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## **A Tale of Two Stories from “Below the Line”: Comment Fields at the Guardian**

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### **Abstract**

This article analyses the nature of debate on “below the line” comment fields at the UK’s Guardian, and how, if at all, such debates are impacting journalism practice. The article combines a content analysis of 3792 comments across 85 articles that focused on the UN Climate Change Summit, with 10 interviews with journalists, 2 with affiliated commentators, plus the community manager. The results suggest a more positive picture than has been found by many existing studies: debates were often deliberative in nature and journalists reported that it was positively impacting their practice in several ways, including providing new story leads and enhanced critical reflection. However, citizen-journalist debate was limited. The results are attributed to the normalization of comment fields into everyday journalism practice, extensive support and encouragement from senior management, and a realization that comment fields can actually make the journalists’ life a little easier.

### **Keywords**

comment fields, climate change coverage, Guardian, journalism practice, public sphere, readers’ comments, UGC

## Introduction

Mainstream news media across Western democracies have been increasingly adopting new, participatory forms of online journalism that have the potential to enhance citizen participation and involvement in the news-making process. Thus far, research has focused on categorizing user-generated content (UGC, Thurman 2008); mapping and describing adoption levels (Deuze et al. 2007; Domingo et al. 2008; Jönsson and Örnebring 2011); examining how the incorporation of UGC meshes with newsroom practices and journalistic culture (Harrison 2009; Hermida and Thurman 2008; Singer and Ashman 2009); and investigating uptake by and the perceptions of users of different participatory features of online news sites (Bergström and Wadbring 2014; Boczkowski and Mitchelstein 2012). However, research into “below the line” comment fields—the comments and debates that occur underneath articles on news websites—remains limited.

This lack of research is problematic because comment fields are one of the most popular forms of UGC within mainstream news media (Hermida and Thurman 2008; Jönsson and Örnebring 2011).<sup>1</sup> Such spaces are important and unique because they give audiences a space to debate and discuss news content with each other—and journalists themselves—and this could, in theory, shape the practice of journalism and impact both the mediated and general public spheres. To date, research has focused on journalists’ perceptions, and these are not so welcoming. Journalists typically describe comments as being offensive, poor in quality, untrustworthy, and unrepresentative of the public (Bergström and Wadbring 2014; Harrison 2009; Singer and Ashman 2009; Phillips 2010; Reich 2011). But are these perceptions an accurate account of what is taking place in comment fields? First, few empirical studies have analyzed how audiences actually behave in comment fields: what is the nature of debate that

occurs? Do they constitute a deliberative public sphere? Second, do below the line comments enhance or inhibit the professional practices of journalists as they go about their work? More broadly, are they improving the quality of news products, journalism, and ultimately the public sphere? This paper aims to address these questions by exploring the use of comment fields by readers and journalists at the Guardian. In order to achieve this, a (qualitative) content analysis of readers' comments (N=3792) from articles on the UN Climate Change Summit in Copenhagen (N=85) was combined with interviews with contributing journalists (N=13). The findings reveal that debates were often deliberative and impacted journalism practice in several ways, but citizen-journalist debate was limited.

## UGC in Mainstream News Media

Claims about the apparent impact of technological change on journalism abound. For some, this has the potential to fundamentally change traditional journalism practices and cultures:

“Tomorrow’s news reporting and production will be more of a conversation, or a seminar. The lines will blur between producers and consumers, changing the role of both” (Gillmor 2006: XXIV). Similarly, Rosen (2006) talks of the “people formerly known as the audience”, while Bruns’s (2005) detailed and widely cited study coined the phrase “produsage”.

As mainstream news media have adopted new, participatory forms of online journalism, scholars have turned their attention to empirically studying the extent and nature of UGC adoption by journalists. Empirical studies of journalism practice are fairly limited, but suggest a relatively conservative adoption. Thurman (2008), for example, found that there were limited resources for journalists to blog, and there were reservations about the legal implications.

Similarly, Gillmor (2006: 114) noted “mistrust among traditional editors of a genre that threatens

to undermine what they consider core values—namely editorial control and ensuring that readers trust, or at least do not assume there is an absence of, the journalists’ objectivity and fairness”. For such critics, the failure of traditional journalism to match the “utopian” potential of dialogic journalism is linked to a fundamental clash with the culture (Hermida and Thurman 2008) and practice of journalism, such as a perceived need to maintain a professional distance (Deuze et al. 2007) while resourcing issues make it hard to ensure the quality of UGC (Singer 2010; Witschge 2013). As Deuze (2003: 220) puts it:

A mainstream news site embracing connectivity must consider the impact that this will have on its established culture of doing things, its monopoly on content, its understanding of what is “public”, its roles in community. This is not to be underestimated, and in my opinion explains the failed or uninspiring nature of attempted interactivity by this kind of news organization.

With more positivity, Robinson’s (2010: 139-40) newsroom ethnography observed some evidence of change: “The audience-journalist relationship was being recast in an opportunistic manner (from marketing assets to sources)[...]”, though this was limited by a clash between convergers who wanted to embrace social media and traditionalists who wanted to limit change.

## “Below the Line” Comment Fields

This study focuses on one particular form of UGC: below the line comment fields. “Below the line” is industry parlance for the comment and debate spaces opened up underneath news articles and blogs, and can be seen as demarking a clear separation between formal outputs and UGC.

Comment fields allow audiences to discuss news content with each other and with journalists. They also potentially provide opportunities for journalists to reflect on their writing; test arguments in the case of commentary pieces; receive feedback on stories; and can be a source for new leads. More prosaically, comment fields are considered an important source of revenue by building a loyal and engaged community (that might also become a paying member at the Guardian); giving enhanced metadata that can increase advertising revenue; and increasing visibility in search engines by keeping the website “hot”. While undoubtedly the economics are important given the financial challenges afflicting the media, Witschge’s (2013) analysis suggests that the potential for audience empowerment and democratization is often subservient to, and limited by, the economic logic.

