaia ploshchad (Savina, Smirnov et al 2011). On December 24, in excess of 100,000 gathered on Prospekt Akademika Sakharova, not large by the standards of the Arab Spring of many other contexts, but the largest protest event in Russia since 1993 (“Zhurnalisty naschitali” 2011).

After the New Year, and with the presidential elections firmly in their sights, the Organizing Committee gave rise to a number of offshoot movement organizations, including the White Ribbon and White Streets organizations (Belai a lenta and Belye ulitsy, respectively, named after the white ribbon that had become the symbol of the movement), the League of Voters and Citizen Observer (Liga Izbiratelei and Grazhdanin nabludatel, respectively, created to monitor the elections), and We Were On Bolotnaia Ploshchad and Will Return (My byli na Bolotnoi ploshchadi i pridem eshche, focusing on organizing further protests).4 Older non-governmental and opposition organizations, including election monitors Golos, anti-corruption group TI-R, human rights groups Memorial and Incarcerated Russia (Rus sidishchaia), also joined the movement, as did the banned People’s Freedom Party (Partiia narodnoi svobody, or PARNAS) (Zykov, Tatarskii et al 2012; “Na Pushkinskoi ploshchadi” 2012). Smaller rallies were held throughout the late winter and early spring, leading up to a 20,000-strong protest on March 5, the day after Vladimir Putin’s reelection as president, and, finally, a pitched battle between as many as 50,000 protesters and riot police on May 6, the day of Putin’s inauguration (Kolpakov and Tsybulskii 2012). The groups remained active at the time this was written, primarily in the form of the Occupy Abay movement (named for the Kazakh poet Abay

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Qunanbayuli, under whose statue the movement held its first sit-in) and the Opposition Coordinating Committee, to which elections were held October 20-21, 2012 (“Okkupai Abai prodolzhaetsia” 2012; Elifanova 2012).

**Bridging Networks and Movements**

With this brief history in mind, we return to the empirical question raised at the outset: why was this round of mobilization so much more successful than previous rounds, and what were the respective roles of coordination and communication technologies in creating that success? Existing theory on mobilization suggests re-phrasing these puzzles into three discrete research questions:

1. Does the Russian protest network in its online expression resemble a unified, monocentric whole, or is it something more diverse and dispersed? In other words, is it a single movement with a common leadership, or a network of smaller movements, whose various leaders have brought them together?

2. Do we observe processes through which the narratives and discourses of existing protest groups would have been merged into a new, shared lexicon? Put in sociological terms, are there discernible processes of frame bridging and alignment?

3. What appears to be the role of leadership and/or centrality? Do we observe a movement heavily dependent on a strong, central leadership, thus privileging vertical relationships, or one in which horizontal ties are more important?

Before we delve into data, it is worthwhile reviewing the theory behind the concepts that will allow us to analyze the data and, hopefully, answer the questions above.

Social scientists generally view phenomena such as the subject of this article through one of two major sociological prisms: social movement theory, on the one hand, with its emphasis on identities, frames and perceptions of injustice, and social network theory, on the other, emphasizing the transmission of information and the structures of interpersonal and inter-organizational relationships. (Political scientists often take a third view, one that aggregates movements into single units and relates them to regime types and behaviors, and various other macro-level factors. That prism is less helpful in single-case studies such as this one, however.) The theories of social movements and social networks are more complementary than they are competitive. Clearly, the relational structures through which information is transmitted should be expected to have an impact on the development and reception of identities and frames, just as the mobilizational meaning of transmitted messages should be expected to inform the salience of relationships and networks.

**Social Movements: Practices and Structures of Protest**

Social movements in the proper sense are sustained, iterative interactions between challengers of a given policy or status quo and the authorities that propagate that policy or status quo; they are sustained in the sense that they exhibit a discernible continuity across a series of protests or confrontations over time, and they are iterative in that the participants form and entrench their respective identities and senses of justice through each wave of the conflict (Tarrow 1998). This understanding of the injustice that underlies the social conflict and the assumption of a shared identity derived from that injustice and expressed vis-à-vis a blamable ‘other’ is at the heart of the construction of the movement’s ‘injustice frame’ (Gamson 1992). The analytical emphasis is thus placed not so much on the ‘what’ of the grievance but the ‘why’ it is perceived as being so grievous.
Events and ‘facts’ have to be contextualized to be salient, and their salience can only be understood in the context of interpretation: “...what is at issue is not merely the presence or absence of grievances, but the manner in which grievances are interpreted and the generation and diffusion of those interpretations” (Snow et al 1986, 466).

The fact that our interpretations often are shaped by our social surroundings, and the need to understand mechanisms by which interpretations are transferred from one person to another, immediately implores us to turn to networks. Among the fundamental concepts in network theory is that of ‘homophily’, according to which people tend to connect to those with whom they share an affinity. Affinities can, of course, differ in type – they can be deep-seated or transient, personal or professional, genetic or acquired – and the kinds of ties that they foster will differ accordingly. Bonds can be reciprocal or not, and they can be strengthened by shared relationships with third parties or weakened by the absence of those shared relationships. Networks can link people, or they can link organizations (usually through people).

Usefully, Manuel Castells also differentiates between networks brought together by individualist affinities and those that coalesce around collectivist values, and he ties these differences into the development of social movements. “Insurgent communities,” he writes, emerge when “individuals reacting to perceived oppression ... [transform] their shared protest into a community of practice, their practice being resistance”, thus bridging the ‘individualism’ of grievance and the ‘communalism’ of practice (Castells 2009, 362-363).

Recalling the Russian case at hand reminds us that we must be aware not only of how individuals form communities, but simultaneously of how communities, once formed, come together. Another useful distinction is drawn by Delia Baldassarri and Mario Diani between ‘microlevel’ integration (combining people into communities) and ‘macrolevel’ integration (combining communities into larger communities): “According to the most common view, microlevel integration within cohesive groups is fostered by strong ties, while macrolevel integration depends on weak ties that extend beyond groups” (Baldassarri and Diani 2007, 744).

When the two come together, there arise what Baldassarri and Diani term ‘civic networks’, essentially, ‘polycentric’ networks of networks:

We define ‘civic networks’ as the web of collaborative ties and overlapping memberships between participatory organizations, formally independent of the state, acting on behalf of collective and public interests. ... The clustering and connectivity properties of a polycentric structure are the by-product of the peculiar intersection of two types of links: transactions and social bonds. While social bonds characterize areas of intense interactions, transactions bridge those areas (Baldassarri and Diani 2007, 738).

Applying this approach to the study of ‘civic networks’ in two cities in the UK, and looking differentially at the numbers and kinds of ties found in the networks, Baldassarri and Diani demonstrated the importance of having both weak ‘instrumental’ and ‘transactional’ relationships and stronger, ‘identity-based’ bonds (Baldassarri and Diani 2007, 771). The empirical question, then, is whether the Russian election protest movement resembles precisely this type of polycentric ‘civic network’.

*Communication, Grievances and Frames*
If network theory describes the structural mechanisms by which people engaged in different organizations coalesce around a shared agenda, then we return to frame theory for the content-related side of the story. In particular, William Gamson describes a process of ‘frame bridging’ – “the linkage of two or more ideologically congruent but structurally unconnected frames regarding a particular issue or problem” – and posits that, to be successful, process of frame bridging and alignment must create ‘solidary groups’ beyond those that promulgated the initial injustice frames, “collections of individuals who think in terms of the effect of a political decision on the aggregate and feel that they are in some way personally affected by what happens to the aggregate” (Gamson 1968). In any empirical investigation, of course, the key questions concern both the internal dynamics of frame bridging and alignment – which, presumably, have something to do with the network characteristics of the groups involved – but also the boundaries of the ‘aggregate’ around which the ‘collected individuals’ coalesce.

The emergence of the Internet, both as a social phenomenon and as a domain of data collection and research, has also drawn the attention of network and social movement scholars. By and large, the same assumptions that hold sway in the pre-Internet bodies of theory – about how frames and identities develop, about the respective powers of strong and weak ties, and so on – are believed to remain true on line as well (Bakshy et al 2012). That said, media technologies have a social impact, altering the distances – spatially, temporally and socially – between individuals and groups, and we should expect that to reflect on the way movements develop and function.

Investigating the role of mobile phones and instant messaging in protest waves in Spain, Castells concludes that the adoption of media technology by people who may not otherwise be linked in any meaningful way amounts to a pre-existing community of practice, laying the groundwork for the much more rapid development of insurgency (Castells 2009, 363-4). Moreover, he argues that movements bolstered by the shared adoption of technology may have less need of leadership and coordination. To this, Mario Diani adds the caution that, while “standardized communication from central bodies” takes a back seat in such contexts to “the involvement of the grassroots and the provision of ideological solidarity and incentives to direct action”, organization and structure should not be ignored entirely. He writes, “Sustained collective action is unlikely to originate from purely virtual ties if they are not sustained by previous interaction” (Diani 2000, 392-4). Thus, in addition to looking in the Russian case for monocentric vs polycentric structures in Baldassarri and Diani’s framework, we also need to find ways to uncover Gamson’s processes of frame bridging and alignment, and the relative importance or unimportance of centrality and hierarchy in making that bridging and alignment possible.

