

A Topic Model Analysis Approach to Understand Twitter Public Discourse:

Grenfell Tower Fire Case Study

Professor Kurt Barling (Middlesex University, London) and Dr Chamil Rathnayake (University of Strathclyde, Glasgow)

There is a line in the feature film *The Fifth Estate* (2014) attributed to the Guardian journalist Nick Davies, that all societies periodically need people who seek the truth and are prepared to reveal this, whatever the cost. It underpinned a depiction of ‘democracy in crisis’. In this *weltanschauung* the only way to oblige government to work in the interest of the citizen is to have a new powerful force to hold authority to account principally because the *Fourth Estate* has slowly begun to fail in its coveted role.

In the late 18th century Edmund Burke coined the idea of a *Fourth Estate* holding the three estates Lords Spiritual, Temporal and Commons to account. During a political exchange on the floor of the House of Commons he pointed to the gallery where reporters constructed their version of the truth for their readers and said, “There sits a *fourth estate* more important far than they all are”. Whilst not everyone agrees, it has become a conventional view that the legacy media has been responsible for speaking truth unto power.

It is an existential principle of democracy, then, that its survival depends on openness. In theory the more open is public debate, the more secure is democracy. As the business model for the *Fourth Estate* continues to flounder, putting Burke’s peerless watchdog under the cosh, there has been plenty of debate around the importance of what have broadly become described as Social Network Sites. As the legacy Media chase diminishing readership by tailoring their stories to specific audiences, the levels of trust in their product has reached record lows. In these circumstances there has been the much-repeated promise that

alternative social media might act as a balancing force amidst that decline, maintaining public forums in which governments and sources of power can be held to account by a new army of truth seekers online.

The use of Social Media to change the relationship between the governed and those who govern could be an important feature of the democratic process. However, it is very difficult to measure the link between online discussion and policy change, even though it is clear new networks are formed around social communities in crisis which have the potential to influence policy-makers. When Professor Barling was a BBC Correspondent covering the Lakanal House fire (2017), he observed how social media enabled a different matrix of omnidirectional information flows online which often impacted on the speed of publication in the mainstream media. Verification was often quicker to achieve and sources close to the disaster to offer insights anonymously.

Nevertheless, a lot of what has been expected or even predicted has been difficult to detect. Namely identifying patterns of communication on social media which have an impact on the way governments behave. If online communities are to be considered successful, and a genuine *Fifth Estate* premium is to be seen to exist, we need to be able to measure the impact they have on the decision-making processes and outcomes of the power brokers in society (Sormanen & Dutton, 2015).

In a 1924 article in *Science* magazine, Arthur Little (1924) first identified a class of independent citizen that could be a bulwark against ignorance and a force for progress. A *Fifth Estate*. Little was talking about scientists and the exercise of the scientific method, but at the level of first principles he addressed a core issue at the heart of our information age. “The professional spirit which animates the *Fifth Estate* is essentially one of service. Its compelling urge in the search for truth springs from the conviction that the Truth shall make

men free”. There was another important element of his argument which can be applied to our discussion too, as a warning. That is the proposition that “government by intelligence for the general good of all should supersede government by special interests, blocs, faddists and fear of organised minorities and the uninformed crowd.” Social media has an upside as well as a downside and we need to weigh both in the balance when working out how or even if it is reshaping public discourse.

When Popper (1945) wrote his treatise on *Preserving the Open Society from its Enemies* he perhaps never imagined the day when technology could be used to subvert human discourse and circulate fake news and falsehood so swiftly and effortlessly. He had of course based his observations on the propaganda successes of the Third Reich, so he had good reason to preach caution. These will remain important questions in an open society.

Habermas (1989) suggested in his work on the power relationships between individuals and institutions that there might be a public sphere, or an arena, in which individuals could convene to debate and create a reasoned social and political response to the illegitimate exercise of power. He too could hardly have imagined the potential of the internet in amplifying his concept of communicative power. The digital age has transformed both the arena and the means and speed by which political and social exchange can expand and elevate public discourse. Dutton (2009) argued that because growing numbers of internet users were exchanging information back and forth across their networks, this emerging network of networks enabled networked individuals to ‘move across, undermine and go beyond the boundaries’ of traditional public institutions. Much like Little’s (1924) independent fact-focussed scientists, he argued these networked individuals were an articulation of a ‘*Fifth Estate*’ which would make institutions more accountable in ways the legacy media had done in previous eras.