Though theoretically journalists recognize the potential of comment fields for contributing to public discourse (Canter 2013; Reich 2011; Singer and Ashman 2009; Viscovi and Gustafsson 2013), their impressions and practical experiences are less positive. First, as mentioned earlier, debates are often perceived as being poor in quality (Bergström and Wadbring 2014; Canter 2013; Harrison 2009; Loke 2012; Robinson 2010; Phillips 2010; Reich 2011; Viscovi and Gustafsson 2013). Second, journalists fear that the danger of being attacked could (Singer and Ashman 2009) or actually has (Loke 2012) put off sources. Third, journalists fear that comment fields could undermine the image of their publication (Reich 2011) and/or negatively influence how people interpret the above the line piece (Anderson et al. 2014). Finally, they are often considered to have little or no journalistic function: they are a space for users to debate with each other, independent of the news production process (Hermida 2011: 25; Loke 2012). However, in a similar vein to Robinson (2010), Loke (2012) noted that there was a

divide (17/13) amongst journalists who were keen to engage more fully with comment fields, and those who saw them as distinct from journalism.

This brief review of the literature on comment fields and UGC has highlighted a disjuncture between the theoretical potential and actual practice: take up by journalists has generally been quite conservative. While the precise nature of the claims made about the potential of comment fields do vary, we believe that the following distillation captures the key hopes:

- Comment fields might provide a space for readers to deliberate with each other about the news, akin to a micro-public sphere
- Comment fields might provide a space for readers to engage directly with journalists, and hold them to account for their work
- Comment fields could be a source for new stories or angles on stories
- Comment fields might enhance critical reflection on stories and influence what/how journalists write

The broader implication of these claims is that comment fields might be changing the practice of journalism within the traditional media. While this might be seen as an attempt to neuter the radical potential of new technologies by older media (Winston 1998), the hybridization that occurs can create significant changes to established working practices (Chadwick 2013). Many news outlets have invested significant resources to enhance comment fields, including improving the commenting infrastructure, moderation, and the regulatory frameworks that govern debates with a view to enhancing deliberation and minimizing legal risk. Furthermore, we might expect

user behavior to have evolved as people gain more experience (for example, on how to respond to trolling). Alongside such investments, Robinson (2010) and Loke's (2012) tentative findings suggest that journalists' own relationship with comment fields is in flux.

## Research Design and Methodology

In this article, we aim to assess these concerns through an empirical analysis of the nature of debate and how, if at all, comment fields support journalistic practice. The following research questions are addressed:

RQ1: To what extent do comment fields provide a space for deliberative talk?

RQ2: To what extent do journalists use and engage in comment field debates?

RQ3: How, if at all, do comment fields enhance the practice of journalism?

Though an increasing number of studies have investigated this phenomenon, most work focuses on what journalists think (experiences, perceptions). Very few empirical studies have analyzed how audiences and journalists behave in comment fields (Ruiz et al. 2011), and much of this focuses specifically on the level of civility/uncivility (see e.g. Rowe 2015; Santana 2014), with very limited use of multiple datasets to provide a more comprehensive account (Canter 2013). We begin to fill these gaps through an exploratory case study of comment field practices at the UK's Guardian newspaper.

We chose to focus on the Guardian for several reasons. First, when we began the analysis, comment fields were still in their relative infancy, and the Guardian was an early and prominent adopter with arguably the most extensive debates (Jönsson and Örnebring 2011; Ruiz



et al. 2011) that have continued to grow rapidly (Elliott 2012). A second reason was more prosaic: many news websites had (and continue to have) restrictive data access policies for their comment fields – the Guardian was relatively open – which has continued through to the introduction of an API that allows people to access their data. Third, the Guardian's management claims to have actively encouraged what they call Open Journalism,<sup>2</sup> and it takes “a serious and imaginative approach to reader participation in general, and public comments in particular” (Trygg 2012: 3). With clear overtures to Deuze's dialogic journalism and Bruns's produsage, the editor, Alan Rusbridger, claims that this marks a “revolutionary change” from “transmission to communication” and places the reader at the heart of its journalism. However, it remains unclear whether this is a marketing campaign or is actually reflected in the day-to-day working practices of journalists, and “instigating a fundamental shift in established modes of journalism by bringing new voices into the media” (Hermida 2011: 16). While it limits our ability to make generalizations, an individual case study design was adopted to ensure we had the time and space to undertake a rich, deep analysis that could fully address our research questions.

## Sampling Procedures

In order to make the study more manageable while maintaining the meaningfulness of the data, several sampling criteria were employed. First, we chose to focus on news articles and blog posts on the UN Climate Change Summit in Copenhagen.<sup>3</sup> We chose this topic because climate change is a contentious area of debate that normally provokes significant discussion; it was the biggest news story when the data was collected; it encompassed a range of news fields; and it had a specific time frame so we could capture most, if not all, of the news cycle. However, it should be noted that this was probably a particularly polarized time for debates on climate change because

the conference happened shortly after the so-called “Climategate” scandal broke.<sup>4</sup> Additionally, the content analysis was conducted just as the Guardian began to invest resources into comment fields (which in part happened in response to problems during the “Climategate” period), and our analysis predates the introduction of threading, which has allowed users to reply to each other rather than displaying debates chronologically.<sup>5</sup> Articles and blog posts on the Guardian website which received at least one comment and were published on the odd days of the conference (including the day before and after—8 days in total) were selected for analysis. After applying these criteria, the sample consisted of 85 articles (24 were blog posts), written by 47 journalists/commentators containing 3792 comments/posts.<sup>6</sup> All threads were archived and transferred to MAXQDA (a qualitative content analysis software program) for hand coding. To analyze the data, a content analysis was used.

### Coding scheme

The coding scheme used both deductive and inductive techniques (Mayring 2000). As there are similarities between discussion forums and comment fields, Graham’s (2008) coding scheme for analyzing the nature and deliberativeness of political talk in online news discussion forums was initially adopted. During several rounds of coding and recoding (feedback loops), categories were modified, merged, and deleted, while new categories were created, until a final coding scheme was deduced. As a measure of the nature of debate (and its deliberativeness RQ1), the coding scheme focused on four characteristics of user comments. First, it identified the type of interaction. Were participants interacting with the content, journalist, and/or fellow participants? Second, it identified the (behavior) function of the posts. For example, did participants post an argument, challenge other participants’ claims, pose questions, or provide information? Third, it

examined the level to which comments brought forward new and alternative arguments and sources. Finally, thematic coherence was determined by measuring whether comments related to the topic of the article. Though it happened infrequently, posts could potentially serve multiple functions and be directed at multiple persons and/or issues. Thus, the three categories under interaction (w/Journalist, w/Content, w/Participant) and the seven under behavior/function (arguments, assertions, provide info, request info, degrading comments, acknowledgements, calls-to-action), discussed in more detail below, are not mutually exclusive.