**Investigating the Russian Protests**

There are numerous reasons to believe that online social media should be a fertile field for those seeking to understand the dynamics of the recent Russian protest wave. Those studying Russian activism (see, for example, Aron 2011) and those studying Russian online behavior (see, for example, Machleder and Asmolov 2011) have already documented the increasing degree to which activists use online resources to support their work. The politicization of Russian blogs and other social media has also been amply illustrated. Thus, Bruce Etling and colleagues find that “The online ‘news diet’ of Russian bloggers is more independent, international, and oppositional than that of Russian internet users overall, and far more so than that of non-Internet users, who are more reliant upon state-controlled federal TV channels” (Etling et al 2010, 3). Research on the use of Twitter in the same protest wave investigated here suggests the instrumental use of online social
media to collect and aggregate information, re-transmit mobilizational messages and reinforce community solidarity by a combination of journalists, professional bloggers and politicians, and more 'ordinary' activists (Greene 2012a). Moreover, we should not find this phenomenon surprising: ample research and reporting from other parts of the world has shown similar instrumentalization of online communication networks in the service of both insurgents (as in the case of Moldova and Iran) and more run of the mill campaigns (as in the case of Barack Obama's 2008 presidential campaign in the US) (Aday et al 2010; Johnson and Perlmutter 2010).

For the purposes of this investigation, a database was compiled of users of the popular online social network site Facebook who were active within one or more of 11 Russian protest organizations and other activist ‘communities’ in the five-day period leading up to the March 4, 2012, presidential election; the dataset includes 4,161 individual user accounts and 524,926 interactions. This was used to generate a network of individuals linked together by having ‘liked’ or commented on a particular topical ‘thread’ or conversation within one of the communities, which can then be subjected to the usual tools of network analysis.

In addition, a secondary database was collected of individuals who were active on the Facebook pages of 16 prominent media outlets on July 20, 2012, yielding 4,964 individuals engaged in 328,838 interactions. This secondary database was designed to help further investigate questions of affinity – in particular, media affinity, but also political affiliation and cultural self-identification – by allowing a view into the media consumption habits of members of the activist networks during a politically ‘inert’ period. Combining the two databases yielded a cross-referenced sample of 794 individuals present in at least one activist community and at least one media community.

The selection of Facebook for this research is driven in part by the availability of data that reliably track individuals’ behavior across communities and over time. However, the available evidence also suggests that Facebook was uniquely central to the mobilization in question. Indeed, of all the available online social media platforms, the primary protest communities arose in Facebook first; some of them – though not the largest – eventually also opened in VKontakte, a Russian analog to Facebook, as well. While VKontakte has a much larger Russian audience than Facebook (100+ million vs approximately 5 million), the protest community in Facebook was significantly bigger (approximately 45,000 vs 20,000) (Panchenko 2012).

*Where Are We? The Structure of the Movement*

The primary database investigated here involves individuals engaged in online political debate, discussion and mobilization during a period of peak contention, i.e., the lead-up to the March 4 presidential election. Within the Facebook framework, this engagement could take various forms, including posting information, commenting on others’ posts, and ‘liking’ posts and comments. For the purpose of this research, we focus on the latter, as it yields a large but still reliable estimate of the movement’s following. (That said, it should not be assumed that everyone who ‘likes’ something on a protest-related Facebook page is an active protester.)

In addition to choosing Facebook as a locus of engagement, individuals can also choose the specific community or communities within which they may engage. In building our sample, we began with the organizations, formal and informal, that grew out of the Organizing Committee, and then ‘snowballed’ to include other organizations to which links were provided on the Facebook community pages of the initial organizations at the time the data were collected. In addition, we included older NGOs and other groups, which took a prominent role in the work of the Organizing
Committee. Facebook communities with fewer than 100 active participants during the period were then excluded from the sample. The result was a network of 11 communities, which can be divided into two discrete groups: 'Legacy Organizations', i.e., groups that pre-existed the protest wave; and 'Greenfield Organizations', i.e., groups that were created as a part of the protest wave.\footnote{The ‘Legacy Organizations’ include Golos, Transparency International-Russia, Memorial, the People’s Freedom Party (Parnas) and Incarcerated Russia (Rus Sidiashchaia). The ‘Greenfield Organizations’ include White Ribbon (Belaia Lenta), White Streets (Belye Ulitsy), Citizen Observer (Grazhdanin Nabliudatel), League of Voters (Liga Izbiratelei), We Were on Bolotnaia Ploshchad’ and Will Return (My byli na Bolotnoi ploshchadi i pridem eshche) and the Protest Action Organizing Committee (Orgkomitet protestnykh deistvi).}

Table 1 reports basic network statistics on four iterations of the database: all of the movement organizations taken together; only the legacy organizations; only the greenfield organizations; and the greenfield organization network minus a group of core 'brokers' from the legacy organizations (this fourth iteration will be described in more detail further). Before delving into these figures, it should be noted that, taken as absolute values or in isolation, these sorts of network statistics are broadly meaningless; they take on significance only in comparison to other networks. As a result, all of the discussion that follows focuses on comparison.

At the most basic level, it is evident that the greenfield network is nearly 10 times larger than the legacy network. The size of the largest component in each of the three main iterations, ranging from 94.4% to 99.8% of all vertices, indicates a high degree of connectedness and a very small number of islands; in other words, virtually everyone in each of the networks is connected to virtually everyone else.

But the network statistics also point to four other important differences between the two. First, some 38% of the lines in the legacy network have a value greater than 1, where a line represents a connection between two people, and the value represents the number of interactions along that line; this is compared to approximately 9% for the greenfield network and the activist network as a whole. Second, the density of the legacy network – defined as the number of observed connections is significantly lower than the rest of the sample. Third, the legacy network has a comparatively higher clustering coefficient, measuring the tendency of vertices in the network to group into
discernible sub-units. And fourth, the legacy network has a higher average path length, reflecting the number of links required to connect any two vertices in the network.

Taken together, these four differences lend support to the idea that what we observe is, in essence, a network of networks. The legacy organizations, while all linked and all actively engaged in the protest mobilization, closely resemble the 'civic networks' described by Baldassarri and Diani. The combination of more intensive but less dense interaction – in other words, more volume but less diversity – indicates the well established relationships and patterns of communication typical of long-standing, entrenched groups of issue-focused activists. The fact that members of the legacy network are farther from each other than members of the greenfield network (the longer average path length), together with the higher clustering coefficient, similarly bolster the contention that the legacy network, more than its greenfield counterpart, is held together by strong ties and social bonds, rather than bridging, transactional connections. Seen from the other side, the greenfield network – and, indeed, the activist network as a whole, dominated as it is by greenfield groups – displays a greater diversity of interactions and thus a greater degree of integration.

To further test this finding, we conducted a 'triad census' of the various network iterations, reported in Table 2. Generally, triads – the connections between any given set of three vertices in a network – are counted as a way of uncovering the degree of balance or hierarchy in a network, evaluated based on a census of the distribution of 16 isomorphic triads, which is then compared to an expected random distribution (Wasserman and Faust 1994). Doing so, however, requires working with a so-called 'directed' network, i.e., one in which we know whether or not any given relationship is reciprocated. In our case, because a 'like' in Facebook cannot be 'liked' back, we have no way of knowing whether the relationships in question are reciprocated, and so we treat the network as 'undirected'. The result is that we can only count four types of triads versus their expected random distributions: empty or null triads (in which none of the three vertices are connected); dyads (in which two of the three are connected); incomplete triads (in which two sides of the triangle are connected but the third is empty); and complete triads (in which all three vertices are connected). This does not allow us to judge accurately the balanced or hierarchical nature of the networks, but it does allow us to gauge the relative importance of strong versus weak ties (Doroud et al 2011).

[INSERT TABLE 2 ABOUT HERE]

All of the network iterations reported in Table 2 display the same distinctive distribution of triads, with more than expected null triads, fewer than expected dyads and incomplete triads and many more than expected complete triads. The difference between the legacy and greenfield networks, however, is significant. The legacy network has fewer null triads vis-à-vis expected results than the greenfield network, and its positive variance above the expected number of complete triads is almost double that of the greenfield network. This, again, points to stronger ties within the legacy network, and to comparatively more weak ties within the greenfield and aggregate networks.

What does this mean? Following Mark Granovetter’s seminal work on 'the strength of weak ties', it is generally accepted that 'weak ties' – in other words, ties to people with whom communication may be relatively infrequent, and with whom one does not share a closely knit social circle – are of vital importance to the growth and sustainability of large networks, particularly mobilizational networks (Granovetter 1973). Weak ties are generally shown to be key for the transmission of information between disparate and distant parts of a network, while strong ties contribute to the
hoarding of information and the exclusion of outside signals. While far from upending this paradigm, Internet-related research has added some nuance to this, at least in the context of online social networks such as Facebook. In particular Eytan Bakshy and colleagues have shown that a message received from a Facebook 'friend' who is a strong tie is more likely to be re-transmitted to the rest of a user's network. However, they write:

...weak ties consume and transmit information that one is unlikely to be exposed to otherwise, thereby increasing the diversity of information propagated within a portion of a social network. ... Weak ties are collectively more influential than strong ties. ... Although the probability of influence is significantly higher for those that interact frequently, most contagion occurs along weak ties, which are more abundant (Bakshy et al 2010).

The relative abundance of strong ties throughout the activist networks – in the aggregate, greenfield and legacy iterations – may indicate a surprising lack of the sorts of weak ties that Granovetter and others have identified as important, especially given the evident success of the mobilization. However, it should be noted that Facebook in particular and the Internet in general may privilege certain kinds of ties over others in ways of which we are not yet systematically aware, thus introducing measurement error. Furthermore, the problems of information hoarding and blockages may not be as salient in an environment like Facebook, where one does not have be an active participant in a conversation to be privy to the content of that conversation.

Those caveats aside, the comparison between the triad counts for the legacy, greenfield and aggregate networks does suggest that the greenfield network, as a new phenomenon and one that involves numerous users not previously engaged in the legacy network, has the effect of significantly broadening and usefully ‘weakening’ the ties present in the activist network as a whole.

