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Social media's breaking news: The logic of automation in Facebook Trending Topics and Twitter Moments

Abstract

This paper draws on van Dijck and Poell's (2013) framework of social media logic to examine two platform news functionalities: Facebook Trending Topics and Twitter Moments. It uses the walkthrough method to investigate their technical features while also examining how they fit into platforms' economic interests and regulatory processes. While the framework of social media logic enables the identification of platforms' influential elements – programmability, popularity, connectivity, and datafication – embedded in news functionalities, a fifth element becomes apparent. The logic of automation naturalises these elements into processes of news distribution through claims that platform news functionalities are free from human intervention. By perpetuating the logic of automation, platforms position themselves as neutral conduits of news information. Expanding the framework of social media logic to include automation enables future analysis of platform developers' evasion of accountability for shaping social and institutional processes, supported through their claims to produce unbiased automated technologies.

Keywords: automation, news, algorithms, social media, platform, walkthrough, Facebook, Twitter

It is old news by now. In May 2016, there was a huge uproar as the technology news outlet, *Gizmodo*, published articles involving interviews with Facebook employees, revealing that a team of people managed its Trending Topics section. The first article exposed Facebook's "news curators," who were responsible for verifying topics, writing headlines and summaries, choosing a feature photo, and guiding users toward trusted news outlets for more information about a story (Nunez, 2016b). The second article generated controversy, as interviews with employees indicated that they may have followed directives to supress conservative news stories from appearing in the Trending Topics section (Nunez, 2016a). In response to these articles and an inquiry by the United States Senate Committee on Commerce, Science, and Transportation (Tennery, 2016), Facebook admitted the existence of its Trending Topics team and released a version of their guidelines to refute the allegations of bias.

When these developments occurred, I was in the midst of researching Facebook and Twitter's platform news functionalities. Twitter's Moments section was introduced in 2015 with a lightning bolt icon that brought individuals to a menu of topics, which users could select and then swipe left through tweets summarising a news story (Figure 1). Although Moments' launch was highly publicised in 2015, by early 2017 it was reallocated to the bottom of a new "Explore" tab, where it became minimally visible beneath Twitter's longstanding Trends list (Figure 2). Facebook Trending Topics has resided to the right of the News Feed since 2014. While it previously included news story descriptions, following the *Gizmodo* articles, users are now presented with a topic title and the number of people "talking about" it (Figures 3 and 4). This reflects Facebook's

"more algorithmically driven process," following from its decommissioning of the Trending Topics team (Facebook, 2016d). Despite these substantial changes, my initial analysis of these sections identified Facebook and Twitter's adherence to an underlying set of sense-making values, or logics, made possible through a pretense of intervention-free automation, which is also evident in these subsequent transformations.

Figure 1 (left). Twitter Moments May 2016.

Figure 2 (right). Twitter Moments April 2017.

Figure 3 (left). Facebook Trending Topics in May 2016.

Figure 4 (right). Facebook Trending Topics in April 2017.

This paper expands José van Dijck and Thomas Poell's (2013) framework of four elements of social media logic by identifying a fifth element, the logic of automation, as a key rationale of platform news functionalities. It uses the walkthrough method (Author et al.) to analyse Facebook Trending Topics and Twitter Moments, identifying van Dijck and Poell's elements of social media logic: programmability, popularity, connectivity, and datification. Each of these elements feeds into and is sustained by the logic of automation, which is characterised by assumptions that platform news sections function without human intervention. The logic of automation is reinforced by reliance on surfacing popular content that appears to be seamlessly personalised and instantaneous. This broader logic of automation bolsters platforms' claims to be

neutral hosts of user activity. By expanding van Dijck and Poell's framework of social media logic, it becomes possible to critically analyse how automation supports broader trends toward minimal corporate accountability for platform developers through their claims to produce unbiased technologies and regulatory processes.

Social media logic and platform neutrality

From the coverage of politics (Bruns and Highfield, 2013) to catastrophes and crises (Shaw et al., 2013), entertainment events (Highfield et al., 2013), as well as social movements (Korn, 2015), much research attests to social media's role in the contemporary news landscape. Such studies involve varied approaches, such as examining influential users who pass along news (Dubois and Gaffney, 2014), mapping news-related discussions (Lerman and Ghosh, 2010), and tracing how news organisations have adapted to new communication technologies (Ekberg, 2016). While some literature identifies platform affordances as enabling news distribution, such as Twitter's hashtags and shortened links in tweets (Bruns and Stieglitz, 2014), there remains a need for increased examination of how social media platforms' technological architecture and social, political, and economic posturing shape the way that users encounter news. This is especially true, given the Pew Research Center's finding that 63% of American Facebook and Twitter users turn to these platforms as news sources (Barthel et al., 2015). This paper diverges from approaches that examine social media's disruption of the news from perspectives within journalism, such as Carlson's (2017) analysis of journalists' responses to the Facebook Trending Topics controversy. Instead, it draws on scholars' increasing attention to

platforms' interventions and influence in users' everyday lives (Gehl, 2014; Gillespie, 2015; Plantin et al., 2016; van Dijck, 2013) to examine platforms as influential actors in news distribution.

