

Digital Public Spheres in Australia

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Introduction: Many Publics in ‘the’ Public Sphere

Even though the important role that contemporary digital and social media play in public communication is by now well established, public sphere theory has yet to fully incorporate these new platforms, channels, and spaces into its conceptual frameworks. Part of the debate in this context is about how much of the influential Habermasian understanding of the public sphere can be retained as the mass media age comes to a close; here, approaches range from the minor adjustments Habermas himself has proposed in more recent work (e.g. Habermas 2006) to suggestions like Webster’s that “we need at least to consider abandoning the concept” itself (2012: 25), or Hartley & Green’s blunt assessment that “‘the’ public sphere is a convenient fantasy” (2006: 346-7).

Meanwhile, a host of additional and alternative concepts have sprung up that complement or supplement the idea of the public sphere as a central arena, sustained by the mainstream media, within which an elite discourse is carried out by representative actors on behalf of the wider citizenry in order to facilitate the formation of public opinion. First, several authors have argued for a distinction between the public spheres that may exist within particular broader domains – ranging from a political public sphere (Dahlgren 2009; Webster 2013) through a cultural public sphere (Hartley & Green 2006) to an indigenous public sphere (Hartley & McKee 2000) and beyond. Such public spheres necessarily overlap and share some of their key actors, but this fragmentation of ‘the’ public sphere into domain spheres recognises that the role and centrality of these actors will differ across these domains, and that various other, domain-specific players will be prominent in one but not in others of this set of public spheres.

Other contributions to the debate serve to further reduce the size of the communicative spaces under consideration. Rather than remaining at a whole-of-domain level, they focus on the public spherules that emerge and persist for some time around more narrowly defined themes within these domains (Gitlin 1998; Cunningham 2001; Bruns 2008). Cunningham sees such spherules as “social fragments that do not have critical mass [but] share many of the characteristics of the classically conceived public sphere” (2001: 135); in other words, this perspective envisages a smaller set of more thematically focussed actors, and foregrounds those participants in the discursive process who are especially engaged in the discussion around a particular set of current concerns over those who have a long-term track record of facilitating public deliberation within the overall domain.

In another, further step from the generic to the specific, Habermas himself also flags the contribution made by particular “issue publics” (2006: 422), which form around even more acute, more narrowly defined topics than are addressed by those thematic public spherules. Such issue publics can be highly dynamic, and may be populated by topic specialists who do not generally make a vocal contribution to broader themes and domains; these publics “emerge, exist for varying durations, and then eventually dissolve” (Dahlgren 2009: 74), potentially at a fairly rapid pace. Arguably, then, these issue topics also pose comparatively minimal barriers to involvement in public debate, and thereby facilitate the greatest diversity in the expression of public opinion.

These various concepts should not necessarily be seen as standing in opposition to one another; rather, they form a hierarchical structure and offer a logical path of progression. We might argue that within the fast-paced spaces of issue publics, topical ideas are proposed and tested, and specialist contributors find their voice. Those ideas that persist gradually accrete into broader themes, and through the continuing efforts of the most regular participants grow into public spherules; over a longer period of time, some such spherules, addressing related themes, may even coalesce into domain-specific public spheres. Although such public spheres at the

domain level are relatively stable, then, even they are far from permanent; their own evolution is driven by the much faster Brownian motion at the level of issue publics. In other words, where previously ‘the’ public sphere may have been seen as a monolithic, mass media-controlled, singular space for public debate, the system representing the contemporary public sphere is revealed as a composite assemblage that breaks down into a multitude of various interlocking modules that themselves consist of a variety of constantly moving parts. Additionally, the movement and evolution of these parts works at different time scales, from the comparatively glacial motion of domain-level public spheres to the *ad hoc* responses of issue publics (Bruns & Burgess 2015).

