

**Title:** Togetherness after Terror: The More or Less Digital Commemorative Public Atmospheres of the Manchester Arena Bombing's First Anniversary

**Abstract:**

This article examines the modes and moods of togetherness evident in both Manchester city centre and on social media during the first anniversary of the 22 May 2017 Manchester Arena bombing. To do this, we introduce a conceptual framework that conceives commemorative public atmospheres as composed of a combination of 'more or less digital' elements. We also present a methodological approach that combines the computational collection and analysis of Twitter content with short-term team autoethnography. First the article addresses the concept of public atmospheres before introducing the case study and outlining our methodology. We then analyse the shifting moods of togetherness created by the official programme of commemorative events known as *Manchester Together* and their digital mediatisation through Twitter. We then explore a grassroots initiative, #LoveMCRBees, and how it relied on the materialisation of social media logics to connect people. Overall, we demonstrate how public atmospheres, as constituted in more and less digital ways, provide a framework for conceptualising commemorative events, and how togetherness is reworked by social media, especially in the context of responses to terrorism.

**Keywords:** Public atmospheres, commemoration, terrorism, social media logics, 'more or less digital', Manchester, togetherness

## **Togetherness after Terror: The More or Less Digital Commemorative Public Atmospheres of the Manchester Arena Bombing's First Anniversary**

### **Introduction**

At 10:31 pm on 22 May 2017 a bomb was detonated in the foyer of the Manchester Arena following an Ariana Grande concert. The explosion killed the bomber and twenty-two people, ten of whom were under twenty years old, and injured over 800 more. It was described as the worst terror attack in the UK since the 7 July 2005 London bombings. In the following days and weeks a remarkable public response to this tragic event unfolded. For example, an improvised memorial to the victims appeared in the centrally located St. Ann's Square where cameras captured a spontaneous rendition of Mancunian band Oasis's 'Don't look back in anger' during one public vigil. Elsewhere across the city people queued to get tattoos of worker bees - a symbol of Manchester - and Grande organised a large public concert on 4 June 2017.<sup>1</sup> These unique, generous, affirmative gestures formed a distinctive politics of response to terrorism. A similar response characterised the first anniversary of the bombing during a series of public commemorative events which saw people come together to collectively remember, mourn and grieve as well as signal their resilience and unity.

In this article we highlight how commemorative events emerge in a mutually constitutive fashion across the spaces of the city and those of digital technology and media. We also emphasise how these events help assemble public atmospheres of togetherness that engender shared modes and moods of belonging. Whether occurring in the immediate aftermath or later anniversaries of terror attacks, these events and the forms of togetherness they bring forth are thus articulated and constituted in, what we conceive of here, as 'more or less digital' ways. Focusing on the major public commemorative events that marked the first anniversary of the Manchester Arena bombing, we highlight this by tracing the forms, expressions and feelings of togetherness that these events generated in central Manchester and on social media platforms. The commemoration of the Manchester Arena bombing, we argue, exemplified the ways in which digital technologies, infrastructures, media and content, including specifically those related to social media, are shaping new forms of togetherness, raising new questions about commemoration and the politics of response to terrorism.

The article has five further sections. In the first we outline how public atmospheres involve a distributed yet powerful sense of shared feelings and advocate for the simultaneous consideration of these feelings across urban space and social media platforms by introducing the notion of the 'more or less digital'. In the second section we outline the public commemorative events that took place in Manchester city centre on the bombing's first anniversary, which included a programme of official events called *Manchester Together* and several notable grassroots initiatives. In this section, we also discuss the methodology we employed in order to understand the day's public atmospheres and their 'more or less digital' composition. In the third and fourth sections we unfold our arguments specifically in relation to the anniversary's public atmospheres of togetherness. Firstly, we track how the shifting public atmospheres of *Manchester Together*, as manifested in the city's central streets, squares and gardens, were mediated in the 'more digital' space of Twitter. Then we discuss

---

<sup>1</sup> We discuss these and other responses in more detail elsewhere (see Anonymous).

how a 'less digital' grassroots initiative which involved the distribution of painted pebbles relied on the materialisation of social media logics. Combined, these analyses reveal the shared connective logics of the anniversary's commemorative events, and highlight how some of these emerged, took shape, moved, resonated and amplified. In this way we explore not only the composition of these public atmospheres, but also how they cohered.

Overall, and as reiterated in the concluding section, the article makes three primary contributions. On a conceptual level, it highlights the importance of digital technology and media in constituting the feel and experience of commemorative events, by combining recent work on atmospheres with the notion of the 'more or less digital'. On a methodological level, it demonstrates an innovative mixed methods approach that is suited to the study of 'more or less digital' commemorative public atmospheres. On an empirical level, it shows the way in which commemorative responses to terror can generate specific public atmospheres of togetherness that are plural in character, embodying feelings that are flexible, changing even across the course of a day as events and people shift in place and mood. Collectively, these contributions advance debates regarding the mutual imbrication of our so-called 'online' and 'offline' lives and worlds, the changing practices of commemoration that this entails, and the implications of these matters for the broader politics of response that terrorism invites. While there has been significant focus on organised narratives of remembrance, our research reveals some of the improvised engagements with commemorative atmospheres and alerts researchers to the multiple political possibilities that such events encompass. It thus provides a route to understanding the ways in which heterogenous political subjects become articulated within commemorative atmospheres and encourages thinking about the manner by which more or less digital spaces, activities and objects engender diverse political responses to terror.

### **Public Atmospheres and the More or Less Digital**

Following others, we conceive atmospheres to be a 'spatially extended quality of feeling' and 'a certain mental or emotive tone permeating a particular environment' (Böhme cited in Edensor 2012: 1106). Furthermore, we acknowledge that the emotive or affective constitution of atmospheres (Anderson 2009) closely relates to their material composition. McCormack (2018: 5) discusses this relationship in terms of 'envelopment', attending to both materiality and the elemental conditions through which entities emerge and are held. He refers to 'atmospheric things' – objects, that 'disclose, generate, or intensify the condition of being enveloped by the elemental force of atmospheres' (2018: 10). Similarly, Ahmed (2010) discusses emotionally-inflected *objects* that circulate, rather than amorphous emotions alienated somehow from the specific things to which they are associated. In this way, thinking in terms of atmospheres can help us attend to the shared moods of public events, allowing us to appreciate how these moods draw in and imbue entanglements of feelings, things, places and people. It also enables us to appreciate how these different elements relate to and influence one another and in turn the empirical conditions through which atmospheres emerge (Sumartojo & Pink 2019).