Van Dijck and Poell's (2013) framework of social media logic provides a lens for identifying the "norms, strategies, mechanisms, and economies" (p. 2) through which social media shape users' everyday activity. The framework draws on Altheide and Snow's (1979) principles of mass media logic, as media's discursive strategies and performative tactics that have become accepted as natural or neutral across institutional contexts. These tactics include: presenting a continuous flow of events to retain the public's attention, selecting items conducive to this quick turnover of content, and focusing on news with a high emotional impact. Although mass media outlets present themselves as neutral, they filter content and select experts to speak on behalf of institutions and the public. While van Dijck and Poell (2013) stress that mass media logic and social media logic emerged separately from "a different technological and economic lineage" (p. 5), they demonstrate how social media logic blends, transforms, and adds new elements to the tactics of mass media logic. They outline four main elements of social media logic:

1. Programmability – the mutual ability of users and platforms to steer the flow of communication and information (p. 5);
2. Popularity – strategies for prioritising some topics and users over others (p. 6);
3. Connectivity – sociotechnical affordances for connecting users with each other and advertisers as well as connecting platforms with advertisers (p. 8);

4. Datafication – the rendering of social media activity into commodifiable data, presented as a raw representation of popular opinion in real-time (p. 9-10).

According to van Dijck and Poell, users and institutions sustain social media logic by adopting platforms and their organising mechanisms in everyday life, producing posts and updates according to platform formats and arranging social connections through platforms. Through this widespread uptake, social media logic becomes accepted as natural or neutral and is difficult to recognise. Therefore, this framework of social media logic allows for "systematically [analysing] social media mechanisms as sources of transformation" (p. 11). By providing a way of recognising and naming aspects of social media's influence, the framework enables critical analysis of the power relations between users, institutions, and platforms.

Despite this utility, the framework is missing a pivotal logic that social media platforms have increasingly developed to rationalise their expanding influence in user activity. In themselves, the above logics are not easily rendered neutral. Design features programmed to steer users' activity, platforms' selection of topics according to popularity, the encouragement of profitable connections, and channelling users' data for economic gain constitute clear interventions into the processes of sociability and information exchange that occur through social media. Therefore, van Dijck and Poell's framework falls short in demonstrating the connection between these elements of social media logic and platforms' appearance of neutrality.

Instead, the following analysis of social media news functionalities identifies how van Dijck and Poell's elements support a broader logic of

automation through which social media's influences are rendered neutral in their appearance. Through their design, algorithms, and discourse, platforms give a sense of automation, reinforced by claims of being free from human intervention, crowdsourcing information, providing intricate personalisation, and serving information instantaneously. Since the platform's influential mechanisms appear automated, its developers and their corporate interests disappear from view. This paper demonstrates that through the logic of automation, social media platforms position themselves as neutral conduits of news information. On a broader scale, social media companies' appeal to popular rhetoric about the unbiased nature of automated technologies provides a scapegoat for corporate responsibility.

Examining platform news functionalities

When Facebook launched Trending Topics, the company described it as a personalised way to find topics "based on things you're interested in and what is trending across Facebook overall" (Struhar, 2014). By the time the mobile version launched a year later, the section's purpose was narrowed to "[helping] people discover timely and relevant conversations about the news that they care about" (Hsu and Song, 2014). A later update in 2015 added content categories, including politics, science and technology, sports, and entertainment (Mangalindan, 2015). While covering a range of content, Facebook's description of Trending Topics emphasised its functionality for accessing news.

In contrast, Twitter unveiled Moments as "the best of Twitter in an instant" (Twitter, 2015). The lightening bolt tab separated this section from Twitter's popular Trends menu. Moments were also divided into categories, such

as sports and entertainment, and each Moment carried labels resembling those used by popular social news websites (e.g., Buzzfeed), including "weird," "haha," and "ICYMI" (In Case You Missed It). Kevin Weil, then responsible for Twitter's product design, stated that Moments could be used for current events, breaking news, and "cultural events and moments – things around your location and where you are" (Honan, 2015). With a broader mandate than Facebook Trending Topics, Moments was designed to deliver formal news stories and highlight emergent platform trends.

To analyse how these sections shaped the flow of news information on platforms, I used the walkthrough method (Author et al.). This method is a form of platform analysis that identifies the technical features and discursive framing that guide user activity. While the walkthrough is often used to examine a platform or app across multiple functionalities (e.g., Author; Light, 2016), I performed a sort of truncated walkthrough, focusing specifically on Facebook and Twitter's news functionalities. The walkthrough involves two main components, each with respective steps. First, I established the "environment of expected use" (Author et al.: 9-11) for Facebook Trending Topics and Twitter Moments by examining the platforms' announcements, blog posts, guidelines, and terms as well as popular media articles. This component of the walkthrough uncovered the platforms' visions and anticipated uses of their news functionalities as well as how these sections fit into broader platform business models and regulations. Secondly, I conducted a technical walkthrough of the platforms' news functionalities, examining the features, interfaces, icons, text, and symbols displayed to users. This involved step-by-step clicking/tapping

through multiple screens on both the desktop and app versions[1] of the news sections, taking screenshots and field notes in this process. The technical walkthrough component of this method enables identification and analysis of a platform's "mediator characteristics" (p. 11) as features and symbols that shape users' experiences.