Finally, the various publics that form the lowest level of this assemblage are themselves rooted in a range of less-than-fully public spaces from which they source and into which they disseminate their ideas, and from which they recruit their participants. These “networks for the wild flows of messages” (Habermas 2006: 415) exist at the edge of publicness, both offline and online: engaging in modes ranging from face-to-face exchanges to discussion in personal social media spaces, here participants contribute to the debate in “privately public” or “civically privé” ways, as Papacharissi suggests (2010: 131). In the terms used to describe such spaces as much as in actual practice, the boundaries between ‘private’ and ‘public’ blur and dissolve to a point where to distinguish them no longer makes a great deal of sense. What is more important, by contrast, is that what is said in the relative seclusion of these spaces always also has the potential to become far more publicly visible, while what already circulates through public spaces may just as easily achieve yet further dissemination through the networks that exist between these semi-private “personal publics” (Schmidt 2014).

Classic public sphere theory was a highly normative exercise; as Webster has noted, the public sphere itself is “an explicitly *idealist* concept” (2013: 25). By contrast, especially at the lower levels ranging from personal publics through issue publics to public spherules, some of the newer contributions to the field also seem to hold a much greater potential for empirical validation. This is in part also because they – and public communication more generally – have come to rely considerably more prominently on digital media, channels, and platforms for their operation, enabling researchers to draw on methodological advancements in the field of Internet studies, and to apply the computational methods emerging in this field to the ‘big social data’ provided by contemporary digital platforms. The remainder of this chapter, then, explores how such methods might be applied to data extracted from one leading social media platform, in order to shed new light on the various elements constituting ‘the’ contemporary public sphere in Australia; many of the opportunities employed here may also be translated to other communicative and national contexts, however.

The Twittersphere as a Public Sphere

For a range of practical reasons, this chapter focusses its attention largely on *Twitter* in exploring these opportunities: most centrally, due to its comparatively simple privacy settings (where all accounts and their tweets are globally public by default, with only a very small minority of users switching their accounts to ‘protected’ and thereby making their tweets visible only to individually approved followers), *Twitter* is an inherently ‘public’ medium. As a consequence, it also becomes possible for researchers to observe communicative patterns on *Twitter* more comprehensively (and ethically acceptably) than they are able to do on *Facebook* and other leading platforms, where the private or public status of individual accounts and their posts is governed by a more complex permissions system and where consequently information circulates through a considerably more jumbled system of public and private channels.

On *Twitter*, the different communicative formations which we have encountered above appear to map relatively directly onto the specific communicative functionality available within the social network itself. For example, it is possible to distinguish three major layers of public communication, each following a set of unwritten community rules and constrained by their technological implementation (also see Bruns & Moe 2014). First, public *Twitter* conversations between two users which are conducted through mutual @replies can be seen as interactions within a given personal public, as they are visible in the first place to their active participants and to those other users who follow both conversants. (Traditionally, only @reply tweets which do not immediately start with “@user ...” have also been visible to those users who follow only the sender, but not the

receiver.) Dyadic @reply conversations on *Twitter*, in other words, establish a temporary personal public, centred around the two active participants, which constitutes an even smaller subset than their combined follower bases.

Additionally, of course, an individual user's follower base also represents their own personal public on *Twitter*, and usually constitutes both a subset of and a complement to their overall personal public across all the media forms (from face-to-face to digital platforms) that they engage in: it is a subset to the extent that the user is followed by individuals who are also connected with them through other media channels, and a complement to these other medium-based partial personal publics to the extent that users contained within the *Twitter*-specific personal public are not also otherwise connected. However, the more significant role of *Twitter* follower bases exists at a different scale, as we will see below.

The second key layer of public communication is made possible by *Twitter*'s hashtag functionality: by adding a keyword preceded by the hash symbol '#' to their tweets, users are able to make these tweets visible to any other *Twitter* user tracking the same hashtag (and indeed also to visitors to the *Twitter* Website who do not themselves have user accounts, but instead utilise the public search functionality to track the hashtag). Hashtags have proven especially valuable in providing a shared space for a community of interested users – who do not need to be *Twitter* followers of each other – to engage with a topic of common interest, from tracking the unfolding of breaking news events (e.g. Bruns *et al.* 2012; Bruns & Highfield 2012; Hughes & Palen 2009; Sarcevic *et al.* 2012) through engaging with political campaigns (Bruns & Burgess 2011; Larsson & Moe 2014) to participating in shared audience activities (Highfield *et al.* 2013; Harrington 2014).