This is not to suggest that atmospheres are necessarily overwhelming or uniformly experienced; atmospheres do not simply enrol or coerce us. Rather, we encounter and experience them in highly individual and particular ways. Ahmed avoids a sense of an

overarching atmospheric force by training her focus on how feelings shape how we are understood to each other, thereby pulling them into public view. She challenges the notion that emotions are a 'private matter', arguing that instead they 'play a crucial role in the "surfacing" of individual and collective bodies' and that they 'define the contours of the multiple worlds that are inhabited by different subjects' (Ahmed 2004: 25). This focus on how emotions draw us into relation with each other allows us to hold the individual and collective, private and public, in mind at the same time. This is important for understanding the shared sense of *togetherness* that we explore in this article. Thinking in terms of atmospheres, in other words, allows us to understand the relationship between environmental qualities and human feelings (Böhme, 1993; McCormack, 2018), but holds space for the plurality and dynamism of the experiential world at the same time (Sumartojo & Pink 2018).

It is precisely through this plurality that the concept of atmospheres also provides a route to understanding how the moods of public events can *change* - what their unique durations are, the ways and forms of their excess and what events might thus make possible that was not possible previously. Atmospheres are shifting and precarious, an 'orientation to encounter that is never fully defined or completed' and therefore always 'open to unknown turns, or sudden developments' (Sumartojo & Pink 2018: 119). They accommodate the ongoing eruption and dissipation of shared feelings, in situations imbued with both affective intensities and lulls that are constantly changing and are shaded with emotions that are similarly dynamic, fragmentary and plural.

Our understanding of public atmospheres – as those specifically experienced by large numbers of people during public events in public spaces – also connects to notions of the public sphere. Togetherness is central to Habermas' classical notion of the public sphere as a realm 'made up of private people gathered together as a public' (1962[1989]: 176). More recent conceptions of the public sphere have stressed its dynamism, fragmentation and plurality, as well as its mediation. Thompson has discussed the 'mediated publicness' created by television, severed from the common location and dialogical communication associated with direct interaction (1995). Others have noted how the internet has influenced public sphere theory by creating a new public space, characterised by numerous co-existing and fragmented 'cyberspheres' of public opinion (Papacharissi 2002). The rise of social media platforms has led to the further reconceptualisation of the public sphere. Social media platforms are distinctive in the many-to-many modes of communication that they facilitate and the logics of programmability, popularity, connectivity that they entail (Van Dijck & Poell, 2013). These logics, while not without pre- and non-digital counterparts, have served to further erode distinctions between 'private' and 'public' (Chun, 2017), creating new avenues along which to question the privacy of emotions. They have also helped create networked publics – 'spaces constructed through networked technologies and the imagined community that emerges as a result of people, technology, and practice' (boyd 2014: 8; see Anderson 1991).

Networked publics form within social media platforms including on Twitter as 'hashtag publics' insofar as the use of hashtagged tweets often represents an intentional attempt to communicate with an imagined community participating in a specific event or discussion (Bruns & Burgess 2015). These publics are performative with their own 'ebb and flow of publicness' (Matheson 2018: 4). They rely on forms of togetherness that emerge as 'bubbles

in time' (Chun 2017: 27) rather than those that underpin homogenous communities unfolding in linear time. In other words, they are brought into being across wide spatial and temporal scales through practices that are 'temporally and situationally sustained in the mediated *and/or* localised co-presence of actors' (Lünenborg & Raetzsch 2018: 26-28). Given this, Poell and Van Dijck contend that scholars should focus on the different 'trajectories of publicness' created by social media (2016). These can be spatial, temporal and material (see Kavada & Poell 2017), but also affective. In short, the publicness facilitated by social media involves, among other things, shared moments of emotional contagion which create togetherness insofar as 'emotional connectivity allows fundamentally different actors, identities, and perspectives to temporarily come together' (Poell & Van Dijck 2016: 232). Indeed, Papacharissi has conceived hashtags as instantiating 'affective publics' (2014) although her empirical consideration of these publics is mostly restricted to the social media platforms through which they can be discursively created.

Conversely, the concept of atmospheres has still not yet been significantly explored in relation to digital technologies and social media platforms. This is not to say that the mutual imbrication of urban space and digital technology and media has not been studied more broadly. For example, Adams has outlined a four-fold taxonomy involving distinctions between space and place and media content and social context characterised by research on 'places-in-media', 'media-in-places', 'media-in-spaces' and 'spaces-in-media' (2010). Kitchin and Dodge meanwhile have discussed how urban life has become increasingly mediated by digital software under the rubric of Code/Space (2011), and Jansson has discussed the mediatisation of social space with regards to what it means to 'live with media as normalized parts of the environment' where social processes are 'inseparable from and ultimately dependent on processes and resources of technological mediation' (2018: 6). Ash's discussion of how smartphones can be productive of atmospheres in ways that operate beyond human consciousness and intentionality is also of relevance (2013). These efforts provide key conceptual resources for understanding the forms of togetherness that emerge, form and dissipate around commemoration. They point to the manner by which the atmospheres of such events relate not only to the digital mediation of material spaces, activities and objects but involves a more mutually constitutive flow through which materialities acquire digitality and digital logics are given material form.

This article seeks to contribute to these lines of enquiry by combining understandings of how digital media, and especially social media have influenced publicness with geographic conceptualisations of atmospheres. It does this by conceiving public atmospheres to be created, melded with one another, experienced and made sense of across different spaces, activities and objects that we conceive of as 'more or less digital'. In other words, atmospheres (like spaces and places) are simultaneously digitally and non-digitally constituted to some degree. They are thus not only 'more *or* less digital' because the ubiquity of digital technology continues to grow globally to the extent that in some parts of the world it is increasingly appropriate to speak of a post-digital society (Lindgren 2017), but also, because they are 'more *and* less digital' insofar as they are constituted by elements that can themselves be individually conceived of as primarily digitally or non-digitally constituted. While the 'more or less digital' formulation might invite attempts to determine where exactly the line between 'the more digital' and 'the less digital' lies, our use of the phrase is motivated more by an attempt to acknowledge that public atmospheres and their constituent elements

are always a changing mix of the digital and non-digital, continually shifting in their gradation of digitality and non-digitality. Thus, our aim is less to measure and more to examine how forms of togetherness are being practised in more or less digital ways, and to demonstrate how these are plural, contingent, often fleeting, but not necessarily any less meaningful for those involved.

