

## Twitter: Microphone for the masses?

Media, Culture & Society

33(5) 779–789

© The Author(s) 2011

Reprints and permission:

sagepub.co.uk/journalsPermissions.nav

DOI: 10.1177/0163443711404744

mcs.sagepub.com



**Dhiraj Murthy**

Bowdoin College, USA

In a recent issue of this journal, Rebillard and Toubol (2010) concluded that the egalitarian promises of Web 2.0 for citizen journalists have not panned out. Rather, professional news media websites are built around content from professional journalistic sources and most ‘citizen journalism’ online relies on and links back to professional news media websites. This commentary explores whether Twitter, the popular social media website in which individuals are asked to respond to the question ‘What are you doing?’ (and now ‘What’s happening?’) in 140 characters, has changed this relationship. As even the most basic mobile phone can be used with Twitter, the technology is potentially accessible even in impoverished countries. But, despite its base of over 75 million users (Gaudin, 2010) and its coverage in the news, most Americans and Europeans are not versed in the medium. This was exemplified when Secretary of State Hillary Clinton admitted she could not tell ‘a Twitter from a tweeter, but apparently, it’s very important’ (cited in Morozov, 2009: 10).

This article examines citizen journalism and Twitter. The site’s role in being the first to report on the Mumbai bomb blasts in 2008 and the downed US Airways flight in 2009 are used as case studies. This article also explores the question of whether Twitter has transformed ordinary individuals into citizen journalists whom the newsreading public follows or whether their voices are merely subsumed by traditional media. In other words, has Twitter really produced a new space in which ordinary people meaningfully interact with ordinary people around the world who have rich insider accounts pertaining to diverse forms of socioeconomic life? An argument is made that ordinary people on Twitter are producing news and consuming news (especially ‘breaking news’) produced by other ordinary people. However, counter-arguments are presented which make the case that perhaps the individual tweets and Twitter users breaking news stories experience a short-lived fame as the public follows stories of interest through professional news media outlets.

---

**Corresponding author:**

Dhiraj Murthy, Bowdoin College, Department of Sociology, 7000 College Station, Brunswick, ME 04011, USA.

Email: [dmurthy@bowdoin.edu](mailto:dmurthy@bowdoin.edu)

## Contextualizing Twitter

'What Hath God Wrought' – Samuel Morse's first message on the newly completed telegraph wire linking Baltimore and Washington on 24 May 1844 was a mere 21 characters long. Alexander Graham Bell's first message on the telephone to his lab assistant on 10 March 1876, 'Mr. Watson – come here – I want to see you', was a more liberal: 42 characters long. Ninety-five years later, Ray Tomlinson sent the first email, with the message 'QWERTYUIOP', from one computer in Cambridge, Massachusetts to another computer sitting beside it. Tomlinson's message: a spartan 10 characters.

In the past, technology determined the length and duration of the message. In the internet age of today, our ability to communicate is seemingly limitless. However, mediated communication (as opposed to face-to-face communication) has, in many countries, been marked by a new era of brevity. Social networking and social media websites like Facebook and Twitter are digital throwbacks to the analogue succinctness of telegrams – a comparison analogous to Standage's (1998) reference to the telegraph as the 'Victorian Internet'. Yet what is the significance of this electronically mediated turn to terseness? Does it signal the dumbing down of society, the victory of short attention spans, or the rise of new virtual 'me' cultures where – as Marshall Berman (1982: 22) puts it – 'the individual dares to individuate himself'? Are we saying more with less, or just saying less? These questions are intentionally sweeping. However, they are indicative of recent shifts in terms of the ways in which we communicate and, very importantly, shifts in how our audiences are constituted.

In terms of audiences, terse updates on social media and social networking websites have produced new audience configurations. Specifically, individuals have a constellation of 'friends' or 'followers' who can see these updates, but, this audience is continually changing minute by minute. This is well illustrated by 'status updates', short one- or two-line messages on the popular social networking website Facebook. Though these short messages are often trivially banal, these messages are circulated as 'news', which Facebook automatically distributes to your group of 'friends' on the site. Once the update percolates to your friends, they have the opportunity to comment on your update, sometimes generating a rash of discussion regarding whatever one has posted about. However, this type of speaker–listener configuration, as Goffman (1959) puts it, can be an 'asymmetric' mode of expression in that the unintended audience has an incongruous understanding of what the speaker may have actually intended.