The walkthrough method provides a way of examining social media's influences and guiding features despite the constraints commercial platforms pose for research. This method has its limitations: it is a snapshot of the platform at a given time and therefore cannot trace how platforms shape user activity over time. Since I conducted the walkthrough once from a single account on each app, this method also only captured the features and content displayed to me. Therefore, it does not account for differences that other users may encounter due to personalisation. However, Twitter and Facebook's semi-restricted Application Programming Interfaces (APIs) do not allow for gathering Moments and Trending Topics over time to compare their form and content. Platform guidelines and regulations are also often maintained as secret or are significantly censored if released to the public. Therefore, platforms' tight control of their data to preserve political and economic interests often limits the range of methods available for investigating how platforms actually intervene in user activity (Burgess and Bruns, 2015). For the purposes of this paper, the walkthrough method was appropriate for investigating platform news functionalities. It allowed for identification of van Dijck and Poell's elements of social media logic and, moreover, the logic of automation underlying and supporting these

[1] Using the 2016 iPhone version of each app.

elements to give the appearance of platform neutrality.

Findings and Discussion

In the following sections, I demonstrate how the elements of programmability, popularity, connectivity, and datafication operate through Facebook Trending Topics and Twitter Moments. I highlight how these elements are organised and sustained by the logic of automation, reinforced by features, processes, and discourse that give the appearance of being intervention-free, crowdsourced, personalised, and instantaneous. Altogether, these elements of social media logic have become naturalised into news information flows as users and news organisations engage with platform news sections.

Programmability

Van Dijck and Poell's (2013) concept of programmability, as the ability to steer information flows, is evident in platforms' influence on the selection, display, and distribution of news. Twitter perpetuates the notion that a value-neutral team of employees, referred to as "curators," assembles Moments according to a standard process. Its Moments "Guidelines and Principles" page states, "Our own curators do not act as reporters or creators of original content; instead, they organize and present compelling content that already exists on Twitter in a straightforward, easy-to-consume way" (Twitter, 2016b). The page claims that curators select tweets for Moments based on "What's happening," giving the impression that Twitter is an unbiased window into real-time events. It stipulates that Moments must "be free from bias," "represent accurate information," and avoid profanity, violence, and nudity "except where it is

necessary to tell a newsworthy story." While these stipulations cannot actually be conducted in isolation from a curator's subjective judgment, posting these guidelines openly gives users the impression that Moments' selection is standardised.

In contrast, Facebook's Help Centre described that Trending Topics was "based on a number of factors including engagement, timeliness, Pages you've liked and your location."[2] In 2016, Facebook neither mentioned nor denied employees' involvement in compiling Trending Topics but instead listed vague selection criteria without mention of the selecting mechanisms – human or technological. A dedicated Facebook Help Centre (2016a) page responded to the question "Can I turn off Trending?" with, "You can't turn off Trending, but you can hide a Trending topic." Users' discontentment with their ability to influence how or whether Trending Topics appeared was apparent from the development of browser extensions to block Trending Topics from view (Excellatronic Communications, 2016). While users could click the "x" to the right of a topic to dismiss it, Facebook stated that those who hid "a very high number" of topics would still see related content because the platform would not "take 'hide' into account as strongly" for these individuals (Tas and Wang, 2015). Trending Topics' programmability was evident in its opacity with regard to how topics were selected, the section's mandatory visibility, and the design choice to show topics even if users desired not to see them.

Regardless of their hands-off rhetoric, both Facebook and Twitter generated headlines and summaries for each topic, which did not reference any

[2] This quote is from platform materials that I archived in 2016 using Evernote's web clipper. The webpage has since been updated to reflect subsequent changes.

particular news story. Facebook omitted mentions of Twitter from headlines having to do with the rival platform (Herman, 2016), demonstrating the subjective nature of this labour. Critics also noted Facebook's speculative style of describing the news, adding "reports say" after headlines, as indicative of decisions it makes in presenting news to users (Dzieza, 2016). Twitter's Moments guidelines state, "The description should be just that: descriptive of what you'll see." But actual descriptions include bias in their word choices and stylistic flair, such as, "President Obama ended his speech the only way he could have. With an epic mic drop" (Twitter, 2016a). Platforms' crafting of news headlines constituted a direct intervention shaping how users perceived news stories.

While Facebook and Twitter's news functionalities were programmed to steer users to particular topics, displayed in ways shaped by the platform, this influence appeared neutral through discourse minimising the role of humans in these sections. Twitter's assertion that its curator guidelines were standardised gave the impression that curators were value-neutral and interchangeable employees. Facebook's avoidance of mentioning human actors masked their work in terms of topic selection and headline creation. With human intervention downplayed or omitted, these platforms left users to assume that news selection and display was largely automated. Automation, in turn, spurs associations with reduced bias due to its lack of human intervention. Instead of acknowledging employees' role in content selection and organisation, platforms largely attributed these functions to bias-free processes that detected the trending status, or popularity, of news stories and sources.