Thinking in the graduated terms of 'more or less digital' resonates with those perspectives that stress the mutual permeability or hybridity of the so-called 'offline' and 'online', and 'real' and 'virtual' without relying on these misleadingly dichotomous terms (see Lindgren et al 2013). It can thus help transcend the dichotomies of not only space/place and content/context (see Adams 2010) but also the non-digital/digital, overcoming what Lim (2015: 118) has called 'the fallacy of spatial dualism, where the online realm – that is the digital, the cyber, or the virtual – is treated differently than the offline realm – the physical, or the real.' Approaching atmospheres in relation to their 'more or less digital' composition additionally allows for the more material appreciation of those ether-like properties of digital media – that 'matter that has escaped materiality' (Ingold 2015, 75). Thus, the material underpinnings of atmospheres can pertain to digital as well as non-digital objects especially given that digital materiality involves continual processes with ongoing resonance in people's lives (see Pink et al 2016). In this sense, thinking in terms of the 'more or less digital' also responds to calls 'to move beyond the frictionless immateriality of 'virtual geographies' towards a greater attention to the material conditions of contemporary digitally inflected spatial formations' (Kinsley 2014: 365).

In the rest of this article we demonstrate the benefits of approaching public atmospheres with respect to their 'more or less digital' composition through the study of the togetherness on display during the public commemorative events that marked the Manchester Arena bombing's first anniversary on 22 May 2018. We approach the day's commemorative public atmospheres as composed of multiple 'more or less digital' elements including: spaces ranging from social media platforms like Twitter to city streets and squares; activities ranging from writing a tweet to visiting a temporary memorial; and objects ranging from hashtags to homemade tributes; all of which combine to shape how people collectively respond to and commemorate terror today.

Overall, we integrate an attention to digital media and technology that has been mostly lacking when the concept of atmosphere has been used to study other public events whether commemorative (see Closs Stephens et al 2017, Sumartojo 2015; 2016) or otherwise (see Edensor 2012; Closs Stephens 2016). We also contribute directly to recent academic efforts to understand the new forms of commemoration and togetherness that are emerging as governments and grassroots actors increasingly enrol digital technologies and social media when publicly commemorating past events (see Merrill 2017; Merrill 2018; Sumartojo 2017). In analysing the commemoration of a terror attack this article also connects with that research concerned with the politics of response to terrorism and the role of togetherness therein. If the prevalence of digital technology and media is shaping togetherness in distinctive ways, then we contend that collective commemorative responses to terrorism provide valuable insight into how this occurs. This is because digital technology and media do not only present new areas and objects to study, they also shift the ground of critical analysis (see Crang 2015;

Chun, 2017). They therefore require new research approaches, such as those outlined in the next section.

### **Encountering the Manchester Arena Bombing's First Anniversary**

The Manchester Arena bombing's anniversary was marked by an extensive program of official commemorations organised by Manchester City Council called *Manchester Together* using the hashtag #ManchesterTogether. This program included: a national remembrance service at Manchester Cathedral, from 2-3 pm; *With One Voice*, a concert and sing-along event in Albert Square involving choirs comprising around 3,000 participants, between 7-9 pm; the after-dark inauguration of a music-themed light installation at St Ann's Square called *There is a Light*; and the ringing of church bells across the city at 10:31 pm. There was also a *Trees of Hope Trail* running between Victoria Station, Manchester Cathedral and St Ann's Church featuring maple trees to which people could attach messages on commemorative labels.

The first anniversary was also marked by numerous grassroots initiatives that also used social media. Representatives from a multi-faith global anti-terrorism campaign including members of the local Muslim community, for example, organised a commemorative procession under the campaign's #TurnToLove hashtag that had earlier been used to denounce the bombing and other recent UK terror attacks. Likewise, the #AHeart4MCR initiative that was organised via Facebook soon after the bombing, was repeated and thousands of handcrafted textile hearts were deposited around Manchester city centre for people to take home with them. A similar initiative called #LoveMCRBees was separately organised during the anniversary. It saw artists and school children paint worker bees on thousands of pebbles before distributing them around the city centre. The worker bee, a symbol of Manchester's civic identity that enjoyed a resurgence in the immediate aftermath of the bombing and the year thereafter, was prevalent throughout the city during the anniversary. Featuring in other initiatives, it symbolically cited the city's industrial heritage and the industriousness of Mancunians.

While the official *Manchester Together* program likely determined the itineraries of most of those who attended the commemorations in Manchester city centre (including our own), the interjection of different grassroots initiatives resulted in a plethora of commemorative interventions that flowed continuously throughout the day and occupied much of the urban space between St Ann's Square and Victoria Station. Thus, throughout the anniversary, a whole host of commemorative events and activities collaborated in building the anniversary's more or less digital public atmospheres in complex ways.

In order to grasp this complexity, we coupled computational data collection techniques with a dispersed team autoethnography. This allowed the simultaneous observation of the commemorations in Manchester city centre and on Twitter, and to a lesser extent Instagram and Facebook. Using Tweepy (2017) in accordance with Twitter's regulations (Twitter 2018) we collected 6,290 original tweets from 5,216 unique users containing #ManchesterTogether.<sup>2</sup> 1,604 of these tweets originated from users with either 'Manchester'

---

<sup>2</sup> #ManchesterTogether featured in 28,039 retweets during the anniversary.

or 'MCR' in their account locations.<sup>3</sup> Overall the tweets originated from users with 2,075 unique stated locations.<sup>4</sup> The temporal distribution of these tweets across each minute of the anniversary was plotted so as to visualise peaks and troughs in commemorative Twitter activity throughout the day. The visualisation of the tweets in this way highlighted moments of affective resonance characterised by intensified togetherness in as much as an increase in #ManchesterTogether tweets could be interpreted as an amplified attempt by Twitter users to connect with the hashtag's imagined community. It also helped reveal the 'temporal life' of the anniversary's public atmospheres and their eruptive and lingering temporalities (see Hitchen, 2019). The tweets were also scrutinised via unstructured modes of content analysis and used to triangulate and contextualise a team autoethnography carried out in Manchester city centre between 11 am and 11 pm on the anniversary.

