#ausvotes

How Twitter Covered the 2010 Australian Federal Election

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ABSTRACT

While the 2007 Australian federal election was notable for the use of social media by the Australian Labor Party in campaigning, the 2010 election took place in a media landscape in which social media–especially Twitter–had become much more embedded in both political journalism and independent political commentary. This article draws on the computer-aided analysis of election-related Twitter messages, collected under the #ausvotes hashtag, to describe the key patterns of activity and thematic foci of the election's coverage in this particular social media site. It introduces novel metrics for analysing public communication via Twitter, and describes the related methods. What emerges from this analysis is the role of the #ausvotes hashtag as a means of gathering an ad hoc 'issue public'–a finding which is likely to be replicated for other hashtag communities.

Keywords: Twitter, election, politics, Australia.

The 2007 Australian federal election is widely recognised as a breakthrough moment for online campaigning in Australia; researchers and political commentators alike have documented how the online components of the KEVIN07 Labor Party campaign accentuated the differences between a superannuated conservative Prime Minister and his considerably younger challenger (Bruns, Wilson, and Saunders, 2009; Chen, 2008; Flew, 2008; Macnamara, 2008). While it would be an exaggeration to claim that online campaigning alone determined the outcome of that election, it is nonetheless true that it did play an important role; it thereby also provided a preview–at a fraction of the cost–of the impact a similar online campaigning style would have in the subsequent 2008 US presidential primaries and election.

By contrast, the 2010 federal election in Australia, conducted after an unprecedented leadership change which saw first-term Prime Minister Kevin Rudd replaced by his Deputy Julia Gillard only weeks before she called the election, can be regarded as a step backwards: while online elements in electoral campaigns have become commonplace in the intervening years, during this election little about the online campaigns of either side of Australian mainstream politics can be said to have been exceptional in any way. New media played a part in the election campaign in another way, however: more so even than in 2007, social media platforms like Facebook and Twitter have now become established as standard elements of general internet usage in Australia[2] and, in spite of the absence of significant party campaigns harnessing these platforms, they were widely used by the Australian online population to follow and comment on the electoral race and its outcomes.

On Twitter, the core of the discussion about the election was organised around the #ausvotes hashtag, which quickly emerged as the central hashtag for political discussion as rumours of an impending election began to firm in early July 2010. 'Hashtags' are a simple mechanism, available to all Twitter users, for coordinating distributed discussions on the platform: Twitter itself, as well as all major Twitter clients, provides the functionality for

users to automatically receive all messages containing a given hashtag (regardless of whether these messages originate from within a user's established social network or not). The act of appending a hashtag to one's tweets is a conscious personal choice, made individually for each message, and the use of a topical hashtag like #ausvotes must be seen as a deliberate attempt to make the user's contribution to the debate visible to all fellow users following the hashtagged debate; while further debate on the topic may take place through non-hashtagged messages, the absence of a hashtag affords them a substantially more limited visibility. Those users who choose to include a topical hashtag in their tweets must be seen as most concerned about their messages' public visibility in the discussion.

Originally a user innovation but now implemented as part of the Twitter system, hashtags consist of a simple keyword or abbreviation, prefixed with the hash symbol '#', which is inserted into Twitter messages ('tweets'); subsequently, interested users can manually search for or automatically follow all tweets that include a specific hashtag. There is no need to register or otherwise gain permission to use specific hashtags; users may simply include them manually as they write their tweets, which both enables the rapid emergence of hashtags in response to breaking topics (such as #qldfloods or #eqnz to cover recent natural disasters in Queensland and New Zealand), and facilitates the ad hoc emergence of issue publics made up of interested Twitter users around these topics. Hashtag publics are also unique, then, in that–contrary to common practice in social networking sites like Facebook–participating users do not need to have established prior personal connections by 'friending' or 'following' one another; indeed, while the choice to use a hashtag is an act of public communication, one may join a particular issue public without even being aware beforehand of the existence of the other participants.

This article presents a detailed analysis of how the public constituted via the #ausvotes hashtag followed, discussed, and commented on the election campaign. We build on the methodologies developed as part of the three-year ARC Discovery project 'New Media and Public Communication' (see Bruns & Burgess, 2011a); the analysis in this article draws on an archive of all publicly visible tweets hashtagged #ausvotes, collected using the online tool *Twapperkeeper.com*, during the period of 17 July 2010 (when Prime Minister Gillard officially called the election) through to 24 August 2010 (three days after election day itself, to capture some of the discussion in the aftermath).

METHOD

Data collected through Twapperkeeper is available in the form of a comma-separated value spreadsheet document, which we further processed with the command-line tool *Gawk* using a number of custom-made processing scripts in the Gawk programming language (along with a more detailed discussion of our methodology, these scripts can be found at our project website http://mappingonlinepublics.net/). Generally, the data contains the content of each #ausvotes tweet along with a range of important metadata: most importantly, these include the Twitter ID and screen name of the originating Twitter user, as well as an exact timestamp indicating when a specific tweet was sent. Inter alia, additional metadata fields may also describe the geographic location of the user but–most likely due to privacy concerns and/or limited hardware capabilities–only a very small number of Twitter users include such information with their tweets at present, and it is impossible to extract meaningful information from these fields.

It is possible to extract additional information from the tweets themselves: as noted, users are able to manually include hashtags in their tweets; it is possible, therefore, to examine what secondary hashtags (in addition to #ausvotes, whose presence in the tweet is a condition for the inclusion of the tweet in our archive in the first place) users may have used in their tweets. Further, Twitter users are able to publicly address one another through @replies: the username of the addressee, preceded by the '@' symbol; such tweets will appear as specially highlighted to the addressee, regardless of whether they are already linked (as a 'friend' or 'follower') to the sender. We are also able to extract such @replies from our data, thereby identifying the network of public conversations between users within the #ausvotes community. Finally, a third category of information to be automatically extracted from the tweets exists as a subset of overall @replying activity: it is also possible for users to (manually) share, or 'retweet' the public messages sent by others, by prefixing the original tweet with 'RT @[*username*]' (and possibly making other changes or comments in the process). An example of such a manual retweet would be:

RT @GreenJ: Newspaper correction of the year. The Sun. Winning. http://bit.ly/SQ7Ms

It should be noted in this context, however, that Twitter has also recently introduced new automatic retweeting functionality, which enables users to retweet the entire original message by use of a 'retweet button'. Doing so does not add 'RT @[*username*]' in front of the retweeted message, but rather indicates in the accompanying metadata the fact that the new message is a retweet. Our data gathering approach does not permit us to capture such 'new-style' retweets, and they are therefore not included in our analysis. This, however, can also be seen as a benefit, as many manual retweets–because they can be edited before sending–serve a significantly more conversational function than 'button' retweets; for example, users will often retweet part of an earlier message in order to add their own, original commentary:

OK. This is getting silly. RT @Telegraph: Welsh harpist ready for Royal Wedding http://tgr.ph/fXw62f

Indeed, some users will even create fake original messages (impersonating existing or imaginary Twitter users) to retweet and comment upon. Button retweets, on the other hand, constitute merely a verbatim passing-along of the original message, but do not enable retweeting users to include any additional comments with the retweeted message. While a tracking of the amount of button retweets for each individual message captured in our dataset might provide an interesting additional dimension to our analysis, it does not have significant relevance to the analysis of actively discursive interaction in the #ausvotes hashtag community, which this article focuses on.

