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Citation: Thurman, N. & Rodgers, J. (2014). Citizen Journalism in Real Time: Live Blogging and Crisis Events. In: Thorsen, E. & Allan, S. (Eds.), Citizen Journalism: Global Perspectives, Volume 2. (pp. 81-95). New York: Peter Lang. ISBN 9781433122828

This is the accepted version of the paper.

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Citizen Journalism in Real Time? Live Blogging and Crisis Events

Neil Thurman and James Rodgers

Introduction

At 14:46 local time on 11 March 2011 an undersea megathrust earthquake hit the Pacific plate boundary 69 kilometres east of Tōhoku, Japan. The magnitude 9.03 quake was the fifth largest ever recorded anywhere in the world, and Japan's most powerful. Such was its strength that the Earth shifted an estimated 25cm on its axis; but Tōhoku's most devastating effects were the result of the seawater it displaced 30 kilometres above its hypocentre. As the seafloor deformed, it raised the Pacific Ocean by up to eight metres over an area 180 kilometres wide. Although the resulting waves were relatively low in the open ocean, as they reached land their height increased, with terrible consequences. Along nearly 1,500 kilometres of the Japanese eastern seaboard—from Chōshi, Chiba in the centre, to Nemuro, Hokkaidō in the north—waves were recorded in excess of two metres and in places were much, much higher. A total of 562 square kilometres of land were inundated leaving over 18,500 people dead or unaccounted for. Some of the more than 1 million buildings damaged or destroyed were part of the Fukushima Daiichi nuclear power plant. Its loss of power ultimately caused a level 7 meltdown, releasing radiation into the atmosphere, and prompting widespread evacuations.

Media coverage of the quake, aftershocks, and tsunami was, predictably, extensive, with the ongoing search for survivors and the crises at Fukushima and elsewhere sustaining the story for weeks. News organisations across the world used live updating news pages—or live blogs—to cover the disaster. Live blogs have been defined as "a single blog post on a specific topic to which time-stamped content is progressively added for a finite period—anywhere between half an hour and 24 hours" (Thurman and Walters, 2013). Updates are regular—typically every 10 minutes—short—averaging about 100 words—and usually presented in reverse chronological order. It is conventional for live blogs to be relatively transparent in their correction practices; to quote extensively from, and link to, external sources; and to be authored by more than one journalist, often in different locations. Examining a range of live blogs that covered the Japanese earthquake and tsunami suggests that those news organisations more practised in the live blogging of breaking news had access to platforms that allowed journalists covering the disaster to relatively easily integrate videos, still images, maps, and social media. Examples include the live pages published by NYTimes.com (Goodman, 2011), Telegraph.co.uk, (Hough, Chivers, and Bloxham, 2011), and Guardian.co.uk (Batty, 2011). Other news organisations requisitioned established blogs from their sites, turning them into vehicles for the live coverage of the crisis. Using platforms not optimised for live coverage was limiting, and these live blogs were relatively text-heavy with minimal inclusion of still or moving imagery and social media. Examples can be found at FT.com (Bond, 2011), and at the websites of *The Wall Street Journal* (WSJ, 2011), and NBC News (NBC, 2011).

Looking at the content streamed by these live blogs reveals the contributions made by citizens on the ground. In some cases a contributor's social media activity led to a

traditional interaction with a journalist—for example, the blog account by an academic visiting Tokyo that gave rise to an interview with *New York Times* journalist, Maria Newman (Goodman, 2011). In other cases citizens' social media posts were quoted directly, for example the photos on Twitter from @K_TN72 and @Odyssey (Hough et al., 2011), the video of the tsunami arriving at Sendai Airport by 'Jack19661221' (Batty, 2011), and the direct accounts, via Twitter, of the aftermath of the earthquake from Obata Hiroshi and @_mego. @_mego's testimony was particularly dramatic. She tweeted that she was stranded in her house and was being forced to take refuge on the second floor. She appealed for rescue, giving her address and posting a photograph of her devastated, flooded neighbourhood (WSJ, 2011). As this chapter will show, although it is not unusual for such 'citizen' sources to feature in the coverage of crisis events, some live blogging platforms are featuring unprecedented quantities of citizens' testimony.