This short-term team autoethnography (see Pink & Morgan 2013; Closs Stephens et al 2017) saw us note, discuss and share our thoughts and feelings as the anniversary proceeded, teasing out what we thought was significant and drawing insight from each other's experiences. We did this via both face-to-face discussions and a dedicated WhatsApp group. While some of us limited our observations to the public spaces of Manchester city centre, others also carried out observations on different social media platforms via smartphones. This predominantly involved following #ManchesterTogether and, in a more serendipitous manner, other relevant hashtags like #ManchesterAttack and #ManchesterAreana, mainly on Twitter but also on Facebook and Instagram.

Focusing on #ManchesterTogether enabled us to attune to the anniversary's more or less digital public atmospheres because it directly linked the streets of central Manchester to the tweets of Twitter and allowed us to pursue our explicit interest in togetherness. Our attention to other hashtags meanwhile ensured that we did not neglect the consequences of our sampling choices and could discern the different feels of different hashtags. While Twitter's algorithms certainly influenced what we individually observed on the platform during the anniversary we approached this as akin to the physical restrictions that also limited what was visible to us in Manchester. We also mitigated for this by comparing our social media observations, using the platform's latest tweets function and through Tweepy's automated collection of tweets. Overall, this mode of social media autoethnography helped us explore the messy webs of connection across more or less digital 'ethnographic places' (Postill & Pink 2012; Hine 2016). We recorded our observations using traditional fieldnotes as well as digital cameras and smartphones, which we used to take digital photographs, videos and audio recordings and to screenshot social media posts. Thus, our whole research process also incorporated a range of more or less digital activities.

Beyond securing ethical approval from the project's lead institution, we were sensitive to our varying status as outsiders in the city and our own discomfort at being drawn to the bombing's commemoration as 'researchers'. As such we sought to foster an openness when

---

<sup>3</sup> Other tweets originated from users with stated locations based in or related to Manchester but without using these exact words. For comparison, 301 tweets originated from users with 'London' or 'LDN' in their account locations.

<sup>4</sup> These could refer to the same or multiple actual locations as well as imaginary or non-locations.



experiencing the anniversary, and to avoid rushing to fix the meanings or being cynical of the intentions behind different commemorative efforts (see Sedgwick 2003).

We matched this general perspective with ethical procedures regarding the collection of research material that prioritised the anonymity of participants. We deliberately did not interview participants, feeling this would be inappropriate and those we did engage in conversation held more official roles (e.g. police officers, street pastors, campaign volunteers). When collecting and analysing social media content, we adopted an ongoing self-critical stance and decision-making process that stressed the necessity within digital research to address and resolve ethical issues as they arise (see Markham & Buchanan, 2012). For example, in our written analysis we avoided referring to or reproducing the most sensitive tweets that we encountered, acknowledging that their recontextualisation in this manner might cause harm even if they could be considered 'public' given Twitter user agreements (see Williams et al 2017). For similar reasons those tweets that are featured below have been adapted in ways that do not change their meaning but do reduce the possibility of identifying their authors.

### **The Mediatished Moods of *Manchester Together***

Throughout the anniversary, different commemorative activities took place at different times and in different spaces, influencing how the day felt. This led to public atmospheres marked by shifting commemorative moods with different durations. As such, while overall the anniversary's official commemorations and many of the grassroots commemorative initiatives aimed to create public atmospheres of togetherness, these were by no means static. Instead they were composed of multiple shifting moods brought on at different moments during the anniversary. The day's shifting highs and lows - linked to feelings of grief, pride, celebration and solemnity - were observable in the streets but were also mediatished in tweets. As such, something of the duration of these shifts in mood was conveyed by the changing Twitter activity surrounding #ManchesterTogether throughout the anniversary (Figure 1). The content of #ManchesterTogether tweets varied, but in general there were moments of Twitter activity that linked clearly to what was happening in central Manchester at the same point in time. As will be clarified below, Figure 1 shows how the Twitter hashtag was used more during moments of increased emotional intensity illustrating in turn Twitter users' greater pursuit of forms of mediatished togetherness.

Figure 1: Original #ManchesterTogether Tweets during the Anniversary.

Reflecting daily news cycles, original #ManchesterTogether tweets increased between roughly 6 am and 9 am, before subsiding somewhat in the hours thereafter. From around 11 am the hashtag gained traction again as the sunshine gained strength in Manchester city centre dispelling fears that the heavy rain of the day before would return. Setting out at around this time, we could already discern a sort of conflicted excitement in the air. While this complicated the sorts of personal and collective mourning that we had come to expect of terror attack commemorations, at St Ann's Square, we encountered people huddled together

in small groups taking a moment to look at the growing collection of tributes and read the messages of condolence. Here people had begun congregating around and adding to a growing public shrine. Their bowed heads, hushed voices, and the careful placement of their tributes communicated a shared mood of grief. Deeper into the square this mood changed registers as volunteers from the #LoveMCRBees grassroots initiative enthusiastically laid out thousands of painted pebbles and invited onlookers to take one. These atmospheric materials had the potential to connect and circulate in 'more or less digital' ways, as discussed further below. Continuing along the *Trees of Hope Trail* towards the Arena and Victoria Station, an anticipatory energy for the day's events once again seemed to pervade. However, the mood at the temporary memorial in Victoria Station, close to the scene of the bombing, was again more sombre.

The to-and-froing of these moods between anticipation and mourning suggested how the anniversary would mix moments of joy and grief. It also revealed how the acceptance of these changing moods was spatially determined with some commemorative activities and their associated emotions linked to and expected in certain places more than others. While spaces of transition were more animated, at both St Ann's Square and Victoria Station, the gathering and accumulation of people and the atmospheric matter of public mourning - flowers, photographs, notes, candles, balloons, and the ubiquitous worker bee symbol - worked to generate feelings of collective grief and in turn togetherness. As McCormack writes: 'the spacetimes of grief are both shaped and in some sense made explicit in relation to the presence of different kinds of artifacts and things' (2018: 85). The collective impact of this matter was not missed by some of the city's Twitter users:

Crossing the city today and spotting all the memorials and tributes was really moving  
#manchestertogether #onelove

While public atmospheres of togetherness pervaded these locations the things that contributed to them were imbued with different meanings. Indicative of this was a floral tribute left by a far-right anti-Muslim group that was planning a march in honour of the bombing's victims for 2 June 2018. The anniversary's public atmospheres were not therefore without their traces of division, violence and exclusion. While not at the centre of our inquiry these tensions are significant insofar as they indicate the limits of the public atmospheres of togetherness that we are interested in here. Such tensions became the most palpable when we observed the #TurnToLove procession, one of the few grassroots commemorative initiatives to link to the Arena - the location of the bombing - that was otherwise mostly out-of-bounds during the anniversary with access to it restricted by metal fences and police officers. Departing from the rear of the Arena, the procession arrived at Cathedral Gardens, where a large screen had been set up to show the national remembrance service, just before the service started. It was greeted at first by silence from the amassed crowd, but as its multi-faith participants made their way to the front this silence turned into applause.