All this raises a number of research questions. Is democracy being helped or hindered by the rise of social media as a means of intervention in public discourse? Or could public discourse even be trammelled by the tyranny of the hashtag? What evidence is there that citizens are being empowered to make those who govern listen to their voices? Do these accumulations of voices and alternative narratives amount to a force to hold power to account when tragedy strikes?

At a time of declining trust in both those who govern and those who had come to represent the primary watchdog of those doing the governing, this '*Fifth Estate*', offered hope that such networks could enable social or political movements which would challenge processes of government out of step and time with the needs of citizens. This is particularly true when a government or governing institution is called on to react when things go dramatically wrong. Our research is not, however, about disaster communication *per se*, rather the context in which a national debate is stimulated and the communicative power it affords the participant. Nor is our research so focussed on diffusion of ideas so much as amplification of them. Some work has been done using diffusion theory to explore the correlation between social media and social change but this tends to be at the level of regime and not on individual social issues (Rane & Salem). Whilst diffusion of ideas is a key area of research in understanding the power of social media we are more focussed on the emerging narratives and the ability to amplify those narratives beyond those of the legacy media.

When disaster strikes those most affected by it and closest to the event now have the means to ask questions quickly and very publicly. They are not necessarily conflicted by links with public institutions and can often feel free to express views that might be seen as controversial. From the causes of the disaster, through the impact and its remedies people

can use social media to ventilate views unmediated by those with particular interests. Anecdotally we can observe that by using these social media interventions as ‘source material’ in their own work, legacy journalists can introduce these ideas into the mainstream narrative. But first principles can be a long way from observable reality and this is partly what this research seeks to capture.

It is for this reason that at the time of the Grenfell Tower tragedy we set about seizing on the other aspect of social media, the fact it affords researchers the chance to capture real-time data from the social media discourse, for example, relating to the aftermath of that fire. We chose Twitter as the most relevant News platform. We felt that it might afford us an opportunity to take a closer look at the way in which public discourse ‘evolves’ on social media and whether new actors can gain traction in influencing the ‘evolving’ debate and narratives. Of course, there is also a difference between origination (‘tweeting’) and dissemination (‘retweeting’) and this may also provide insight into just who makes the running on twitter debates. In this sense there may be complex synergies between the fifth and fourth estates in expanding the way in which democratic processes work in practice (Bruns, 2007).

In theory social media opens fresh channels for increasing the information flow in the public sphere and challenging those elites who traditionally shape public discourse, increasing the accountability of politicians, press, experts and other loci of power and influence. Intuitively Social Media platforms could play a crucial role in this brokering of power due to their positioning between civic and institutional layers of discourse. The role social media plays in a crisis like the Grenfell Tower fire should be approached from both civic (reactive) and institutional (responsive) perspectives as these two aspects converge in crisis contexts. This holistic perspective to understand social media activity helps assess the public discourse in a

way that allows identifying actor dominance as well as the inclusion or even exclusion of voices of key stakeholders.

We wanted to explore, using the Grenfell Tower fire ‘discourse’, how interactions on Twitter might influence the flow of debate and establish a set of narratives. We believe it might help us understand how social media impacts on the ‘evolution’ of public discourse. Of course, the bigger test will be whether this impacts on public policy-making. Does it make government more effective and certainly more accountable? Dutton (2009) remarks that the “Fifth Estate’s network of networks can enable political movements to be orchestrated among opinion leaders and political activists in ‘Internet time’”. The implication is that this discourse can overtake or overwhelm traditional information flows and as a consequence the power of gatekeepers in legacy institutions to control those public information flows. But quantity of information is not the sole issue to be considered it is the quality of information that should also dictate the outcomes (Little, 1924).

Castells (2007) made a case that collectivities using the public flow of information via the internet, in so called new ‘space of flows’, to get organised and achieve social change would be an example of enhanced communicative power. The massive response to the Grenfell Fire on social media where competing narratives of who, what, why, where and how such a blaze could happen, might offer fresh insight into this magnifying impact of the ‘communicative power’ of individuals beyond traditional institutional arenas. Indeed, observing the emergence of networks of individuals around such a tragedy might precisely demonstrate a public or social benefit at the heart of this *Fifth Estate* conception.