Popularity

Facebook and Twitter's news functionalities prioritised certain stories, content, and news sources over others according to their popular engagement, platform evaluations of relevance, and the popularity of individuals and institutions related to news stories. Reliance on popular engagement, assessed through measurements related to user activity (e.g., replies, likes, shares) that can be automatically detected by algorithms, extends views of crowdsourcing as superior to individual expertise or insight. In the early 2000s, scholars and popular commentary lauded new participatory digital architectures, such as Wikipedia's interactive wiki mark-up, for facilitating large crowds of people across locations to contribute to a single task or cause (Benkler, 2006; Howe, 2006). This commentary spread the notion that people connected through digital technology could accomplish feats that were otherwise impossible. As 'big data' analytics grew more popular, along with metaphors of big data as a powerful resource (Puschmann and Burgess, 2014), this entrenched beliefs that the big data generated through social media activity could attest to societal opinions and reflect social movements. Although researchers have underscored that conclusions drawn from big data rest on certain assumptions and biases (boyd and Crawford, 2012), Facebook and Twitter's claims to display the most "talked about" or "trending" news stories distributes responsibility for topic selection across their entire user base. Since their platform technology automatically detects this content, they cannot be held accountable when untrue, hateful, or irrelevant content is surfaced.

Gillespie (2012) explains that algorithms are not objective but instead function according to "patterns of inclusion" (p. 168), which determine what is

collected and displayed, and "[evaluations] of relevance" (p. 175) that order content according to predetermined criteria. Algorithmic patterns of inclusion feature in the processes by which certain Trending Topics and Moments are categorised, such as into sports or entertainment sections, and evaluations of their relevance determine how prominently they are displayed. Although I am a Canadian user based in Australia, my news sections on both platforms elevate stories about American politics, entertainers, and businesses. I have never clicked on sports news and yet my Moments section repeatedly offered highlights from the American National Basketball Association (NBA) playoffs. This content reflects the weight given to collective conversation around particular topics, as users discuss sports and American politics within a continuum in which platform emphasis on these topics perpetuates discussion. These topics' popularity is also likely to involve platform evaluations of relevance that align with the global dominance of American culture. As Bucher (2012) observed in her analysis of Facebook's algorithms, values and principles programmed into platform algorithms can multiply the visibility of some content while rendering invisible content that is not recognised by algorithmic criteria.

Hierarchies of popularity are also evident in platforms' elevation of certain sources and types of content. When clicking on a Trending Topic, "Top Posts" appeared beneath its description and photos. These were generally posts by verified accounts from news agencies, such as CNN and BBC. If a Trending Topic involved individuals with Facebook accounts, such as Donald Trump, their latest public post relating to the story was prominently displayed below the description. Similarly, when swiping through Moments, the first tweets are almost always from news outlets or key players involved in news stories. Often

Moments are comprised entirely of tweets from news outlets, politicians, and journalists, including everyday users only if they have accrued numerous followers or retweets. While news outlets and prominent personalities are highlighted due to their popularity, measured in followers and shares, relying on these metrics to structure coverage returns to a broadcast model of news. Individuals' perspectives are secondary, relegated to the huge volume of "Public Posts" at the bottom of a Trending Topic page or the very last tweet in a Moment. This separation of individual opinion from news authorities focuses individuals on authoritative opinions and buries public commentary.

With platforms' claims of hosting and fostering participatory engagement (Gillespie, 2010), the elevation of popular content and users over others is justified through the logic of automation. Whether functioning through platform software or as heuristics for a curation team, algorithms are mechanisms of automatic response based on specified criteria. Through algorithms, platforms appear objective in their selection of content based on measures of user activity. Algorithmic responsibility for topic selection is deferred to the crowd while also functioning according to embedded evaluations of relevance. This logic enables platforms to showcase particular content, news sources, and popular users with the rationale that their visibility is attributable to automated detection of user engagement while, in actuality, it often belies commercial interests.

Connectivity

Platforms secure connections between content, users, and advertisers to build profitable forms of networked sociality (van Dijck, 2013; van Dijck and Poell, 2013). From its launch, Moments was designed to have some stories

assembled by "partners" – popular or news-related outlets – such as Buzzfeed, Mashable, and Fox News (Muthukumar, 2015). Such Moments are sometimes compiled entirely of tweets by a business partner, such as the Washington Post's (2016) montage of Obama's best jokes from Correspondents' Dinners. However, Moments are displayed with semi-automatic progression, requiring a simple swipe across the screen to see the next tweet in the series. This gesture mimics the rapid "swipe logic" of Tinder (David and Cambre, 2016), which facilitates quickly skimming content without closer attention to details, such as the Moment's publisher and potentially biased curatorial decisions.

Facebook has also implemented design features favouring connections with news outlets that use its preferred formats. In 2015, Facebook rolled out "Instant articles" as a suite of interactive features for news organisations to design and host articles on Facebook instead of their web properties (Facebook, 2016c). Although these features are now available to all publishers (Lardinois, 2016), Facebook first offered them exclusively to partners like National Geographic, enabling them to develop early adopter skills for targeting audiences. More recently, Facebook (2016b) launched "Live," which allows users to broadcast live video footage. When users click on a Trending Topic and newscasters are using Live to discuss it, Facebook highlights these streams at the top of the page, even several hours following the broadcast. These are examples of how Facebook enhances the popularity of content that complies with its profit-making vision and strengthens business partnerships.

Facebook and Twitter's profitable connections with content providers are easily overlooked in light of the platforms' design and discourse that give the semblance of bias-free automation. Features that facilitate rapid access to news

stories alongside claims to surface stories attracting the greatest user engagement distract users from the inclusion of particular businesses, brands, and content in these news sections. Users' experiences of platform news functionalities are also shaped by their connections with products, places, and brands, forged through their personal social media activity. Based on these user-level connections, Moments and Trending Topics tailor content to a user's location while Trending Topics offers further personalisation based on a user's Facebook 'likes.' Positive user reception to personalisation relies on understanding it as an automated outcome of algorithmic data processing rather than Facebook employees leafing through personal data. Therefore, the logic of automation is essential to eliding the influences of profitable strategies of connectivity, which also often threaten user privacy while biasing the display of news toward commercial interests.