This brief shift in mood suggested that declarations of togetherness can mask how different communities may face very different experiences of belonging following a terror attack.<sup>5</sup> The

---

<sup>5</sup> As further reflected by Manchester British Transport Police's ongoing #WeStandTogether campaign which addresses discrimination following the bombing.

crowd's initial uncertainty about how to respond suggested that the procession's arrival momentarily disturbed the mood, highlighting again the limits of the anniversary's forms of togetherness. The crowd's applause in turn seemed to acknowledge the courage of the #TurnToLove participants - insinuating somehow the risks that might accompany their commemorative gesture in that place at that particular time. Still, the crowd's applause nevertheless seemed to also acknowledge the need to declare and insist on kindness and generosity. Such attitudes were occasionally reflected by Twitter users:

#turntolove well done for being so brave and spreading your love in Manchester today like every day xx #manchestertogether #manchesterarena

Between 2 and 3 pm, during the national remembrance service, there was an increase in original #ManchesterTogether tweets and a more solemn public atmosphere again took hold. #ManchesterTogether tweets peaked at 2:30 pm, the time of the national minute's silence, indicating the sense of togetherness that the service helped constitute (Figure 1). Nineteen original #ManchesterTogether tweets - the third highest number of original tweets per minute during the anniversary, including five from users with 'Manchester' or 'MCR' in their account locations, were posted during this minute, among them one containing a bee emoji for each of the 22 victims. In general, however, the crowd's commitment to the minute's silence seemed to extend to their use of social media and we observed very few people using their phones at this time.

After a pause in official events, #ManchesterTogether Twitter activity began increasing again as the *With One Voice* concert approached. Half an hour before the concert's 7 pm start, the mood in Albert Square was lively with a sizeable crowd that would eventually number around 15,000 euphorically cheering the choirs' arrival. During the concert itself the anniversary's festival-like public atmosphere reached fever-pitch. Amidst the densely packed crowd, the diversity of people seeking and captured by the pervading sense of togetherness became clear. For example, a man wearing a t-shirt that read 'England Victorious' stood next to a woman waving a rainbow flag, both separated by a fence from the small enclosure in which dignitaries including the city's mayor danced - all singing along to the same tune but with presumably very different motivations.

The conflicted emotions and cathartic qualities of the concert were occasionally indicated, for example, by the tears of participants but overall the concert was celebratory in character. A further minute's silence was matched by a minute's noise and the attempt to engender a commemorative public atmosphere characterised by love rather than solemnity was also indexed by the concert's crescendo in *All You Need is Love* by The Beatles. Such sentiments were indicated by numerous #ManchesterTogether tweets:

Awesome atmosphere in Albert Square this evening #ManchesterTogether

Wow the crowd is outstanding. It is beautiful to see so many people coming together #ManchesterTogether

There is always a fantastic sense of community in this city 🐝 Manchester always bounces back #manchestertogether

Just saw the amazing concert. Thanks for showing it, it felt like we were there with you! #ManchesterTogether #MancunianForever

Some of these tweets highlighted how the live radio and television broadcast of the concert also allowed its atmosphere of togetherness to spread beyond Manchester. Indeed, of the 158 original #ManchesterTogether tweets posted during the last ten minutes of the concert only 28 originated from users whose account locations featured 'Manchester' or 'MCR'.

Later, as night fell, the public atmosphere returned to the sorts of grief and mourning sidelined during the concert. By the time church bells were rung across the city to mark the minute of the bombing, the majority of the concert's attendees had dissipated, although hundreds of people were still circulating between Albert Square, St Ann's Square and Victoria Station. The atmosphere generated by those who had congregated to watch the Town Hall's bells chime was far more sombre than anything else we experienced throughout the day (Figure 2). Dressed for the hot weather, people huddled together in the cold night breeze, crying, hugging and consoling each other. During this minute 53 unique #ManchesterTogether tweets were posted, the most of any single minute during the anniversary. However, only six of these originated from users with 'Manchester' or 'MCR' in their account locations suggesting again how Twitter served to mediate the anniversary's moods and extend its public atmospheres of togetherness (see Figure 1). Tweets from this moment reveal its affective intensity and indicate how people reached out and connected with others at this time.

This precise minute last year 🥲🐝 just take some time to reflect ❤️  
#ManchesterTogether

Figure 2: The Manchester Town Hall Clock striking 10:31 pm

Shortly afterwards, some of us walked to St Ann's Square where the *There is a Light* installation had been unveiled and music lyrics were projected onto buildings and pavements. Many of those gathered here focused on the shrine but others milled around eating fast food, chatting quietly in groups or sat slumped and exhausted on benches. Teenagers huddled together, listening to music on their smartphones and browsing social media platforms. At 11 pm there were still around 20 to 30 people at the temporary memorial in Victoria Station including a group of teenagers sat in vigil alongside the tributes.

Framing the examples in this section by way of more or less digital public atmospheres reveals several things. First, it shows how people connected through shared feelings and moods, by way of participating in the commemorative programme of events at Manchester, in relation to activities, spaces and objects that were more or less digital. It does this by identifying how public atmospheres were configured by the elements that were present in Manchester during the anniversary, that included official programs, slogans and symbols which were then digitally mediated to Twitter, 'objects' that carried emotion with them (Ahmed 2010). These then flowed and circulated by way of a more or less digital environment that was significant

in how people made sense of and shared their feelings and experiences during the anniversary, exemplifying the entanglement of the digital in public atmospheres discussed earlier in this article. Overall this gave rise to public atmospheres of togetherness that were flexible, plural and changeable over time, always open and emerging.