### Reliability

To increase confidence in the findings, an inter-coder reliability test was conducted. A random sample of comments fields, accounting for 10 percent of the posts, was counter coded by two additional coders. The final coding scheme was relatively reliable, with all 11 categories scoring .76 or higher using the Cohen's Kappa measure of inter-coder agreement.

### Interviews

In order to address RQ2 and RQ3, the content analysis was complemented by 13 interviews (10 with Guardian journalists and 2 with affiliated commentators) who wrote the stories within the sample discussed above, plus one non-journalist staff member responsible for managing the "community". Our sample features 47 unique authors in total. However, only 27 of these were actually journalists or commentators employed by the Guardian, and they wrote (or co-wrote) 68 of the 85 articles. Of these, we interviewed the author (or co-author) of 39 of the articles.<sup>6</sup> Thus, we believe that a reasonable spread of journalists and commentators were interviewed. All the interviews were transcribed verbatim and analyzed with the support of NVivo so that patterns

could be identified and tracked across the different interviews over several rounds of reading and re-reading. Unless otherwise stated, the journalists/commentators' quotes used below were chosen because they captured most effectively the views expressed by a majority of interviewees.

## The Nature of the Discussion

The qualitative content analysis focused on the nature of discussion in comment fields and identified four trends: they were used as communicative spaces for public debate; Q&A; degrading and praising; and promoting political action.

### Public Debate

The findings suggest that participants used comment fields to engage in, often deliberative, public debate. As Table 1 reveals, arguing and debating (the exchange of claims) accounted for 67 percent of comments posted. Participants would read an article and then debate it either by offering new/alternative opinions/arguments, or by challenging or supporting the information and/or arguments put forth by the journalist, the sources in the article, or fellow participants.

How deliberative were these debates? In order to address this question, we analyzed the discussions for the level of rational-critical debate; coherence; the use of evidence (cited sources); reciprocity; and discursive equality (Graham 2008).

[Table 1 about here]

One common criticism of comment fields is that they tend to be poor in quality (e.g. irrational). However, as Table 1 reveals, 47 percent of posts provided reasoning with their claims (representing 70 percent of all claims made), while only 20 percent used assertions (non-reasoned claims), indicating that being rational was the norm (see similar findings of readers' comments on climate change at the Guardian by Collins and Nerlich, 2014). When participants posted arguments (reasoned claims), they typically came in the form of critical reflection; 70 percent of arguments directly challenged opposing claims, which represented 33 percent of all posts. In terms of supporting evidence, nearly a quarter of all arguments cited (new) sources to support claims (452 sources in total, see Table 4 below). Regarding coherence, 96 percent of comments were on-topic, which is in-line with previous research on comment fields and news media discussion forums (Canter 2013; Graham 2011; Ruiz et al. 2011).

[Table 2 about here]

Another criticism of comment fields is that they tend to facilitate a many-to-one type of discussion—shouting matches—as opposed to reciprocal discursive exchange. As Table 2 shows, 47 percent of comments were coded as replies to participants, which is in line with previous research (Canter 2013; Collins and Nerlich 2014; Graham 2011; Winkler 2002). Another key question is whether comment fields create a space for reader-journalist debate. Though 16 percent of the posts were directed at journalists, there were only 12 responses posted by 6 Guardian journalists. On these occasions, journalists did not engage in the debate but rather provided additional information, requested information and thanked participants for identifying broken links and for providing new sources. Thus, we conclude that the promise of citizen-

journalist debate is unfulfilled. There are several potential explanations, including a lack of time and resources, and a fear that it could put off sources and/or negatively influence how people interpret the article (Anderson et al. 2014; Loke 2012; see interviews below).

[Table 3 about here]

Finally, empirical studies of news media discussion forums generally find unequal participation patterns: a small number of users create most of the content, which could put others off from participating. Graham (2011) and Winkler's (2002) analyses of the Guardian Unlimited Talkboard, which closed in 2011, showed that the debates were typically dominated by a small group of "super participants" (Graham and Wright 2014). However, as Table 3 indicates, this was not the case here. Though the level of one-timers was high, the most frequent posters (ten or more comments), were responsible for slightly more than a quarter of posts.

## Q&A

Participants also used comment fields for posing questions; requesting and providing information; and gathering background information, accounting for 18 percent of comments. First, 7 percent of the posts requested information or posed a question typically as a means of deepening knowledge and understanding on the issue as the comment below illustrates:

I need some help from some of you guys out there who are well ahead of me. The reason?

Data released by UEA via the Antarctica Survey and the BBC.

[http://news.bbc.co.uk/1/hi/in\\_depth/sci\\_tech/2009/copenhagen/8386319.stm](http://news.bbc.co.uk/1/hi/in_depth/sci_tech/2009/copenhagen/8386319.stm)

Linked to this article there is a spreadsheet containing smoothed temperatures going back to 1850. (Smoothed presumably in an attempt to take out all other variations and to reveal the effect of CO<sub>2</sub>) Now these temperatures increase every year from 1967 onwards until 2006 but since then there have now been 3 consecutive years when these figures have decreased. Does this simply throw doubt on the smoothing methodology or?

Participants used comment fields to gather information as a means of understanding the (complex) science behind climate change. Participants seemed to want to move beyond the information provided in the articles and used comment fields—the community of participants—to gather this information.

Such requests for information were typically met by fellow participants; 11 percent of posts provided information. In addition to providing solicited information, participants also posted links to sources. They took it upon themselves to introduce a considerable amount of (new) information; 275 sources were introduced in this manner. As will be discussed later (see Table 4), much of this information came from the news media, academic peer-reviewed journals, and research institutions. However, providing solicited or unsolicited information did not go unchallenged. On occasions, participants would contest the information being posted (its relevance, reliability, etc.).

Finally, in addition to citing sources, participants frequently drew from their own experiences by posting first-hand accounts via the use of narratives and storytelling or by posting opinions and facts as “experts”. Regarding the latter, it became clear during the analysis that several (alleged) scientists/academics participated in the debates, and this was reflected in the knowledge of climate science displayed in the comments.

## Degrading and Praising

One of the most common criticisms lodged against comment fields by journalists is that they tend to foster abusive and aggressive posting behavior (flaming). As Santana (2014: 19) points out, this is often blamed on anonymity: “the pervasiveness of the incivility” that supposedly plagues readers’ comments has reached “fever pitch” among “a rising chorus of journalists and industry observers” calling “for the end of anonymous comments”. In response, the Huffington Post recently stopped anonymous comments while others restricted the number of stories opened to comments.