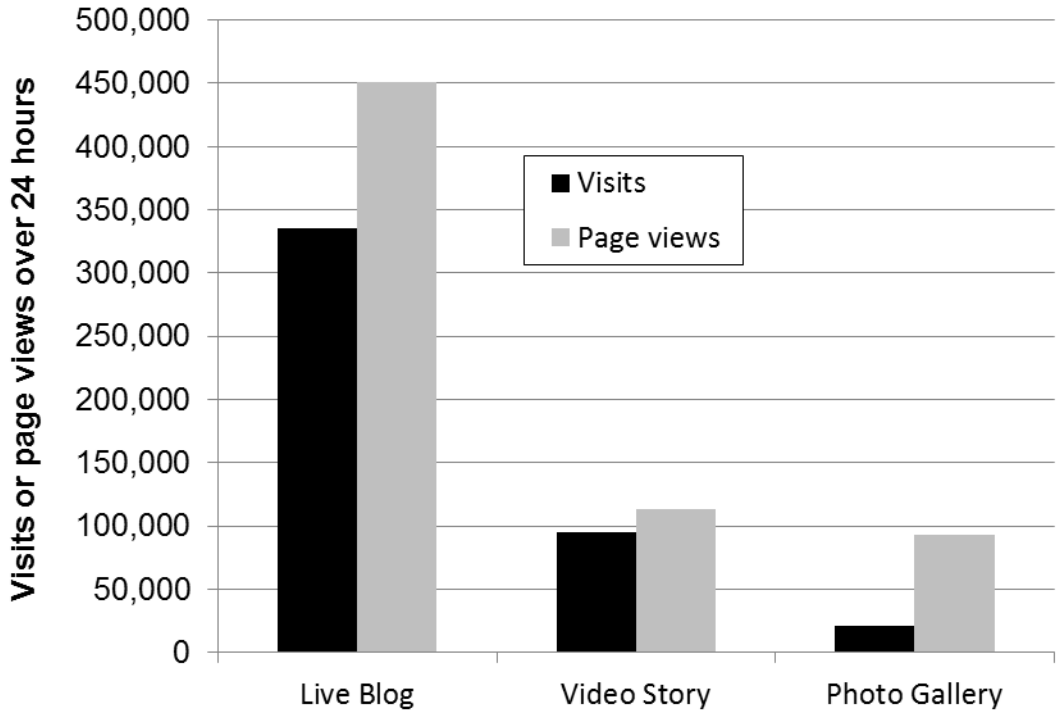
Live blogs are not a new news format. Britain's second-most popular newspaper website, Guardian.co.uk, was using them as early as 1999 to cover live sports matches on a 'ball-by-ball' or 'minute-by-minute' basis (Thurman and Walters, 2013). Such coverage found an audience amongst readers who wanted a convenient way to follow soccer, and, in particular, cricket matches—some of which last five days—whilst getting on with other things at home or work. Surprisingly, perhaps, it took a few years for live pages to break out—to any significant extent—of their niche in sports and other scheduled events and be adopted by journalists covering hard news.[1] The trend towards using live blogs to cover breaking news in general, and crisis events in particular, has been subject to scant research. This chapter aims to build on Thurman and Walters' (2013) pioneering research by:

- Analysing new data on the consumption of live online coverage of crisis events, and on readers' attitudes to live blogs.
- Discussing live blogging's relevance to debates around 'citizen journalism' with reference to new data on readers' contributions—via live blogs—to the reporting of crisis events.
- Considering the influence live pages may have on the reporting of future crisis events.