Datafication

Poell and van Dijck (2014) discuss how platforms delineate ways for individuals to interact with news that are easily datafiable in the form of likes, shares, and comments. This data is automatically aggregated and sold back to news agencies, creating a feedback loop through which breaking news is identified and amplified based on the reaction it draws through social media. Although these metrics do not actually reflect the population's reaction to news events but only represent a small portion of social media-related impact (Poell and van Dijck, 2014), Facebook and Twitter are strategic in how they filter these metrics to news agencies. In 2013, Facebook launched the Keyword Insights API (Constine, 2013), allowing media companies to access metrics about topics

discussed in users' public posts and, in later updates, providing access to data about user engagement with Trending Topics (Constine, 2014). However, by 2015, the developers' section of Facebook specified, "Access to the Keyword Insights API is restricted to a limited set of media publishers and usage requires approval by Facebook. You cannot apply to use the API at this time" (Facebook, n.d.).

Similarly, companies looking to access large amounts of Twitter data must go through its data-selling platform, GNIP, or other approved resellers. Although news audiences have long been datafied, such as through newscast ratings, the datafication of social media users' news-related activity produces granular and detailed metrics with personalised, post-demographic profiling based on user preferences, activity, and interactions (Rogers, 2009). Platforms shape the future production of news by selling this data to the most lucrative partners, enabling them to produce data-driven news, which cannot be rivalled or verified by other news organisations without access to this data. While platforms' automated collection and storage of data from their news sections is complicit in this biasing of news production and distribution, Facebook and Twitter proceed in data mining and selling without acknowledging this.

Datafication also adds a "real-time data dimension" (van Dijck and Poell, 2013: 10) as platforms process large amounts of data minute-by-minute. In platform news functionalities, this can give the sense that the news stories displayed are occurring live. Platforms perpetuate the illusion of liveness by allowing users to assume the freshness of news stories. Trending Topics do not appear chronologically and are listed without indication of their ordering logic (one assumes the top item is being "most discussed" in this instant). Upon

clicking on a topic, the photo and summary appear without date stamps. Photos and videos are displayed in a montage where dates are not shown unless a user clicks on them. Facebook Live videos broadcast hours earlier appear prominently, only indicating their original broadcast time upon further clicking.

Although Moments provide a relative indication of when they were posted (e.g., "this morning"), individual tweets in a Moment are displayed without timestamps. To see when a tweet was created, users must tap the nondescript "…" button and select "View Tweet" to see the original tweet with its timestamp. Tweets in a Moment are also not in chronological order and one Moment may include tweets over several days. While Twitter displays a checkmark at the end of a Moment declaring, "You're caught up," there is no indication of whether anything has taken place subsequent to the Moment's curation. By excluding visible time markers from their design, these sections appear to be serving up the latest news when they may in fact be providing older content from preferred news partners. The large volume of news stories and their data, displayed with seemingly real-time speed and seamlessness, gives the appearance that this functionality is beyond the capabilities of human employees. This strengthens platforms' claims of being free from human intervention and reinforces the logic of automation.

Interrogating the logic of automation

Across this analysis, it is possible to see how elements of social media logic support an overarching logic of automation. This logic is based on the perception of minimal human intervention, achieved through claims to select and organise news stories according to crowdsourced relevance. It is also

reinforced by the appearance of disinterested personalisation and real-time flows of news information. Company discourse and design choices give the impression that news sections are automated and intervention-free, premised on the assumption that humans introduce problems into a system. This assumption was most apparent in Facebook's decision to fire its Trending Topics team. It favoured this option over training employees to behave like editorial staff or acknowledging that bias and value judgments are inherent in news distribution, as news organisations often do and become known as 'right leaning' or 'left leaning' publications. Instead, Facebook's response was to "make the product more automated" (Facebook, 2016d), relying less on people to select and display topics in order to appear as a neutral conduit for news information. The previous sections demonstrate how the elements of programmability, popularity, connectivity, and datafication were naturalised in Facebook and Twitter's news functionalities through this underlying logic of automation. It facilitated the platforms' evasion of responsibility for the ways that their design and discourse shaped users and news organisations' engagement with news stories.

Identifying the logic of automation underlying platform news sections facilitates critical analysis and debunking of these values. As Gillespie (2016) highlighted in his commentary about the Gizmodo articles, platform functionalities cannot be fully intervention-free because people are necessary for making sense of the data that algorithms process. Human programmers are involved in the process of developing algorithms, which includes defining their functions and determining the meaning of their outputs. Facebook's removal of its Trending Topics team demonstrated the difficulty of automating processes of quality assurance and judgement. Soon after its switch to increased automation,

the news section directed users to secondary or obscure news sources and featured several false news stories (Theilman, 2016). This highlights the present irreplaceability of people in relation to automated processes, a situation that Gray (2015) refers to as "automation's last mile," constituting the need for people to bridge the gap between human-led processes and full automation.