In contrast, our analysis revealed that degrading—to lower in character, quality, esteem, or rank via ad hominem attacks—was uncommon (12 percent), which is in line with previous empirical studies of readers’ comments (Canter 2013; Collins and Nerlich 2014; Ruiz et al. 2011; see also Rowe 2015) and news media discussion forums (Graham 2011; Winkler 2002). Who were participants attacking? Nearly half these comments were directed at fellow participants (47 percent), while 35 and 18 percent were directed at the content (the sources in the articles) and journalists respectively. Articles that focused on specific political figures’ views tended to foster rant sessions. Although such rants added little to the quality of debate, they potentially provide journalists (and the public) with a gauge of public opinion or society’s pulse that is spontaneous, immediate, and arguably authentic (Loke 2013). Moreover, experimental research has shown that despite their unrepresentativeness readers interpret comments as a good measure of public opinion, thus influencing readers’ views (e.g. Lee and Jang 2010).



Comment fields also acted as a platform for praising (namely applauding and complimenting); 6 percent of comments were coded as acknowledgements as the three posts below illustrate:

Some good and well informed comments on here [comments by participants]. Interesting to read the various views.

Well done Gordon! I have been impressed by his leadership so far in this conference, although whether they get a meaningful and enforceable agreement remains doubtful.

Bravo to the Guardian editors for posting this. How many newspapers would publish articles that make their sponsors [sic] out to be chumps? This kind of integrity is why I visit this site.

As these examples show, complimenting was typically directed at the information, actions, and arguments put forth by participants, sources in the articles, or journalists, which represented 47, 27, and 26 percent of these posts respectively.

#### A Call to Action

Finally, the analysis revealed that participants used comment fields as a space to promote political action from signing e-petitions and joining a protest to consumer activism, accounting for 7 percent of posts as the examples below illustrate:

Can some leaders please go outside of the conference hall and show solidarity with all those young people demanding a deal—they are left outside in the cold quite literally (sic).

Al Gore, please march today!

too much yak, yak, yak - and still we have tck tck tck—time for action—go to [charlielennox.com](http://charlielennox.com) and find out what you can DO to change the world.

Calls to action were directed at either sources in news articles (12 percent—typically politicians); at Guardian journalists and news organizations (33 percent); but largely at fellow participants or the public at large (55 percent). There were also differences in the type of debate generated by calls to action: participants moved beyond reactive and critical talk, often proposing new policies or amendments to government policy and international agreements, thus displaying participants' abilities to move beyond hegemonic news discourse (Druckman 2004).

## Comment Fields and Journalism Practice

Overall, the journalists, in their own way, each believed that comment fields were having a positive impact on their journalism practice and the industry more broadly. The interviews have been distilled into the key patterns (and points of contention) that emerged across each. Where relevant, we have combined this with parts of the content analysis to add greater depth.

### New Stories, Angles, and Sources

Most of the journalists noted that they had used comment fields as the initial source for a new story, gained new contacts, or received information for follow-up stories. While certainly not a

regular occurrence, most of the journalists cited several examples of where they had received help with stories through comment fields (those that had not used Twitter):

I wrote a piece about air pollution in developing countries, specifically in Beijing and India and I just mentioned London at the bottom of it. Anyway I put it up and I got lots of comments, and near the end there was an anonymous comment [...] Someone wrote in and said why don't you have a look at this particular document which was on a remote department of climate change website. I opened it up and it was a story. It was the first time you'd actually seen the pounds, shillings and pence cost per liter compared to the per liter of diesel of health costs of fuel burnt in London by transport. That was absolutely fantastic, and I got a good story.

Another example was a story on flooding:

The information they gave was really useful, really useful. That's [comment fields] working at its best—people out there have got information which you haven't got. Some of them are acting as whistleblowers [but in this case they] had an analysis which was really important in an area that I hadn't looked at, which I hadn't worked out for myself.

Interestingly, many journalists worried that they were not as active in their use of comment fields as colleagues. These journalists would describe themselves as “field officers” or the “old guard”, but subsequently cited numerous examples of how they were using comment fields.

Developing sources from comment fields can be problematic due to anonymity and the

need to verify identities. One journalist noted that:

It is very hard to find new science stories in comments and things like that because you need very robust sources in my opinion. [...] We have to get papers, peer review, and all this sort of thing. So, the bar is much higher for me to write something.

However, they went on to state that they heard about their current story “from some other website—it is very rare that I would hear about it from our own comment threads. But that’s just me...” But what explains the use of comment fields as a source for stories? One senior journalist discussed the matter at length. First, he believed that:

It is harder to make direct contact with people than it used to be. You tend to have to go through press officers. The civil servant will no longer answer the phone; he will put you back to their press office. So, in other words, information is much more tightly controlled than before. The web, and the comments on the bottom of pieces, makes up for some of that.

Second, he linked it to economic/resource issues within the media:

You would probably have got [the information] before, but only by knowing people and that is not possible in the current state of journalism where it’s much harder to get out and make proper contact with people because you’re effectively tied to the machine. So, it’s a very, very useful way of getting good and reliable new information.

The pressures placed on journalists due to fewer staff and increased newspaper sizes are well known (Davies 2009), and the use of comment fields to source stories was broadly linked to increased work pressures by several journalists. Of course, those same pressures make it difficult for journalists to engage with comment fields (see above), and every journalist wished that they had more time for comment fields. Perhaps because of this, it was noted that some of the leads are passed on to them by: “Community managers [and editors who] are often pointing things out to us, saying, hey this is an interesting comment, follow up on it.”