The Changing Consumption of Crisis News Online

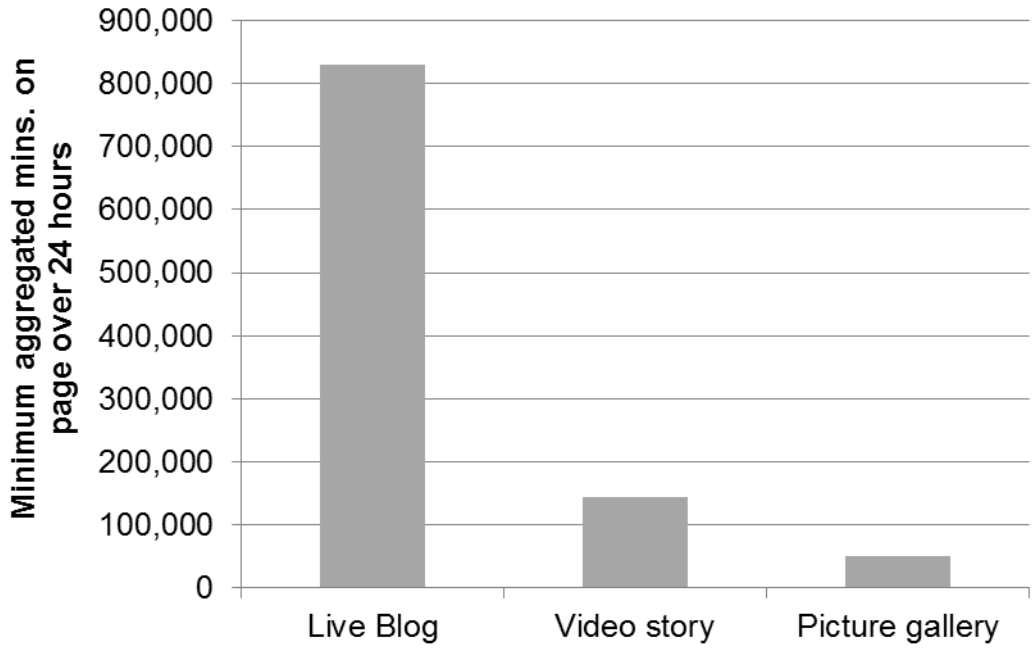
For this chapter we mined data from three sources in an attempt to build up a picture of how live blogs covering crisis events are consumed by readers. Firstly, we compared the relative popularity of coverage of the Tōhoku earthquake and tsunami across a live blog, a picture gallery, and a video story, all published by Guardian.co.uk on Saturday 12 March 2011. As figure 1 shows, the live blog received 3.5 times more visits and nearly four times more page views than the video story; and almost 16 times more visits and close to five times more page views than the photo gallery. In terms of engagement (as measured by time-spent) the live blog was even more successful, attracting 5.7 times the attention of the video story, and over 16 times more than the picture gallery (see figure 2).[2]

Figure 1: Relative popularity—by unique visits and page views—of a Guardian.co.uk live blog, a picture gallery, and a video story covering the 2011 Japanese earthquake and tsunami.



Note: Visit and page view counts are for the 24-hour period starting 00:00 on 12 March 2011. The live blog (Batty, 2011) began at 09:46 on 12 March, the video story (Guardian.co.uk, 2011a) was published on 11 March (time not specified), and the photo gallery (Guardian.co.uk, 2011b) at 10:56 on 12 March.

Figure 2: Aggregated attention (in time spent over a 24-hour period) received by a Guardian.co.uk live blog, a picture gallery, and a video story covering the 2011 Japanese earthquake and tsunami.



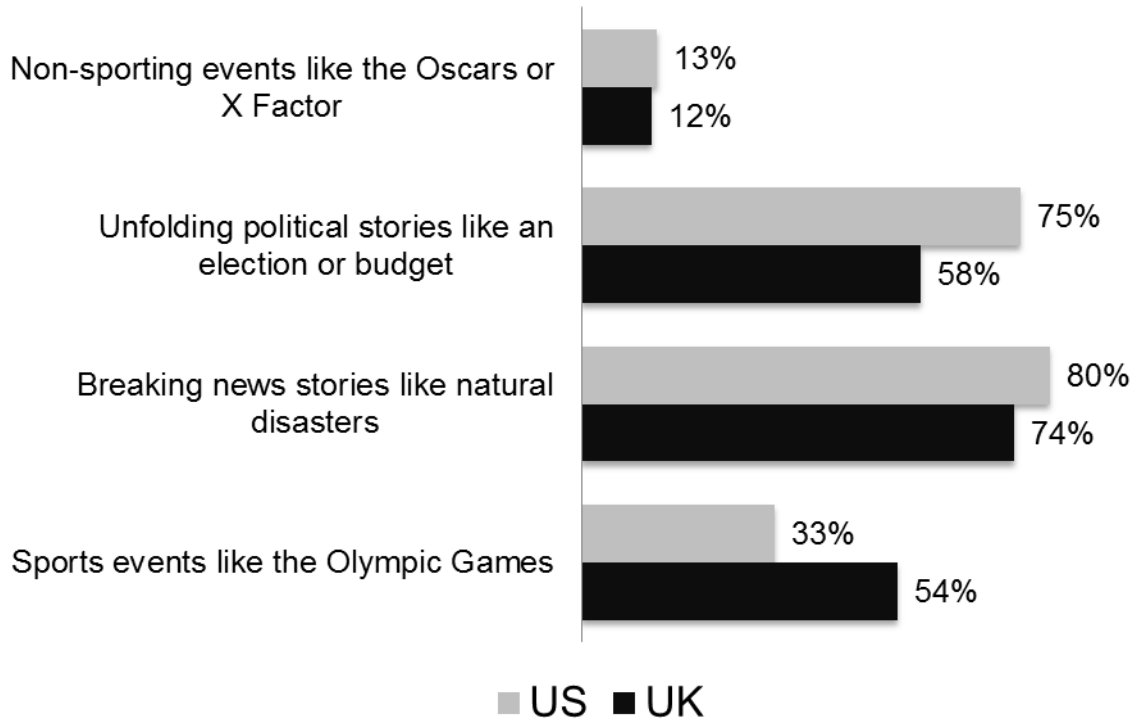
Note: The values here are minimums because, firstly, visits of 15 seconds or less were not counted and, secondly, the lowest value in each time band was used. For example, all visits in the 20–30 minutes band were counted as 20 minutes. Values are for the 24-hour period starting 00:00 on 12 March 2011. The live blog (Batty, 2011) began at 09:46 on 12 March, the video story (Guardian.co.uk, 2011a) was published on 11 March (time not specified), and the photo gallery (Guardian.co.uk, 2011b) at 10:56 on 12 March.