Nonetheless, this form of curt social exchange has become the norm with messages on Twitter. Unlike status updates, their strict limit of 140 characters produces at best eloquently terse responses and at worst heavily truncated speech. The first tweet on the site, 'just setting up my twttr' (24 characters), by Jack Dorsey, the creator of Twitter, on 21 March 2006 perhaps led by example. Dorsey's message, like that of Morse, was brief and, like that of Bell, was unremarkable in its literal content. But whether or not a message is remarkable or unremarkable is not the remit of this article. Rather, the brevity inherent to Twitter as a medium shapes the ways in which it is used. For example, in the case of citizen journalism, brevity has allowed tweets to effectively communicate timely information during disasters (e.g. the bomb blasts in Mumbai in November 2008 and the May 2008 earthquake in China's Sichuan Province) and social movements (e.g. the

demonstrations against Iranian president Mahmoud Ahmadinejad during the country's 2009 elections or the student-led protests against the victory of the Communist Party in Moldova's April 2009 elections). At an individual level, tweets have reported everything from crimes in progress to unlawful arrests.

For example, in April 2008, James Karl Buck, a graduate student at University of California, Berkeley was arrested photographing an anti-government labour protest in Mahalla, Egypt. He quickly sent a one-word tweet from his phone, 'arrested', which caught the attention of Buck's Twitter 'followers', those who receive his tweets. His one-word tweet led to Berkeley hiring a lawyer and Buck's eventual release. There are, of course, many distinctions to be made between the tweets sent by Buck and the more unremarkable, everyday tweets, including Jack Dorsey's third tweet, 'wishing I had another sammich'. Though an intentionally striking and loaded comparison, it is just this absurdity that happens daily, hourly, and by the minute on Twitter.

## What is Twitter in practice?

Twitter allows users to maintain a public web-based asynchronous 'conversation' through the use of various websites, mobile internet devices, and SMS (i.e. text messages). Messages on Twitter are automatically posted and are publicly accessible on the user's profile page on the Twitter website. Anyone with internet access can instantly see a tweet and respond to it.<sup>1</sup> One does not need even to 'know' the other user or have their permission to direct a tweet at them. It is estimated that more than 50 million tweets are sent every day (Twitter, 2010). Though it is unclear as to how many of these tweets ever get read, the fact of the matter is that people are sending tweets and consider it to be meaningful to them. One factor that has facilitated the popularity of this medium is its ease of use. Anyone with a mobile phone (and that is 89 percent of the US population (CTIA, 2009) and 84 percent of the UK population (Deloitte LLP, 2009) can quickly fire off a text message to Twitter's mobile phone number. And because sending a text message has become a banal activity in scores of countries around the world (Ewalt, 2003), the learning curve for using Twitter is relatively low for individuals familiar with 'texting'. That being said, those without internet access are unlikely to use Twitter regularly as most of its features are dependent on mobile internet or wired internet access rather than texting from basic mobile phones.

Though restricted to 140 characters, Twitter has methods of connecting tweets to larger themes, specific people, and groups. Tweets can be categorized by a 'hashtag', which is preceded by a hash sign. For example, this tweet – 'couldn't get to work. Missing a board meeting. #uksnow' – uses the hashtag 'uksnow' to make clear that they are missing work because of the 2009 blizzards in the UK. Additionally, anyone who searches Twitter for 'uksnow' will see this tweet. Similarly, tweets can also be directed to specific individual(s). It is through the at-sign that public Twitter-based conversation occurs. For example, in this tweet, a user is directing his post to Barack Obama: '@BarackObama. I know other countries need help. We have homeless and people in USA that we should help first, don't you thank [sic].'

Twitter also displays a 'feed' of tweets of users one is 'following' (i.e. users you have selected to receive tweets from). These users can be people you are interested in

(from A-list celebrities to your neighbour), a professional organization, a magazine/journal, a company, etc. This feed of tweets, known as a 'timeline', appears when you log into Twitter (either from a computer or mobile device). The aggregation of a user's tweets on one's Twitter page is considered a 'microblog', a web 'log' that consists of short messages rather than long ones (Java et al., 2007). Twitter is considered the most popular microblogging service, though others such as friendfeed, Jaiku, Tumblr, Plurk, and Squeelr (an anonymous microblogging service) have also experienced exponential growth. As their name suggests, microblogs differ from 'blogs', longer-length web 'journals', in terms of the length of posts.