Our findings support Hermida’s (2011: 19) analysis, which also found evidence that sending in news tips was popular. Hermida (2011: 20—emphasis added) saw this as being a distinctly limited development: “simply extending established newsgathering practices to the Internet, albeit using rapid and cost-effective digital technologies to gather input from a much more far-flung net”. This is presented as being limited, it seems, because “the journalist shaped the users’ involvement, assessed the content that resulted and made the final decisions about its editorial value” (Hermida 2011: 20). While it is correct to say that such practices largely support rather than challenge the traditional emphasis of journalists as gatekeepers involved in “selecting, writing, editing, positioning, scheduling, repeating and otherwise massaging information to become news” (Shoemaker et al. 2008: 73), Hermida underplays the significance of such “normalizing” developments on the practice of journalism. Put simply, radical change does not just come from a more fundamental revolution such as ceding agenda-setting and co-authoring power to the audience (Wright 2012). The finding that journalists are using comment fields to source new stories and build their contact base should not be underestimated. Gans (1999: 244), for example, suggested that only “powerful or skilled sources know how to make

contact with reporters” and that many, if not most, people do not “know how to contact reporters”, especially in the national media. While we would need to know more about the background of commentators to definitively state that the situation is different to the one Gans describes, our findings indicate that news production is not “for the most part passive” (1999: 118) and that stories sourced from UGC can help to diversify news from “an enormous reliance on the news gathering of agencies and on a few prominent institutional sources” (Golding and Elliot 1979: 115).

### The Audience as Expert

The notion that the audience had significant expertise that could be tapped into builds on this analysis. The environment journalists that we interviewed were conscious that their audiences—including the people commenting in threads—were often experts in their field, which is in line with the findings from the content analysis. The fundamental hierarchical notion of “traditional” journalism as an expert with an audience was challenged. The roots of this would appear to be, in part, due to changing newsrooms practices: many of the interviewed journalists had changed “beat” and had not specialized in the environment their whole career. As one noted, frankly: “a lot of the comments there were so expert that they went over my head—I mean I couldn’t really follow because I’m not a science journalist to trade.” Journalists are particularly “thrilled” with below the line “expert debates”, such as where the academics that were making the news then comment below the line: “That’s obviously got real value to have those sort of people with that knowledge in the thread. It starts to become an article in its own right.” Another journalist suggested that they often attracted an expert audience: “On the comment threads, you’ve probably got more scientists compared with Twitter...” Another noted: “Sometimes I am

absolutely astonished by people's knowledge, it's fantastic, and I will refer back to them very often.”

Several journalists observed that the high quality of the debate is because “the comments we get tend to be from groups or organizations or individuals who are quite engaged in their subject, but not from the ordinary reader.” While this was a strength, it was also perceived to be a limitation: the people who comment are atypical and comment debates are not, thus, necessarily reflective of the broader readership. A related concern here was that they did not know enough about who the people actually were. Several journalists believed that vested interests attempted to manipulate debates, be it political activists or commercially backed lobbies such as from the fossil fuel industry. It was for such reasons that many journalists were wary about letting comment fields have too much influence over what they write, and it is to this that we now turn.

### Critique, Accountability and Evidence

A significant proportion of debates had an adversarial stance, directly challenging and contradicting the accounts, interpretations, arguments, inherent assumptions, facts, and sources in news stories and/or offered new/alternative arguments, positions, and sources. As discussed earlier, a third of posts contained critical arguments, much of which was directed at journalists or journalistic content. Participants also challenged the type of coverage and frames used by journalists, often by providing eyewitness accounts (or other personal experiences) that contradicted the framing and/or interpretation of events in the news article. This raises the question of what evidence was used to support arguments.

[Insert Table 4 about here]

As Table 4 shows, participants introduced a substantial amount of (new) sources through argumentation and Q&A type exchanges. Unlike journalists, where the top four source types accounted for 72 percent of the sources used, participants drew on a multiplicity of evidence, such as blogs (9 percent) and personal experience (14 percent). Interestingly, reference to academic journals and research reports from government agencies or research bodies was more common in below the line comments (nearly a quarter) than by journalists (11 percent), which speak to the expert audience analysis above. Overall, comment fields not only offered (often informed) scrutiny and critique of news coverage, but also a diverse set of alternative perspectives (alternative claims accounted for 10 percent of posts—see Table 1), sources and interpretations—key (normative) functions of journalism’s role in public sphere (Habermas 1989). But how did journalists perceive such debate, and did it affect their journalism?

The interview data suggests that increased scrutiny of their work, alongside the broader chance to read people’s views, caused most of the journalists to reflect on their writing. As one journalist put it:

The below the line commentary stuff is only one factor, in a whole set of different factors, which makes the way we report—particularly at the Guardian—much more reflective... you know, we are much more conscious that everything we say and do is under scrutiny. [...]  
I think it is terrific. And in some respects I feel a lot prouder about a lot of the stuff that I do. And it also makes me feel stronger about it.



Another journalist noted that:

It does make you reflect, I think, on the way you might phrase a sentence [...] I think you do, inevitably, consider what reaction you are going to have. I think that probably does fore shape the style and the tone of the way you write things—it does for me, I think.

The increased scrutiny was generally considered to have led to stronger, more rigorous working practices:

Everything that a reporter writes can be—often immediately—verified or checked, externally by the audience. And that is an extraordinary experience for most journalists. [...] everything that I write now, I have to be absolutely bloody certain that I can verify it. And so the story is actually the tip of an iceberg, and below the surface I will have files of tens of megabytes of, of files—you know—the original source document, the press notice, the PA copy, the BBC copy.

Journalists argued that such challenges were positive, encouraging them to think carefully about what they wrote. For one journalist/commentator: “Amid all the noise, I can still see my ideas being tested and either improved or rejected, which I find very useful indeed. It’s improved my journalism, I think, reading those threads.” Their approach is to:

[T]hink of my harshest online critics and see whether they could argue their way out of this one. So, what [comment fields] encourages me to do is to spend more effort ensuring

that my arguments are watertight, or as close to being watertight as I can make them [...] and so it does encourage me to be more rigorous.

Some journalists did express caution about the potential dangers of allowing comments to shape what is written, particularly for hard news:

You have to be careful—to say it has a chilling effect is sometimes overstating it, but it certainly makes you more cautious and less likely to be assertive or pointed or something like that, which is not necessarily good journalism.

Nevertheless, the general view was that comment field debates: “certainly feeds into your thinking on, you know, generally what you are doing in terms of commissioning, writing and so forth”.

## Conclusion

This article has analyzed the nature of debate in the Guardian's below the line comment fields, and how, if at all, this is impacting journalism practice through a case study of coverage that focused on the Copenhagen Climate Change Summit. Exploring the nature of debate is important, not least because Habermas (1989) argued that a core function of journalism was to act as both a platform and facilitator of public debate. The analysis of comment fields found that they were deliberative (RQ1): discussions were typically rational, critical, coherent, reciprocal and civil—a finding that is supported by existing research (Canter 2013; Collins and Nerlich 2014; Graham 2011; Rowe 2015; Ruiz et al. 2011; Winkler 2002). While we did not collect

evidence on the background and political views of participants, it would appear from the debates that participants hold a wide range of political views and discuss across these—an important aspect of deliberation often missing in online political spaces. This, it seems, helped to create a critical tone that was considered important by the journalists, and helps to explain the use of evidence to support claims. To reflect this, the job title of the forum manager was pluralized to Social and Communities editor. The debates also had implications for news coverage and journalism practice.