A further limitation of our approach which should be noted here is that the @reply conversations following on from initial tweets to the #ausvotes community do not necessarily always include the #ausvotes hashtag. Follow-on discussions between individual users are generally not included in our dataset, therefore: unless the @reply discussants deliberately chose to retain the #ausvotes hashtag in their subsequent tweets, which may indicate that they are in effect performing their conversation to the wider community: that they aim for their conversation to be seen more widely than a non-hashtagged exchange would be. We do not want to re-inscribe a presumed divide between personal and public communication here–rather, we argue that the cultural uses and meanings of Twitter are profoundly shaped

by the partial and highly variable convergence of everyday, interpersonal communication with conversations about more traditionally 'public' matters (like elections), within which, depending on the context, individual users may address a wide variety of 'intimate publics' (Berlant, 2008) and 'imagined audiences' (Marwick & boyd, 2011). However, we do argue that the choice to include a widely used hashtag like #ausvotes is an explicit performance of *publicness*–quite literally including one's contributions in the stream of public conversation denoted by the hashtag, and inviting attention (albeit ambient and ephemeral) from other participants in that conversation. Given our interest in the uses of Twitter for the public mediation of political processes, it is precisely these tweets that we are most interested in examining.

Finally, of course, it should be noted that beyond the #ausvotes hashtag itself we can expect there to be a substantial amount of further discussion of the election and more general political topics by users who, for whatever reasons, chose not to make their tweets visible more widely by adding the hashtag. Our method cannot capture those tweets; what we do capture, therefore, is only that subset of the Australian Twitter userbase which constitutes those users so involved and invested in political and election discussion that they have made the deliberate choice to include the #ausvotes hashtag in their tweets: in Stephen Coleman's terms (2003), they constitute the hard core of 'political junkies', perhaps. For the same reason, it is difficult even to estimate the relative volume of the #ausvotes conversation in relation to the total volume of Australian political discussion on Twitter; it should be assumed that for every #ausvotes tweet which we did capture, there would be several further tweets relevant to political debate in Australia which were not hashtagged in this way.

Analysis

In our analysis of #ausvotes discussions, then, it is useful first to examine the overall volume of tweets over the course of the campaign. For the period of 17 July to 24 August 2010, we collected 415,009 tweets from 36,287 unique Twitter usernames. Over this period, Twitter activity overall appears to follow established general patterns of attention to election campaigns, which show a gradual ramping up of public interest towards the final weeks of the campaign (see e.g. Shaw, 1999, p. 347). So, in the five weeks of the 2010 election campaign, it is not until 8 August that #ausvotes activity first breaks through the barrier of 10,000 tweets per day, and only 20 August sees more than 20,000 tweets, while even these levels of activity are dwarfed by the 94,910 #ausvotes tweets on election day itself (see Figure 1). Before the final fortnight of the campaign, a heightened level of attention is evident–unsurprisingly–on 17 July, as the election is called, and again on 25 July (the day of the televised leaders' debate). (It should be noted that in comparison, even volumes of around 10,000 tweets per day represent a significant level of thematic activity for the Australian Twittersphere, however: the more localised but nationally impactful Queensland floods crisis during January 2011 only generated about 11,600 tweets in the #qldfloods hashtag, even on its most active day (see Bruns & Burgess, 2011b).) Overall, more than 36,000 individual users participated in the #ausvotes conversation, generating a total of over 415,000 tweets.

Figure 1: Daily #ausvotes Activity, 17 July to 24 August 2010
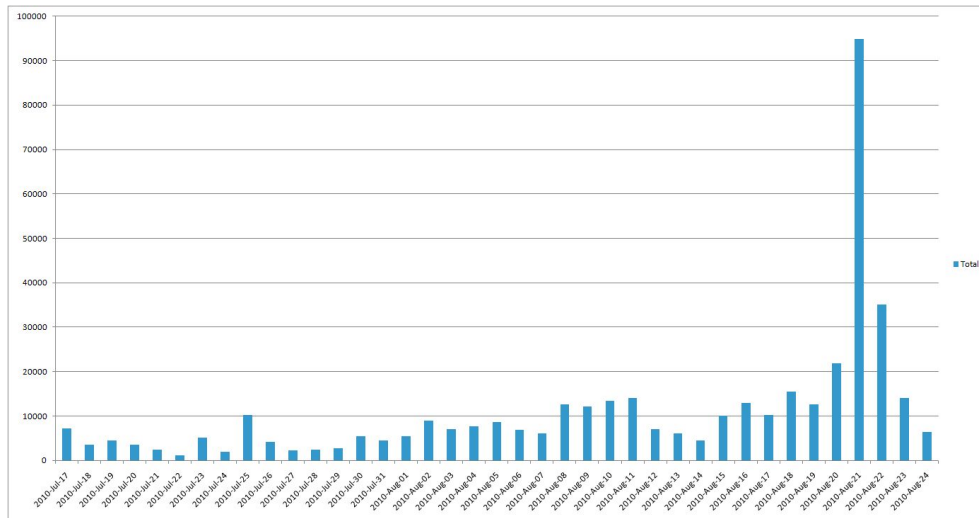
For most of the campaign, there is no evidence in our data that the #ausvotes Twitter community's attention is biased towards one or the other of the main contenders for the Prime Ministership: Prime Minister Julia Gillard and Opposition Leader Tony Abbott are mentioned (by name or by the username of their respective Twitter accounts, @juliagillard and @tonyabbottmhr), almost exactly in equal measure during July and the first third of August (Figure 2). Abbott pulls ahead substantially after 10 August, however, and maintains that lead until the end of the campaign; we will examine the reasons for this boost to his visibility on Twitter later in the article. He is also mentioned substantially more than Gillard on election day and during the following days–presumably because of the then still undecided outcome of the election, which produced a hung parliament and a Prime Ministership for Gillard that was conferred by the votes of a handful of independent members of parliament.

Figure 2: #ausvotes Mentions of Julia Gillard and Tony Abbott (cumulative), 17 July to 24 August 2010
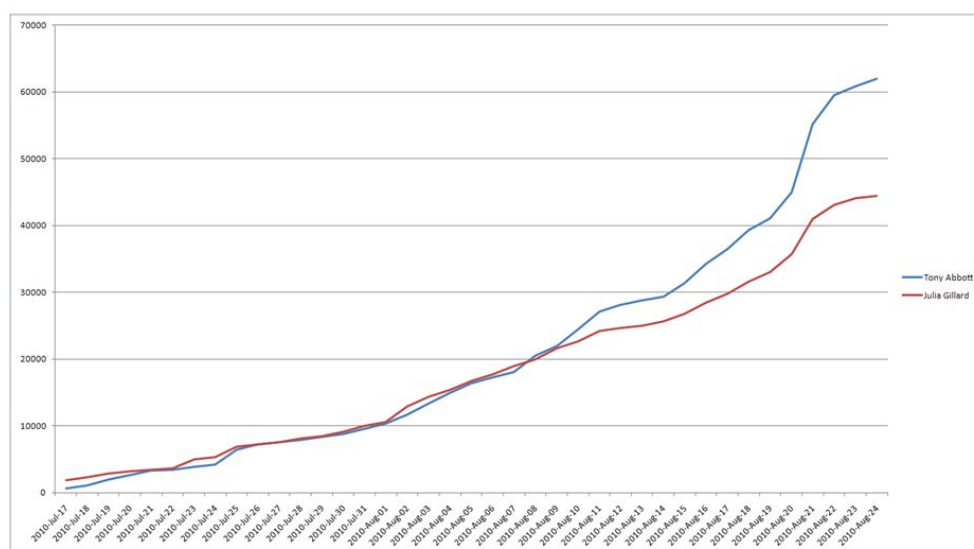
This measure of attention to one or the other of the leaders does not imply support, of course, or provide insight into the themes of the campaign which may have caught #ausvotes participants' attention. In a further step in our research, therefore, we analyse the prevalence of key election themes in the Twitter discussion. To do so, we extracted the most frequent terms and keywords used in the entire dataset of #ausvotes tweets using the computer-assisted textual analysis tool *WordStat*; we then manually bundled those of the most frequently occurring keywords which related to election themes into a set of five thematic areas, which were translated into search expressions used to identify relevant tweets in the overall dataset:

- National Broadband Policy: mentions of 'NBN' or 'broadband'

  – search expression: (nbn|broadband)

- Internet Filter: mentions of 'filter', 'Cleanfeed', or 'OpenInternet'

  – search expression: (filter|cleanfeed|openinternet)

- Climate Change: mentions of 'climate change' or 'climatechange' (e.g. as a hashtag)

  – search expression: climate.?change

- Asylum Seekers: mentions of 'boat people', 'asylum', or the Coalition campaign slogan 'Stop the Boats' (also in its variations, 'stops', 'stopped', 'stopping', etc.)

  – search expression: (stop.*boat|boat.*people|asylum)

- Gay Marriage: mentions of 'gay marriage'

  – search expression: gay.?marr

The resulting patterns of attention can be examined from a number of perspectives. The total tweets per day provide a perspective on how much any of these themes managed to capture the #ausvotes community's attention during each day (Figure 3). It is notable that for the majority especially of the first phase of the election campaign, discussion of these five major political topics within #ausvotes is relatively limited (averaging around seven per cent of the total #ausvotes tweet volume); #ausvotes contributors during this time focused more on discussions of the leaders, parties, and their campaigning strategies themselves, rather than on policy substance. This changes markedly in the period between 10 August and election day, with topical discussion doubling to 14 per cent of the total volume, and substantially higher percentages especially on 10 August itself (at 31 per cent) and the following days. Perhaps unsurprisingly, on and after election day itself, the focus shifts back towards a discussion of politics as opposed to policies, however.

Figure 3: Discussion of the Major Topical Areas as a Percentage of the #ausvotes Total, 17 July to 24 August 2010
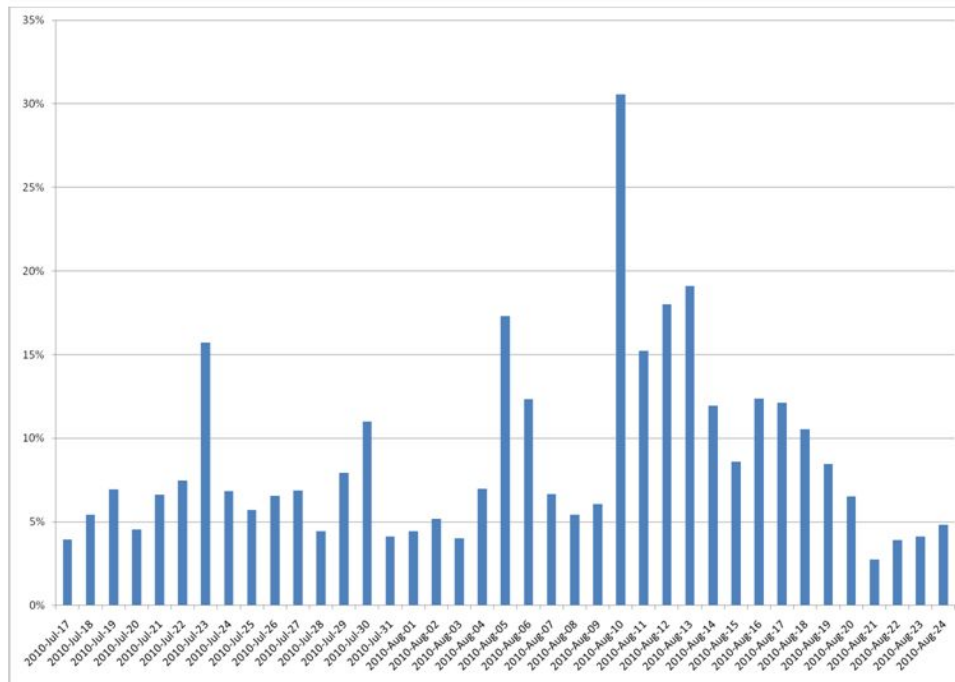
Especially for an election campaign which attracted substantial criticism for a relative absence of clear policy statements, and an overly strong focus on the personalities and performances of the two major political leaders, this limited engagement of #ausvotes commenters with policy matters comes as no surprise. The significant shift in attention on and after 10 August also indicates that certain policy matters did attract substantial engagement from Twitter participants.

For reasons which we will examine shortly, then, 10 August now features as the day with the greatest number of thematic tweets. Indeed, Figure 4, which breaks down the total number of topical tweets into the five major thematic areas, indicates that activity on 10 August was dominated especially by tweets relating to national broadband policy; additionally, smaller spikes (strongly relating to climate change and the internet filter, respectively) are also evident for 23 July and 5 August.

Figure 4: #ausvotes Discussion of Key Election Themes, 17 July to 24 August 2010 (tweet volume)
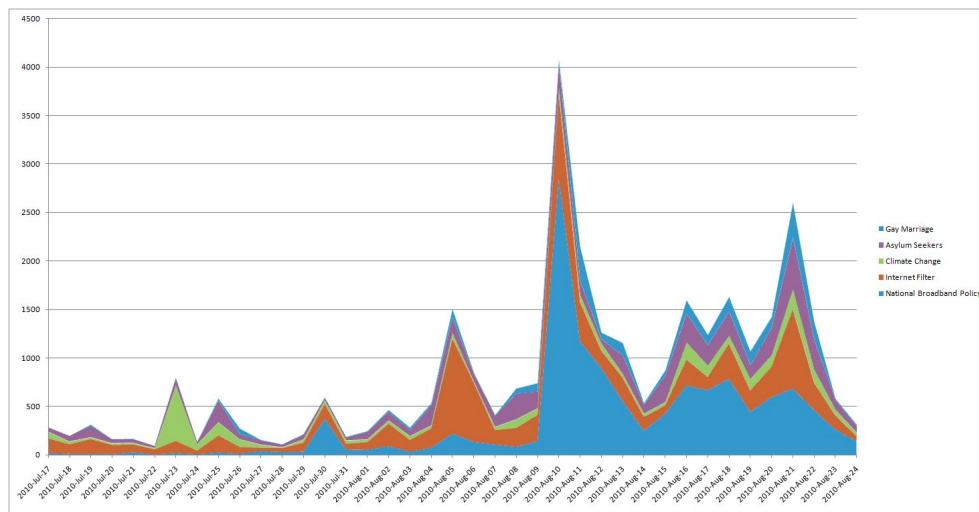