Hashtags are especially useful for the rapid establishment of a community of interest in response to short-term issues; in such contexts, *Twitter* demonstrates its value as what Hermida (2010) and Burns (2010) have described as an "ambient news network", and the *ad hoc* publics (Bruns & Burgess 2015) which emerge in and through hashtags can be seen as the *Twitter*-based subset of relevant issue publics as we have defined them above. However, some much longer-term hashtag communities also exist (including, for example, the #auspol community for discussion about Australian politics, or #phdchat for mutual support amongst PhD candidates around the world), and here hashtag communities come closer to representing the public spherules we have also encountered in the preceding discussion. In both cases, however, it also remains important to note that these hashtag publics are not homologous with the respective issue publics or public spherules they relate to: rather, they constitute an incomplete reflection of these larger communicative formations in the same way that *Twitter* as a whole constitutes an incomplete reflection of public debate as such.

Finally, a third layer of public communication on *Twitter* comes into existence through the overlap and combination of individual users' personal follower bases into a wider, global network structure which contains specific zones and clusters of especially dense interconnection, and through the continuous transmission and retransmission of content throughout this network. Here, it is important to distinguish the practices of dyadic conversation between individual users as we have seen them at the small end of the scale from the cascading narrowcast of tweets and retweets across follower networks as it is evident at the opposite end: as users tweet their thoughts, post photos and videos, and share links to external material which they believe may be interesting to their followers, and as a subset of such tweets are further retweeted and commented upon by their recipients, a loosely organised process of gradual information diffusion takes place which is affected by the contours of the underlying network of follower relations; in other words, messages are somewhat more likely to reach saturation coverage within densely connected clusters of mutual follower relationships than they are to skip from cluster to cluster.

To the extent that such network cluster formations are determined by shared thematic interests rather than by other (e.g. demographic or geographic) factors, then, these clusters within the *Twittersphere* reflect on *Twitter* the public spherules that we have encountered above. Within these clusters (but also within many hashtag communities), processes of collaborative information curation may be observed, as through their decisions on what content to share (by tweeting) or promote (by retweeting) participating users are collectively influencing the visibility of specific ideas, stories, and topics; such processes, then, "help people manage the abundance of information around them by introducing filter mechanisms which are personal and social"

(Schmidt 2014). In principle, this may be seen as supporting the existence of cluster- and hashtag-specific “filter bubbles” (Pariser 2011) on *Twitter*, since such social curation processes hold the potential for the development of groupthink – but this is true only to the extent that each cluster does indeed exist as a self-contained bubble, sealed from outside influences. As we will see, few thematic network clusters on *Twitter* appear to be so hermetically separate from their neighbours.

Examining the Evidence from Social Media

If the communicative facilities offered by the *Twitter* platform infrastructure itself appear to map fairly straightforwardly onto the conceptual frameworks which have been used to extend and modify the conventional public sphere concept, then, it becomes important to examine the existing evidence for the use and impact of such functionality in everyday communicative practice. This is possible by drawing on a range of existing studies of *Twitter*-based communication.

Using Follower Networks to Detect Public Spherules

First, the presence of thematically motivated public spherules and their ability or otherwise to sustain sealed “filter bubbles” can be examined by exploring the underlying structure of follower/followee networks in *Twitter* at large scale. A visualisation of the networks of follower/followee relations amongst the 255,000 best-connected Australian *Twitter* accounts – out of a total of some 3.7 million Australian accounts identified in early 2016 – clearly documents the presence of such spherules, for example. Using the Force Atlas 2 algorithm (Jacomy *et al.* 2014), which helps to highlight clusters within a given network, fig. 1 depicts the networks between these users; the thematic focus of each cluster emerging from the network analysis was determined subsequently by examining the profile information provided by the leading users in each cluster (for more detail, see Bruns *et al.* 2017).