Interestingly, the addition of the legacy network to the greenfield network produces a much more significant jump in the number of complete triads in the aggregate network than would have been predicted, given the relatively small size of the legacy network. This raises an important question about whether individuals from the legacy network are playing a particular role in the aggregate activist network as a whole. To investigate this, we created a fourth iteration of the networks – the greenfield network minus ‘brokers’ or ‘bridges’ from the legacy network – and reported its statistics in the fourth column of Tables 1 and 2 above. To do this, we identified 86 individuals who were among the top 20 most ‘central’ participants in at least one of the legacy organizations and had 10 or more connections in at least one greenfield organization, and then removed them and those connections from the greenfield network, as a way of investigating their structural importance to the new movements.

At first glance, the impact of these 'brokers' seems to be significant. Deleting them from the greenfield network removes 2.3% of vertices (86 vertices) but 5.6% of connections (29,709 edges). It also somewhat lessens the proportion of lines with a value greater than one, as well as the density of the network, indicating that these 86 individuals significantly strengthen the structure of a network of almost 3,800. This indication is bolstered by the fact that removing the brokers also increases the greenfield network’s clustering coefficient (albeit with no corresponding impact on average path length). Turning back to the triad census in Table 2, we see that removing the legacy brokers increases the strength of ties in the greenfield network, suggesting, again, that the legacy brokers do have a communicative effect within the network that is greater than the sum of their parts.
Who Are We? Identifying Protest Communities through Cross-Referenced Affinities

The network statistics discussed above support the hypothesis that the election protest movement that arose in Russia resembles in many aspects the ‘network of networks’ conception of a civic network proposed by Baldassarri and Diani. There is a degree of polycentrism present in all of the constituent parts of the network, most notably, but not exclusively, in the legacy network. Moreover, the fact that the legacy network seems to have a significant structural impact within the much larger aggregate network suggests the sort of transactional brokering that Baldassarri and Diani identified as important.

The size differential, however, raises other important questions. The fact that people active in the legacy network make up only 11% of the aggregate, combined with the fact that the remaining participants joined communities that did not previously exist, strongly suggests the sort of ‘instant insurgency’ described by Castells. Where did these people come from, and why? There is, of course, no direct way to answer that question, without detailed interviews. However, cross-referencing individuals’ participation in protest-related communities, both within the movement and with other sorts of affinities, may provide some hints.

The first task is to explore the degree of cross-fertilization among the movement organizations themselves. Thus, Table 3 reports the proportion of people engaged on the Facebook page of each individual organization who also engaged at least once in the other movement cluster (i.e., legacy and greenfield). Thus, we see a strong degree of cross-participation during the period of peak contention. Overall, between 20% and 30% of those participating in each of the greenfield organizations were also participating somewhere in the legacy network. Given the disproportion in the aggregate network, the numbers are much larger with the angle is flipped, with percentages of legacy organization members also present somewhere in the greenfield network in most cases exceeding 100%. (Because engagements can be with more than one organization in the cluster, results can exceed 1.) In other words, legacy activists are more integrated into the greenfield movement than vice versa. This, again, supports the notion that the legacy organizations were important to the growth of the greenfield network and the protest movement as a whole, but also strongly suggests that the both the heat of the contention and the recruitment of new online activists was located squarely within the greenfield sector.

[INSERT TABLE 3 ABOUT HERE]

As mentioned earlier, we compiled a secondary database of participants on the Facebook pages of 15 prominent media outlets on July 20, 2012. The date – a mid-summer day in a relatively inert political period and a quiet news cycle – was selected at random, but in such a way as to minimize potential auto-correlation, which could have arisen had media affinity been sampled at a time when the media could themselves have been covering the protests. Comparing the resulting media database with the protest database yielded 794 individuals present in both, as a sample for cross-referencing. It is crucial to note that all of the proportions reported below are for the 794-individual subsample, not the total 4,161-person movement sample.

The 16 media outlets sampled were selected to cover a wide range of affinities and can be broadly divided into four partially overlapping groups: liberal (pro-opposition) media, online media, conservative (pro-government) media, and glossy/’Hipster’ media, the latter following the common
notion among protest participants, organizers and observers that ‘hipsters’ – 20-something, young, cosmopolitan urbanites – lent a key demographic to the movement.6

The results, presented in Tables 4 and 5, are somewhat surprising. Table 4 reports the proportion of individuals active in each of the movement organizations who shared an affinity with the at least one outlet in the four media clusters; Table 5 reports the opposite, the number of ‘likers’ of each of the individual media outlets who were also active in the three iterations of the movement database. First, the mainstream media consumption profiles of movement activists do not differ all that wildly: with few exceptions, between 15% and 25% of those active in the movement organizations displayed an affinity with the liberal media, while virtually none did with the conservative, pro-government media. Notably, greenfield participants were more likely than legacy participants to display an affinity for online media. A somewhat picture emerges in Table 5: readers (or at least likers) of liberal and online media were highly likely to be found among greenfield organizations, but much less so among legacy organizations. Again, conservative media ‘likers’ were virtually absent.

[INSERT TABLE 4 ABOUT HERE]

[INSERT TABLE 5 ABOUT HERE]

Two questions emerge immediately from these data. The first concerns the lack of media readers’ affinity for legacy organizations. Two potential explanations arise, but both will require further research. One is that, in line with previous conclusions that the contentious ‘heat’ was located in the greenfield part of the movement, media consumers’ attention may naturally have been drawn more to the organizations that were getting more coverage. Some support for this idea is provided by the somewhat higher numbers in the Kommersant and Gazeta.ru columns, given that both outlets had a partnership with Golos, a key legacy organization involved in election monitoring. Another possible explanation is that legacy activists themselves may rely less on the media and more on their

6 The ‘liberal media’ included Vedomosti, Kommersant, Gazeta.ru, Slon and Snob. Online media included Gazeta.ru, Slon and Snob. Conservative media included Vzglyad, Izvestia, Komsomolskaia Pravda(KP) and Channel 1 television. Glossy/‘Hipster’ media included Afisha, the Strelka Institute of Media, Architecture and Design, and the Russian editions of Esquire, GQ, Men’s Health, Cosmopolitan and Rolling Stone. Cosmopolitan and Rolling Stone are not reported in the tables due to very low numbers over overlapping users.
internal networks – which we already saw were thicker and more intensely communicative – for information, and thus may themselves be less present among media consumers.

The second question concerns the general lack of overlap with the glossy or so-called ‘hipster’ media. Many observers, but also several of the organizers, including Olga Romanova and Vladimir Ryzhkov, have seen the ‘hipsters’ as crucial to the success of the movement. If that is true, however, then it may have had to do more with quality than quantity. The numbers of online movement activists found among the glossy/hipster cluster barely exceeds that of the conservative media cluster, and thus barely exceeds zero. The number of glossy/hipster media consumers who were found among activists within the organization clusters is somewhat higher (a result of the aggregation of multiple ‘likes’), and is most notable greenfield organizations. It is here that the structural connections also make themselves evident. Iurii Saprykin, editor-in-chief of Afisha, was among the movement organizers and writes about it frequently in his columns. The Strelka Bar, on the premises of the Strelka Institute for Media, Architecture and Design in the fashionable former Red October chocolate factory district in Moscow, is a popular hangout not only among movement organizers, but also among journalists from Kommersant and Slon, whose newsrooms are next door.

Thus, while new people, who had not previously been in the orbit of the legacy organizations, undoubtedly came to the movement from numerous different places and for numerous different reasons, the evidence presented above suggests that the ‘community of practice’ that evolved into an ‘instant insurgency’, to borrow Castells’ vocabulary, was not brought together around the cultural practice of ‘hipsterism’ or even the technological practice of online news consumption. While presence online is certainly an important common denominator for everyone captured in the samples explored here, and, most likely, for the majority of the movement as a whole, those recruited to the movement via the greenfield communities share, first and foremost, an affinity with the liberal media, including its online component.

Conclusions – Is The Message The Movement?

In an interview more than two months before the outbreak of the first election-related protests, environmental activist turned movement organizer Evgeniia Chirikova told The New Times, a Russian newsmagazine:

You understand, my thinking is absolutely local: in other words, I don’t think in grand terms, like some people do, but in terms of the view out of my window. It is very important to me that I can walk out of my building with my children and find myself in an environmentally sound place. And that no one can take that away from me. My immediate surroundings are very important to me. And when I felt that being taken from me, my consciousness shifted, and I understood that without a normal country you are not guaranteed even of your immediate surroundings, and they can take from me anything they want: my business, my child, and not only the environment in which I live. In other words, for me a normal country is one in which my rights are respected (Albats 2011).

What Chirikova said in October 2011 was, in essence, indistinguishable from what “Irina”, a protester trying to stop the demolition of her neighbor’s house in Iuzhnoe Butovo in June 2006, said then: “You know, I hope [we succeed]. I’m an optimist by nature. I hope. It’s scary to think about how we’ll go on living if we don’t achieve anything. It’s just lawlessness. We’ve run into the
fact that we have no way of defending our rights whatsoever.” Similar sentiments were expressed by Viacheslav Lysakov, one of Russia’s early automotive activists, pressing the case of Oleg Shcherbinskii, wrongly convicted of causing the traffic death of a regional governor: “Because Oleg was the victim … of inequality on the roads, of unearned privileges, which would seem outrageous in civilized countries, it would make sense to hold our protest not only in defense of Oleg, he is one of the victims, and any one of us, our friends and those close to us could be in the same position.”

Indeed, this idea – that local, particular grievances stem from a shared, universal injustice – has been at the heart of protest movements in Russia for years, whether involving human rights, housing, the environment or safety on the roads. The fact that this message was repeated on Dec. 5, 2011, and then again throughout the winter and spring, is thus not surprising. The fact that virtually all of this message’s proponents found themselves on the same stages and around the same tables is, perhaps, less surprising than the fact that it had not happened earlier. Rhetorically, at least, the frames had already been aligned for quite some time before protest erupted after the Duma elections.