This shifting attention of the #ausvotes community in their discussion of election themes is clearly and necessarily interrelated with the themes addressed each day by specific campaign events themselves, and by the media's coverage of these events and related stories. However, it is also immediately obvious from the distribution of Twitter attention across the five themes which we have tracked here that the #ausvotes community's overall distribution of attention does not simply follow the thematic emphases set by politicians or journalists: the strong focus of the 2010 campaign on the key themes of asylum seeker policy and Australia's response to the challenge of climate change is not replicated in our data. A certain undercurrent of discussion about illegal immigration is apparent throughout the campaign, but never manages to capture a major share of the discussion space, while issues related to climate change are even less visible, save for the one exception of 23 July 2010: the day when Julia Gillard made a major speech on her climate change policy which included the idea of forming 'a Citizens' Assembly' (soon widely denounced for the further delays in action which it would introduce, and for its non-expert makeup) 'to examine over 12 months the evidence on climate change, the case for action and the possible consequences of introducing a market-based approach to limiting and reducing carbon emissions' (Gillard, 2010). Much like the policy itself, however, the announcement failed to have a long-term impact on #ausvotes discussion–perhaps also because of the generally limited volume of overall discussion during this early phase of the campaign.

During the second half of the campaign, the overall number of topical tweets relating to our five bundles of election themes increases substantially (both as a total number of topical tweets, and as a percentage of #ausvotes tweets in general), and two key themes emerge as key points of focus of the #ausvotes debate. Discussion on 5 August 2010–and to a lesser extent during the following days–is dominated by news of the conservative Coalition's announcement that it would not pursue Labor's controversial proposal to introduce a mandatory internet filter in Australia (Welch, 2010); additionally, 10 August sees a massive spike in the overall volume of thematic discussion which is almost entirely due to the level of debate about Labor's plan to build a National Broadband Network (NBN). This spike, too, is driven by Coalition policy announcements: however, in this case, the threat that it would

terminate the NBN project. In the evening of 10 August, Opposition Leader Tony Abbott appeared on the ABC's current affairs television show *The 7.30 Report* to explain this decision, in the process declaring himself not to be 'any kind of tech head', to the general dismay and derision of the twitterati who commented on his appearance on the program (Abbott, 2010).

It is this event more than any other that leaves a lasting impression on the #ausvotes discussion: from here until election day, discussion of the rival national broadband policy proposals from the two major parties accounts for nearly 50 per cent of all the #ausvotes tweets relating to our five thematic bundles, as Figure 5 indicates. Indeed, from late July onwards, the two technology-related topics of national broadband policy and the internet filter together account for half of all topical tweets on every day of the campaign, with the single exception of 8 August.

Figure 5: #ausvotes Discussion of Key Election Themes, 17 July to 24 August 2010 (normalised to 100% of selected themes)
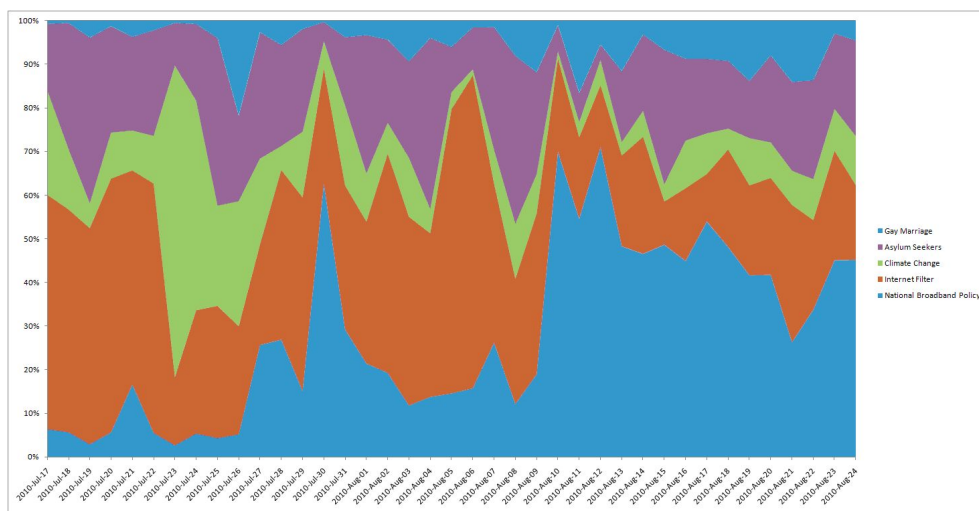

These observations already point to the fact that while the #ausvotes Twitter community very clearly does not exist in a vacuum, and is thus influenced by political events and media coverage, it also does not merely follow that coverage in its own discussion of key political themes and events. Rather, these events and themes are filtered through the community's own established interests and news frames, resulting in a distribution of attention that is different from that of the mainstream media or of general public debate. It hardly needs noting that the perspectives of neither group are entirely free of thematic bias, of course: the Twitter community simply applies a different set of criteria for what it finds newsworthy than does the mainstream media commentariat.

Interconnections with mainstream media and other content–both simple sharing and more critical commenting–are also evident in the links to further online resources which are frequently shared by #ausvotes contributors. Over the course of the five-week election campaign, an average of 22 per cent of all #ausvotes tweets contained URLs; however, the occurrence of links as a percentage of the total volume of tweets fluctuated wildly from day to day (Figure 6). It peaked on 22 July, when some 37 per cent of the 1219 tweets made to #ausvotes that day–by far the lowest number of the entire campaign–contained URLs; by

contrast, the lowest percentages of URLs in the total number of tweets were recorded on 17 July (12 per cent), 25 July (8 per cent), and 21 August (10 per cent).

Figure 6: Percentage of URLs shared through #ausvotes, Compared to Total Volume, 17 July to 24 August 2010
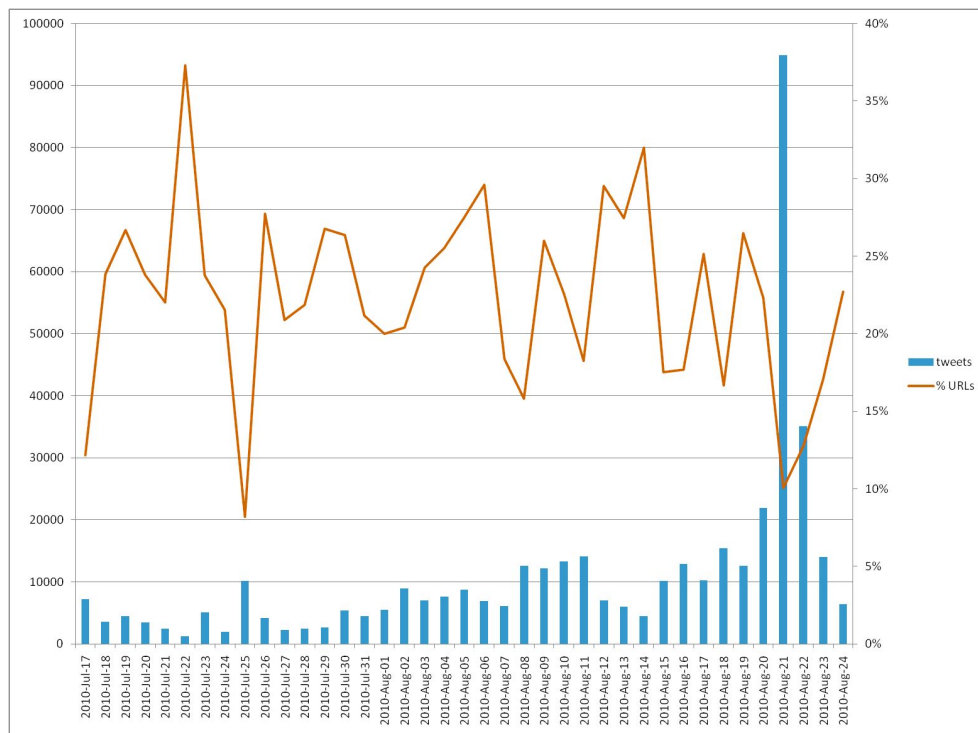
What unites all three dates is that they represent days with significant live (and televised) events. On 17 July, Julia Gillard called the election in a press conference which was carried live by many Australian networks; 25 July saw the leaders' debate, also televised live across a number of networks; and most networks ran their own special election coverage live broadcasts on the evening of election day, of course. What we see highlighted on these days, then, is the use of Twitter as a backchannel to accompany live broadcasts–a pattern which is also repeated in events as diverse as Twitter communities' discussion of breaking news (such as the recent natural disasters; cf. Bruns, 2011a) and their live commentary on TV shows from *Masterchef* to *Q&A* (Burgess, 2010). During some such live events, it appears that the focus of Twitter users is on commenting on the unfolding event itself, rather than on searching for and providing background information in the form of URLs.