We also analysed data from ScribbleLive, a Canadian company whose live blogging platform is used by a range of news organisations. This showed that, across 20 live blogs covering 2012's Hurricane Sandy, the average length of engagement per visitor was 18 minutes. Similar levels of engagement were achieved by live blogs covering the ongoing Syrian civil war—19 minutes per visitor (Ekaterina Torgovnikov, personal communication, 19 March 2012). These figures compare favourably against levels of engagement across newspaper websites as a whole. For example, in 2012, the average duration of visits to US newspaper websites was 3.75 minutes (NAA, 2012).

Although some live blogs appear to be able to engage some readers relatively deeply, how broad is their popularity? Our third data source, the 2013 Reuters Institute / YouGov digital news survey,[3] offers some insights. It shows that 11 per cent of UK news consumers had followed a live news page in the previous week. By the same measure live blogs were even more popular in the US, Brazil, Italy, Spain, and, especially, in France (19 per cent) and Japan (35 per cent). Their notable popularity in Japan is likely to be the result of the influence of Yahoo! News Japan—the country's flagship news website. It carries a 'breaking news' tab leading to a live page. This prominent

placement, combined with the rather conventional approach to editorial presentation it displays on the rest of its homepage, is, according to Yasuomi Sawa, Deputy Editor of the New York Bureau of Kyodo News, the likely explanation for the popularity of live pages in Japan (personal communication, 10 March 2013). The Reuters Institute / YouGov data show the consumption of live blogs is not confined solely to a hard-core of news junkies. However, live blogs are used to cover more than just breaking news. Sports events, ongoing issues—often related to politics—and scheduled events such as the Oscars ceremony are also commonly reported using the format. Given the evidence we have of the popularity of sports and celebrity stories with online news consumers (Boczkowski, 2010: 146), could it be that the popularity of live blogs with the Reuters Institute / YouGov sample of news consumers is, in large part, a result of their consumption of 'sports' and 'scheduled event' live blogs? Interestingly, the survey indicates this is not the case, showing that live blogs covering breaking news like natural disasters are the most popular category with both US and UK news consumers (see figure 3).

Figure 3: Popularity of different types of live news pages (live blogs) with US and UK news consumers, January 2013.



Note: Based on an online survey conducted by YouGov Plc for the Reuters Institute for the Study of Journalism. Sample size 229 (UK) and 208 (US). Fieldwork was undertaken between 22–31 January 2013 (UK) and 29 January–6 February 2013 (US). Respondents who had used a live news page in the preceding week were asked which of the above types of live news pages they use. Figures were weighted and are representative of all adults (aged 18+) who had consumed news in the previous month and have access to the internet.