Perhaps, then, it was the bridging of frames that had yet to occur, the creation of the ‘transactional’ relationships that would bond separate, entrenched groups into a new whole, more dynamic and numerous than the sum of its parts. What does the evidence from online social media use in the protests tell us? It tells us a story of two complementary logics. The first is the interplay between the legacy organizations and the greenfield movement; in this narrative, the activists and core followers of a number of established, professionalized Russian NGOs involved in elections, transparency and human rights, while relatively few in number, had an outsized impact on the structure and coherence of the new movement as a whole. And taking a step back from the computer screen to look at events on the street confirms this: legacy activists were among the most prominent speakers at the largest rallies, and among the most active in the Organizing Committee.

The second story, however, is the one in which all of these activists come together and, for a time, stop talking about their particular grievances and shift their focus to the more universal injustice – and then are joined by thousands of people who had never listened to them before. Some of them,

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7 Protester interview No. 3, June 22, 2006, South Butovo, Moscow.
to be sure, were ‘hipsters’, learning of the movement through their online and offline hangouts. But many more seem to have been those who, at least through their media consumption, were already politically engaged. What happened in this period of unprecedented protest in Russia, then, may not have been so much the politicization of previously apathetic citizens, but the activation of already politicized but previously passive citizens: the shift, en masse, of thousands of people from the consumption to the production of contentious politics.

Neither of these stories seems plausible without the other. And that, perhaps, is the key conclusion: as suggested by the interplay between social movement and network theory, and by the increasing nuance of online research, the logic by which these phenomena develop is rarely, it seems, singular. At least in this case, and likely in others, it involves bottom and top, balance and hierarchy, strong and weak ties, and movement from more than one direction.
Works Cited


Albats, Evgeniia. 2011. “Edinstvennoe, chego u menia net, -- normalnoi blagopoluchnoi strany” (The only thing I don’t have is a normal, prosperous country). The New Times, October 3.


### Tables

#### Table 1: Movement Network Comparison

<table>
<thead>
<tr>
<th></th>
<th>All Movement Organizations</th>
<th>Legacy Movement Organizations</th>
<th>Greenfield Movement Organizations</th>
<th>Greenfield Movement – Legacy Brokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertices (users)</td>
<td>4 161</td>
<td>471</td>
<td>3 783</td>
<td>3 697</td>
</tr>
<tr>
<td>Edges (interactions)</td>
<td>524 926</td>
<td>5 359</td>
<td>529 588</td>
<td>499 879</td>
</tr>
<tr>
<td>Lines w/value &gt;1</td>
<td>9.11%</td>
<td>37.69%</td>
<td>8.71%</td>
<td>8.44%</td>
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<tr>
<td>Density (no loops)</td>
<td>6.07%</td>
<td>4.84%</td>
<td>7.40%</td>
<td>7.32%</td>
</tr>
<tr>
<td>Average degree</td>
<td>252.3</td>
<td>22.8</td>
<td>278.0</td>
<td>270.4</td>
</tr>
<tr>
<td>Number of components</td>
<td>231</td>
<td>8</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Coverage of largest component</td>
<td>94.38%</td>
<td>97.67%</td>
<td>99.76%</td>
<td>99.67%</td>
</tr>
<tr>
<td>Clustering Coefficient</td>
<td>0.8714</td>
<td>0.8765</td>
<td>0.8729</td>
<td>0.8771</td>
</tr>
<tr>
<td>Average Path Length</td>
<td>2.19</td>
<td>2.99</td>
<td>2.07</td>
<td>2.08</td>
</tr>
</tbody>
</table>

#### Table 2: Simplified (Undirected) Triad Census

<table>
<thead>
<tr>
<th></th>
<th>Null Triads</th>
<th>Dyads</th>
<th>Incomplete Triads</th>
<th>Complete Triads</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Activist Organizations</td>
<td>10 027 542 135</td>
<td>1 816 346 555</td>
<td>97 159 171</td>
<td>57 500 779</td>
</tr>
<tr>
<td>legacy Activist Organizations</td>
<td>14 949 669</td>
<td>2 242 739</td>
<td>63 409</td>
<td>47 938</td>
</tr>
<tr>
<td>Greenfield Activist Organizations</td>
<td>7 227 853 865</td>
<td>161 533 025</td>
<td>98 896 120</td>
<td>57 671 321</td>
</tr>
<tr>
<td>Greenfield - Legacy Brokers</td>
<td>6 763 194 980</td>
<td>1 509 544 328</td>
<td>88 720 545</td>
<td>53 355 829</td>
</tr>
</tbody>
</table>

*Variance versus expected random triad distribution is reported in parentheses*

#### Table 3: Movement Organizations & Movement Clusters

<table>
<thead>
<tr>
<th>Org. Clusters</th>
<th>Greenfield Organizations</th>
<th>Legacy Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legacy Orgs.</td>
<td>0.25</td>
<td>0.14</td>
</tr>
<tr>
<td>Greenfield Orgs.</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
### Table 4: Movement Organizations & Media Clusters

<table>
<thead>
<tr>
<th>Media Clusters</th>
<th>Greenfield Organizations</th>
<th>Legacy Organizations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberal Media</td>
<td>0.14</td>
<td>0.15</td>
<td>0.19</td>
</tr>
<tr>
<td>Conservative Media</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Glossy / Hipster Media</td>
<td>0.04</td>
<td>0.02</td>
<td>0.05</td>
</tr>
<tr>
<td>Online Media</td>
<td>0.11</td>
<td>0.30</td>
<td>0.07</td>
</tr>
</tbody>
</table>

### Table 5: Media Outlets & Movement Clusters

<table>
<thead>
<tr>
<th>Org. Clusters</th>
<th>Online Media</th>
<th>Liberal Media</th>
<th>Conservative Media</th>
<th>Glossy / Hipster Media</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Veda-mosti</td>
<td>Kom-mers-ant</td>
<td>Gazeta.ru</td>
<td>Snob</td>
<td>Snb</td>
</tr>
<tr>
<td>All Orgs.</td>
<td>0.58</td>
<td>0.50</td>
<td>0.64</td>
<td>0.56</td>
<td>0.53</td>
</tr>
<tr>
<td>Legacy Orgs.</td>
<td>0.07</td>
<td>0.10</td>
<td>0.11</td>
<td>0.05</td>
<td>0.07</td>
</tr>
<tr>
<td>Greenfield Orgs.</td>
<td>0.50</td>
<td>0.40</td>
<td>0.53</td>
<td>0.51</td>
<td>0.46</td>
</tr>
</tbody>
</table>
Twitter and the Russian Street
Memes, Networks & Mobilization

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Samuel A. Greene
Twitter and the Russian Street: Memes, Networks & Mobilization

Samuel A. Greene, Center for the Study of New Media & Society, New Economic School, Moscow

This paper reviews the role played by online ‘social media’ in political mobilization during Russia’s turbulent 2011-2012 election season. Focusing in particular on Twitter during the March 2012 presidential elections and subsequent protests, the study constructs oppositional, pro-government and neutral ‘meme’ distribution networks, reviews the dynamic and structural characteristics and draws early conclusions about the ways in which competing mobilizational groups used Twitter during the period of contention.
Twitter and the Russian Street
Memes, Networks & Mobilization

Introduction

What role have online ‘social media’ played in political mobilization in Russia's turbulent election season? This question has captured the attention of political scientists, sociologists and media and communications scholars since election-related protests first broke out in December 2011. While it has been fairly clearly demonstrated that on-line social media – including the use of blog platforms such as LiveJournal, microblogging platforms such as Twitter and social-network systems such as Facebook and VKontakte – played a significant role in mobilization (and counter-mobilization), both as a means of communication and of community-building, the specific content of this role has yet to be sufficiently explored.¹

This paper contributes to that effort by beginning to unpack the role played by one social media system in particular – Twitter – during a period of peak political contestation, namely the Russian presidential election held on March 4, 2012 and the pro- and anti-government protests that ensued on the following day. Interrogating a database of more than 11,000 Twitter messages sent by more than 8,500 users during that period, the Center for the Study of New Media & Society asks how Twitter was actually used by contestants on both sides, how the structure of the contesting communities shaped the patterns of communication (and vice versa), and whether those structures differ across political dividing lines. A ’first cut’ at the data is presented in this paper reaches three key conclusions:

• First, Twitter performs multiple functions simultaneously and at differing stages of mobilization, including:

As an aggregator of information, ideas and memes relevant to the mobilization effort;
As a broadcast medium to spread aggregated information, ideas and memes to a broader audience;
As an ‘echo chamber’ that may help reinforce group solidarity and adherence to aggregated memes;

- **Second**, the contesting political ‘camps’ display significantly differing social structures:
  - The opposition networks are relatively more diverse and dispersed than those of their pro-government opponents, are well linked with media outlets that enjoy a significant Twitter presence, and, in part as a result, dominate the Twitter landscape during the period in question;
  - The pro-government networks are relatively more concentrated, have more intensive communication along established channels, and place heavier emphasis on formal role-players rather than informal participants;

- **Third**, throughout the Twitter landscape during the period in question, a key role is played by professional journalists and media outlets, full-time bloggers, and established civic groups, NGOs and political organizations, while the impact of ‘informal’ tweeters or ‘accidental’ tweets appears minimal.

This research, we hope, contributes to the growing body of analysis on the role played by online social media in the recent Russian political mobilization and, perhaps, more broadly. In particular, it adds a more dynamic, event-case element to research recently published by the Berkman Center for Internet and Society at Harvard University, *Mapping Russian Twitter*, which draws on data from 2010 and 2011 to draw static, stable clusters of communities in Twitter. In some ways, this report refines the Berkman findings about the fairly discrete structure of politically opposing Twitter networks in Russia and begins to address the need, identified in that report, to “enhance our understanding of the structural flow of ideas in this medium.”