Microblogs depend on the regularity of content. One of Ebner's and Schiefner's (2008) respondents adds that microblogging can facilitate virtual communities because users feel a 'continuous partial presence' of other users. In this vein, Rosen (cited in Crawford, 2009) compares aspects of Twitter to a radio. Even if one does not post on a particular day, they feel an aura of other users through the feed of microblog posts on their PCs. Licoppe (2004) has usefully theorized this as a 'connected presence' in which mediated communication (in this case, Twitter) facilitates the construction of social bonds. Specifically, Licoppe (2004: 135) concludes that physically absent parties '[gain] presence through the multiplication of mediated communication gestures on both sides'. In other words, a constancy of presence is felt through multiplied interactions.

### **Citizen journalists breaking news through Twitter**

Twitter has received significant media attention in its use to disseminate information during disasters, including the 2008 Mumbai bomb blasts (Dolnick, 2008) and the January 2009 crash of US Airways flight 1549 (Beaumont, 2009). In the latter event, Janis Krums, a passenger on the Midtown Ferry took a picture of the downed US Airways jet floating in the Hudson (see Figure 1)<sup>2</sup> and uploaded it to Twitter before news crews even arrived on the scene. Krums not only uploaded his tweet and photograph with ease, but also continued tweeting as he helped with aid efforts. In an instant, he was transformed from Florida-based businessman to both citizen journalist and emergency aid worker. During the Mumbai bomb blasts in 2008, Twitter was used to circulate news about the attacks (Beaumont, 2008). Seconds after the first blasts, Twitter users were providing eyewitness accounts from Mumbai. For example, on 26 November 2008, the day of the attacks, @ShriNagesh tweeted 'a gunman appeared in front of us, carrying machine gun-type weapons & started firing [...]' and @Dupree tweeted 'Mumbai terrorists are asking hotel reception for rooms of American citizens and holding them hostage on one floor' (BBC News, 2008). Though limited to 140 characters, the information contained in these tweets was invaluable to individuals in Mumbai as well as news media outlets throughout the world. Traffic on Twitter with the #mumbai hash tag grew to such a volume on 27 November that the Indian government asked for Twitter users to halt their updates (BBC News, 2008). Some reports indicated that the Indian government was worried that the terrorists were garnering inside information about the situation from internet media sites including Twitter (*Courier Mail*, 2008).

Not only was news in these cases disseminated nearly instantaneously by citizen journalists through Twitter, but tweets often included linked photographic documentation. In



**Figure 1.** Miracle on the Hudson

Source: Janis Krums, [www.janiskrums.com](http://www.janiskrums.com), Twitter: @jkrums, <http://twitpic.com/135xa>

the face of deep budget cuts, traditional media outlets are hard-pressed to have people on the ground picking up stories this quickly. Twitter, on the other hand, has at its disposal a virtual army of citizen journalists ready to tweet at a moment's notice from their mobile phones or mobile devices. At the time of writing, 23.5 percent of the UK population has mobile internet on their phone (Deloitte LLP, 2009) and, as such, are capable of sending tweets with linked photographs. Most smart phone users with a Twitter-based application could take a picture and send a tweet in under 45 seconds. This seamless convergence of photographic and textual information from everyday 'citizen journalists' made Twitter a news source during the post-election protests in Iran (Morozov, 2009),<sup>3</sup> the 2008 cyclone in Burma (Washkuch, 2008), and the elections in Moldova (Barry et al., 2009; Mungiu-Pippidi and Munteanu, 2009).

Twitter has not just made the headlines through news of activism or disasters. For example, Twitter speed-dating, when singles go to a bar armed with a mobile phone, sending tweets to potential suitors, has gained a following in New York (Snow, 2009). And in Los Angeles, the Kogi Korean BBQ-To-Go van, which sells Korean-Mexican fusion tacos, sends tweets to its followers letting them know when and where the van will next be stopping (Oh, 2009). Twitter has also become an increasingly popular medium for support networks. For example, Hawn (2009: 364–5) highlights the case of Rachel

Baumgartel, a woman with type 2 diabetes who uses Twitter to inform her support network of her diet, exercise regime, and haemoglobin a1C levels. For Baumgartel and many others like her, Twitter functions as a medium for her network to keep one 'in line' on a daily basis in terms of following a treatment regime.