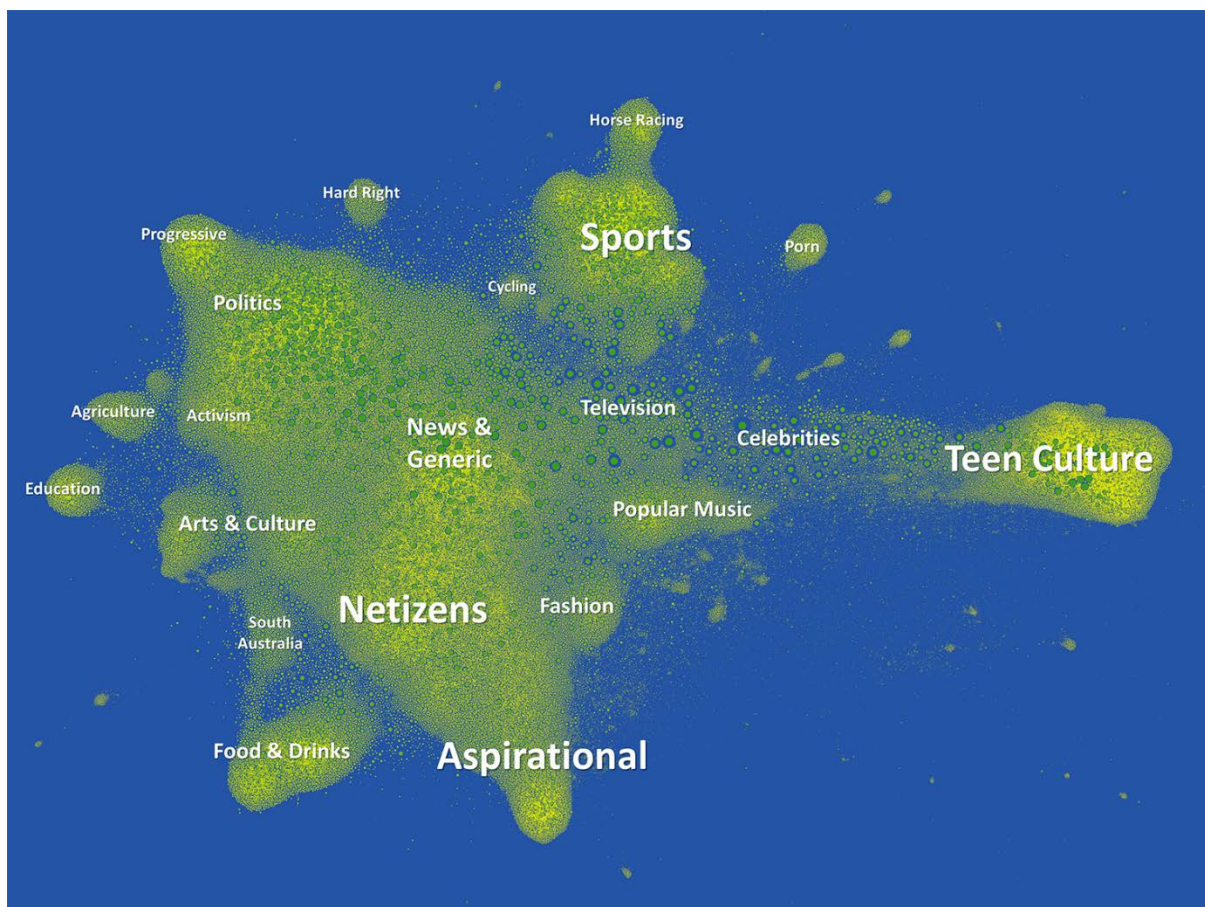


Figure 1: Thematic Clusters in the Australian Twittersphere (based on network information for the 255,000 most connected users in the overall network of 3.7 million known accounts at the time of visualisation in early 2016)

Clear clustering tendencies are evident from this depiction, and the relative positioning of clusters towards each other also follows logical patterns. For example, although broadly distinct from each other, the clusters towards the top of the map generally relate to sports and media themes, while those to the top left address politics and policy. Larger clusters also subdivide into more specific areas of interest – the overall sports cluster, for instance, contains networks of users focussing on football proper alongside those for rugby league, rugby union, and Australian football, as well as cricket, swimming, cycling, and horseracing. Conversely, it is obvious that while there are some more sparsely populated lacunae between specific clusters – indicating a comparatively limited affinity between the teen culture and politics clusters, for example – virtually none of these clusters are hermetically separate from each other.