The hyperbole of promise can sometimes influence the perception of the impact of social media on the democratic process. In brief there is a lot of wishful thinking about what greater flows of information might realistically achieve. So, we are equally conscious that

'clicks' are not the same as impact. A high level of activity on social media may not necessarily translate into a broader number of actors in a debate, or the space occupied by newcomers to any given debate. 'Clicktivism' may mean that protest could be amplified, but political change may not result if there is no way of translating that protest into policy change (Curran et al. 2012). Morozov (2009) takes this argument to another level when he talks about "slacktivism", which he assesses as "the ideal type of activism for a lazy generation". In short, he expresses the concern that online activity is not the same as getting out on the political stump to change the world. All talk and no action in the parlance of the doubters. Social media becomes a giant talking shop without the ability to influence political outcomes.

The main objective of our study is to provide the first steps to examine the main themes and topics that can characterize the public discourse on social media related to the Grenfell Tower incident. We aim to identify the dominant actors, and compare the impact citizens and other grassroots level activists can make within that discourse as compared with the role played by more traditional institutional users on Twitter. We raise important questions about whether a small player can elevate themselves to a level playing field with institutional actors in public discourse. In other words, can communicative power be amplified? As social scientists we are not simply interested in the ability to intervene but the impact of that intervention.

Methodological Approach

A clear quantitative approach was adopted to meet the objective of examining the main themes and topics in the wake of the Grenfell disaster. We have used a two-step analysis of Twitter data related to the incident. Using the Twitter search API, we extracted a sample of 314,096 tweets containing the hashtag *#Grenfellfire*. These were gathered from two time-intervals after the incident. T₁: From June 18, 2017 to June 23, 2017, *N*= 114, 096 and T₂: From June 26, 2017 to July 05, 2017, *N*= 200,000. The incident happened on the 14th June

and so our data does not represent the immediate Twitter reactions related to the incident. Nevertheless, we have taken the view that this approach is more desirable, because the messages during or immediately after such a traumatic event tend to be responses to the crisis itself and may therefore lack a broader discursive intent.

For our first step, the data analysis focused on identifying the most engaged actors in the terms of Twitter intervention and the most retweeted messages. Actor analysis is important for several reasons. Firstly, identification of engagement levels is important as it can help us understand whether which ‘networked individuals’ are more significant in terms of transactions. Are they for example grassroots-level actors or Twitter equivalents of ‘networked individuals’, such as bloggers and Wikipedia contributors as identified by Dutton (2009). Secondly, it is important in terms of our discussion about the *fourth* and *fifth* estates to understand the presence of actors representing, the mainstream media, economic elites, and public intellectuals which may indicate a significant presence of *fourth* estate practitioners in amongst the *fifth estate*. This may have a bearing of our understanding of both the impact of the *fifth estate* and whether this *fifth estate* for example in such examples becomes swamped by the voice of the *fourth estate*.

The second step of the process of analysis was achieved using a series of topic models. Topic modelling employs a suite of algorithms to discover and annotate large volumes of digital data with thematic information and helps identify themes, examine how they are connected, and change over time (Blei, 2012). We used Latent Dirichlet Allocation (LDA) - a Bayesian generative probabilistic model that can be used to detect underlying topics in text corpora for this purpose (Blei, Ng, & Jordan, 2003). Using this method, it becomes more meaningful to identify salient topics in the sample. According to Blei, Ng, and Jordan, LDA assumes that every document includes a mixture of latent topics each of which can be characterized by a

collection of words. Our model has been restricted to a maximum of three topics. This ensures that the range of topics detected by the model is not overly broad and each topic is represented by an adequate number of words. The range of tweet ‘transactions’ representing each time frame was divided into three levels of engagement (based on the number of characters sent from each Twitter account). This allows us to examine message similarity across different levels of engagement.

What the Data Shows Us

The results indicated that the most engaged actors included a Twitter account created specifically to focus on the Grenfell fire incident, a number of small organizations (e.g., Lab London Zone), a range of community-level activists (e.g., Lee Jasper), and ordinary citizens (e.g., Celeste Thomas). This observation is consistent with Dutton’s (2009) claim that the Internet provides a venue for grassroots-level movements and activities to increase their visibility. For us what is perhaps more significant is that we identify a pattern where the most popular messages, as indicated by the number of retweets, were sent by accounts representing well known figures, organizations, or journalists (e.g., Jeremy Corbyn, Sky News, Tower Hamlets Police, Jonathan Leake). For us the interesting idea emerging from these results is that grassroots level activists and citizens active on twitter often serve as agents who, whilst they may have their own standpoints, also contribute to amplifying the twitter interventions originating from conventional political and institutional actors. This is consistent with Kwak, Lee, Park, and Moon's (2010) observation that conventional actors and the narratives that form headline news (e.g., from the legacy media) consistently dominate twitter. In terms of our analysis the *fourth estate* uses the instruments of the *fifth estate* to dominate discussion in this public forum (Habermas, 1989) and indeed to drive traffic to their *fourth estate* outlets.