In some ways, this work calls into question the findings of other researchers, who have approached similar issues in Russia from different directions. In particular, our findings somewhat contradict those of Gleb Suvorov, from Basilisk Labs, who argues based on data on the structure of communities in Facebook and VKontakte that the protest mobilizations in March were “not protests, but flashmobs” of atomized, largely unconnected citizens; this paper finds a relatively high degree of organization. Second, this paper, in finding that opposition memes dominate the Twitter landscape during the period of the study, differs from recent survey work by Ted Gerber, who finds no significant correlation between political opinion and online social media usage. However, none of these differences, which will be discussed in more detail towards the end of this paper, are irreconcilable; instead, they should be seen as opportunities for further investigation.

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4 Неяскин, Георгий. «Интернет меньше любит Путина и Сталина». Slon.ru, 07 March 2012. [http://slon.ru/russia/polzovateli_interneta_menshe_lyubyat_putina_i_stalina-762175.xhtml](http://slon.ru/russia/polzovateli_interneta_menshe_lyubyat_putina_i_stalina-762175.xhtml)
**Methodology**

For the purposes of this analysis, we collected a database of 11,113 'tweets' from a total of 8,565 unique accounts, the vast majority of which (99.84%) were sent during the period from 4-6 March 2012. (Due to the nature of the search algorithm, a small number of tweets fell outside this period; the earliest was sent at 12:23 Moscow time on 28 February 2012, and the latest was sent at 08:54 Moscow time on 6 March 2012.) The data collection began from the identification of popular 'memes' – either keywords or Twitter 'hashtags' – that were clearly and uniquely associated either with the March 4 presidential election or with the ensuing pro- and anti-government demonstrations; from there, we employed a simple 'snowballing' technique, identifying other hashtags and keywords contained in the initial data 'grabs' and searching tweets containing those memes, until all memes delivering significant results had been captured; in all, 14 memes were captured, including nine hashtags and five keywords. Each search resulted in a data 'grab' of all tweets containing the search term sent by the most recent 1,000 accounts to use the term. (Grabs were thus smaller in instances where fewer than 1,000 accounts had ever used the term.)

Each data grab generated a 'meme network' of user accounts and tweets containing the relevant search term, including the text of the tweet itself, the user name of the originator, whether and by whom the tweet was re-distributed, and the timing of all relevant activity. Presented here, in Figure 1, are three very basic metrics on each meme network: the number of tweets, the number of tweeters, and the 'connectivity quotient' (simply the percent of total tweets in the network that are re-distributed at least once by another user). The full data, including a list the top 5 tweeters, ranked by in-degree, or the number of other users re-distributing their tweets, are presented in Appendix I.)

The memes were then divided into three broad categories, based on whether their use *a priori* identifies a tweet as belonging to either to the opposition or pro-Kremlin discourse; those that do not carry an *a priori* connotation were defined as neutral. The resulting ‘composite meme networks’, presented in Figure 2, vary greatly in size, with the largest by far being the network of neutral memes, followed by the network of opposition memes, and then the network of pro-Kremlin memes. (Again, the full data are presented in Appendix II.)

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5 The ‘connectivity quotient’ is a shorthand heuristic used for the purposes of this paper as a simple measure of the amount of ‘socialness’ in each meme network; as such, it reflects the portion of people in the network whose communication who communicated directly with others in the network, although it says nothing about the intensity or nature of that communication.

6 The ‘Top 5’ Tweeters are presented purely for the purpose of illustration. There is no inherent statistical significance to the number and, in fact, their relative ‘centrality’ in their respective networks varies greatly from one meme to another.

7 It should be emphasized here that, in referring to these memes as ‘neutral’, I am making no judgment whatsoever regarding the perceived and received meaning of the communication involved, or the political orientation of the producers and recipients of that communication. Rather, it is an *a priori* label, indicating the fact that the word or words involved do not carry an inherent political connotation that would immediately align the communicator with one political camp or another.
There are certain significant limitations to the method described above, which clearly circumscribe our ability to analyze the resulting data. The first set of limitations concerns the data-collection process itself and centers around the fact that we cannot be assured that we have collected all of the relevant tweets and accounts. This is because of the potential for human error in selecting the sample of memes (Twitter, at the time the data was collected, did not provide aggregate data on meme popularity in Russia), as well as the fact that the software used and Twitter’s own limitations on automated searches meant that each search was limited to no more than 1,000 user accounts. The second set of limitations concerns the nature of the resulting data, and mainly the fact that common network metrics – including various measures of centrality – cannot be compared in a straightforward manner across networks of varying structure and size. In further analysis, some of this can be overcome through the use of more sophisticated methods than are presented here; for the sake of this paper, we have simply compared the a priori composite networks of ‘opposition’, ‘Kremlin’ and ‘neutral’ memes as sub-components of the whole network to give some feel for the ways in which those networks may differ.

As a result of these limitations it is important to underscore that we do not present the reader with a complete and comprehensive picture of all relevant activity on Twitter, nor of the underlying social structure that informs communication on political issues in Russia via Twitter or any other medium. We do believe, however, that we are able to explore broad patterns and identify important questions for further research.
The Data

As per the methodology described above, in the beginning was the meme, and the meme was a word. In generating the database, we began with Twitter 'hashtags' – keywords or phrases preceded by a #, which allow Twitter users to follow a particular topic of interest – that could clearly be associated with the events in question, namely the March 4 elections and the competing rallies on March 5. Thus, for the elections, these were #выборы and #выборы2012, as well as #4марта. In addition, to allow for the fact that many relevant messages may not include hashtags, we performed keyword searches on the terms путин, уик, карусель, and вброс. For the rallies, the relevant search terms were #5марта, #митинг, #пушкинская, #манежка and

---

8 elections
9 Elections2012
10 4march
11 putin
12 UIK, the Russian acronym for polling station
13 Carousel, a term used to denote the organized bussing of fraudulent voters to multiple polling stations
14 Ballot-box stuffing
15 5march
#манежная\textsuperscript{18}. Finally, two memes cut across both the elections and the rallies: #стабильность\textsuperscript{19}, associated (ironically and satirically) with the opposition, and #запутина\textsuperscript{20}, associated with the pro-government camp, as well as путин, mentioned earlier, which is neutral.

**Structure & Connectivity**

The resulting meme networks and composite networks differ, of course, in size, but are bounded at the upper end by software limitations, which allow the collection of network data on no more than 1,000 users per search term. Most of the individual meme networks thus cluster at or near this size, although some are considerably smaller. This size differential carries over to the composite networks as well, due both to the size of the underlying meme networks and the number of memes associated with each composite meme group.

Meme networks – including both individual meme networks and composite meme networks – have a standard structure, with a core of more or less densely connected vertices (representing individual Twitter accounts) linked together by Tweets that reference one another, surrounded by a cloud of unconnected nodes who, at least in the dataset as collected, have no connections with any other users in the set. This structure does not differ from one meme or meme group to another. These networks do differ, however, in the relative size of the connected core versus that of the disconnected orbit. In some networks, this connected core is quite large, making up as much as 65.8\% of total nodes in the case of #запутина, while in others it is extremely small, making up 14.8\% in the case of #выборы or even 0.01\% in the case of #манежка. This figure, which I refer to as the ‘connection quotient’, is 41.4\% for the entire database, with opposition memes coming in at a higher figure (47.1\%) and pro-government memes at a lower figure (33.4\%), and neutral memes very close to the aggregate (40.7\%). The relative meaning of these differences will be explored further in this paper. Suffice it for now to note, however, that the connectivity quotient itself says nothing about the nature of those connections: their diversity and intensity are also important to understanding the impact that such connections have on social relations, mobilization and other outcomes.

**Tweeting the Election**

Tweets about the election – which, by and large, were sent on election day itself, or early on the following day – divide broadly into two categories: those that use \textit{a priori} neutral memes, and those that use \textit{a priori} oppositional memes. There are very few election-related tweets that employ clearly pro-government memes, which in and of itself is an important finding. That is not to say, however, that pro-government sources, including mass media sources, were not tweeting about the elections. Three of the most popular election-related memes – #4марта, #выборы and #выборы2012 – were dominated by Kremlin-linked media outlets, including Interfax in the former two cases and the RIA group (Russia Today TV and RIANovosti) in the latter one. In most of these cases, however, the connectivity quotient is considerably lower than for the database as a whole, and the bulk of the re-distribution of memes that does occur emanates from a relatively small number of large-scale sources (with television personality Tina Kandelaki joining the major, state-backed mainstream media organizations named above).

\textsuperscript{16} rally
\textsuperscript{17} Pushkinskaya, the name of the square where the opposition rally was held
\textsuperscript{18} Manezhka and Manezhnaya, interchangeable names of the square where the pro-government rally was held
\textsuperscript{19} Stability
\textsuperscript{20} For Putin
Opposition-minded tweeters, including both formal and informal proponents of the opposition and the anti-government protest movement that emerged in December 2011, dominated Twitter communication that could be characterized as more targeted and instrumental. This includes most prominently tweets involving the keyword уик, the Russian acronym for polling station, the vast majority of which involved allegations of fraud at one station or another, and many of which included links to videos or pictures providing evidence for those allegations. Similarly popular were tweets involving the work карусель, denoting the bussing of repeat voters from station to station. In both cases, top originators included prominent bloggers’ accounts, such as @adagamov, @mvelmakin, @solomonhaykin and @drandin, alongside election monitoring initiatives including Liga Izbirateley and Rosvybory, plus on-line media sites sympathetic to the opposition, including TV Rain. Here, levels of connectivity were also below those of the database as a whole, but higher than those of the broader election-related memes mentioned above.