While from this network analysis it appears less likely that information would be passed on as quickly from the politics to the teen cluster as it would be from the politics to the activism cluster, therefore, virtually none of the clusters represented here are likely to act as “filter bubbles” shielding their members from new and extraneous information (cf. Bruns, 2017). Only some of the very minor, outlying clusters of accounts – such as educators or pornographers – appear comparatively disconnected from the mainstream Australian Twittersphere; however, even in these cases it is still likely that these users are also very closely connected to overseas members of their transnational publics, and that a map of connections in the global Twittersphere may show these groups to have a variety of intercluster connections which do not appear in the Australian-only network.

To the extent that *Twitter* connection patterns reflect similar networks of communication beyond this specific platform, then, this study appears to lend credence to the concept of domain-based public spheres or thematically-driven public spherules which operate as subsets of ‘the’ public sphere (or, in a more dramatic reading, constitute the remaining fragments of an all-encompassing public sphere which dissolved as a result of the structural transformations associated with the decline of the mass media age). Some of the clusters observed here are broad enough to constitute the *Twitter*-based component of domain-centric public spheres (e.g. politics, sports), while others are more likely to represent smaller thematic public spherules within these domain areas. Even in spite of the relatively fast-paced (and in the case of *Twitter*, more or less real-time) nature of communication on social media, these public spherules also appear to be comparatively stable formations centred around shared thematic interests; comparisons between Fig. 1 and similar mapping exercises in earlier years (Bruns *et al.* 2014) do not point to particularly substantial shifts in the overall structure of network clusters in the Australian Twittersphere, for example. They therefore appear to constitute a reasonable reflection of the slowly evolving domain-based public spheres and thematic public spherules as we have encountered them as a theoretical construct above.

The Role of Hashtag Communities as Issue Publics

As smaller, often shorter-term, and more topically focussed formations, issue publics should be expected to exhibit somewhat different properties. It is possible to explore the *Twitter*-based representation of such issue publics both by examining the internal dynamics of hashtag publics and by identifying their participative footprint within the wider Twittersphere. Building on the work begun by Bruns & Stieglitz (2012), for instance, a large-scale comparison of the communication patterns within a large number of different hashtagged events as they played out on *Twitter* points to clear differences in the dynamics of specific hashtags from crises and disasters to major entertainment events, but also identifies strong internal consistencies amongst hashtags that belong the same class of event (Bruns *et al.* 2016). This analysis shows that the hashtags for widely televised, predictable events (from sporting finals through reality TV events to election nights) attract relatively few participants who share new information by including URLs in their tweets, or pass on the tweets of others; rather, the hashtag is used instead for an expression of communal audiencing. By contrast, the hashtags related to crisis events (from natural disasters to political unrest) show a significantly larger percentage of information tweets containing URLs, as well as of retweets – here, users are actively engaged in finding and sharing

information, often ahead of any mainstream media coverage of the event. This appears to indicate that there may be a number of archetypal behaviours for issue publics, defined likely by the particular features of ‘their’ topic (foreseen or unforeseen; short-, medium-, or long-term; unfolding in an information-rich or information-poor communicative environment).

Similarly, the distribution of participants in issue publics across the Twittersphere varies considerably from case to case. For the Australian Twittersphere as we have encountered it in fig. 1, it is possible to visualise this distribution by plotting the participants in specific hashtags against the underlying follower/followee network (and its thematic clusters) as shown in the previous graph; this indicates the relative homology or divergence of these hashtag-based issue publics from the longer-term public spherules represented by the cluster formations. Fig. 2 demonstrates this approach for the hashtags #auspol (for discussion of overall Australian politics) and #ausopen (for discussion of the Australian Open tennis tournament), both during the first quarter of 2017. Participants in either hashtag community are shown in red, against the white background of the overall Twittersphere follower/followee network).