### **#LoveMCRBees: Materialising Social Media Logics**

The more or less digital constitution of the anniversary and its public atmospheres also drew on the commemorative materialisation of social media logics. Materiality is often an important part of shared moods (McCormack 2018; Sumartojo & Pink 2018), and the symbolic aspects of the event took material forms that acted in ways similar to social media objects. During the anniversary we observed how elements of social media logic were reflected not only in the content posted to Twitter but also in the tangible material artefacts circulating around Manchester city centre. In other words, social media logics became materially instantiated, as exemplified by the #LoveMCRBees grassroots initiative and its worker bee pebbles.

The #LoveMCRBees initiative was started using a Facebook page which invited people to paint pebbles with the Manchester worker bee. The pebbles were then gathered and laid out in central Manchester on the anniversary, with the largest collection in St Ann's Square (Figure 3).

Figure 3: The bee pebbles in St Ann's Square

#LoveMCRBees thus relied on a materialised variant of the crowdsourcing principle that contributes to the programmability of social media which Van Dijck and Poell (2013: 5) define as 'the ability of a social media platform to trigger and steer users' creative or communicative contributions, while users, through their interaction with these coded environments, may in turn influence the flow of communication and information activated by such a platform'. Collected from local rock painting groups and schools, the thousands of bee pebbles that were central to the initiative were accumulated on the anniversary to make an important material statement of togetherness. The initiative materially echoed the sorts of decentralised agency that social media provides, enabling its users to steer top-down programming strategies. It allowed thousands of individuals to connect and intervene in the official commemorative programme of the day. The bee pebbles were also programmed insofar as they mimicked the principles of the #AHeartForManchester initiative that crowdsourced thousands of textile hearts to be distributed across the centre of Manchester in the initial aftermath of the bombing.

Programmability also lay in the rules that governed the bee pebble's flow. These rules were summarised on a painted sign that accompanied a cluster of 22 more skilfully executed examples left outside the Arena which read:

This Pebble display has been created by the Public from across the country. The display is situated here, Exchange Square and St Ann's Square today. PLEASE leave our lines of 22 bees intact as a memorial for the 22 lives lost and everyone else affected in last

year's attack. There are Pebbles dotted around Exchange Square and St Ann's Square that are free gifts to be taken, please pick one and then keep or re-hide using the #Lovemcrbees hashtag on facebook so the creator may possibly see when their bee has found a home.

While these 22 pebbles were intended to remain in place, everywhere else their numbers changed throughout the day, shifting from place to place. This and the ability of the pebbles to intervene in the official events of Manchester Together was demonstrated by some #ManchesterTogether tweets which included photos of pebbles in different locations in the city:

On route to St Anns Square to offer condolence and stumbled across these rocks.  
#OneLoveManchester #ManchesterTogether #ManchesterAreana

When we revisited the original display in St Ann's Square later in the day, the pebbles had mostly gone, with only a few examples remaining. This speaks to another social media logic highlighted by Van Dijck and Poell (2013: 7), popularity, or the 'entangled activities of measuring and manipulating' which 'expose a platform's technological affordances, while concurrently reflecting users' ability to push specific interests to the frontlines of public attention'. For the bee pebbles, popularity manifested in a social media 'like-economy' and the influence that metrics can have in garnering public attention (Van Dijck & Poell 2013). Given the plethora of commemorative activities and symbols during the anniversary, #LoveMCRBees garnered public attention through its own material metrics - the 3,000 pebbles that it distributed. The popularity of the pebbles partly related to their pervasiveness but also to their material appeal and their symbolic recourse to the Manchester worker bee. By referencing this locally specific symbol, #LoveMCRBees augmented the impact of the #AHeart4MCR initiative which used the more generic heart symbol and distributed around 7,000 stitched hearts. At the same time these initiatives' hashtags seem to have had only limited impact on social media during the anniversary with #LoveMCRBees appearing in just 46 tweets during the day and 72 Instagram posts.<sup>6</sup> Given that their commemorative souvenirs provided enticing and easily photographable objects, these initiatives did feature on social media without their dedicated hashtags as the #ManchesterTogether tweet above demonstrates. However, despite one of stated purposes of #LoveMCRBees being to provide a means for people to share photographs of their souvenirs in their new locations, overall it seems relatively few actually did this. Still, their comparatively minimal social media footprint during the anniversary foregrounds the less digital forms of connectivity that they facilitated.

A third element of social media logic that Van Dijck and Poell stress is that which 'enables human connectedness while pushing automated connectivity' (2013: 8). Connectivity overlaps with notions of spreadability and sharing in determining how social media platforms and users mutually shape one another and forge connections upon which forms of togetherness can be founded (Van Dijck & Poell 2013). The connectivity created by #LoveMCRBees' commemorative souvenirs was twofold. In reversing the traditional logic of public shrines, which build incrementally as individuals lay their tributes, the bee pebbles

---

<sup>6</sup> These figures were obtained through manual searches for the hashtags on each platform on 11 October 2018.

were collected and assembled through crowdsourced and connective commemorative gestures that utilised social media as an organisational infrastructure. Collectively deposited, they served as a material expression of togetherness.

In our experience, the bee pebbles temporarily changed how public places felt, connecting these places to others and to the hands, thoughts and feelings of the people who had made and positioned them. Seeing them gathered in St Ann's Square, for example, carefully arranged in rows, their various shapes, colours, designs and lettering all appeared to form one 'thing' that we apprehended as both multiple and whole, as coherent and diverse (Figure 3). Moreover, the gentle arrangement of the pebbles by organisers, the slow movements and hush of the crowd gathered around them and their placement on the ground marked them out as 'atmospheric things' (McCormack 2018) that embodied the anniversary's public atmospheres of togetherness in and of themselves, but also in the affective, material and more or less digital connections that they generated. As researchers, this prompted a sense of reflection and respect that manifested in a slowing of our own bodies and quieting of our voices, and a sense of coming into affective proximity with nearby strangers as we joined the small crowd in St Ann's Square and peered at the different designs. This passage from xxx's fieldnotes reflects some of their affective impact as individual objects:

As objects, they were delightful. They fit into my palm, inviting touch and hold. Many were attractive creatures, with eyes, antenna, yellow and black stripes and multiple legs that worked into the curves of the stones. Individually, the skill of their makers was varied, some carefully designed and meticulously painted, with names, dates or hashtags, but others no more than splodges of yellow or black, daubed by a young hand. My favourite, a forlorn example that I almost took home, had only one googly eye, and a small patch of glue where its pair appeared to have come unstuck.