This focus on the live events of debate and election night broadcasts is further demonstrated by the fact that #ausvotes activity on both 25 July and 21 August is very strongly skewed towards the evening hours, when those broadcasts were shown on TV (Figure 7). Activity on 25 July is concentrated around the 18:30 to 20:00 (AEST) broadcast time of the debate, while tweets on 21 August increase dramatically after 18:00, as voting booths in the eastern states close and first exit poll results are coming in, and do not decrease again until well into the early hours of 22 August (due to the inconclusive result of the election). At least for the duration of these broadcasts, then, participation dynamics in #ausvotes change

notably: from general discussion and commentary of each campaign day's unfolding events to shared use of Twitter as a focused, play-by-play backchannel for the broadcasts.

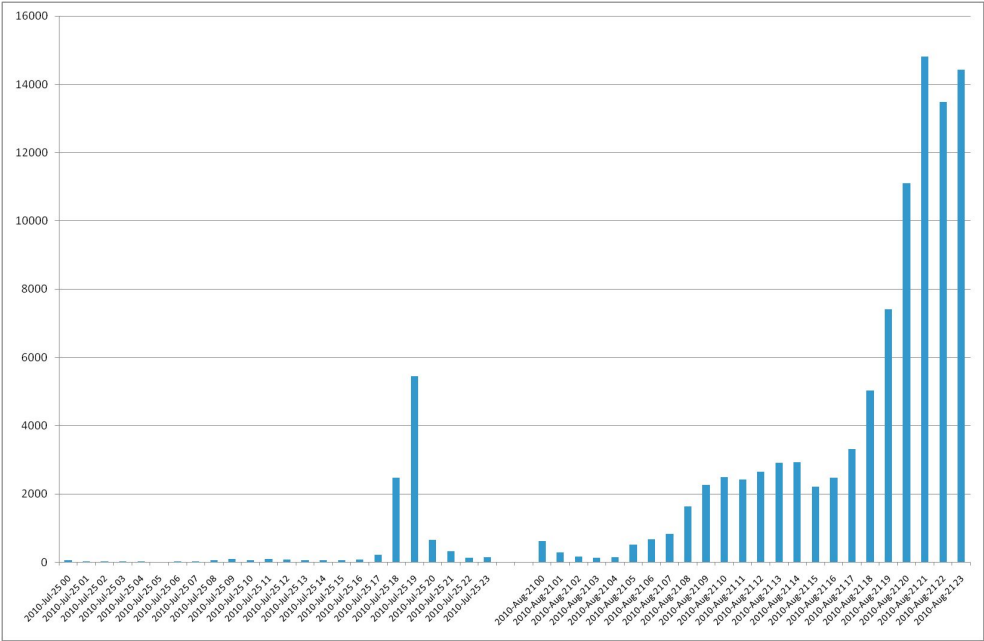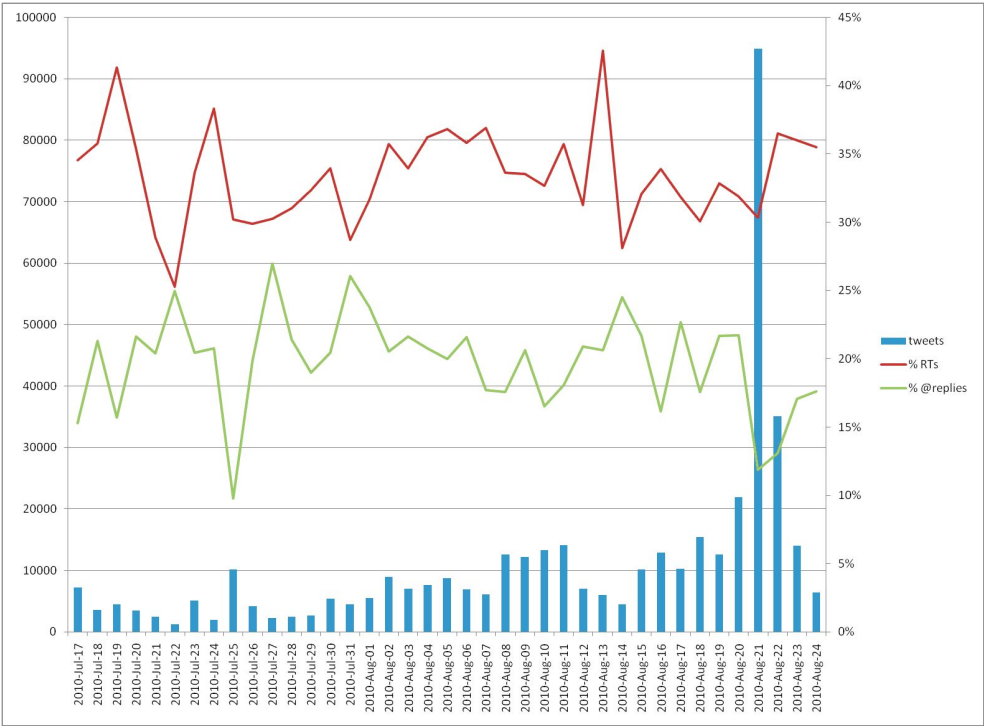**Figure 7:** #ausvotes Tweets per Hour on 25 July and 21 August 2010

Figure 8: Percentage of Retweets and @replies on #ausvotes, Compared to Total Volume, 17 July to 24 August 2010

In the same context, it is also instructive to examine the occurrence of retweets and @replies in the #ausvotes data (Figure 8). Overall, across the entire campaign period examined here, 33 per cent of all tweets were (manual) retweets of previous statements: however, as noted earlier, this does not imply that these tweets were exactly identical to the original; indeed, many may have been altered deliberately to engage in a conversation with the original author. An additional 20 per cent of all tweets contained @replies–in total, in other words, more than half of all the tweets contained in the #ausvotes dataset were responding in one form or another to a previous Twitter comment (on #ausvotes or elsewhere). The daily percentage of tweets falling in either category again fluctuated, of course, though not as wildly as that for URLs; some noteworthy patterns emerge especially for @replies, however.