## **The rise of Twitter-based citizen journalists?**

A question this article is interested in is whether the cases of US Airways flight 1549 and the Mumbai bomb blasts signal the rise of citizen journalism or whether they merely represent a new means for traditional media to pick up a scoop. Either way, this is a question with significant implications. Jen Leo, a blogger for the Los Angeles times, wrote about Krums' iconic photograph and asks whether it is 'becoming more interesting to turn to citizen journalism than traditional broadcast media for coverage?' (Leo, 2009). Part of this question, of course, is contingent on the legitimacy of Twitter as a news source itself. Ross McCulloch (2009) of the Third Sector Lab blog comments that '[w]ith the press of a few buttons on his iPhone, Janis Krums changed the way the world looks at twitter'. From McCulloch's perspective, Twitter became considered a potentially legitimate source of breaking news after flight 1549. However, it does not displace the usefulness of traditional news media and length-unrestricted blogs in the realm of new media to cover in-depth or longer-running issues and matters. Bianco (2009: 305), for example, argues that Twitter has 'notably proved to the world its capacity to transmit real-time information', but is not a medium best designed for reporting 'issues and campaigns across a protracted period of time'.

Though Twitter is not displacing traditional media from Bianco's (2009) perspective, news organizations have found the medium useful in their coverage of breaking news. Minutes after Krums posted the 'The Miracle on the Hudson' photograph on Twitter, media outlets were calling his mobile phone asking for up-to-the-minute information and requesting interviews. As Bianco (2009: 305) notes, within half an hour of taking the picture, Krums was interviewed live by MSNBC. From McCulloch's (2009) perspective, this new-found victory was not at the expense of 'old media' in that the 'newspapers and TV news stations didn't pay a penny to the likes of Reuters and AP when US 1549 hit the Hudson [... as they] all got their big photo for free that day' through the internet. In a similar vein, there have been cases where governments have banned journalists from reporting from their countries. The 2009 election in Iran is the most well known example. As Palser (2009) notes, major international news organizations such as CNN relied on information from social networking and social media websites including Twitter. However, research indicates that the use of social media by journalists remains exceptional rather than the norm. Lariscy et al. (2009) found that only 7.5 percent of journalists they interviewed indicated social media is 'very important to their work' while 56.5 percent were neutral or considered social media to be 'of little or no importance'. Ultimately, Lariscy et al. (2009: 316) conclude that, although journalists are not significantly using social media, they 'do not appear opposed to it'.

Live news dissemination from citizen journalists is not without its detractors. For example in May 2009, Daniel MacArthur, a researcher at the Wellcome Trust Institute in Cambridge, UK tweeted live reports from the Cold Spring Harbor Laboratory (CSHL)

'Biology of Genomes' conference. The tweets (and his blog entries) came to the attention of CSHL via an online news source and the conference organizers amended their conference rules and regulations to prohibit tweeting, blogging, and other internet-based reporting during conferences unless express permission was obtained from the presenter being talked about (Bonetta, 2009). The question cases such as MacArthur's draws attention to is what constitutes citizen journalism itself, and where we draw the boundaries between professional journalism and citizen journalism online (Miller, 2008; Rebillard and Touboul, 2010; Thorsen, 2008). Though the literature on this is divergent, it generally converges on the idea that Web 2.0 does, as Thorsen (2008: 936) in his work on Wikinews argues, present a 'challenge to traditional journalistic norms'.

## Digital divides

Marginalized populations often lack or have limited net access in their households (Witte and Mannon, 2010), making access to Twitter newsfeeds a socially stratified practice. Indeed, even among children – a demographic which is painted as a homogeneously net savvy generation – digital divides based upon lines of class and other socioeconomic factors continue to exist (Livingstone and Helsper, 2007). Hobson (2008) has persuasively argued that the internet continues to be raced and that whiteness has been elided with progress and blackness with primitivism. Racial digital divides continue to remain pervasive (Kolko et al., 2000; Nakamura, 2002, 2008) and Twitter is no exception to this.