Live Blogging and Citizen Journalism

So far this chapter has demonstrated that live blogs are an increasingly common feature of news websites and that they can, on occasion, attract and engage visitors to a greater extent than some traditional online news formats. We have also shown how their uptake within the general population of online news users is—using Rogers' (2003) classic definition—moving beyond the "innovators" and "early adopters" and into the "early majority",[4] and how they are—for the moment at least—popular for their coverage of breaking news and unfolding political and economic stories.

All well and good, but how do live pages relate to the theme of this volume, 'citizen journalism'? The rise of professional live blogs can be seen as a response to the way social media and blog sites introduced the idea of bite-sized chunks of content arranged in a chronological order. This new format proved useful for audiences in keeping up-to-date with friends and family but soon started to become useful in telling certain types of news stories. Twitter in particular, through the introduction of hashtags, effectively enabled its community of users to run something like their own live blog on major events, from the Iranian elections to the World Cup. And the development of software like Storify has made such so-called micro blogging more accessible, and increased its visibility, by allowing anybody to quickly and easily curate a news story by aggregating social media items in a coherent way on a single page.

Although social media coverage of breaking news has become relatively accessible via aggregating platforms such as Storify, most consumption of live breaking news online still takes place on, or via, mainstream media sites.[5] Despite the low cost of live blogging platforms such as ScribbleLive, CoveritLive, LiveBlogPro, and Blyve, the format, unlike regular blogging, requires considerable time and resources: live blogs have been shown, on average, to run for six hours, include 40 separate updates, weigh in at over 4,000 words, and utilise multiple authors (Thurman and Walters, 2013). They are, therefore, perhaps not a format that 'citizen journalists'— in the solitary, casual, and spontaneous mould discussed by Lui (2009), Nip (2009), and others—can easily produce independently of the mainstream media. So, although professional live blogs have been, and will continue to be, influenced by social media, the main relevance of live blogging to the broad concept of citizen journalism relates to its potential to elicit, collate, and distribute citizens' contributions, enlarging the mediated public sphere and diversifying the voices heard in the media. This potential exists because:

- Readers have said they are more than twice as likely to participate in live blogs as in other articles types (Thurman and Walters, 2013).
- Live blogging platforms often support the seamless integration of social media content (such as tweets) and comments; and the conventions of the genre are to quote heavily from, and link to, secondary sources, some of which are non-official or citizen. For example, in the BBC's description of the mix of content in its new local live blogs, the Corporation gave "tweets [and] emails from members of the public" a similar level of prominence as "quotes from BBC reporters" (BBC, 2013a).

Previous research about the use of citizens' contributions in the coverage of crisis events has examined the extent to which reporters use official and non-official sources,

and how technologies such as email or social media mediate their source interactions. Evidence on how much journalists rely on non-official sources during crises is mixed. Case studies on the reporting of the 9/11 attacks (Li and Izard, 2003), environmental incidents (Sibbison, 1988), and business crises (Powell and Self, 2003) showed a reliance on official, mainly government, sources. On the other hand, studies of anti-American attacks (Nacos, 1996); the Virginia Tech shootings (Wigley and Fontenot, 2009); shootings in Tucson, Arizona that injured US Representative Gabby Giffords (Wigley and Fontenot, 2011); and Hurricanes Andrew (Salwen, 1995), and Katrina and Rita (Fontenont, Boyle, and Gallagher, in press) showed that non-official or 'citizen' sources can dominate.

Less research has been published on the extent to which technologies, such as email or social media, mediate between journalists and their citizen sources in crisis reporting. In their study of the Virginia Tech shootings, Wigley and Fontenot (2009) found that 6.5 per cent of quoted sources were both non-official *and* new-technology mediated (what Wigley and Fontenot also refer to as user-generated content). In a follow-up study of the Tucson, Arizona shootings the authors (2011) found a similar proportion—9.5 per cent. Both studies used a sample of stories from national newspapers and "articles" from four television news websites. In the 2011 study there appeared to be "little difference in the amount of citizen generated content used by ... news websites and newspapers", whereas the 2009 study showed that "news websites were much more likely to use citizen generated content than newspapers".