Algorithmic selection of popular content can also be biased and present problems for accessing significant news information. Users may not share news stories on particular platforms and trivial content may receive more overall attention than pressing news. The second *Gizmodo* article mentioned allegations that Facebook "injected" news about the Black Lives Matter movement into Trending Topics (Nunez, 2016a). Whether or not this is true, longstanding norms on Twitter involving users sharing links and information about breaking news (Hermida, 2010) enhances the likelihood that algorithms associated with Moments would the surface *hard* news stories that users circulate through common platform practices. In contrast, Facebook users are likely to share content appealing to a range of contacts from family to colleagues (Hogan, 2010), making it more likely that an algorithm looking for popular content would surface cute cat videos over news stories. Skilled users can also take advantage of algorithms by engineering engagement with their content, such as by purchasing 'likes' and followers or programming bots to 'like' content. Platforms do not merely convey content identified through measures of popularity, they also favour content that aligns with profit-making partnerships and aims, such as stories using Facebook Live. Platforms also influence the likes, comments, and shares contributing to metrics of popularity by boosting paid content in users' feeds. Therefore, platform news distribution is far from intervention-free in its

appearance of automation, as developers, corporate players, and commercial partners all shape how users and news organisations engage with these news functionalities.

Conclusion

This paper has expanded van Dijck and Poell's (2013) framework of social media logic through an analysis of platform news functionalities, demonstrating how elements of programmability, popularity, connectivity, and datafication are sustained and naturalised through the logic of automation. Facebook Trending Topics and Twitter Moments steer user interactions with news stories through a programmability that downplays the platform's role in news distribution; these platforms favour popular content based on user engagement and content that reinforces profit-driven connections; they also rely on volumes of user data to personalise news stories and give the impression that they function in real-time. Each of these elements of social media logic functions through an overarching logic of automation premised on perpetuating the perception that these news sections are intervention-free, which is reinforced by a reliance on crowdsourced, personalised, and seemingly instantaneous content.

The logic of automation gives the impression that platforms are neutral in their selection and display of news information. Several years ago, Gillespie (2010) noted that social media companies adopted the term "platform" to appear neutral and elide the tensions between hosting communities and fostering creative content while also pursuing profit-driven motives. Now this posturing of neutrality is perpetuated through the logic of automation, which draws on popular notions of objective algorithms and big data to naturalise platform

influence in determining which news stories are featured and how they are delivered to users. This fifth element of social media logic is also applicable to other aspects of platforms, such as the flagging and reporting mechanisms through which platforms evade responsibility for censoring content (Crawford and Gillespie, 2016). These mechanisms often give the sense that once a button is pressed to signal a post as inappropriate, an automatic process takes over, which is removed from human influence or valuation. However, several leaked documents now attest to the role of humans in determining inappropriate behaviour, evaluating flagged content, and developing regulatory policies (Arthur, 2012; Hopkins, 2017). Developing automation as part of van Dijck and Poell's (2013) framework expands this analytical lens for future research investigating how the appearance of automation is used to minimise platforms' responsibility for their influence on institutions and in users' everyday lives.

In January 2017, Facebook deployed a new series of updates to Trending Topics (Cathcart, 2017). These included: adding a news outlet's headline and URL to topic descriptions; programming the algorithm to identify whether multiple publishers are posting about the same topic (indicating its newsworthiness); and displaying the same topics to all users in a given location. These changes follow accusations that Facebook influenced outcomes of the United States' 2016 election by circulating "fake news," as news stories without factual bases that support political biases (Read, 2016). Facebook responded to these accusations by invoking the logic of automation, assuring users that headlines are "automatically selected based on a combination of factors" (Cathcart, 2017). However, these changes also signal an intensification of this logic. They reduce human influence by standardising how users interact with

these news sections: eliminating personalisation and pre-selecting preferred news outlets. Twitter's move to bury the Moments section also distances it from accusations of human manipulation of the news, removing its curation team from the limelight and emphasising user-generated "trends." In this contemporary moment of heightened suspicion surrounding news production and distribution, the logic of automation sustains notions that automated processes remain more reliable than people.

References

Altheide DL and Snow RP (1979) *Media Logic*. Beverly Hills, CA: Sage.

Arthur C (2012) Facebook's nudity and violence guidelines are laid bare. *The Guardian*, 21 February. Available at: https://www.theguardian.com/technology/2012/feb/21/facebook-nudity-violence-censorship-guidelines (accessed 8 July 2017).

Barthel M, Shearer E, Gottfried J, et al. (2015) The evolving role of news on Twitter and Facebook. *Pew Research Centre*. Available at: http://www.journalism.org/2015/07/14/the-evolving-role-of-news-on-twitter-and-facebook/ (accessed 2 May 2016).

Benkler Y (2006) *The Wealth of Networks*. New Haven and London: Yale University Press.

boyd d and Crawford K (2012) Critical questions for big data. *Information, Communication & Society* 15(5): 662-679.

Bruns A and Highfield T (2013) Political Networks on Twitter: Tweeting the Queenslad state election. *Information, Communication & Society* 16(5): 667–691.

Bruns A and Stieglitz S (2014) Metrics for understanding communication on Twitter. In: Weller K, Bruns A, Burgess J, et al. (eds), *Twitter and Society*, New York: Peter Lang, pp. 69–82.

Bucher T (2012) Want to be on top? Algorithmic power and the threat of invisibility on Facebook. *New Media & Society* 14(7): 1164-1180.