This is indicative that Twitter has served, at least in the context of the Grenfell Fire issue, as a social media platform that enabled community-level amplification of the voices of actors who already had a place in public discourse. This should not be considered as indicative of a level playing field, in other words, as some have argued in the literature that the fifth estate suggests all voices on this type of platform tend towards a similar communicative power (Habermas, 1989; Dutton). Our data suggests that in such a big public event, conventional actors still dominate with the highest frequency of messages (including retweets). This challenges the often-repeated assumption that Twitter acts as a level playing field and suggest that Dutton's findings that Twitter helps grassroots-level actors to emerge as alternative sources of information does not make it a sufficient condition that they are the most engaged or listened to actors. Our data does show in our view that that citizens can serve as 'networked gatekeepers' by choosing which messages the spread across follower networks. This kind of 'citizen gatekeeping' through their networks can possibly be seen as a central characteristic of the *Fifth State* phenomenon, at least in the case of Twitter. This may not be an active or conscious decision but we say it certainly has implications for active tweeters. They are incentivised to create messages that resonate and become more likely to be retweeted. With conventional actors and political figures in particular this no doubt accounts for the increasing tendency to have their twitter feeds managed by social media professionals. Amplification is not just about the quality of the message but also the willingness of others in the network of networks to share the message. In this way it acts similarly as a vehicle for ideas to the *fourth estate*.

As Bruns and Burgess (2011) note, Twitter hashtags allow formation of ad hoc publics around specific themes and topics. In a similar vein, Twitter user-preferences allows for the creation of profiles in the name of events (GrenfellTower in this case). These 'handles' act as 'actors' who can follow and can be followed by other users. _GrenfellTower for example was

the most engaged ‘actor’ in both datasets. The ability to create ‘ad hoc actors’ and the role they perform in ‘social issue publics’ or ‘social movements’, especially in a *Fifth Estate* configuration, has not been acknowledged in the related literature. We suggest that the ability of users on Twitter to transact in this way should be recognised as a central aspect of engagement on social network sites. These ‘ad hoc actors’ can be seen to serve a temporary and issue-specific purpose related to each event. Let us take the example of the Twitter handle representing a political campaign (@UKDemockery). This emerges as the source of a highly retweeted message. This indicates that the emergence of ‘ad hoc’ and non (or quasi) institutional actors that do not directly represent, or can be identified with specific users, is an important aspect of the ‘social media *Fifth State*.’ This is the peculiar quality of Twitter that such actors can be formed with remarkable simplicity and speed simply because of the affordances offered by the platform.

A third important aspect of Twitter engagement we observe in the relation to the evolving discourse on Twitter during the Grenfell disaster aftermath is that individual actors (e.g. Leigh_Pickett- a firefighter, GeorgeMonbiot - media professional, Connor Gillies - media professional) use Twitter to actively maintain their professional presence outside conventional work settings. This suggests several interesting characteristics of media activity specifically in response to disasters. First, it allows professionals to build a more individualized audience and maintain constant interaction with them. Second, they can use Twitter to direct the attention of their dedicated audience to content produced by the legacy media that they represent. This can characterise the expanded scope of engagement with audiences in the digital eco-system that demands a social media presence for individuals as well as organizational actors such as media professionals. We identify this as form of quasi-professional presence on social media that is characterised by the user’s navigation between professional and individual roles as social media users.

Although ‘citizen gatekeeping’ favours messages originating from the *Fourth Estate* actors, this does not necessarily mean that such gatekeeping limits information to messages sent by legacy media. Instead, we believe the diversity of messages from alternative sources can increase as citizens can choose messages from any source including legacy media. For instance, in our data (Table 2), Noel Clarke’s (well-known British actor and director) message appeared as one of most retweeted messages. This indicates that the messages sent by a celebrity can potentially impact on the emerging discourse - communicative power - in a similar way to that of the seasoned media professional.