At least for two key days during the campaign, @reply and URL percentages appear to move together: @replies are also at their lowest (at 10 per cent and 12 per cent, respectively) on 25 July and 21 August, the days of the leaders' debate and the election. Again, this pattern is very likely linked to the televised, live nature of these events: as Twitter users followed the broadcasts, they were tweeting their impressions and commentary without necessarily replying directly to any of their fellow #ausvotes participants. However, this should certainly not be understood as implying that the use of Twitter as a backchannel for television broadcasts in this form has simply become a substitute for shouting at the TV in one's own lounge room, that is, as the lonely, disconnected activity of an atomised public. Rather, the very point of Twitter's hashtag system is that even those tweets which are not directed at any specific addressee through the inclusion of an @reply can still be injected into a wider public debate, and made visible to an established issue public, by adding a hashtag–in this case, #ausvotes. Indeed, we may assume that especially during these key dates of the campaign, a particularly substantial number of Twitter users would have explicitly followed the #ausvotes hashtag updates feed.

In passing, we may also note that the percentages for retweets and @replies observed for #ausvotes diverge notably from those for other recent events. Our examination of the Twitter communities which formed around the south-east Queensland floods in January 2011 (hashtag #qldfloods) and the Christchurch earthquake in February 2011 (#eqnz) found that retweets accounted for more than 50 per cent of the tweets during the initial five days of each emergency, while @replies made up less than 15 per cent (Bruns, 2011b). During such breaking news events, in other words, it seems that sharing links to Web resources is a far more common practice than it is in the coverage of longer-term, broadly foreseeable activities (perhaps as Twitter users spread the word about the breaking news event itself and attempt to piece together the full story from incoming news updates), while @replying is generally less common–possibly because the hashtag community has only just formed, ad hoc, in response to the breaking news story, and has not yet had a chance to establish even a basic sense of its own internal participant network.

An additional explanation here is that, throughout the campaign, the temporary public formed around the #ausvotes hashtag was more engaged with itself *as a public* than it was with external reference points, with the communication on this hashtag being more conversational, discursive and combative, and less informational in character. Certainly, this second explanation would mesh with our hypothesis above that the dominant mode of participation in the #ausvotes conversation was subcultural and fannish, with participants engaging in playful, parodic and critical participation around the media representation and the 'game' of electoral politics, rather than predominantly in sharing or coordinating knowledge.

Beyond the day-to-day measures of tweeting activity, which provide valuable insight into the distribution of attention across the different political themes of the election campaign, as we have seen, and into the way such attention is expressed (through retweeting, @replying, or general discussion), a further analysis of the social network of the #ausvotes Twitter community is also instructive. In the context of a hashtag community, this cannot rely on established networks of followers and followees on Twitter, of course, as these would have formed as an expression of longer-term affinities and affiliations between users; while new connections between Twitter users may have formed as a result of encountering one another through participation in the #ausvotes hashtag community, it is the very purpose of hashtags to serve as a vehicle for otherwise unconnected participants to be able to join in a distributed conversation. A number of alternative measures are available to examine hashtag networks, however, and to highlight key participants: in the first place, we may examine the total amount of @replies (including manual retweets) received by each user, which provides a simple measure of the prominence of specific users within the overall community (Figure 9).

Figure 9: #ausvotes Users ranked by Received @replies and Betweenness Centrality, 17 July to 24 August 2010

user	@replies received (incl. manual retweets)	user	betweenness centrality
JuliaGillard	7066	latikambourke	33,418,702
latikambourke	5253	philbellamyinc	24,881,312
annabelcrabb	4340	annabelcrabb	23,280,056
AustralianLabor	4225	australianlabor	20,204,795
abcnews	3672	correllio	16,158,183
TonyAbbottMHR	2622	lyndsayfarlow	15,903,385
wendy4senate	2504	juliagillard	14,632,025
ALPVicPR	2104	mikestuchbery	10,097,650
Correllio	1810	drwarwick	10,048,214
PhilBellamyInc	1784	jeremysear	9,521,124
Greens	1764	peterjblack	9,257,367
LiberalAus	1701	geeksrulz	8,564,576
CatherineDeveny	1687	abcnews	8,506,186
SenatorBobBrown	1671	lesleydewar	8,407,452
MichaelByrnes	1280	sunriseon7	8,369,183
GetUp	1198	_cube_	7,995,894
AntonyGreenABC	1194	miltonfriedmans	7,827,292
GreensMPs	1192	unsungsongs	7,384,486
mpesce	1131	ibleeter	7,051,581
MiltonFriedmans	1130	trubnad	6,835,601
trubnad	1068	greens	6,549,382
LaurieOakes	1026	catherinedeveny	6,274,187
mfarnsworth	1020	mpesce	6,022,588
unsungsongs	1016	firstdogonmoon	5,966,940

The results of the @replies ranking are unsurprising: key politicians and parties, as well as a number of well-known journalists with Twitter accounts, dominate the top 10. The Prime Minister's account @juliagillard leads the table by some margin; her challenger Tony Abbott (@tonyabbottmhr) appears in sixth position, perhaps as a result of his less intuitive Twitter username. (Our dataset also includes @replies to the accounts @tonyabbott or @tonyabbottmp, as well as to similar usernames using common misspelt variations of Abbott's last name–'Abbot' and 'Abott'–which may account for some of the shortfall in @reply numbers here.) The party account @australianlabor (as well as its Victorian branch @alpvicpr) is also ranked highly, while @greens and @liberalaus remain less prominent. One outlier at the top of the @reply ranking is @wendy4senate, the account of Queensland Family First Senate candidate Wendy Francis, who generated some notoriety (and a substantial number

of outraged @replies) through a number of homophobic comments posted on her Twitter account; Francis later attempted to deflect the blame for this activity to her campaign staff (Maguire, 2010).

Of the journalistic Twitter accounts, ABC political journalist Annabel Crabb (@annabelcrabb) and then-Radio 2UE journalist Latika Bourke (@latikambourke) receive the most attention from their fellow #ausvotes participants; indeed, most likely as a direct result of her visibility on Twitter during the campaign, Bourke was subsequently appointed by the ABC as its first dedicated social media reporter at parliament house (*ABC TV Blog*, 2010). Additionally, the general @abcnews Twitter account is also featured prominently here (as the fifth most @replied-to account during the campaign); the vast majority of these @replies, some 74 per cent, came from manual retweets of ABC News stories, however. Notably, some 140 of the news stories disseminated through the @abcnews account during the campaign period were tagged #ausvotes by ABC staff, in recognition of the dedicated audience gathered around the hashtag.