Table 1: Proportion of content contributed by journalists and readers in 30 live blogs covering four crisis events hosted on the ScribbleLive platform

	Journalist contributions published	Reader contributions submitted	Reader contributions published	% Reader contributions
Japanese earthquake (n=4)	3,913	33,000	11,988	75%
UK riots of 2011 (n=4)	2,298	6,759	896	28%
Hurricane Sandy (n=20)	27,550	80,911	5,199	16%*
Syrian civil war (n=2)				11%

Note:
***** for the five live blogs covering Hurricane Sandy that received the most traffic, reader contributions averaged 39 per cent.
Source: ScribbleLive (Ekaterina Torgovnikov, personal communication, 19 March 2012).

For this chapter we analysed 30 live blogs covering four crisis events to find out the proportion of citizen contributions. The live blogs were published using the ScribbleLive platform.[6] The results, presented in table 1, show much higher levels—ranging from 11 to 75 per cent—of non-official new-technology mediated content than observed in these previous studies. Furthermore, because some of the journalists' own updates (not used to calculate the proportions reported in table 1) contained non-official new-technology mediated content these figures are an underestimation.[7] These results contrast with the levels of citizens' contributions to live blogs hosted by one mainstream news provider's proprietary platform. At a sample of 20 Guardian.co.uk live blogs, just 7.5% of updates were made up of readers' tweets and comments 'above the fold' (Thurman and Walters, 2013: 91). One reason for such differences is likely to be the fact that all the ScribbleLive live blogs analysed covered crisis events where (as Nacos, 1996; Wigley and Fontenont, 2009, 2011; Salwen, 1995; and Fontenont, Boyle and Gallagher, in press, have shown) citizen sources can dominate. Of the 20 Guardian.co.uk live blogs analysed by Thurman and Walters (2013) only a quarter covered breaking news, and not all of those breaking news stories were crisis events. Another reason is technical: the ScribbleLive platform publishes readers' contributions with the same level of prominence as contributions from journalists.

Allowing citizens' contributions to come to the fore in such a way has been editorially unthinkable and technically impossible for much of the history of journalism. While vox pops, radio phone-ins, and letters to the editor have been enduring examples of the way editors have sought to involve citizens, live blogging, at least in some manifestations of the format, seems to be increasing the proportion of user-generated content that is appearing in the mainstream media's coverage of crisis events. This has implications for the way in which reporters work too. Consider the reporting of the capture of Saddam Hussein, in December 2003. Alongside the more conventional breaking news coverage on TV and radio, the BBC tried to make original use of its news website, then still only a few years old. While they did not use a live blog in a form we would recognise today—the title, indeed, referred instead to a *Reporters' Log* (BBC, 2003)—it can nevertheless be seen as something of a pioneering example of what has come to be so widespread now. True, these are not "citizen" contributions, because they draw on the words of various BBC journalists, but they do bring them together on a single web page, and thus conform in a significant way to the definition of live blog which we have offered above. As Rodgers (2011) has previously suggested, one of the main shortcomings of the way in which this event was covered was the lack of contributions from people who did not share the occupying forces' jubilation at the capture of the deposed Iraqi leader. Live blogs offer a possibility that such shortcomings might be addressed—provided, of course, that there is the editorial will to do so.

Increasingly, that seems to be the case. The events of the Arab uprisings since the spring of 2011 have coincided with the continuing growth of internet access across the Middle East, North Africa, and beyond. More and more people in those regions have used mobile technology not only to follow news events, but to contribute to them. These citizen contributions have increasingly been used by established news organisations, most notably in their live blogs. The British-based *Guardian*, with its 'Middle East Live' pages (The Guardian, 2013), and *Al Jazeera English*, with its 'Syria Live Blog' (Al Jazeera English, 2013), are just two such examples. During the war in Syria, access for established news organisations has been extremely difficult, and extremely dangerous.

The death in Homs in February 2012 of the *Sunday Times*' vastly experienced correspondent Marie Colvin served to remind journalists, and the companies for which they work, of those hazards. For this reason, citizen, and in many cases activist, contributions, have been especially valuable to mainstream media. This is particularly true of video material. A glance at the content that *Al Jazeera English* posted on its live blog on 13 April 2013 (Al Jazeera English, 2013) serves as an illustration. While there is a preponderance of material from official news agencies—the page carried some lines from a Reuters story about the Israeli military having fired artillery after its forces were shot at on the occupied Golan heights, and an AFP story on rebels having apparently tortured a Kurdish man in Aleppo—the video material Al Jazeera used that day could all be considered citizen contributions. This included pictures of an opposition "Friday of the Free" rally which had apparently taken place in Aleppo; and other video material showing "razed buildings and battered belongings" apparently in the "Al-Qosoor neighbourhood on the outskirts of Homs".