Table 1: Top Actors

T ₁	No. of Tweets	T ₂	No. of Tweets
_GrenfellTower	330	_GrenfellTower	573
ptws1969	237	daverussell	485
Mcula	178	notinmyname_	421
Kotaatok	133	cabbagelily	180
Smarrthumb	133	SharonHoole	143
JulietB270880	123	mamapie	132
Acpfonline	126	garydchance	107
LabLondon_zone	112	mmandmp_bikes	100
GroperBlue	112	suegray834	92
Garydchance	105	honeybeepetal	91
Daverussell	101	ElementaryForce	84
JiveLDN	100	Terryc44Curtis	81
Cabbagelily	106	Lance63	85
–		JenFullick	78
		Grenfell247	77
		LeeJasper	81
		acpfonline	78
		Pixieblue247	73

Table 2: Top Messages

Tweet	Retweet Frequency	Source
T ₁		

RT @jeremycorbyn: People died needlessly in poverty surrounded by a sea of prosperity. #GrenfellTower must be the last such tragedy of itsâ€¦	5536	Political figure
RT @Vinny_LBC: Watch: Incredible moment @LondonFire Brigade firefighters leaving #GrenfellTower brought to tears as they are clapped out bâ€¦	3222	Media/correspondent
RT @MPSTowerHam: These are the amazing dogs who searched the #GrenfellTower with their fire protective boots on. í ½í±• í ½í±• í ½í±• https://t.co/QsWmE380Z2	2964	Law enforcement
RT @Faysal_FreeGaza: If you want the truth about #GrenfellTower, listen to the residents and eyewitnesses. Not the authorities. https://t.câ€¦	2778	Citizen/Activist
RT @SkyNews: "How is that possible?!" This is the moment firefighters first saw the #GrenfellTower fire in west London https://t.co/BUKCMi0â€¦	2487	News/Media
RT @aishaelx: Giving us the real facts #GrenfellTower https://t.co/2Imdkrfqaz	2031	Citizen/Activist
RT @Leigh_Pickett: On behalf of all my professional #firefighter colleagues - Thank you @jeremycorbyn #GrenfellTower #JeremyCorbyn https://â€¦	2015	Firefighter/Activist
RT @StigAbell: A picture of the lovely dogs who helped firemen in #GrenfellTower, wearing their heat-proof boots. https://t.co/R9mcivyQuh	2007	Media/correspondent
RT @jeremycorbyn: At 11am we fell silent. We thought of the victims of #GrenfellTower and resolved to make it the last tragedy of its kindâ€¦	1928	Political figure
RT @UKDemockery: 1984 documentary that predicted #GrenfellTower disaster https://t.co/OfTpiMcoot	1606	Political campaign
T ₂		
RT @BirdsOfJannah: Secret recording that they tried to block from inside the #GrenfellTower meeting. Share & let the world know whats happeâ€¦	7439	Activist/Citizen
RT @Jonathan__Leake: #GrenfellTower residents are still having rent deducted from their bank accounts for their burnt out flats admits counâ€¦	5193	Media professional
RT @Leigh_Pickett: The #Tories & #DUP answering the professionalism and bravery shown by #Firefighters at #GrenfellTower with cheers to keeâ€¦	3677	Firefighter/Activist

RT @GeorgeMonbiot: If you care about #GrenfellTower, please RT this. This scandal behind the scandal that I dug into is outrageous: https://â€¦	3398	Media professional
RT @ConnorGillies: BREAKING: #GrenfellTower council meeting descends in to chaos. Council leader scraps meeting due to media presence. httpsâ€¦	2064	Media professional
RT @Corbynator2: Theresa May just said cladding started under Blair..But who was the PM in 1984? - Thatcher! #PMQs #GrenfellTower https://tâ€¦	1400	Activist/Citizen
RT @BBCNews: A young survivor of #GrenfellTower breaks down as she talks about why her family turned down housing offered to them https://tâ€¦	1087	News/Media
RT @NoelClarke: Lets not forget we need answers from #GrenfellTower The world moves on, but for a lot of people the change in their lives hâ€¦	1029	Actor/Producer
RT @escofree: Morning everyone! Please don't forget the victims of the #GrenfellTower atrocityâ€¦ The establishment think we were born yesterâ€¦	1026	Details inadequate to discern the actor type
RT @WantEnglandBack: We must not allow @SadiqKhan to use the #GrenfellTower tragedy to cover up illegal immigration and housing benefit subâ€¦	991	Account suspended/Details inadequate to discern the actor type