First, the depth and detail of some debates served to extend the news article and allowed participants to pool their collective knowledge and experience, conduct their own further research, and thus potentially gain a deeper understanding of the issues being presented by journalists, fostering collaborative knowledge generation (Shanahan 2010). As one participant maintained: “Sometimes there’s more to be learned from the comments section than the articles.” Journalists fear that comment fields spread misinformation (Singer and Ashman 2009; Phillips 2010; Reich 2011), but this research suggests that information is routinely challenged and debated. Second, participants used comment fields to publically criticize news coverage and hold journalists accountable, which many journalists felt improved the quality of their work. Third, participants used comment fields to both challenge and provide alternative media discourses by putting forward competing ideas and sources, thereby exposing participants, readers, and journalists to new ideas and arguments and helping to create a more inclusive news product. At the same time, these competing voices were set within the context of public debate producing a more deliberative exchange.

While the nature of the debate facilitated was broadly positive, we found very limited evidence of journalist-reader debate in the comment fields (RQ2). This was largely explained by

a lack of time, but in some cases it was personal inclination or a fear of personal attacks.

However, our research was limited to a particular event, and it is perhaps unsurprising that journalists' comments were limited. To fully understand how journalists participate in comment fields, future research should focus specifically on the journalists' comments: how they behave, what impact this has on debate, and how participants react to their comments.

The journalists in our sample normally read roughly the first 50 comments, though sometimes they simply had no time. Most journalists noted that while comment field participants were atypical, the debates had influenced their journalism practice (RQ3) and some argued that it had made them better journalists. It caused them to reflect on what they wrote about and how they write; keeping paper trails for every story; and they received new stories and leads from comment fields. Overall, we believe there is sufficient evidence to conclude that rather than being kept at arm's length (Hermida 2011: 29), most of the journalists were integrating comment fields into the news production process—but this is limited by a lack of resources. Overall, the implications of our findings highlight the need for a more nuanced approach; radical change in journalism practice does not simply occur via a fundamental revolution such as ceding agenda-setting to the audience, but rather through small incremental changes and the hybridization of old and new practices.

Why were our results more positive than some previous studies? First, similar to Robinson's (2010) "convergers", the journalists we interviewed see engaging with comment fields, and UGC more broadly, as an intrinsic, "normal" part of their job. This appears to mark a change from much existing work, where the reaction was more defensive. In part, this is because the journalists we interviewed have had many positive experiences and in some cases this had improved their journalism and made their life easier. These positive experiences might be linked

to a third point: the nature of the audience that reads the Guardian. Fairly or unfairly, the Guardian's readership is generally considered to be relatively left-leaning, well-educated and bourgeois. While this is hard to confirm, these characteristics (perceived or otherwise) might impact practice. This is linked to our second point: the Guardian's management is proactively in favor of building an online community and tapping into social media—as exemplified by the Open Journalism initiative, recent investments into website interface and moderation, and tools such as Guardian Witness. While the potential for enhanced journalism is part of this drive, there is a more prosaic business case: comment fields facilitate a ‘stickier’ community and this strengthens advertising revenue and search engine optimization. Summarizing this analysis, it suggests that future research needs to pay close attention to the interaction between journalists’ attitudes towards, and experiences of, below line the comments. This links to the nature of the debate, and thus who and how people participate below the line is important. This is itself directly shaped by investments in community management and moderation by managers. Indeed, this research suggests that future research must analyze the managerial support and encouragement of comment fields.

This brings us, finally, to the limitations of this research and suggestions for how to overcome these. First, for the reasons just outlined, the Guardian's comment fields might be atypical, and comparative analysis across newspapers is required to test this. Second, the number of apparent “experts” that participated in the climate change debates analyzed here may also be atypical of the Guardian's comment fields more broadly, and thus a wider study of the comment fields would be welcome. Third, news is shared and discussed in a wide range of online spaces, such as Facebook and Twitter, that are not analyzed here. Each platform has its own affordances that shape debate, but communication also intersects cross-platform in ways that are not

captured. Finally, we know very little about who participates in comment fields. As anonymity is being dropped, it opens up new opportunities for research. In particular, future studies should investigate the background, experiences and perceptions of participants (on comment fields and beyond): the perceived benefits and drawbacks of participating; their perceptions on the role of their comments in the news making process; and, more practically, their views on improving comment fields.

## Notes

1. With the rise of social media such as Facebook and Twitter, the debate and comments ignited by news articles (and journalism practice surrounding this) has no doubt in part moved elsewhere. Moreover, the phenomenon investigated here increasingly plays out and across a variety of online spaces and networks.
2. Open Journalism became an important marketing campaign, including a television advert that considered how such an approach might lead the Guardian to cover the three little pigs' fairytale.
3. This excluded Comment is Free articles. The environment section of the website e.g. hosts various blogs by Guardian journalists.
4. Climategate refers to stolen or leaked emails from the Climatic Research Unit at the University of East Anglia and published just before the Copenhagen Climate Change Summit. Selected emails were used to suggest that scientists had hidden or manipulated data, leading to a series of inquiries. It is widely felt to have impacted public debates.
5. Interface design and moderation (see note 5) are widely considered to impact the nature of debate (Wright and Street 2007). At the time of the analysis, the interface was very basic (non-threaded, chronological), making it harder for people to engage in sustained debate.
6. There were three articles with no specific author identified (e.g. the Press Association). Additionally, 319 comments were removed by moderators and could not be included in the analysis. Posts are typically removed for being offensive or off topic; the number of degrading and incoherent comments may have been marginally higher. The moderation system works in two principal ways. First, they operate a watch list system: certain topics are flagged for close moderation (and this would generally include stories around climate

science), and journalists can also flag stories where they think there might be issues. Second, users can flag posts that they feel contravene the community guidelines, and moderators will then check these and adjudicate. Around 4% of messages are moderated for breaching the guidelines.