Another important distinction which needs to be made in terms of digital divides is that between access to the internet and being 'internet savvy' – an understanding which sees internet use as different for different kinds of users (DiMaggio et al., 2001). For example, Cox (2008) found that most users of Flickr, a popular photo sharing website, are males working in new media or computer fields, students, and youth. In terms of access, studies have shown that broadband internet access continues to grow in the European Union and America (Polykalas and Vlachos, 2006; Shampine, 2003). However, access does not inherently translate into equal usage. Specifically, people with disabilities (Elcessor, 2010) and populations that are socioeconomically marginalized are more likely to use the internet for the most simple of tasks (often email) and remain ignorant of or ill versed in the use of Web 2.0 tools (Witte and Mannon, 2010). Digital divides also continue to be age-related (Witte and Mannon, 2010).

Marginalized and vulnerable populations are also disproportionately affected by Twitter's information integrity issues. Tweets regarding breaking news, disasters, and public health epidemics can be misleading, incorrect, or even fraudulent (Goolsby, 2009). In the case of the 2009 swine flu pandemic, tweets tagged with #swineflu often contained false or misleading information. Of course, individuals can follow trusted news outlets on Twitter. However, some users can and do pose as traditional news organizations by employing a username which sounds or looks like a newspaper or television station. Indeed, someone who posed as the Dalai Lama on Twitter attracted 20,000 followers in 48 hours (Moore, 2009). Though Twitter eventually shut down this impersonating account, the openness of the medium enables significant fraudulence and the implications of this should not be underestimated.

## Conclusion

This article has sought to explore whether citizen journalism has been influenced by Twitter and, if so, how? As has been discussed, Twitter has established a regular user base well beyond a critical mass. In the US, nearly one in five internet-users aged 18–34 utilize Twitter or a similar social media/networking site (Lenhart, 2009). Not only is this figure significant but it is influential young adults (and not predominantly teenage users) flocking to this medium. This demographic (18–34) is also an important barometer of the consumption of traditional print media in the US as just over a third read a print newspaper during the week and almost half read a Sunday newspaper (Pew Research Center's Project for Excellence in Journalism, 2006). However, research has shown that print media readership is declining (Gulati and Just, 2006; Wahl, 2006) and that, as Vivian Schiller (cited in Emmett, 2008) of NYTimes.com observes 'social media [...] is one of several essential strategies for disseminating news online – and for surviving [as a news organization]'. As Zeichick (2009) notes, news organizations are increasingly sending tweets with the headlines of their breaking news stories.

Another issue that is pertinent to citizen journalism and Twitter is digital divides. As this article has argued, there remain persisting digital divides in many Western countries which keep marginalized and vulnerable populations away from Twitter and are generally amplified by Web 2.0. Though new social networks and communities of knowledge are supported by Twitter, they are strongly socioeconomically stratified. This keeps Twitter inaccessible to much of the news reading public, relegating the medium to the more technologically literate 'Twittering classes'. Furthermore, cases of hoaxes and patent misinformation on Twitter can have disastrous ramifications on marginalized and vulnerable populations. Ultimately, it is critical that we look beyond the *Zeitgeist* of Twitter and similar mediums as its cool, *en vogue* gloss masks the fact that Twitter is highly stratified.

Though we must be cognizant of digital divides and differing levels of information literacy, this is not to say that Twitter has not altered news production and consumption. This article has demonstrated that professional news media have become more open to using tweets for picking up breaking news such as the downing of flight 1549 and the Mumbai bomb blasts. When tweets have been picked up by major media outlets in cases such as these, this coverage has brought attention to Twitter itself. However, the public ultimately takes interest in the stories themselves and not so much in the original source tweets or the individual Twitterer responsible for breaking the story. If this is the case, Twittering citizen journalists are ephemeral, vanishing after their 15 minutes in the lime-light. In most instances, they are left unpaid and unknown. Although individual citizen journalists usually remain unknown, Twitter has gained prominence as a powerful media outlet. Shirky (cited in Last, 2009) argues that the 2009 anti-government Iranian protests were 'transformed by social media' and through Twitter 'people throughout the world are not only listening but responding'. Though Shirky's conclusion is itself debatable,<sup>4</sup> the power of the medium is that profound tweets also appear side by side with banal ones – second by second, minute by minute, and hour by hour. It is from this perspective that Twitter affords citizen journalists the possibility to break profound news stories to a global public.