Figure 10: #ausvotes Tweets sent, Retweets and @replies Received, by Major Cccounts, 17 July to 24 August 2010
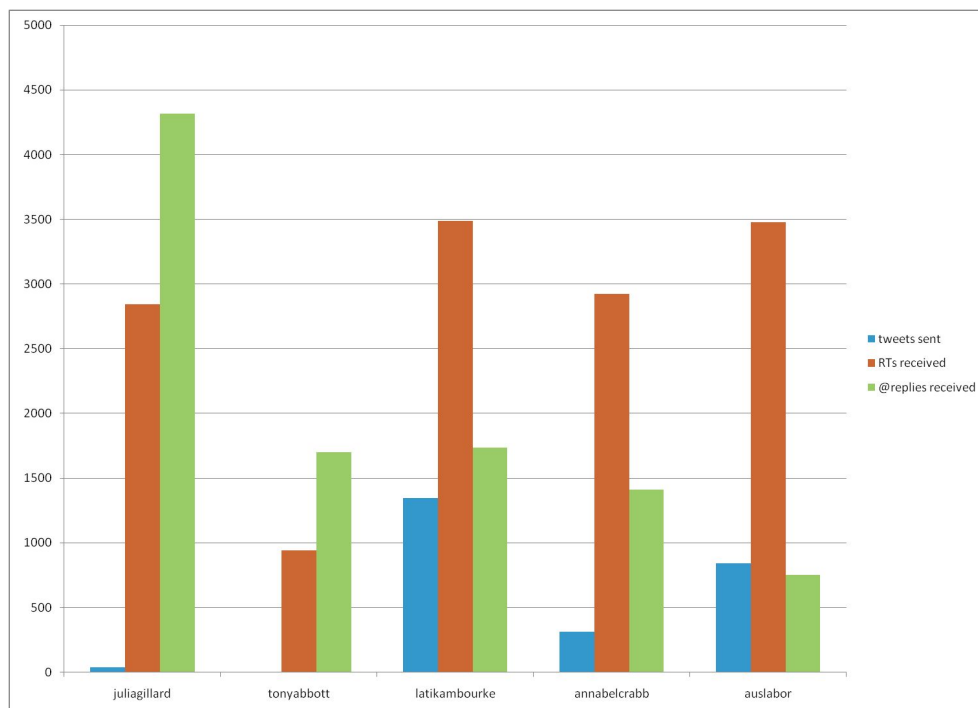
A closer examination of (manual) retweet and @reply patterns for the four most replied-to personal accounts reveals a clear distinction between #ausvotes responses to politicians and journalists, as well as between their own uses of Twitter (Figure 10). While both Gillard and Abbott (or their respective staffers) were actively posting Twitter updates during the campaign, only Gillard included the #ausvotes hashtag in 40 of her tweets; Abbott never once posted to #ausvotes during the campaign. Nonetheless, a significant number of retweets of their messages do appear in the #ausvotes dataset: either because retweeting users manually added the #ausvotes hashtag to otherwise untagged messages, or because they simply made up retweets of messages purporting to be from the leaders' accounts, which subsequently

received further retweets from others. While the number of retweets as well as @replies received by Gillard is substantially higher than that for Abbott (as expected from the overall ranking indicated in Figure 9), both receive a substantially larger number of @replies than retweets. In the absence of any significant number of responses from the leaders' accounts, this indicates that #ausvotes users are tweeting *at* or *about*, rather than engaging *with* the leaders; unless responses were made outside the #ausvotes hashtag (and thus not captured in our dataset), or through other channels, this would seem to represent a lost opportunity for these politicians to use Twitter to directly *engage* with their voters rather than simply to release predesigned PR messages to them.

The journalists, by contrast, were significantly more active in posting tweets directly to the #ausvotes hashtag community, and–largely due to the greater visibility which the hashtag afforded their tweets–also received a larger overall number of retweets for their messages. Both Bourke and Crabb also received comparatively fewer @replies, however, which may appear counterintuitive at first, since they were far better embedded within the #ausvotes community overall. However, if the majority of @replies to the politicians represent voters talking *at* their leaders, then we should expect this component to be missing for the journalists; what remains, then, are more genuine conversations between these two leading social media journalists and their audiences–as in turn again also highlighted by the much larger number of #ausvotes messages sent by both of them.

The @auslabor account shows a very different pattern again: it sent a substantial number of #ausvotes tweets, for which it also received a significant number of retweets. By contrast, it received notably fewer @replies than the other accounts examined here: an indication, perhaps, that the overall focus of the #ausvotes community in its own tweets–much as that of election coverage more generally–was on the respective leaders rather than on the parties themselves. Notably, too, except for Wendy Francis no politicians other than the party leaders Gillard, Abbott, and Brown appear as prominent participants in the network, as Figure 9 shows. Participants in the #ausvotes conversation were prepared to share the information provided by @auslabor's tweets, in other words, and to engage to some extent in conversation with the ALP staff operating the account, but directed the vast majority of their tweets at the individual candidates rather than the party machine.

However, while tweeting, retweeting, and @reply figures provide a measure of #ausvotes participants' individual activities, and of the reactions of other users reacting to their tweets, the network analysis metric of 'betweenness centrality' offers a better indication of the importance of individual users as information brokers to the overall community of participants. Betweenness centrality is calculated as a measure of how frequently each node in the network appears as a connector on the shortest paths between any other two nodes (in our case, Twitter participants) in the network; by analogy, it is a measure of whether they are located at key intersections on the main arterial roads through the overall map, or in relatively obscure locations accessible only through minor laneways. Those nodes with the greatest betweenness centrality can therefore be understood to be the central connectors and–in the context of the #ausvotes Twitter community, discussing the election campaign and sharing information about political developments–as key brokers of information for their fellow participants.

Figure 9 also provides a ranking of #ausvotes users by their betweenness centrality. Unsurprisingly, given our preceding discussion, journalists Bourke and Crabb as well as the @auslabor account continue to rank highly; the largely unidirectional efforts of Gillard's and Abbott's official personal accounts, however, mean that their betweenness ranking is necessarily much lower. Indeed, Abbott's account, which did not post to #ausvotes at all

and therefore constitutes a dead end in the network, necessarily has a betweenness rating of zero; Gillard's appears here only because the vast number of incoming tweets to her account partially balances out the very low number of #ausvotes tweets she sent.

By contrast, in addition to these official accounts, a number of more or less personal accounts achieve a high ranking on the betweenness scale: these are the accounts of users who engaged in significant levels of activity on #ausvotes not (primarily) for professional reasons, but out of personal interest. Included amongst the list are Twitter users such as Australian law academic and media commentator Peter Black (@peterjblack), who was also the public face of Electronic Frontiers Australia's campaign against the government's proposed internet filter; former 'This Is Not Art' festival director Marcus Westbury (@unsungsongs); and technology columnist and regular ABC The New Inventors panellist Mark Pesce (@mpesce)–to name just a few–as well as a number of less well-known (user)names.

These users are not necessarily the most active or even the most visible of the participants in #ausvotes, then, but we can understand them to be the best connected and most consistent members of the community. They are not located at the very centre of the network map which we present below, but are instrumental in important ways in coordinating #ausvotes discussion by acting as widely visible role models; additionally, taking into account their networks of Twitter followers and friends outside the hashtag community itself, they also act as key amplifiers of #ausvotes discussion beyond that community: #ausvotes tweets made or retweeted by them will be visible not only to followers of the hashtag, of course, but also to anybody who follows these participants' updates on a regular basis.