6. The figures are held back because we could not interview Suzanne Goldenberg or Bibi van der Zee, who authored 13 articles between them either individually or with collaborators.



## References

- Anderson, Ashley A., Dominique Brossard, Dietram A. Scheufele, Michael A Xenos and Peter Ladwig. 2014. "The 'Nasty Effect:' Online Incivility and Risk Perceptions of Emerging Technologies." Journal of Computer-Mediated Communication 19(3): 373–97.
- Bergström, Annika and Ingela Wadbring. 2014. "Beneficial Yet Crappy: Journalists and Audiences on Obstacles and Opportunities in Reader Comments." European Journal of Communication DOI: 10.1177/0267323114559378
- Boczkowski, Pablo J. and Eugenia Mitchelstein. 2012. "How Users Take Advantage of Different Forms of Interactivity on Online News Sites: Clicking, E-Mailing, and Commenting." Human Communication Research 38(1): 1–22.
- Bruns, Axel. 2005. Gatewatching: Collaborative Online News Production. New York: Peter Lang Publishing.
- Canter, Lily. 2013. "The Misconception of Online Comment Threads: Content and Control on Local Newspaper Websites." Journalism Practice 7(5): 604–19.
- Chadwick, Andrew. 2013. The Hybrid Media System: Politics and Power. New York: Oxford University Press.
- Collins, Luke and Brigitte Nerlich. 2014. "Examining User Comments for Deliberative Democracy: A Corpus-driven Analysis of the Climate Change Debate Online." Environmental Communication: A Journal of Nature and Culture  
DOI:10.1080/17524032.2014.981560
- Davies, Nick. 2009. Flat Earth News: An Award-Winning Reporter Exposes Falsehood, Distortion and Propaganda in the Global Media. London: Vintage.
- Deuze, Mark. 2003. "The Web and Its Journalisms: Considering the Consequences of Different

- Types of Newsmedia Online.” New Media and Society 5(2): 203–30.
- Deuze, Mark, Axel Bruns, and Christoph Neuberger. 2007. “Preparing for an Age of Participatory News.” Journalism Practice 1(3): 322–38.
- Domingo, David, Thorsten Quandt, Ari Heinonen, Steve Paulussen, Jane B. Singer, and Marina Vuinovic. 2008. “Participatory Journalism Practices in the Media and Beyond: An International Comparative Study of Initiatives in Online Newspapers.” Journalism Practice 2(3): 326–42.
- Druckman, James N. 2004. “Political Preference Formation: Competition, Deliberation, and the (Ir)relevance of Framing Effects.” American Political Science Review 98(4): 671–86.
- Elliott, C. (2012) “The Readers’ Editor on... the Switch to a ‘Nesting’ System on Comment Threads”. The Guardian’s Comment Is Free, December 23.  
<http://www.theguardian.com/commentisfree/2012/dec/23/switch-nesting-system-comment-threads> (accessed June 6, 2014).
- Gans, Herbert J. 1999. “Deciding What’s News.” In News: A Reader, ed. Howard Tumber, 235–48. New York: Oxford University Press.
- Gillmor, Dan. 2006. We the Media: Grassroots Journalism by the People, for the People. Sebastopol, CA: O’Reilly Media.
- Golding, Peter and Philip R.C. Elliott. 1979. Making the News. London: Longman.
- Graham, Todd. 2008. “Needles in a Haystack: A New Approach for Identifying and Assessing Political Talk in Nonpolitical Discussion Forums.” Javnost – The Public 15(2): 5–24.
- Graham, Todd. 2011. “What’s Reality Television Got to Do With It? Talking Politics in the Net-

- Based Public Sphere.” In Political Communication in Postmodern Democracy: Challenging the Primacy of Politics, eds. Kees Brants and Katrin Voltmer, 248–64. Basingstoke, UK: Palgrave Macmillan.
- Graham, Todd and Scott Wright. 2014. “Discursive Equality and Everyday Talk Online: The Impact of ‘Super-Participants’.” Journal of Computer-Mediated Communication 19(3): 625–42.
- Habermas, Jürgen. 1989. The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society. Cambridge, MA: MIT Press.
- Harrison, Jackie. 2009. “User-Generated Content and Gatekeeping at the BBC Hub.” Journalism Studies 11: 243–56.
- Hermida, Alfred. 2009. “The Blogging BBC: Journalism Blogs at ‘the World’s Most Trusted News Organisation.’” Journalism Practice 3(3): 1–17.
- Hermida, Alfred. 2011. “Mechanisms of Participation: How Audience Options Shape Conversations.” In Participatory Journalism: Guarding Open Gates at Online Newspapers, eds. Jane B. Singer, Alfred Hermida, David Domingo, Ari Heinonen, Steve Paulussen, Thorsten Quandt, Zvi Reich, and Marina Vujnovic, 13–33. New York: Wiley-Blackwell.
- Hermida, Alfred and Neil Thurman. 2008. “A Clash of Cultures: The Integration of User-Generated Content within Professional Journalistic Frameworks at British Newspaper Websites.” Journalism Practice 2(3): 343–56.
- Jönsson, Anna Maria and Henrik Örnebring. 2011. “User-Generated Content and the News: Empowerment of Citizens or Interactive Illusion?” Journalism Practice 5(2): 127–44.
- Lee, Eun-Ju and Yoon Jae Jang. 2010. “What Do Others’ Reactions to News on Internet Portal

- Sites Tell Us? Effects of Presentation Format and Readers' Need for Cognition on Reality Perception." Communication Research 37(6): 825–46.
- Loke, Jaime. 2012. "Old Turf, New Neighbors: Journalists' Perspectives on Their New Shared Space." Journalism Practice 6(2): 233–49.
- Loke, Jaime. 2013. "Readers' Debate a Local Murder Trial: 'Race' in the Online Public Sphere." Communication, Culture & Critique 6(1): 179–200.
- Mayring, Philipp. 2000. "Qualitative Content Analysis." Forum: Qualitative Social Research 1(2). <http://www.qualitative-research.net/index.php/fqs/article/view/1089> (accessed June 7, 2011).
- Phillips, Angela. 2010. "Old Sources: New Bottles." In New Media, Old News: Journalism & Democracy in the Digital Age, ed. Natalie Fenton, 87–101. London: Sage.
- Reich, Zvi. 2011. "User Comments: The Transformation of Participatory Space." In Participatory Journalism: Guarding Open Gates at Online Newspapers, eds. Jane B. Singer, Alfred Hermida, David Domingo, Ari Heinonen, Steve Paulussen, Thorsten Quandt, Zvi Reich, and Marina Vujnovic, 96–117. New York: Wiley-Blackwell.
- Rosen, Jay. 2006. The People Formerly Known as the Audience. PressThink. [http://archive.pressthink.org/2006/06/27/ppl\\_frmr.html](http://archive.pressthink.org/2006/06/27/ppl_frmr.html) (accessed May 19, 2014).
- Rowe, Ian. 2014. "Civility 2.0: A Comparative Analysis of Incivility in Online Political Discussion." Information, Communication & Society DOI: 10.1080/1369118X.2014.940365
- Robinson, Sue. 2010. "Traditionalists vs. Convergents: Textual Privilege, Boundary Work, and the Journalist–Audience Relationship in the Commenting Policies of Online News Sites." Convergence 16(1): 125–43.