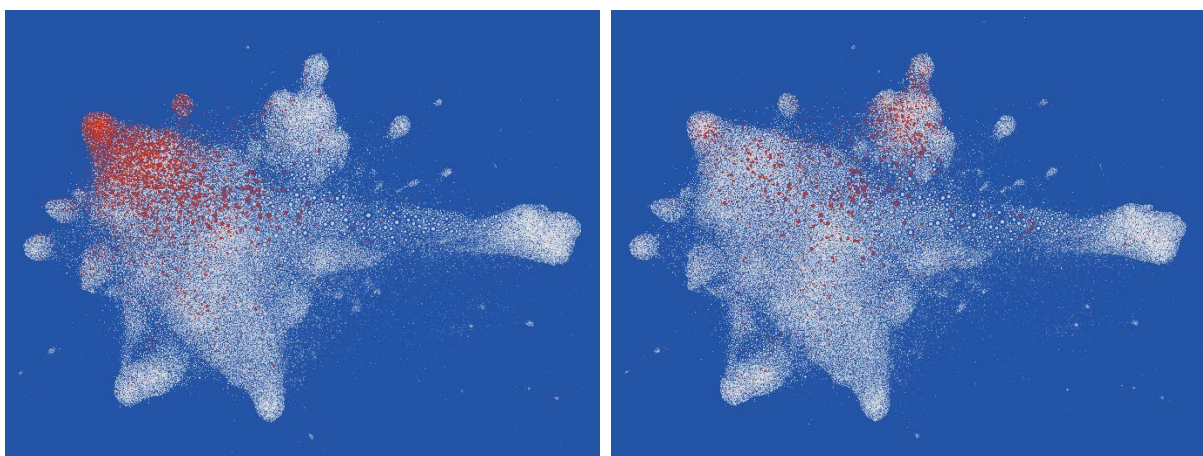


Figure 2: Participation by Australian users in the hashtags #auspol (left) and #ausopen (right) during Q1/2017

It is immediately evident that the very long-standing #auspol hashtag (which has existed on *Twitter* since the early days of the platform’s adoption in Australia) is largely homologous with the cluster of users whose interests centre on politics (and, to some extent, news in general). There is, however, an especially active, very tightly interconnected group of #auspol contributors at the top left of the network graph who form their own sub-cluster within the broader politics cluster; these accounts can be seen as representing the lead contributors to the #auspol hashtag, while they are not necessarily also central to the overall politics cluster in the Australian Twittersphere. This points to the differential communicative patterns that exist in #auspol itself (where discussion is dominated by these highly engaged, highly vocal lead users; cf. Sauter and Bruns, 2015) as compared to the more general politics cluster (where the country’s leading politicians, journalists, and news organisations constitute the central hubs of interconnection). It might also be seen as *Twitter*-based evidence of a more narrowly defined public spherule of “political junkies”, in Coleman’s formulation (2003), within the broader political public sphere in Australia.

Participation in #ausopen, on the other hand, is considerably less prominent; this is unsurprising given that the tournament played out over only a few weeks of the full three-month period examined here. More importantly, however, it is immediately evident that participation within this event-based hashtag is distributed across much of the Australian Twittersphere network, with particular engagement from the sports, news, and politics clusters. This indicates that, largely independent of the thematic public spherules that these Australian *Twitter* users might ordinarily be most engaged in, the leading participants in the #ausopen hashtag temporarily formed a topically focussed issue public around this sporting event; through this issue public, they (and other *Twitter* users around the world) engaged in a communal process of audiencing by following and commenting upon the latest updates from the tournament. That issue public, then, does not simply constitute a subset of

the overall public spherule of Australians who are generally following various sports, but temporarily also recruited its members from a wider cross-section of society in Australia and elsewhere. In this, it clearly differs from #auspol, which largely represents a hard core of the overall Australian political public sphere.