**Tweeting the Rallies**

Almost as soon as the election results were announced, attention turned to the rallies planned for March 5. The opposition was scheduled to gather on Pushkinskaya Square, while the government organized a counter-demonstration on Manezhnaya Square. Communication on Twitter reflects this shift, as use of election-related memes drops off, and use of others builds. Here, too, the data can be sliced in various ways.

As above, the memes can be divided into those that are a priori neutral (such as #5марта or #митинг), and those that are more clearly associated with one camp or the other (such as #пушкинская on one side or #манежная on the other). As in the case of the elections, the differences along this dividing line are stark. In particular, the role of professional journalism outlets shifts. Outlets such as Glavportal, Vedomosti, The New Times, Russky Reporter, Public Post and others are dominant both in the neutral meme networks and the opposition meme networks, but are almost absent on the pro-government side. Pro-government meme networks, in turn, are dominated during the rallies by those linked directly to the regime: United Russia’s official Twitter feed, plus United Russia parliamentarians Vladimir Burmatoff and full-time Kremlin-sympathetic bloggers, including @aragorn28, @eugenechigir and others.

A different way of slicing the data, however, divides memes into those that are generic informative memes – i.e., hashtags that simply mark the tweet as having something to do with the rally – and those that carry a mobilizational message. In particular, the opposition coalesced on March 5 around #стабильность, which translates to ‘stability’ and was used to satirize the regime’s political message: typical tweets would refer to actions of the riot police, broken bones and other unpleasantries as indications of how the Kremlin, evidently, defined ‘stability’. On the other side, the mobilizational meme was #запутина, translating simply to ‘For Putin’. Both of these memes display a much higher level of connectivity (63.6% for #стабильность, 65.8% for #запутина) than the more generic memes or the database as a whole. Both were also driven by the concentrated efforts of a few formal players: in the case of the opposition, the online news source Lenta.ru and the blogger @zhgun, and United Russia and Burmatoff in the case of the regime.

**Analysis**

Taking a step up in aggregation from the individual meme networks to the composite networks of the three meme groupings – oppositional, pro-government and neutral – allows us, hopefully, to
identify larger-scale patterns and underlying structures. As mentioned before, all three composite networks bear the same underlying structure, with a connected core and a disconnected free orbit. Reviewing the three networks in turn helps uncover some of the differences.

**The Opposition Meme Network**

The opposition meme network, as a subset of the general database, includes 3,366 tweets sent by 3,037 individual accounts and has a connection quotient of 47.1%, significantly above the average for the sample as a whole. Its connected core is remarkably large and complex, dominated by @lentarouofficial (the Twitter feed of the popular news website Lenta.ru), but with strong roles played by other media outlets (The New times and TV Rain), oppositional civic groups (Rosvybory, Liga Izbirateley and others), and independent bloggers (@mvelmakin, @zhgun, @solomonhaykin, @drandin and others). Its complex and chaotic core (see Figure 1) includes numerous interlinkages and bridges, and the largest connected component includes 932 nodes, or 30.7% of all of the users in the network.

Figure 3: Opposition Meme Network
Notably, Figure 3 also illustrates that most of the edges – which represents tweets by one user mentioning another – have low weights (represented by the thickness of the edge). This indicates a diversity of sources and communication, as each individual seems to consume and re-distribute information from a multitude of different sources, and most of the 'top tweeters' are connected through long pathways with most of the others. An important exception is the Twitter feed of the news website Glavportal, whose interlocutors do not communicate with the rest of the network; indeed, filtering out all nodes with one or fewer edges removes the rather large Glavportal cluster from the network entirely. (The full network maps are presented in the Appendices to this paper.)

The Kremlin Meme Network

By contrast, the Kremlin meme network, apart from being smaller (1,876 tweets by 1,536 accounts), is also considerably less dense and connected (33.4% connection quotient). It is heavily dominated by State Duma Deputy Vladimir Burmatoff (@burmatoff), who in turn has key relationships with a small number of re-distributors (@monomakh34, @mantsur, @n28vova and others); Duma Deputy Robert Shlegel and the official United Russia Twitter feed also play notable but demonstrably secondary roles as meme distributors (see Figure 4).

Figure 4: Kremlin Meme Network

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21 Edge thickness is a standard metric in social networks, reflecting the relative intensity of communication between each pair of nodes.
Indicatively, the edges in the core of the Kremlin network are considerably ‘heavier’ (thicker) than in the opposition network, indicating more formalized and/or routinized channels of meme distribution and a higher degree of centralization, consistent with the use of Twitter as a broadcast and coordination mechanism, rather than as a forum with a strong social interaction function. The network's largest connected component, meanwhile, is smaller than that of the opposition network, including 324 nodes, or 21.1% of the network’s members.

The Neutral Meme Network

Finally, the ‘neutral’ meme network is by far the largest, with 6,896 tweets by 5,188 accounts, with a connection component of 40.7% (see Figure 5). It is in many ways similar to the opposition meme network, with a complex core of numerous interconnected components (with the same caveat about the strangely unconnected Glavportal component). Given what we have seen earlier regarding the opposition dominance of a priori neutral memes, this is perhaps unsurprising. But the network also includes some meme distributors – such as Interfax and Tina Kandelaki – that have large clusters but are poorly connected with the rest of the network. The largest connected component nonetheless includes 27.7% of nodes, or 1,436 accounts.

Figure 5: Neutral Meme Network

Interestingly, it is within this neutral network that some ostensibly influential opposition online actors – such as Alexey Navalny and Liga Izbirateley – show up, virtually for the first time, although with relatively small clusters. In the case of Navalny, this appears to be a result of the fact that he does not generally use hashtags and thus entered the database primarily through key-word searchers, which in turn are concentrated in the neutral meme category; it may also be a result of the fact that, on March 5, his level of involvement with the rally prevented him from being an active
tweeter. As for Liga Izbirateley (the League of Voters, an independent election monitoring group set up after the December parliamentary vote), their relative (though not complete) marginality in the network may reflect the importance of organizational infrastructure and established networks for the effective use of Twitter as a mass communication tool.

The fact that oppositional content dominates the ‘neutral’ meme network is in itself and important finding and serves to highlight something that could easily be misunderstood. The ‘neutrality’ of the memes, as mentioned before, does not refer to the intentionality of the communication or communicators involved; indeed, the content of the ‘neutral’ meme network is anything but neutral. But it is important to remember that Twitter is a mass-communication system, with elements of broadcast media, meaning that more people are likely to see any given Tweet than are likely to produce one. Thus, ‘neutrality’ in this case is defined from the perspective of such a passive reader: if the reader is oppositionally minded and interested in the events of March 4-6, (s)he may have searched for all Tweets containing, say, #карусель, a hashtag clearly associated with the opposition; conversely, if (s)he was well disposed to the Kremlin, (s)he may have searched for all Tweets containing #путин. But if (s)he was undecided or simply wanted to know what was happening, (s)he may have searched for #выборы, a hashtag linked to the elections that carries no group attachment in and of itself. It is thus all the more significant to note that the bulk of what that neutral or curious Twitter reader would have encountered was oppositional.

**Dueling Memes**

The contrast between the opposition and pro-government meme networks comes into sharper focus in Figure 6. For the purposes of this comparison, a composite network was drawn of the opposition and Kremlin memes, and all nodes with fewer than two connections to other nodes were filtered out of the map for the sake of clarity and visibility.

**Figure 6: Dueling Meme Networks**
On the face of it, two clear camps emerge, with very different underlying structures. The opposition is ‘led’ by a relatively loose coalition of bloggers (@mvelmakin, @navalny, @vorewig, @drandin, @solomonhaykin, @zhgun), media outlets (The New Times, TV Rain, Russian Reporter) and civic groups (Rosvybory). There are numerous long pathways and cross-linkages (note, in particular, the degree to which the networks of @rosvybory and @mvelmakin duplicate each other), while the weight of each edge is low. The other side is dominated by a single tweeter, @burmatoff, whose network is close-knit and coherent but not diversified and is characterized by ‘heavy’ or ‘thick’ edges, representing repeated communication between the same individual accounts.

Between the two camps would appear to be the news website Lenta.Ru (@lentaruofficial), acting as a bridge and mediator. On closer inspection, however, this does not turn out to be the case. Rather, Lenta.Ru, as we have seen earlier, was a key distributor of opposition memes, particularly the important mobilizational meme #стабильность, while the real bridges between the two camps are several nodes located between @lentaruofficial and @burmatoff on the map. The resulting picture, then, is one of a diversified opposition with complex and fluid networks squaring off against a more cohesive, concentrated and hierarchical pro-government network.

Discussion & Conclusions

The role that online social media such as Twitter can and do play in mobilization and political contention is itself highly contested and, in many ways, susceptible to the minutiae of research design and methodological predilection. Almost all of the fundamental aspects of each study – the geographic, technological and temporal parameters of what is being studied and how data are collected and manipulated, to say nothing of the specifics of the questions ask – often differ from one investigation to the next to such a degree that the results are difficult to compare. Generalizing results from one study to a broader context should be attempted only with the greatest of caution.

This paper represents a first, tentative exploration of data on the use of Twitter during two and a half contentious days of Russian politics in March. As such, it bears no direct relevance to the use of Twitter in other contexts, whether topical, geographic or temporal, or to the use of other online social media platforms. Due to the nature of the data and the process by which they were collected, we must also be careful in generalizing our conclusions even to the level of the broader social groups whose interactions we have attempted to observe here.