Figure 11 presents an excerpt from the overall #ausvotes @reply and retweet network. Each #ausvotes participant (including senders as well as recipients of tweets) is displayed as a node in the network; each @reply or manual retweet between them constitutes a connection between two nodes. As @replies and retweets are directed network connections (one user may @reply to another, resulting in a connection *from* the former *to* the latter, but this does not mean that the recipient will reply back in turn to create a reciprocal connection), *bidirectional* connections are highlighted in the map in darker grey. Additionally, repeated @reply/retweet exchanges between two users are shown as thicker lines between them, and these edge weights were taken into account in creating the network map. Figure 11 shows the central region of the total network map, reduced to include only those users who received more than 100 @replies or manual retweets during the entire campaign period. Node sizes in the map represent each user's betweenness centrality rating, while colours indicate the total number of tweets sent and @replies and retweets received by the user (the nodes' weighted degree). Julia Gillard's account, therefore, appears as the darkest node in the network, while Latika Bourke's is larger and slightly lighter. By contrast, Tony Abbott's account is hardly visible as a dark spot roughly equidistant between @juliagillard and @australianlabor; while ranking high in the weighted degree scale, as a non-posting participant in #ausvotes, his betweenness centrality (and hence the size of his node) is zero.

Figure 11: Map of #ausvotes @reply and retweet Activity, 17 July to 24 August 2010 (most active accounts only)
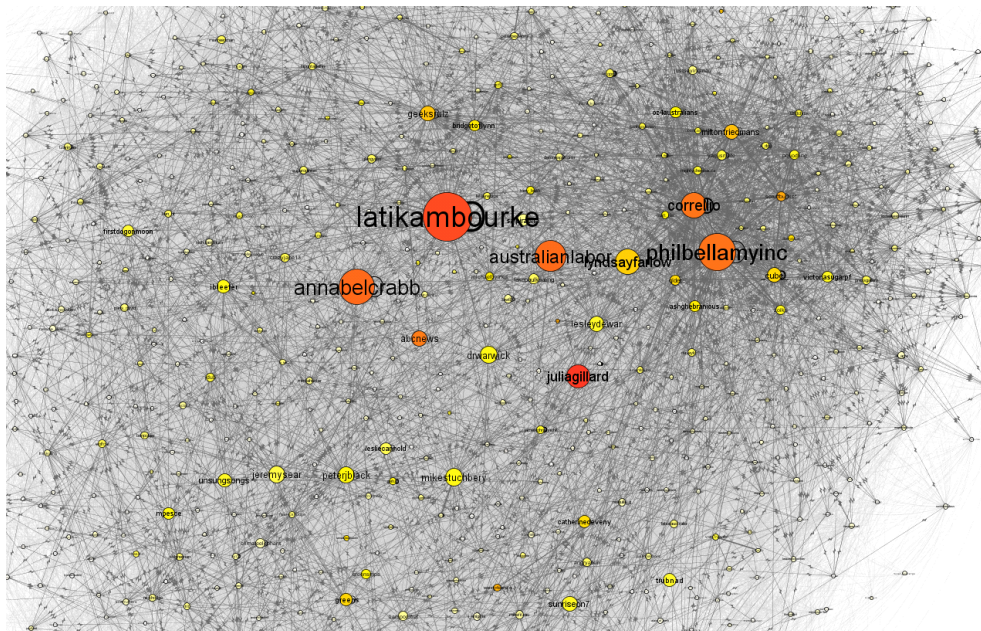
CONCLUSION

The study of user activities on Twitter–for individual hashtags during specific events, or for larger samples of users and/or periods of time–is still in its infancy, much indeed like Twitter itself as a social media platform for the discussion of current events. Many of the metrics to measure user participation and communicative impact which we have introduced here are new; few comparative studies examining similar forms of Twitter activity in different contexts (say, comparing between elections in Australia and elsewhere, or between political and other hashtag communities) have been undertaken so far. However, the work presented in this article clearly points to the value of such analysis: it enables us to track overall and individual public user activities over time and to investigate their interconnectedness with mainstream media coverage and unfolding political events. The quantitative work which we have undertaken here also helps to pinpoint areas of interest which will warrant further qualitative examination: for example, by studying in more detail the activities unfolding in the #ausvotes community during key moments of the campaign (such as the 17 July debate or the 10 August appearance of the Opposition Leader on the *7.30 Report*), or analysing more closely the #ausvotes performance of key user accounts.

A further close reading of the materials shared by #ausvotes participants in the form of links to online documents, images, and videos may also generate further valuable insights: for example, what is the extent of media diversity in the content that is most frequently shared and discussed by the Twitter community? Further comparative work with other Twitter data sets will help us to understand the extent to which online engagement with elections spreads beyond the core subculture of 'political junkies' and engages a broader cross-section of the voting public; particularly in comparison to more broadly popular issues and events like natural disasters, royal weddings, large sporting events or highly popular television shows.

Additionally, as shared theoretical and methodological frameworks for social media research emerge and the field matures, it will be vitally important to undertake work that seeks both to compare mainstream with social media coverage of significant public issues and events; and to better understand the content flows, cross-influences and structural interdependencies among 'official' political communication, mainstream media coverage, and social media activity. In order to do so, traditional content analysis methods for analysing press coverage and television footage will need to be adapted to complement the thematic categories and metrics that are emerging for Twitter (and Facebook) analysis; and these metrics will need to be supplemented with traditional qualitative, including ethnographic, inquiry: for example, into journalistic practices, the media management strategies of political actors, and so on.

While such additional research is beyond the scope of the present article–though not of the broader research initiative from which it originates, what our work is already able to document is how the #ausvotes community has covered the election campaign (and responded to the mainstream media's coverage) through their activities on Twitter. #ausvotes represents a significant and sustained engagement with Australian politics during the campaign, shifting at various points between using Twitter to share information on, and provide continuous commentary about, the day's events, and utilising the platform as a more or less unofficial backchannel to the live broadcasts of key campaign moments from the official opening of the campaign by the Prime Minister on 17 July to election day on 21 August and beyond. As we have shown, the former type of use relies more strongly on the sharing and discussion of external materials, and can be regarded as a kind of real-time gatewatching (Bruns, 2005), which relies significantly on ongoing conversations facilitated through Twitter @replies and retweets; the latter responds to the condensed timeframes of the live television event by dispensing with all but the most basic Twitter functionality–eschewing even @replies–and relies simply on the use of the #ausvotes hashtag itself as its central coordinating mechanism.

Either form of activity–and other modes of interaction which exist between these two–points very obviously to the utility of Twitter's hashtag system for coordinating public discussion. Through #ausvotes and similar thematic hashtags, a temporary issue public is formed, enabling its participants to engage in a sustained debate about relevant topics over the space of hours, days, or even months; at the start, this ad hoc creation of a public discussion group requires nothing more than a handful of users coming to a consensus on a shared hashtag to include in their tweets. The simplicity and flexibility of this (user-initiated) system of coordinating distributed conversations must surely be seen as a key reason for Twitter's increasing visibility and use in the coverage of major events from natural disasters through political crises to cultural events.

NOTES

1   The research on which this article is based was undertaken as part of the Australian Research Council-funded project New Media and Public Communication: Mapping User-Created Content in Online Social Networks. See http://mappingonlinepublics.net/.

2   The Facebook userbase in Australia was estimated at over 9 million in late 2010 (Foo, 2011), while (in the absence of comprehensive studies to date) the Australian Twitter userbase was estimated at up to 2.5 million in May 2010 (Bull, 2010).

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