The bee pebbles also became connective as they were taken away as mementos and their mass was incrementally eroded. The initiative thus created new connections between the pebbles' recipients and makers and amongst the places where the pebbles were created, deposited and would later travel to. The invitation issued to members of the public to take a bee pebble as a souvenir constituted an intrinsic part of the initiative's commemorative intentions. In short, #LoveMCRBees facilitated the sharing and spread of their commemorative souvenirs as if they were material social media posts or memes made of stone. As these objects moved they connected individuals and space affectively, adding to a public atmosphere characterised by the more or less digital in the sense that they became one of the many elements that cohered to support a sense of togetherness both in and around St Ann's Square, and in their circulation on social media. Moreover, they exemplified precisely the types of objects that Ahmed (2010) identifies as precipitating particular feelings for two reasons. First, they manifested the longstanding symbol of the Manchester bee that carried particular affective resonances of metropolitan identity and pride, but rendered in vernacular, often child-like form. Second, if 'objects which circulate accumulate affective value' (Ahmed 2014: 218), then they did so via more or less digital means, via images and hashtags on social media as well as in the public and domestic spaces of the city.

Their peripatetic quality was thus central to their connective meaning and how they became significant to the people who encountered them. Their journeying – displayed, taken, hidden, potentially rediscovered – was implicitly digital because Facebook was a central part of how they were made and gathered, but also how their movements might come to be traced and known, their circulation documented by the individuals who later shared photographs of them via different social media platforms. Moreover, as the pebbles moved from St Ann’s Square to Twitter to a suburban garden to Instagram, their meanings also changed. They were (and continue to be) objects in movement, afforded mobile potential from their creation. Overall then, the #LoveMCRBees initiative with its painted pebbles imitating social media posts, destined to continually circulate, materialised the social media logics of connectivity, popularity and programmability. Accordingly, they contributed to the atmospheres of the event by way of the feelings of togetherness they both constituted and attracted, via the affects that circulated with them as ‘sticky objects’ (Ahmed 2014: 91).

## Conclusion

Through empirical research on the more or less digital public atmospheres of togetherness evident during the first anniversary commemorations of the 22 May 2017 Manchester Arena bombing, this article has contributed to ways of understanding both commemorative practices and responses to terrorism. Firstly, we have proposed a new conceptualisation of public atmospheres as involving the interplay of more or less digital elements. Secondly, in order to examine such more or less digital atmospheres, we have outlined an innovative methodology that combines the computational collection and analysis of social media content with a team-based autoethnographic approach. Finally, we have brought this conceptualisation and methodology to bear on a commemorative context, showing how the anniversary of the Manchester Arena bombing was constitutive of flexible, and plural modes and moods of togetherness.

Our empirical analysis of the events of 22 May 2018 highlighted two important aspects of the Manchester commemorative events. Firstly, we identified shifting moods of togetherness throughout the official *Manchester Together* program of events as experienced in the centre of Manchester and digitally mediated to Twitter via #ManchesterTogether. Secondly, we noted the connective and affective trajectories of a grassroots commemorative initiative which distributed bee pebbles. Taken together these empirical aspects of the commemorative events reveal the more or less digital composition of their public atmospheres of togetherness. In such atmospheres, constitutive feelings of togetherness emerge through both the mediation via social media platforms of *less* digital elements and activities and the materialisation via tangible artefacts of the logics of *more* digital social media platforms. This highlights the mutual imbrication of more and less digital elements in the constitution of public atmospheres. It also highlights the continued necessity to consider the consequences of this more and less digital and affective composition for the reach and audience of contemporary commemorative events. Indeed, it suggests we must consider not only the digital mediation of previously non-digital commemorative activities but also the commemorative materialisation of new digital logics.

Our analysis has also revealed how the commemorative public atmosphere of the Manchester bombing’s first anniversary were characterised by connecting people through a myriad of



shared feelings that included sadness, anger and grief but also resilience, pride, love and joy. As a response to terror, the Manchester commemorations comprised modes of feeling togetherness that were explicitly defined in opposition to the violence and fear of the bombing one year earlier. These emotions were part of what recurrently brought and bound people to each other during the anniversary, made them visible to each other as part of the same events, and located them together in a specific time and place. They also bridged and drew together individual and collective experience, in part through their creation, dissemination and circulation by more and less digital means.

Such togetherness did not suggest unity, however. Indeed, such togetherness can be read in very different ways and motivated towards radically different ends. With much of the anniversary being driven by a desire to be visibly unified, little attention was paid to considering the actual terms of that togetherness. As McCormack has noted 'grief can become part of the elaboration of powerful affective complexes that work to foreclose the possibility of critique, dissent, and disagreement' (2018: 85). While the public atmospheres of togetherness that accompanied the Manchester Arena bombing's first anniversary were not solely restricted to feelings of grief, in their own way they too avoided conflict. Indicative of this was the floral tribute nestled amongst the many others at Victoria Station that had been left by a far-right group that usually meets resistance when publically expressing its views. The same group organised a demonstration in the name of the bombing's victims to take place two weeks later - an event which no doubt was characterised by public atmospheres and forms of togetherness that were very different to those we experienced in Manchester on 22 May 2018. As a response to terror, therefore, the commemorative events discussed above, were open and flexible. While they strived, through more or less digital means to provide a unitary togetherness, the spaces, activities and objects that were constitutive of their public atmospheres were open to articulation to other political discourses. More work is needed to understand the multiple political possibilities of such atmospheres and their more or less digital constitution.

## References

- Adams. P.C., 2010, A taxonomy for communication geography, *Progress in Human Geography*, 35(1), pp.37-57.
- Ahmed, S., 2004, Collective Feelings: Or, The Impressions Left by Others, *Theory, Culture & Society*, 21(2), pp.25-42.
- Ahmed, S., 2010, *The Promise of Happiness*, London: Duke University Press
- Ahmed, S., 2014, *The Cultural Politics of Emotion*, 2<sup>nd</sup> ed. London: Routledge.
- Anderson, B. 1991, *Imagined Communities*, London: Verso Books.
- Anderson, B. 2009 'Affective Atmospheres', *Emotion, Space and Society*, 2, pp.77-81.
- Anonymous.