## Notes

1. As long as the user has not restricted access to their tweets. A minority of users make their tweets 'protected', a status by which only approved 'followers' of their tweets have access to them.
2. See <http://twitpic.com/135xa>
3. Though not without its downsides (see Morozov, 2009).
4. For example, Morozov (2009) argues that the 'Iranian Twitter revolution' was itself a construction of the American media.

## References

- Barry E, Khalip N, Schwirtz M and Cohen N (2009) Protests in Moldova explode, with a call to arms on Twitter. *New York Times*, 7 April.
- BBC News (2008) As it happened: Mumbai attacks 27 Nov. BBC News, 27 November. Available at: <http://news.bbc.co.uk/1/hi/7752003.stm>
- Beaumont C (2008) Mumbai attacks: Twitter and Flickr used to break news. *The Daily Telegraph*, 27 November.
- Beaumont C (2009) New York plane crash: Twitter breaks the news, again. *The Daily Telegraph*, 16 January.
- Berman M (1982) *All that Is Solid Melts into Air: The Experience of Modernity*. New York: Simon and Schuster.
- Bianco JS (2009) Social networking and cloud computing: precarious affordances for the 'prosumer'. *Women's Studies Quarterly* 37: 303–312.
- Bonetta L (2009) Should you be tweeting? *Cell* 139: 452–453.
- Courier Mail* (2008) Terrorists turn technology into weapon of war in Mumbai. *Courier Mail*, 29 November. Queensland, Queensland Newspapers.
- Cox AM (2008) *Flickr: A Case Study of Web2.0*. Bradford: Emerald.
- Crawford K (2009) Following you: disciplines of listening in social media. *Continuum: Journal of Media & Cultural Studies* 23(4): 525–535.
- CTIA (2009) Wireless quick facts. CTIA Media. Available at: [http://www.ctia.org/media/industry\\_info/index.cfm/AID/10323](http://www.ctia.org/media/industry_info/index.cfm/AID/10323)
- Deloitte LLP (2009) The digital index. *Quarterly update, July 2009*. Available at: [http://www.deloitte.com/view/en\\_GB/uk/b1701835f7152210VgnVCM100000ba42f00aRCRD.htm](http://www.deloitte.com/view/en_GB/uk/b1701835f7152210VgnVCM100000ba42f00aRCRD.htm)
- Dimaggio P, Hargittai E, Neuman WR and Robinson JP (2001) Social implications of the internet. *Annual Review of Sociology* 27: 307–336.
- Dolnick S (2008) Bloggers provide raw view of Mumbai attacks: dramatic siege threw user-generated corner of the Internet into high gear. MSNBC, 30 November. Available at: [http://www.msnbc.msn.com/id/27984057/ns/technology\\_and\\_science-tech\\_and\\_gadgets/](http://www.msnbc.msn.com/id/27984057/ns/technology_and_science-tech_and_gadgets/)
- Ebner M and Schiefner M (2008) Microblogging – more than fun? In: Sánchez IA and Isaías P (eds) *Proceedings of IADIS Mobile Learning Conference 2008*, 155–159. Lisbon: International Association for Development of the Information Society.
- Ellcessor E (2010) Bridging disability divides. *Information, Communication & Society* 13: 289–308.
- Emmett A (2008) Networking news. *American Journalism Review* 30: 40–43.
- Ewalt DM (2003) All eyes on cell phones. *InformationWeek*, 27 October: 51–58.
- Gaudin S (2010) Twitter now has 75M users. *Computerworld*, 26 January.
- Goffman E (1959) *The Presentation of Self in Everyday Life*. Garden City, NY: Doubleday.
- Goolsby R (2009) Lifting elephants: Twitter and blogging in global perspective. In: Liu H, Salerno J and Young MJ (eds) *Social Computing and Behavioral Modeling*. New York: Springer.