Burgess J and Bruns A (2015) Easy data, hard data: The politics and pragmatics of Twitter research after the computational turn. In: Langlois G, Redden J, and Elmer G (eds), *Compromised Data: From Social Media to Big Data,*

London: Bloomsbury, pp. 93-113.

Carlson M (2017) Facebook in the News. *Digital Journalism*. Epub ahead of print 17 March 2017. DOI: 10.1080/21670811.2017.1298044

Cathcart W (2017) Continuing our updates to Trending. *Facebook Newsroom*, 25th January. Available at: https://newsroom.fb.com/news/2017/01/continuing-our-updates-to-trending/ (accessed 8 July 2017).

Constine J (2013) Facebook will give marketers access to conversation data with richer identity details than Twitter. *TechCrunch*, 9th September. Available at: http://techcrunch.com/2013/09/09/your-conversations-are-the-product/ (accessed 22 March 2017).

Constine J (2014) Facebook's new APIs let media outlets visualize trending topics and hashtags. *TechCrunch*, 30th April. Available at: http://techcrunch.com/2014/04/30/facebook-visualization/ (accessed 22 March 2017).

Crawford K and Gillespie T (2016) What is a flag for? Social media reporting tools and the vocabulary of complaint. *New Media & Society* 18(3): 410–428.

David G and Cambre C (2016) Screened intimacies: Tinder and the swipe logic. *Social Media + Society* April-June: 1–11.

Dubois E and Gaffney D (2014) The multiple facets of influence: Identifying political influentials and opinion leaders on Twitter. *American Behavioral Scientist* 58(10): 1260–1277.

Dzieza J (2016) The strange style of Facebook's Trending tab. *The Verge*, 21st February. Available at: http://www.theverge.com/2016/2/21/11076790/the-strange-style-of-

facebooks-trending-tab (accessed 22 March 2017).

Ekberg S (2016) Responding to pressures: The case of organizational integrity. In: *European Group for Organizational Studies 32nd Colloquium July 7-9*, Naples, Italy.

Excellatronic Communications (2016) How to turn off / remove Facebook Trending topics with F.B. Purity. Available at: http://www.fbpurity.com/remove-trending-topics.htm (accessed 2 May 2016).

Facebook (2016a) Can I turn off trending? *Help Center*. Available at: https://www.facebook.com/help/423913527729871 (accessed 2 May 2016).

Facebook (2016b) Go live on Facebook. Available at: https://live.fb.com/about/ (accessed 2 May 2016).

Facebook (2016c) Instant articles. Available at: https://instantarticles.fb.com/ (accessed 2 May 2016).

Facebook (2016d) Search FYI: An update to Trending. Available at: https://newsroom.fb.com/news/2016/08/search-fyi-an-update-to-trending/ (accessed 5 April 2017).

Facebook (n.d.) Keyword Insights API. *Facebook for developers*. Available at: https://developers.facebook.com/docs/keyword_insights (accessed 2 May 2016).

Gehl RW (2014) *Reverse Engineering Social Media: Software, Culture, and Political Economy in New Media Capitalism*. Philadelphia, PA: Temple University Press.

Gillespie T (2010) The politics of 'platforms'. *New Media & Society* 12(3): 347–

364.

Gillespie T (2012) The relevance of algorithms. In: Gillespie T, Boczkowski PJ, and Foot KA (eds), *Media Technologies: Essays on Communication, Materiality, and Society*, Cambridge, MA: MIT Press, pp. 167–194.

Gillespie T (2015) Platforms intervene. *Social Media + Society* 1(1): 1–2.

Gillespie T (2016) Facebook Trending: It's made of people!! (but we should have already known that). *Culture Digitally*, 9th May. Available at: http://culturedigitally.org/2016/05/facebook-trending-its-made-of-people-but-we-should-have-already-known-that/ (accessed 12 May 2017).

Herman J (2016) Upload complete. *The Awl*, 5th February. Available at: http://www.theawl.com/2016/02/been-stuck-at-99-percent-for-like-a-year (accessed 22 March 2017).

Hermida A (2010) Twittering the news: The emergence of ambient journalism. *Journalism Practice* 4(3): 297–308.

Highfield T, Harrington S and Bruns A (2013) Twitter as a technology for audiencing and fandom. *Information, Communication & Society* 16(3): 315–339.

Hogan B (2010) The presentation of self in the age of social media: Distinguishing performances and exhibitions online. *Bulletin of Science, Technology & Society* 30(6): 377–386.

Honan M (2015) This is Twitter's top secret Project Lightning. *BuzzFeed*, 19th June. Available at: https://www.buzzfeed.com/mathonan/twitters-top-secret-project-lightning-revealed?utm_term=.oclOL36dEq#.gr8P2903NM (accessed 22 March 2017).

Hopkins N (2017) Revealed: Facebook's internal rulebook on sex, terrorism and

violence. *The Guardian.* 21st May. Available at: https://www.theguardian.com/news/2017/may/21/revealed-facebook-internal-rulebook-sex-terrorism-violence (accessed 8 July 2017).

Howe J (2006) The rise of crowdsourcing. *Wired*, 1st June. Available at: https://www.wired.com/2006/06/crowds/ (accessed 22 March 2017).

Hsu D and Song A (2014) Updates to Trending. *Facebook Newsroom*. Available at: http://newsroom.fb.com/news/2014/12/updates-to-trending/ (accessed 2 May 2016).