- Ruiz, Carlos, David Domingo, Josep Lluís Micó, Javier Díaz-Noci, Koldo Meso, and Pere Masip. 2011. "Public Sphere 2.0? The Democratic Qualities of Citizen Debates in Online Newspapers." The International Journal of Press/Politics 16(4): 463–87.
- Santana, Arthur D. 2014. "Virtuous or Vitriolic: The Effect of Anonymity on Civility in Online Newspaper Reader Comment Boards." Journalism Practice 8(1): 18–33.
- Shanahan, Marie-Claire. 2010. "Changing the Meaning of Peer-to-Peer? Exploring Online Comment Spaces as Sites of Negotiated Expertise." Journal of Science Communication 9(1): 1–13.
- Singer, Jane B. 2010. "Quality Control: Perceived Effects of User-Generated Content on Newsroom Norms, Values and Routines." Journalism Practice 4(2): 127–42.
- Singer, Jane B. and Ian Ashman. 2009. "'Comment is Free, But Facts Are Sacred': User-Generated Content and Ethical Constructs at the Guardian." Journal of Mass Media Ethics 24(1): 3–21.
- Shoemaker, Pamela J., Tim P. Vos, and Stephen D. Reese. 2008. "Journalists as Gatekeepers." In The Handbook of Journalism Studies, eds. Karin Wahl-Jorgensen and Thomas Hanitzsch, 73–87. New York: Routledge.
- Thurman, Neil. 2008. "Forums for Citizen Journalists? Adoption of User Generated Content Initiatives by Online News Media." New Media & Society 10(1): 139–57.
- Trygg, Sanna. 2012. Is Comment Free? Ethical, Editorial and Political Problems of Moderating Online News. POLIS Journalism and Society.  
[http://blogs.lse.ac.uk/polis/files/2012/01/IsCommentFree\\_PolisLSETrygg.pdf](http://blogs.lse.ac.uk/polis/files/2012/01/IsCommentFree_PolisLSETrygg.pdf) (accessed June 7, 2014).
- Viscovi, Dino and Malin Gustafsson. 2013. "Dirty Work: Why Journalists Shun Reader

- Comments.” In Producing the Internet: Critical Perspectives of Social Media, ed. Tobias Olsson, 85–101. Göteborg, SE: Nordicom.
- Winkler, Roman. 2002. “Deliberation on the Internet: Talkboard Discussions on the UK Parliamentary Elections 2001.” Medienjournal 4: 1–20.
- Winston, Brian. 1998. Media Technology and Society: A History from the Telegraph to the Internet. London: Routledge.
- Witschge, Tamara. 2013. “Digital Participation in News Media: ‘Minimalist Views Versus Meaningful Interaction.’” In The Media, Political Participation and Empowerment, eds. Richard Scullion, Roman Gerodimos, Daniel Jackson and Darren G. Lilleker, 103–15. London: Routledge.
- Wright, Scott. 2012. “Politics as Usual? Revolution, Normalization and a New Agenda for Online Deliberation.” New Media & Society 14(2): 244–61.
- Wright, Scott and John Street. 2007. “Democracy, Deliberation and Design: The Case of Online Discussion Forums.” New Media & Society 9(5): 849–69.

**Table 1.** The Nature of the Discussion: User Posting Behavior (N=3792).

	Post Count	%
Reasoned claims	1788	47.2
Critical arguments	1252	33.0
Alternative arguments	389	10.3
Supporting arguments	192	5.1
Assertions	756	19.9
Coherence (on-topic)	3635	95.9
Provide Info	430	11.3
Request Info	256	6.8
Degrading comments	472	12.4
Acknowledgements	235	6.2
Calls-to-action	252	6.6

**Table 2.** The Type and Frequency of Interaction (N=3792).

Interaction	Post Count	%
w/Participant	1763	46.5
w/Content	1505	39.7
w/Journalist	623	16.4

Note. The categories are no mutually exclusive; a single post may contain multiple codes.



**Table 3.** The Posting Rate and Distribution of Participation.

		Posting Rate			Posting Distribution		
		Participant Count			Post Count		
		(N=1769)	%	Cumulative	(N=3792)	%	Cumulative
Posts	1	1185	67.0	67.0	1185	31.3	31.3
	2	277	15.7	82.6	554	14.6	45.9
	3	113	6.4	89.0	339	8.9	54.8
	4	53	3.0	92.0	212	5.6	60.4
	5–9	95	5.4	97.4	608	16.0	76.4
	≥10	46	2.6		894	23.6	

**Table 4.** Sources Cited by Journalists and Participants.

	Journalists (N=373)		Participants (N=727)	
	Count	%	Count	%
Politician and government official	142	38.1	48	6.6
NGO, civil society organization and charity	46	12.3	31	4.3
News media	45	12.1	129	17.7
Activist/activist group	34	9.1	25	3.4
Research body, association and institution	20	5.4	58	8.0
Industry	18	4.8	21	2.9
Intergovernmental organization	18	4.8	19	2.6
Academic researcher/scholarship	14	3.8	94	12.9
Notable activist or celebrity	9	2.4	21	2.9
Police	8	2.1	1	0.1
Government agency	6	1.6	25	3.4
Other expert	6	1.6	17	2.3
Alternative media	2	0.5	11	1.5
Participant	0	0	98	13.5
Science blog/website	0	0	49	6.7
Blog (non-science)	0	0	20	2.8
Wikipedia	0	0	19	2.6
Film or TV program (science)	0	0	12	1.7
Other	5	1.3	29	4.0