- Gulati GJJ and Just MR (2006) The establishment strikes back: newspapers and online news. Paper presented at the annual meeting of the Southern Political Science Association, Atlanta, GA, January.
- Hawn C (2009) Take two aspirin and tweet me in the morning: how Twitter, Facebook, and other social media are reshaping health care. *Health Affairs* 28: 361–368.
- Hobson J (2008) Digital whiteness, primitive blackness. *Feminist Media Studies* 8: 111–26.
- Java A, Xiaodan S, Finin T and Tseng B (2007) Why we Twitter: understanding microblogging usage and communities. In: *Proceedings of the 9th WebKDD and 1st SNA-KDD 2007 Workshop on Web Mining and Social Network Analysis*. San Jose, CA: ACM.
- Kolko BE, Nakamura L and Rodman GB (2000) *Race in Cyberspace*. New York, Routledge.
- Lariscy RW, Avery EJ, Sweetser KD and Howes P (2009) An examination of the role of online social media in journalists' source mix. *Public Relations Review* 35: 314–316.
- Last JV (2009) Tweeting while Tehran burns: how many divisions does Twitter have? *The Weekly Standard*, 17 August: 9–10.
- Lenhart A (2009) Twitterpated: mobile Americans increasingly take to tweeting. *Pew* 12 February. Available at: <http://pewresearch.org/pubs/1117/twitter-tweet-users-demographics>
- Leo J (2009) Citizen journo Janis Krums Twitters amazing Hudson plane crash photo from ferry. *Los Angeles Times*, 15 January.
- Licoppe C (2004) 'Connected' presence: the emergence of a new repertoire for managing social relationships in a changing communication technoscape. *Environment and Planning D: Society and Space* 22: 135–156.
- Livingstone S and Helsper E (2007) Gradations in digital inclusion: children, young people and the digital divide. *New Media Society* 9: 671–696.
- McCulloch R (2009) The man who changed Twitter. Third Sector Lab (blog), 24 January. Available at <http://thirdsectorlab.co.uk>
- Miller R (2008) The new journalism: its audience participation time. *EContent* 31: 30–34.
- Moore M (2009) 'Dalai Lama' Twitter account suspended after exposed as fake. *The Daily Telegraph*, 10 February.
- Morozov E (2009) Iran: downside to the 'Twitter Revolution'. *Dissent* 56: 10–14.
- Mungiu-Pippidi A and Munteanu I (2009) Moldova's 'Twitter revolution'. *Journal of Democracy* 20: 136–142.
- Nakamura L (2002) *Cybertypes: Race, Ethnicity, and Identity on the Internet*. New York: Routledge.
- Nakamura L (2008) *Digitizing Race: Visual Cultures of the Internet*. Minneapolis, MN: University of Minnesota Press.
- Oh J (2009) Korean tacos open new avenue *Korea Herald*, 30 March.
- Palser B (2009) Amateur content's star turn. *American Journalism Review* 31: 42.
- Pew Research Center's Project for Excellence in Journalism (2006) *Newspaper Audience – 2006 Annual Report. Who Is Reading: A Question of Demographics*. Washington DC: Pew Research Center.
- Polykalas SE and Vlachos KG (2006) Broadband penetration and broadband competition: evidence and analysis in the EU market. *Info – The journal of policy, regulation and strategy for telecommunications* 8: 15–30.
- Rebillard F and Touboul A (2010) Promises unfulfilled? 'Journalism 2.0', user participation and editorial policy on newspaper websites. *Media, Culture & Society* 32: 323–334.
- Shampine AL (2003) *Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies*, New York: Nova Science Publishers.
- Snow J (2009) So, can I like, Twitter you some time? *FREEwilliamsburg* (online magazine), 8 April. Available at: <http://www.freewilliamsburg.com>

- Standage T (1998) *The Victorian Internet: The Remarkable Story of the Telegraph and the Nineteenth Century's On-line Pioneers*. New York: Walker and Co.
- Thorsen E (2008) Journalistic objectivity redefined? Wikinews and the neutral point of view. *New Media Society* 10: 935–954.
- Twitter (2010) Measuring tweets. Available at: <http://blog.twitter.com/2010/02/measuring-tweets.html>
- Wahl A (2006) Red all over. *Canadian Business* 79: 53–54.
- Washkuch F (2008) Relief groups turn to Twitter amid crises. *PR Week*, 20 May.
- Witte JC and Mannon SE (2010) *The Internet and Social Inequalities*. New York: Routledge.
- Zeichick A (2009) A-twitter over Twitter. *netWorker* 13: 5–7.