That said, some broad patterns appear evident, among which are the following:

- The use of Twitter as a social media tool varies, even within a brief period, greatly, from one group to another and one situation to another. In some cases, particularly involving the use of mobilizational memes during the ‘rally’ phase of the March 4-6 period, Twitter clearly acted as a broadcast medium, in line with much of what has been written about Twitter in the academic literature. However, the use of Twitter took on a much more dispersed and interactive character during the election phase, when the emphasis was on collecting and aggregating information on what was happening during the voting process, including evidence of fraud. Moreover, the transition, particularly within opposition networks, from more dispersed to more concentrated communication over time suggests a process by
which information is collected, aggregated, processed and then re-broadcast for mobilizational purposes. It is also noteworthy that the emphasis within the pro-government networks is more heavily on broadcast.22

- There are marked differences in the underlying social structures of the pro- and anti-government online mobilization networks. The latter are demonstrably more diverse and more fluid – as represented by the multiplicity of weaker ties – while the former display a greater degree of hierarchy, concentration and institutionalization. This is consistent with the Berkman Center’s research on Twitter, although it is somewhat at odds with their research on the structure of blog networks. More fundamentally, however, it is consistent with broader sociological research on social movements and networks, most notably with Granovetter’s classic work on “The Strength of Weak Ties”.23

- Throughout all the networks explored here, professionals – whether professional journalists, politicians, bloggers or activists – play far and away the most important role in the production and re-distribution of communication via Twitter. Again, this is consistent with much of the existing literature on Twitter in other contexts. But it also underscores both the importance of infrastructure and resources even in using ostensibly costless and ‘democratizing’ online resources, as well as the fact that the Russian opposition does apparently enjoy the support of a robust professional media network.

Despite all of the qualifications and caveats made above, regarding the ability to compare these findings to those of others, a close reading of these findings and those presented by colleagues studying the same general series of events raises important questions and contradictions. This most clearly arises regarding the work on Facebook and VKontakte done by Gleb Suvorov and colleagues at Basilisk Labs, who find that, “The protest movement has no structure or hierarchy. There are ‘leaders’ and masses, and between them only a yawning gap. ... Each oppositional individual is in that gap. They are individualists, who do not need likeminded thinkers. Out of 20,000 participants, 8,000 have no friends who were on Bolotnaya. ... Each oppositional individual committed a solitary act of expression of dissatisfaction by going out into the streets. Alone. And he came back alone.”

Leaving aside the rather glaring conceptual problem of equating on-line and off-line protest populations, this conclusion would seem to reflect a fundamental misunderstanding of the nature of social networks in general and protest networks in particular. The finding of at least 8,000 connected nodes within a universe of 20,000 individuals – or, in the terms used in this paper, a connectivity quotient of 40%, more or less in line with the Twitter networks explored here – is actually a remarkably high degree of connectivity, and significantly higher than we would expect to find in a randomized social network of the same size. Moreover, at what is still an early stage in a protest movement with an uncertain future, it is unreasonable to expect a higher degree of solidarity (even if we make the leap of equating connectivity with solidarity) than we currently see.

A greater challenge is posed by the work of Ted Gerber, in his study of “electronic political engagement” in Russia, conducted through traditional polling techniques. Gerber’s broad findings – particularly of an increase new media use for political communication after the December 2011 Duma elections – are not in contradiction to those presented here. However, his finding that on-line presence, both in terms of online social networking and Internet-based “information seeking”, is

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22 This diversity of Twitter usage is in line with findings in the comparative literature on Twitter communication; cf. Dann, Stephen. “Twitter content classification,” First Monday, 2010, 15(12).

“generally not associated with political views” would seem to be at odds with our finding that oppositional communication dominates the Twitter space during the period of contestation.24

It should be remembered, of course, that we are working with very different data sets. Gerber polls a representative sample of 2,403 Russians before and after the elections, in 46 regions, while this report limits itself to those who actually communicated about politics on Twitter during the March 4-6 period – clearly a self-selecting sample. But this still does not resolve the contradiction: if there is no clear tendency for “on-line” Russians to be oppositional, then why do they dominate in our networks?

The answer likely comes down to reporting, particularly self-reporting by survey respondents, and underscores the need for multi-method research. The data we present here obviously do not allow us to draw conclusions about the place of Twitter communication in Russia as a whole, and we can surmise that Twitter users are not representative of Russia at large. Unfortunately, Gerber’s poll did not ask a question specifically about Twitter usage, which would have provided some reference point; absent that, we are left with data from Yandex, which reports that there are some 3.03 million Twitter users in Russia, a significant number, to be sure, but one about which we know almost nothing in detail.25 Polling data such as Gerber’s meanwhile, do not allow us to draw any conclusions about what people are actually doing online.

Until we make that connection and have much larger and more complex datasets, we need to be extremely careful in arguing cause and effect. Indeed, this paper makes no causal claims whatsoever: while we believe we have some idea of how and what people were communicating on Twitter March 4-6, and we can draw tentative conclusions as to why, we cannot extrapolate from that into an argument about whether Twitter made the protests larger, for example. And, in fact, studies of online social media and mass mobilization in other times and places suggest that such causal links are far from clear-cut. In the UK, for example, the “Reading the Riots” research team found that peaks in riot-related Twitter activity followed, rather than preceded, activity in the streets – perhaps not surprising, given that much communication tends to be reactive, but complicating any argument that Twitter was instrumental in bringing people out into the streets.26 Moreover, as Navid Hassanpour demonstrates, Hosni Mubarak’s abrupt removal of on-line media from the mobilizational equation in Egypt – accomplished by simply turning off access to the Internet – actually led to more mobilization, not less.27

Thus, whatever answers are suggested by this paper, it points to even more questions for further investigation. In many respects, we echo the Berkman Center’s call for the systematic comparison of online communication across platforms, including blogs and networking sites; to this we would add multimedia sharing sites and the forums of established online news sites. To that we would add the need to combine on-line research with rigorous off-line approaches, including both large- and small-N studies. Within the framework of our own existing and growing database, we recognize the importance of content analysis, including semantic and sentiment analysis, as well as link analysis. If we are truly to understand how and why social media are used in mobilization, we must combine this research with more sophisticated (and better theorized) qualitative and quantitative social research.


25 http://blogs.yandex.ru/

26 http://www.guardian.co.uk/uk/interactive/2011/aug/24/riots-twitter-traffic-interactive

## Appendix I: Individual Meme Networks

<table>
<thead>
<tr>
<th>Meme</th>
<th>Number of Tweets</th>
<th>Number of Tweeters</th>
<th>Connectivity Quotient</th>
<th>Top 5 Tweeters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Neutral Memes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#выборы</td>
<td>1456</td>
<td>857</td>
<td>14.84%</td>
<td>@interfax_news @tokyohatsu @vmysila @zalezaka @volya_naroda</td>
</tr>
<tr>
<td>#выборы2012</td>
<td>1349</td>
<td>775</td>
<td>27.72%</td>
<td>@rt_russian @riapress @47shots @alexeyhm @gолосамерики</td>
</tr>
<tr>
<td>Путин</td>
<td>1114</td>
<td>935</td>
<td>16.89%</td>
<td>@dlindele @navalny @insider_chat @inosmi @userdie</td>
</tr>
<tr>
<td>Уик</td>
<td>1492</td>
<td>1000</td>
<td>35.52%</td>
<td>@sadagamov @ligaizbirateley @osha_kot @kozlovskyl @olevskyl</td>
</tr>
<tr>
<td>#4марта</td>
<td>1513</td>
<td>895</td>
<td>41.18%</td>
<td>@interfax_news @tina_kandelaki @zachistievbory @you_reporter @alyasha_alyasha</td>
</tr>
<tr>
<td>#5марта</td>
<td>1445</td>
<td>1000</td>
<td>51.63%</td>
<td>@glavportal @vissevald @zghu2010 @vedomostilive @vitaswift</td>
</tr>
<tr>
<td>#митинг</td>
<td>1319</td>
<td>1002</td>
<td>52.69%</td>
<td>@glavportal @ladyguri @narod_protiv_er @vitaswift @kurginyanru</td>
</tr>
<tr>
<td><strong>Opposition Memes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Карусель</td>
<td>1205</td>
<td>1000</td>
<td>31.29%</td>
<td>@rosybory @mvelmakin @solomonhaykin @drandin @vrain</td>
</tr>
<tr>
<td>Вброс</td>
<td>160</td>
<td>119</td>
<td>33.75%</td>
<td>@letmefashion @zapyatoy @viktor_bad @yurasunrise @bajiek</td>
</tr>
<tr>
<td>#пушкинская</td>
<td>1163</td>
<td>1000</td>
<td>40.41%</td>
<td>@glavportal @the_newtimes @voxa_mskva @russianreporter @public_post</td>
</tr>
<tr>
<td>#стабильность</td>
<td>1457</td>
<td>1000</td>
<td>63.62%</td>
<td>@lentaruofficial @zhgun @vorew @fleurklin @fontanka_spb</td>
</tr>
<tr>
<td><strong>Kremlin Memes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#запутина</td>
<td>1589</td>
<td>433</td>
<td>65.76%</td>
<td>@burmatoff @er_novosti @gattarov @mantsur @sadreeff</td>
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<tr>
<td>#мансетка</td>
<td>1459</td>
<td>1000</td>
<td>0.01%</td>
<td>@ctricool</td>
</tr>
<tr>
<td>#манежная</td>
<td>187</td>
<td>134</td>
<td>36.90%</td>
<td>@aragorn28 @eufaraday @c1rcool @eugenechigir @d00h</td>
</tr>
</tbody>
</table>
## Appendix II: Composite Meme Networks

<table>
<thead>
<tr>
<th></th>
<th>Opposition Memes</th>
<th>Kremlin Memes</th>
<th>Neutral Memes</th>
<th>All Memes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertices (Tweeters)</td>
<td>3037</td>
<td>1536</td>
<td>5188</td>
<td>8565</td>
</tr>
<tr>
<td>Edges (Tweets)</td>
<td>3366</td>
<td>1876</td>
<td>6896</td>
<td>11113</td>
</tr>
<tr>
<td>Self Loops</td>
<td>1780</td>
<td>1250</td>
<td>4091</td>
<td>6516</td>
</tr>
<tr>
<td>Connection Quotient</td>
<td>47.12%</td>
<td>33.37%</td>
<td>40.68%</td>
<td>41.37%</td>
</tr>
</tbody>
</table>