Naturally, there are endless editorial considerations here concerning the authenticity or otherwise of this material. Aware of this, established news organisations have devised detailed systems for checking content in order to authenticate it before publication. There is even a page on the BBC news website in which a BBC journalist, Alex Murray, explains the lengths to which the Corporation goes in order to verify "eyewitness/citizen journalist/user-generated content", which, Murray notes in the article, "has become increasingly complicated as the material has become more sophisticated" (Murray, 2011). Such detailed checking may be beyond the means of those many news organisations that do not enjoy the same resources as the BBC, but it has its purpose. For all the potential benefits offered by the mass of material coming out of Syria and elsewhere, some high profile fakery found in citizen contributions has served to sully the reputation of some user-generated content. Perhaps the most notorious example was the "Gay Girl in Damascus" blog. That turned out to have been written neither in Damascus nor by a "gay girl", but not before it had been widely taken to be just that. As Bennett noted, the "hoax highlighted the pitfalls of operating as a journalist in the digital era" (2011: 190). Few developments in the history of journalism have been without their potential drawbacks, and live blogging, reliant as it is on such material, is no exception. In 2012, Britain's *Channel 4 News*, perhaps reflecting the frustrations that might come with dealing with these endless editorial dilemmas, ran a report in which they exposed the fact that some Syrian activists were embellishing their video material in order to increase its impact. The story, "Syria's video journalists battle to tell the 'truth'", broadcast on 27 March 2012, paid tribute to the undoubted courage and determination of the citizen journalists of Homs—while also showing them setting fire to a tyre in order to provide a column of black smoke in the back of the shot for a piece to camera (Channel 4 News, 2012).

Despite these misgivings (and, after all, journalistic hoaxes are probably as old as journalism itself—there is no reason why the advent of digital journalism in all its various forms should suddenly have marked their passing), the live blog at its best does, from an editorial point of view, offer great potential. In covering the "Algeria Hostage Crisis" of January 2013 (where an armed group, described by the BBC as "Islamists", took over a gas plant in the Algerian desert, and subsequently killed some of their captives), the BBC used the medium to good effect. Their page, "As it happened: Algeria hostage crisis" (BBC, 2013b), combined official sources such as the UK Foreign

Secretary, William Hague; excerpts from despatches from AFP, Reuters, and the Algerian State News agency APS; and user contributions. The user contributions helped to bring important context to the unfolding story. One issue much discussed was the Algerian security forces' approach to retaking control of the plant. There were suggestions that more could have been done to avoid hostage deaths. Citizen contributions to the live blog on this subject brought a degree of insider knowledge—and also Algerian views of the crisis—to a global audience.

One comment came by email from Guido in Skikda, Algeria

> The only people who has to be blamed for this disaster is the Algerian army! I worked on that site for three and a half years. That area is completely flat, and the Algerian army who has a base there is supposed protect and create a security area for the gas plant and living compound (BBC, 2013b).

A contributor named as Meridja from Algiers offered a different assessment

> Dozens of Americans die quite often during hostages crisis or shootings in schools and random public spaces and yet the claim that the death of ONE American hostage is a catastrophe and that Algerian army need to explain themselves? That's just unacceptable (BBC, 2013b).

In both cases, these comments—one from a contributor with first-hand knowledge and experience of the area, and one offering an Algerian view of this big international story—really helped to explain the situation. They added context that a reporter on the ground could not have contributed so easily (and in this case, the remoteness of the region where the crisis was unfolding meant that there were no journalists at the scene anyway), and shared insights that journalists without expert knowledge of Algeria (i.e. the majority of non-Algerian journalists) could not have offered.