Korn J (2015) #FuckProp9: How temporary virtual communities around politics and sexuality pop up, come out, provide support, and taper off. In: Rambukkana N (ed.), *Hashtag Publics: The Power and Politics of Discursive Networks*, New York: Peter Lang, pp. 127–138.

Lardinois F (2016) Facebook's Instant Articles is now open to all publishers. *TechCrunch*, 12th April. Available at: http://techcrunch.com/2016/04/12/facebooks-instant-articles-is-now-open-to-all-publishers/ (accessed 22 March 2017).

Leigh Star S (1999) The ethnography of infrastructure. *American Behavioral Scientist* 43(3): 377–391.

Lerman K and Ghosh R (2010) Information contagion: An empirical study of the spread of news on Digg and Twitter social networks. In: *Fouth International AAAI Conference on Weblogs and Social Media*, pp. 90–97.

Light B (2016) The rise of speculative devices: Hooking up with the bots of Ashley Madison. *First Monday* 21(6). Available at: http://firstmonday.org/ojs/index.php/fm/article/view/6426/5525 (accessed 8 July 2017).

Mangalindan J (2015) Facebook now wants you to explore what's trending in 5 topics. *Mashable*, 11th June. Available at: http://mashable.com/2015/06/10/facebook-experiment-trending-topics/#Ht7IqHXh55qo (accessed 22 March 2017).

Muthukumar M (2015) Moments, the best of Twitter in an instant. *Twitter blog*. Available at: https://blog.twitter.com/2015/moments-the-best-of-twitter-in-an-instant-0 (accessed 2 May 2016).

Nunez M (2016a) Former Facebook workers: We routinely suppressed conservative news. *Gizmodo*, 10th May. Available at: https://www.gizmodo.com.au/2016/05/former-facebook-workers-we-routinely-suppressed-conservative-news/ (accessed 2 May 2016).

Nunez M (2016b) Want to know what Facebook really thinks of journalists? Here's what happened when it hired some. *Gizmodo*, 4th May. Available at: https://www.gizmodo.com.au/2016/05/want-to-know-what-facebook-really-thinks-of-journalists-heres-what-happened-when-it-hired-some/ (accessed 2 May 2016).

Plantin J-C, Lagoze C, Edwards PN, et al. (2016) Infrastructure studies meet platform studies in the age of Google and Facebook. *New Media & Society*. Epub ahead of print 4 August 2016. DOI:10.1177/1461444816661553.

Poell T and Van Dijck J (2014) Social media and journalistic independence. In: Bennett J and Strange N (eds), *Media Independence: Working with Freedom or Working for Free?*, New York: Routledge, pp. 182–201.

Puschmann C and Burgess J (2014) Metaphors of Big Data. *International Journal of Communication* 8: 1690–1709.

Read M (2016) Donald Trump won because of Facebook. *NYmag*, 9th November.

Available at: http://nymag.com/selectall/2016/11/donald-trump-won-because-of-facebook.html (accessed 22 March 2017).

Rogers R (2009) Post-demographic machines. In: Dekker A and Wolfsberger A (eds), *Walled garden,* Amsterdam: Virtueel Platform, pp. 29-39.

Shaw F, Burgess J, Crawford K, et al. (2013) Sharing news, making sense, saying thanks: Patterns of talk on Twitter during the Queensland floods. *Australian Journal of Communication* 40(1): 23–39.

Struhar C (2014) Finding popular conversations on Facebook. *Facebook Newsroom*. Available at: http://newsroom.fb.com/news/2014/01/finding-popular-conversations-on-facebook/ (accessed 2 May 2016).

Tas S and Wang M (2015) News Feed FYI: A better understanding of 'Hide'. *Facebook Newsroom*, 31st July. Available at: http://newsroom.fb.com/news/2015/07/news-feed-fyi-a-better-understanding-of-hide/ (accessed 16 May 2016).

Tennery A (2016) Senate committee questions Facebook over news selection. *Reuters*, 10th May. Available at: http://www.reuters.com/article/us-facebook-socialmedia-idUSKCN0Y12EU (accessed 22 March 2017).

Theilman S (2016) Facebook fires trending team, and algorithm without humans goes crazy. *The Guardian*, 30th August. Available at: https://www.theguardian.com/technology/2016/aug/29/facebook-fires-trending-topics-team-algorithm (accessed 22 March 2017).

Twitter (2015) New! Find the best of Twitter in an instant with Moments. Available at: https://twitter.com/twitter/status/651382235162001409?ref_src=twsrc%5Etfw (accessed 2 May 2016).

Twitter (2016a) Obama does the mic drop to end all mic drops. *Moments*. Available at: https://twitter.com/i/moments/726611134036467712 (accessed 2 May 2016).

Twitter (2016b) Twitter Moments: Guidelines and principles. Available at: https://about.twitter.com/company/moments-guidelines (accessed 2 May 2016).

van Dijck J (2013) *The Culture of Connectivity: A Critical History of Social Media*. Oxford and New York: Oxford University Press.

van Dijck J and Poell T (2013) Understanding social media logic. *Media and Communication* 1(1): 2.

Washington Post (2016) Obama's best jokes from his White House correspondents' dinners. *Twitter Moments*. Available at: https://twitter.com/i/moments/726111487744434176 (accessed 2 May 2016).