The Wild Flows of Messages across Personal Publics

Finally, each individual user's network of first-degree follower/followee connections on *Twitter* also represents their specific personal public on the platform, and exists as a subset of the overall personal public that is constituted by their personal publics across all of the communications channels they utilise. Marwick & boyd (2011)'s study of *Twitter* users' different understandings of this imagined audience provided valuable evidence, from a comparatively early time in *Twitter*'s history, for the various conceptualisations of such personal publics that may be held by different users; the diversity of approaches to engaging with their personal publics that that paper identified has only increased over recent years as the size and diversity of the global *Twitter* userbase has grown rapidly. Litt & Hargittai (2016) have recently extended this line of inquiry further; they show that users imagine a range of target audiences, more or less clearly, each time they choose to post to a social media platform.

Closing the loop from the quasi-private to the globally public perspective, however, it is already evident that the overlap of individual personal publics on *Twitter*, through shared follower/followee connections, makes possible flows of information that do not necessarily require the existence of a public spherule in the form of a network cluster defined by a common theme, or the support of an issue public in the form of a topical hashtag. Instead, information may also flow osmotically by being transferred from one personal public to another and another, across the network connections they have in common. This process is likely to reach localised communities (that is, clusters) in the network most easily when a large number of the strong links *within* the cluster actively share such information, and it is likely to spread across the wider network most speedily if a large number of the weak links *across* clusters engage in the dissemination of information.

Such processes of dissemination both within and across clusters of connected accounts on *Twitter* have been demonstrated especially in the case of a number of noted 'viral' events, during which specific pieces of information rapidly reached a substantial subset of the global *Twitter* population. For instance, Bruns & Sauter (2015) have visualised the widespread dissemination of the video of a highly emotionally charged speech by the erstwhile Australian Prime Minister Julia Gillard across the Australian Twittersphere, showing that even ahead of the formation of a more clearly defined issue public, designated for instance by a shared hashtag, there was considerable and rapid on-sharing of the viral video both within and across the thematic clusters within the Australian Twittersphere. This must be seen as a demonstration of the "wild flows of messages", of "everyday talk in the informal settings or episodic publics of civil society" on the edges of 'the' public sphere, that even Habermas himself acknowledged as being just as influential as "print or electronic media" (2006: 415-6): here and in more ordinary, everyday processes of content dissemination, the overlapping personal publics of *Twitter* users act as important conductors of information between and across the more distinct issue publics and public spherules that much of the recent research into information flows in social media has focussed on.

Conclusion

This brief overview of recent research into the communicative formations within the Australian Twittersphere has paired empirical phenomena in social media communication with structural concepts from post-Habermasian public sphere theory. This should not be seen as implying a direct and immutable equivalence between these concepts and the patterns that may be observed in *Twitter*-based communication, of course. The communicative affordances provided by the *Twitter* platform may be appropriated by its users in a variety of ways, diverging from the practices outlined here – not every hashtag represents an issue public, for instance. However, while specific contexts of use must always be taken into account, there are significant connections between theory and practice to be observed here, and the in-depth and attentive study of communication on *Twitter* and similar social media is able to provide important new insights into the complex structural formations and interrelations that have emerged in the age of networked media.

In this context it appears especially important to pay more detailed attention to the edges of 'the' public sphere as it had previously been understood: to the liminal spaces where public and private intersect. As we have seen, here social and other networked media further amplify the 'wild flows of messages' that have always been part of human communication, but have never before had the opportunity to reach so far and cross over so easily into the more *public* part of the assemblage of spaces that has replaced the public sphere. So amplified, those messages have become an increasingly influential counterweight to the more conventional public discourse that continues in topical issue publics, thematic public spherules, and domain public spheres. There is now a considerable need to further extend our investigation of these everyday forms of discursive participation – on *Twitter* and elsewhere; in Australia and beyond.

Acknowledgments

This research was supported by the Australian Research Council through the ARC Future Fellowship project *Understanding Intermedia Information Flows in the Australian Online Public Sphere*, the ARC Discovery project *Journalism beyond the Crisis: Emerging Forms, Practices, and Uses*, and the ARC LIEF project *TrISMA: Tracking Infrastructure for Social Media Analysis*.

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