Discussion

Citizen contributions can challenge and complement both official sources and information provided by established news organisations—keeping both on their toes, and giving a more detailed picture of a developing story, whether in Algeria, Syria, or elsewhere. As long ago as July 2005, when a group of suicide bombers attacked the London transport system in the morning rush hour, killing 52 people, citizens were making important contributions. As Beckett subsequently wrote of the coverage of what became known as the 7/7 attacks, "citizen journalism made an impact with people *sending in* phone images … to relate the day's events" (2008: 69, emphasis added). In 2005, the year before the public launch of Twitter and Facebook, *sending in* images (or textual comments and accounts) to established news organisations, in the hope they would publish them, was the primary distribution mechanism for user-generated content. Social media networks have radically changed this model and, in doing so, have created a key challenge for mainstream journalism: how to keep up with social media which now, for some breaking news stories, including crisis events, is the "first" place to look, behind "continuous TV news" (Mark Thompson, president and chief executive of *The New York Times*, quoted in Perry, 2013, speaking about coverage of the Boston Marathon bombings). The increasing deployment of live blogs has been one way news organisations believe they can keep up, increasing their "ability to be fast and accurate

with the latest stories" (BBC, 2013c). However, their editorial processes—including fact and source checking, and negotiations with rights holders—mean they can rarely compete with social media platforms on pure speed. Although these editorial processes slow the news streams emanating from established news sites, like weirs in a river they also serve a purpose: to reassure audiences; what ITV News' Web Editor, Jason Mills, calls the "'we filter so you don't need to' principle" (personal communication, 23 July 2013). As well as filtering social media updates, mainstream media also add analysis and insight as events are unfolding, a skill that Steve Herrmann, Editor of the BBC News website, says is "becoming even more important" (personal communication, 20 July 2013).

In this chapter we have shown how live blogs hosted on the ScribbleLive platform are incorporating unprecedented quantities of citizens' testimony on crisis events. Whether this model, which is giving that testimony the same level of prominence as contributions from journalists, will endure, or even spread, remains to be seen. Given that mainstream news organisations need to be able to differentiate themselves from social media channels, it is likely that they will continue to see the selective aggregation that, in part, characterises their live blogs as a unique selling point. However, the live blog, even in its relatively filtered form, *has* made it easier for news organisations to include an increasingly diverse range of content in their output, including from non-official or citizen sources. Jason Mills believes that as live video is incorporated more and more into stream storytelling, mainstream news companies will "start merging their on-air and online content to provide different solutions for different devices, all with the 'live' principle at their heart" (personal communication, 23 July 2013). That 'live' principle has embraced citizens' contributions to a degree that at least equals, and probably surpasses, practice found in most other forms of journalism. The consequences of that embrace will be fascinating to follow as the future unfolds.

ACKNOWLEDGEMENTS

The authors are grateful to the Reuters Institute for the Study of Journalism and YouGov for permission to use data from the 2013 Digital News survey, to ScribbleLive for analytics data on the live blogs hosted on their live blogging platform, and to Nic Newman for his help sourcing some of the quotes used in this article.

NOTES

1. One of the first breaking news stories to be reported via a live blog was the London bombings of 7 July 2005 (McIntosh, 2005).

2. It should be noted that the popularity of live blogs at Guardian.co.uk is not necessarily mirrored at other mainstream news sites. For example, when a live blog is run side-by-side with an article at the BBC News website the two are "often equally visited" (Steve Herrmann, personal communication, 20 July 2013).

3. A fuller analysis of the survey's findings as they relate to live blogs has been published by Thurman (2013).

4. According to Rogers (2003), "innovators" and "early adopters" make up 16 per cent of the population of consumers who will ultimately adopt a new technology. The Reuters Institute / YouGov data shows that, across the nine countries surveyed, the average number of news consumers (weighted by country population) that had accessed a live blog in the previous week was just over 16 per cent.

5. Compare, for example, the average number of views for stories on Storify in 2012: 662 (Storify, 2012) with the median number of pages views for a sample of live blogs at Guardian.co.uk: over 150,000 (Thurman and Walters, 2013: 86).

6. ScribbleLive supplied the data in anonymised form. Given the number of reader contributions, it is likely the live blogs were originally published by some of their mainstream media clients, who include: Aljazeera, CBS, the New York Daily News, Globeandmail.com, CBC, MSN, News International, CNN, the Toronto Star, the Wall Street Journal, and the Telegraph Media Group (ScribbleLive, n.d.). Tweets from readers were included. On the ScribbleLive platform reader contributions appear in the main part of the live blog amongst journalists' updates.

7. For example, the Reuters' 'Japan Earthquake' live blog powered by ScribbleLive contains a number of updates by Reuters' journalists that contain only non-official new-technology mediated content. For example, Reuters' Ross Chainey posted "some amateur footage [from YouTube] reportedly captured in Sendai when the earthquake struck" (Reuters, 2011).

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