The results of the topic model analysis identified in Table 3 indicated that the hashtag topics under discussion are similar across both the different levels of engagement and the two time frames examined. This suggests that, at least in the case of the Grenfell disaster, the public discourse evolves into a similar set of narratives across all levels of engagement. It is in this sense that we argue therefore, that these identified topics can serve as reasonable candidates that effectively map out the boundaries of the public discourse on the hashtag topic. Topics such as cladding, social support, politics, petitions and the role of political figures (e.g., Theresa May), political groups (e.g., Tories), and local government organizations appeared consistently across all groups in both time frames. It suggests a degree of focus emerges quickly in the public discourse over what public expectations are in terms of who should be engaging with the target community, in this case the Grenfell Tower residents. The topics

quickly demonstrate that the public identifies quickly many crucial aspects of the issue; quality of the building materials, social support in times of disaster, and the role of political figures and organizations in particular in getting the right type of help to the victims and their families.

The above discourse cannot be seen as a differentiated reflection of public discourse in any meaningful sense. We would argue this because we observe in our data that messages sent by conventional sources, actors that Dutton (2009) identified as competitors with or contrasts to the *fifth estate* (e.g., the legacy media), have been amplified in Twitter reactions in our datasets. We observe that the communicative power of conventional actors has been at the expense of what we might call *fifth estate* actors. Put more crudely the fourth estate actors have utilised the means available to the fifth estate to build profile for their *fourth estate* enterprise. This is neither a positive or negative observation, rather a recognition that in the digital eco-system communicative power and impact is not a zero sum game. Discourse remains fluid as a result of the network of networks but in the Grenfell aftermath we can see the *fourth estate* still has a dominant role – if not exclusive - in this public information space.

Table 3: Results of the Topic Model Analysis

Topic 1	Topic 2	Topic 3
Top-Level Actors (T ₁)		
Tragedy, residents, victims, cladding, last, died, tory, council, must, government	Residents, victims, affected, please, London, support, help, can, need, many	Cladding, victims, police, may, dead, Theresa, Kensington, London, blocks, uk
Middle-Level Actors (T ₁)		
Word, spoken, reports, London, cladding, west, council, put, residents, tribute	Residents, cladding, tragedy, Council, survivors, may, tory, panorama, can, must	Cladding, residents, may, charity, says, single, Theresa, London, affected, kensington
Low-Level Actors (T ₁)		

Fire, people, victims, residents, council, need, survivors, new, get, cladding	Atrocity, blocks, action, paper, evidence, secure, yet, premises, area, may	Fire, council, residents, victims, survivors, people, tragedy, inquiry, says, meeting
Top-Level Actors (T ₂)		
Word, spoken, reports, London, cladding, west, council, put, residents, tribute	Residents, cladding, tragedy, council, survivors, may, tory, panorama, can, must	Cladding, residents, may, charity, says, single, Theresa, London, affected, kensington
Middle-Level Actors (T ₂)		
Council, cladding, please, Kensington, news, sign, petition, inquiry, chelsea, firesafety	May, atrocity, tory, blame, investigation, London, national, profits, shifting, deregulation	Council, residents, cladding Meeting, survivors, may, Kensington, housing, tragedy, theresa
Low-Level Actors (T ₂)		
Council, meeting, may, cladding, residents, Theresa, Kensington, Tories, leader, survivors	Residents, inquiry, atrocity, council, investigation, judge, cladding, get, may, help	Illegal, immigrants, housing Residents, tragedy, citizenship, flats, must, London, cladding

Conclusions

Our results suggest there are three central aspects to the *Fifth Estate* from the perspective of Twitter:

- 1) user/citizen-driven gatekeeping in which users choose messages for re-distribution/dissemination to their follower networks
- 2) formation of ad hoc social issue publics and the contribution made by non/quasi actors,
- 3) quasi-professional presence by media professionals and engagement of actors such as celebrities.

At this point these characteristics are generalizable, but we nevertheless think that further research work in different event contexts and on social network sites may help strengthen their validity.