Top 10 Tweeters

- @lentaruofficial
- @glavportal
- @rosvybory
- @mvelmakin
- @the_newtimes
- @zhgun
- @solomonhaykin
- @drandin
- @tvrain
- @vova_moskva

- @burmatoff
- @er_novosti
- @mantsur
- @gattarov
- @sadreeff
- @aragorn28
- @monomakh34
- @shlegel
- @kirillschitov
- @n28vova

- @glavportal
- @ladyguri
- @interfax_news
- @vissevald
- @tina_kandelaki
- @adagamov
- @ligaibiratekey
- @dlindele
- @zachie3tievbori
- @navalny

- @lentaruofficial
- @glavportal
- @ladyguri
- @interfax_news
- @vissevald
- @tina_kandelaki
- @adagamov
- @burmatoff
- @rosybory
- @mvelmakin
Appendix III: Opposition Meme Networks
Appendix VI: Dueling Meme Networks
Mobilizing Online Data to Understand Offline Mobilization: Two Attempts at Online Observational Research in Russia

S.A. Greene
King’s Russia Institute &
The Center for the Study of New Media & Society
11 May 2013 @ NYU / La Pietra Dialogues
Background

- Two waves of election-related mobilization in Russia:
  - Reactive: December 2011 State Duma Elections
  - Proactive: March 2012 Presidential Elections

- The Puzzle:
  - Unprecedented public mobilization? 5,000 – 130,000 on the streets of Moscow = a challenge to prior notions about the nature of public opinion, the social contract and mobilizational structures in Russia?
  - Instead of studying the impact of OSM, can we use OSM to study the street?

- Questions:
  - What are the structures of communication?
  - Where did the protest communities come from?
  - Can OSM data help answer these questions?
Problems

How do we study online social media rigorously?
Attempt 1: Twitter & the Structure of Communication

- Conceit: Relationship between the ‘medium and the message’ is reciprocal:
  - Information is made meaningful by the people sending and receiving it
  - Relationships are made meaningful by the information they transmit

- Hypothesis: If OSM mattered for mobilization, differences in content should be accompanied by differences in structure

- Data:
  - 11,113 ‘tweets’ from 8,565 accounts, 4-6 March 2012
  - Two sets of linkages: “What” and “Who”
  - Data collected and processed with open-source, public access software (NodeXL, Gephi)
Composite Meme Network Statistics

- Vertices (Tweeters)
- Edges (Tweets)
- Connection Quotient

Graph shows the distribution of vertices, edges, and connection quotient for opposition, Kremlin, neutral, and all memes.
Opposition Meme Network Map
Kremlin Meme Network Map
Neutral Meme Network Map
Competing Meme Networks
Findings:

- The use of Twitter varies, even within a brief period, over groups and situations:
  - Serves alternately as a broadcast medium, information aggregator and mobilizational agent
- Meme networks differ in structure:
  - Diversity and hierarchy
  - Strong and weak ties
- The role of structurally empowered ‘professionals’ is universally important
Attempt 2: Who Are the Protestors

- Conceit: Online data can tell us something about who is in the movement and how the participants and constituent parts relate to each other:
  - ‘Instant insurgencies’ rely on shared practices to mobilize against injustice (Castells)
  - ‘Solidary groups’ with more deeply shared identities rely can be ‘bridged’ through framing and coordination (Gamson, Baldassari & Diani)

- Hypothesis: The social structure of the movement should be reflected in the structure of online affinities

- Data:
  - Primary Database (March 1-4): 11 protest communities, 4,161 Facebook users, 524,926 interactions
  - Secondary Database (July 20): 16 media outlets, 4,964 Facebook users, 328,838 interactions; overlap of 794 individuals
  - Two sets of linkages: “Who” and “Where”
  - Data collected and processed with open-source, public access software (NodeXL, Gephi)
## Movement Network Comparison

<table>
<thead>
<tr>
<th>Metric</th>
<th>All Movement Organizations</th>
<th>Legacy Movement Organizations</th>
<th>Greenfield Movement Organizations</th>
<th>Greenfield Movement – Legacy Brokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertices (users)</td>
<td>4161</td>
<td>471</td>
<td>3783</td>
<td>3697</td>
</tr>
<tr>
<td>Edges (interactions)</td>
<td>524,926</td>
<td>5,359</td>
<td>529,588</td>
<td>499,879</td>
</tr>
<tr>
<td>Lines w/value &gt;1</td>
<td>9.11%</td>
<td>37.69%</td>
<td>8.71%</td>
<td>8.44%</td>
</tr>
<tr>
<td>Density (no loops)</td>
<td>6.07%</td>
<td>4.84%</td>
<td>7.40%</td>
<td>7.32%</td>
</tr>
<tr>
<td>Average degree</td>
<td>252.3</td>
<td>22.8</td>
<td>278.0</td>
<td>270.4</td>
</tr>
<tr>
<td>Number of components</td>
<td>231</td>
<td>8</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Coverage of largest component</td>
<td>94.38%</td>
<td>97.67%</td>
<td>99.76%</td>
<td>99.67%</td>
</tr>
<tr>
<td>Clustering Coefficient</td>
<td>0.8714</td>
<td>0.8765</td>
<td>0.8729</td>
<td>0.8771</td>
</tr>
<tr>
<td>Average Path Length</td>
<td>2.19</td>
<td>2.99</td>
<td>2.07</td>
<td>2.08</td>
</tr>
<tr>
<td></td>
<td>Null Triads</td>
<td>Dyads</td>
<td>Incomplete Triads</td>
<td>Complete Triads</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------</td>
<td>------------------</td>
<td>-------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><strong>All Activist Organizations</strong></td>
<td>10 027 542 135</td>
<td>1 816 346 555</td>
<td>97 159 171</td>
<td>57 500 779</td>
</tr>
<tr>
<td></td>
<td>(0.22)</td>
<td>(-0.45)</td>
<td>(-0.78)</td>
<td>(1.94)</td>
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<tr>
<td><strong>Legacy Activist Organizations</strong></td>
<td>14 949 669</td>
<td>2 242 739</td>
<td>63 409</td>
<td>47 938</td>
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<tr>
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<td>(0.16)</td>
<td>(-0.44)</td>
<td>(-0.85)</td>
<td>(2.28)</td>
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<tr>
<td><strong>Greenfield Activist Organizations</strong></td>
<td>7 227 853 865</td>
<td>161 533 025</td>
<td>98 896 120</td>
<td>57 671 321</td>
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<tr>
<td></td>
<td>(0.27)</td>
<td>(-0.042)</td>
<td>(-0.79)</td>
<td>(1.21)</td>
</tr>
<tr>
<td><strong>Greenfield - Legacy Brokers</strong></td>
<td>6 763 194 980</td>
<td>1 509 544 328</td>
<td>88 720 545</td>
<td>53 355 829</td>
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<tr>
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<td>(0.27)</td>
<td>(-0.43)</td>
<td>(-0.79)</td>
<td>(1.26)</td>
</tr>
<tr>
<td>Org. Clusters</td>
<td>Greenfield Organizations</td>
<td>Legacy Organizations</td>
<td></td>
<td></td>
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<td>-------------------------</td>
<td>----------------------</td>
<td></td>
<td></td>
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<tr>
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<td>0.25</td>
<td>0.14</td>
<td>0.29</td>
<td>0.20</td>
</tr>
<tr>
<td>Greenfield Orgs.</td>
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## Movement & Media Affinities

### Media Clusters

<table>
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<tr>
<th>Media Clusters</th>
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<th>Legacy Organizations</th>
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<tr>
<td>Liberal Media</td>
<td>0.14</td>
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<td>Conservative Media</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>Glossy / Hipster Media</td>
<td>0.04</td>
<td>0.02</td>
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<td>Online Media</td>
<td>0.11</td>
<td>0.30</td>
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</table>

### Org. Clusters

<table>
<thead>
<tr>
<th>Org. Clusters</th>
<th>Online Media</th>
<th>Liberal Media</th>
<th>Conservative Media</th>
<th>Glossy / Hipster Media</th>
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<tbody>
<tr>
<td></td>
<td>Nedo-mosti</td>
<td>Kommers-ant</td>
<td>Gazeta.ru</td>
<td>Slon</td>
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<tr>
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<td>0.58</td>
<td>0.50</td>
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<tr>
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<td>0.40</td>
<td>0.53</td>
<td>0.51</td>
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</table>
Two complementary logics:

- Interplay between legacy organizations and greenfield movement: legacy activists, while few in number, had an outsized impact on the structure and coherence of the movement as a whole. They were also among the most prominent speakers at the largest rallies and among the most active in the Organizing Committee.

- Activists shift the discourse from particular grievances to universal injustice and are joined by thousands who had never listened to them before. Many of these newcomers were already politically engaged through their media consumption.

Thus, what we observe is not the politicization of previously apathetic citizens, but the activation of already politicized but previously passive citizens: the shift, en masse, of thousands of people from the consumption to the production of contentious politics.

- It’s not the hipsters!
Did these attempts succeed?

**Yes…**

- The data yielded results that were *internally and externally logical*, *broadly comported with off-line observation* and, in some cases, were *usefully counterintuitive*.
- The data allowed *large-scale observation* of off-line phenomena *without the filters and distortions* of memory and random sampling methods.

**…and No.**

- The data could not have been collected or interpreted without *a priori knowledge of the immediate social context*.
- The results are *largely descriptive* and yield *little predictive power* as behavioral models.
Thanks!

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