Whilst our analysis sheds a fresh light on the nature and evolution of the Grenfell fire public discourse and the main actors involved, the computational approach we have taken is still limited to a distant reading of the phenomenon. A mixed-method approach guided by the above analysis could help develop a greater understanding of actor intentions, particularly those conventional actors like politicians who are using social media platforms to orchestrate their messages. This observation suggests that the fifth estate's impact on public discourse is more limited than many of apocryphal stories we hear regularly about the impact of social media on public debate and policy.

It remains important that in open societies we understand the nature, quality and impact of the means of communication in determining the narratives adopted in public discourse and the consequential impacts on policy formation. After Grenfell, for example the government was very quick to announce a public inquiry. This was unprecedented in its speed and it is important to understand what influenced that speed. It is possible that the speed with which certain narratives are able to evolve and make an impact on public discourse may be one feature of social media that can act positively in getting swift responses by those who govern in the interests of the governed. Equally if undue hasty pressure is placed on politicians to make commitments without the full facts that may be harmful to efficient decision-making. It may also be the case that whilst a lot of assumptions have been made about the impact of topics in public discourse emerging on social media platforms like Twitter, the reality is the traditional actors continue to dominate the thinking that dictates policy outcomes. Reacting to social media is an important PR imperative but not one that has an over-riding impact on policy. Already the ongoing inquiry into the deaths at Grenfell Towers has been riddled with complaints that the voices of ordinary residents is being lost. As our data demonstrates, though, social media is an effective conduit for emerging narratives in public discourse, although the argument that its impact is all pervasive is far from proven.

It is our intention to continue this research by firstly conducting qualitative research in the next few months with some of the most significant actors in this analysis to improve our understanding of the motivations, objectives and expectations of those actors in using this method of engaging in social discourse. Are they strategic about this means of discourse intervention and how does it compare with their engagement with other legacy means of intervening for example through the *Fourth Estate*. Secondly, we intend to carry out a similar analysis of mainstream media using an API linked into a media dataset using the same timelines to identify what correlations there might be between the social media discussion and the fourth estate discussion on the Grenfell disaster.

We argue that this ongoing research work is significant as it is the foundation quantitative analysis needed to build a better understanding of the extent to which social media discourse impacts on broader public discourse which has hitherto been dominated by conventional actors, such as mainstream legacy media, politicians and celebrities.

References

- Barling, J.K. (2017). *Investigation of the Lakanal House Fire*, www.lakanalhousefire.co.uk
- Barling, J.K. (2017). *We've been here before*. *British Journalism Review*, 28(3), 37-40
- Blei, D. M. (2012). Probabilistic topic models. *Communications of the ACM*, 55(4), 77–84.
- Blei, D. M., Ng, A. Y., & Jordan, M. I. (2003). Latent Dirichlet Allocation. *Journal of Machine Learning Research*, 3, 993–1022.
- Bruns, A. (2007). *Producers: Towards a broader framework for user-led content creation*. In proceedings of the 6th ACM SIGCHI Conference on Creativity & Cognition. Retrieved from <http://eprints.qut.edu.au/archive/00006623/01/6623.pdf>
- Bruns, A., & Burgess, J. (2011). The use of Twitter hashtags in the formation of ad hoc publics. In *Paper presented at the 6th European Consortium for Political Research*

- General Conference*. University of Iceland, Reykjavik.
- Castells, M. (2007). *Communication, power and counter-power in the network society*.
International Journal of Communication, 1, 238-266.
- Curran, J., Fenton, N, & Freedman, D. (2012). *Misunderstanding the Internet*. New York,
NY: Routledge
- Dutton, W.H. (2009). The fifth estate emerging through the network of networks.
Prometheus, 27(1), 1-15
- Habermas, J. (1989). *The structural transformation of the public sphere: An inquiry into a
category of a bourgeois society*. Cambridge, MA: MIT Press.
- Kwak, H., Lee, C., Park, H., & Moon, S. (2010). What is Twitter , a social network or a news
media ? In *International World Wide Web Conferece* (pp. 591–600).
- Little, A.D. (1924). *The Fifth Estate*. Science 60 (1553), 299-306
- Popper, K. (1945). *The Open Society and its Enemies*. London, Routledge.
- Sormanen, N. & Dutton, W.H. (2015). *The Role of Social Media in Societal Change: Cases
in Finland of Fifth Estate Activity on Facebook*. Social Media & Society, July-
December, 1-16