Ash, J., 2013, Rethinking affective atmospheres: technology, perturbation and space times of the non-human, *Geoforum*, 49, pp. 20-28.

boyd, d., 2014, *It's complicated: the social lives of networked teens*, New Haven: Yale University Press.

Bruns, A., and Burgess, J., 2015, Twitter hashtags from ad hoc to calculated publics, in Rambukkana, N., (ed) *Hashtag Publics: The Power and Politics of Discursive Networks (pp. 13-27)*, New York: Peter Lang.

Böhme, G., 2013, The art of the stage set as a paradigm for an aesthetics of atmospheres, *Ambiances*, Available from: <http://ambiances.revues.org/315>.

Chun, W.H.K., 2017, *Updating to Remain the Same*, Cambridge MA: MIT Press.

Closs-Stephens, A., 2016, The affective atmospheres of nationalism, *Cultural Geographies*, 23(2), pp.181-198.

Closs Stephens, A., Hughes, S, M., Schofield, V., and Sumartojo, S., 2017, Atmospheric memories: Affect and minor politics at the ten-year anniversary of the London bombings, *Emotion, Space and Society*, 23, pp. 44-51.

Crang, M. 2015 'The promises and perils of a digital geohumanities', *Cultural Geographies*, 22(2), pp. 351-360.

Edensor, T., 2012, Illuminated Atmospheres: Anticipating and Reproducing the Flow of Affective Experience in Blackpool, *Environment and Planning D: Society and Space*, 30(6), pp.1103-1122.

Fraser, N., 1990, Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy, *Social Text*, 25/26, 56-80.

Habermas, J., 1962[1989], *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society* [Trans by Burger, T, and Lawrence, F.]. Cambridge MA: MIT Press.

Hine, C., 2016, From Virtual Ethnography to the Embedded, Embodied, Everyday Internet, in L. Hjorth., H. Heather., A., Galloway and G. Bell (eds.), *The Routledge Companion to Digital Ethnography*, Routledge, pp. 21-28.

Hitchen, E., 2019, The affective life of austerity: uncanny atmospheres and paranoid temporalities, *Social and Cultural Geography*.

Ingold, T., 2015, *The Life of Lines*, London: Routledge.

Jansson, A (2018) *Mediatization and Mobile Lives: A Critical Approach*. Abingdon: Routledge.

Kavada, A., and Poell, T., 2017, Trajectories of Publicness and Contestation, paper presented at the ECPR Joint Sessions Workshop: Digital Media and the Spatial Transformation of Public Contention, Nottingham, UK (25<sup>TH</sup>-30<sup>TH</sup> April 2017).

Kinsley, S., The matter of 'virtual geographies', *Progress in Human Geography*, 38(3), pp.364-384.

Kitchin, R., and Dodge, M., 2011, *Code/Space Software and Everyday Life*. Cambridge MA: MIT Press.

Lim, M., 2015, A CyberUrban Space Odyssey: The spatiality of contemporary social movements, *New Geographies*, 7, pp.117-123.

Lindgren, S., 2017, *Digital Media and Society*, Sage.

Lindgren, S., Dahlberg-Grundberg, M., and Johansson, A., 2014, Hybrid media culture: An introduction, in S. Lindgren (ed), *Hybrid media culture: Sensing place in a world of flows*, London and New York: Routledge, pp. 1–15.

Lünenborg, M., and Raetzsch, C., 2018, From Public Sphere to Performative Publics: Developing Media Practice as an Analytical Model, in Foellmer, S., Lünenborg, M., and Raetzsch, C (eds.) *Media Practices, Social Movements, and Performativity: Transdisciplinary Approaches*, Routledge, pp.13-35.

Matheson, D., 2018, The performance of publicness in social media: tracing patterns in tweets after a disaster, *Media, Culture and Society*, 40(4), pp.584-599.

Markham, A., and Buchanan, E., 2012, Ethical decision-making and Internet research: Recommendations from the AoIR Ethics Working Committee (Version 2.0). Available from: <https://aoir.org/ethics>

McCormack, D.P., 2018, *Atmospheric Things*, Durham: Duke University Press.

Merrill, S., 2017, Walking together? The mediatised performative commemoration of 7/7's tenth anniversary, *Journalism*.

Merrill, S., 2018, The Dead Are Coming: Political Performance Art, Activist Remembrance and Dig(ital) Protests, in Breed, A., and Prentki, T., (eds.), *Performance and Civic Engagement*, Basingstoke: Palgrave Macmillan, pp. 159-186.

Papacharissi, Z., 2002, The virtual sphere: the internet as a public sphere, *New Media and Society*, 4(1), pp.9-27.

Papacharissi, Z., 2014, *Affective Publics: Sentiment, Technology, and Politics*, Oxford: Oxford University Press.

Pink, S., Ardèvol, E., and Lanzeni, D., 2016, *Digital Materialities: Design and Anthropology*, Bloomsbury.

Pink, S., and Morgan, J., 2013, Short-term ethnography: Intense routes to knowing, *Symbolic Interaction*, 36(3), pp. 351-361.

Poell, T., & Van Dijck, J., 2016, Constructing public space: Global perspectives on social media and popular contestation, *International Journal of Communication*, 10, pp.226-234.

Postill, J., and Pink, S., 2012, Social media ethnography: The digital researcher in a messy web, *Media International Australia*, 145, pp.123–134.

Sedgwick, E., 2003, *Touching Feeling*, Duke University Press.

Sumartojo, S., 2015, On atmosphere and darkness at Australia's Anzac Day Dawn Service, *Visual Communication*, 14(3), pp.267-288.

Sumartojo, S., 2016, Commemorative atmospheres: memorial sites, collective events and the experience of national identity, *Transactions of the Institute of British Geographers*, 41(4), pp. 541-553.

Sumartojo, S., 2017, Tweeting from the past: Commemorating the Anzac Centenary @ABCNews1915, *Memory Studies*.

Sumartojo, S., and Pink, S., 2019, *Atmospheres and the Experiential World: Theory and Methods*, Routledge.

Thompson, J.B., 1995, *The Media and Modernity: A Social Theory of Media*, Stanford: Stanford University Press.

Tweepy, 2017. *Streaming With Tweepy — Tweepy 3.5.0 documentation*. Available from: [http://tweepy.readthedocs.io/en/v3.5.0/streaming\\_how\\_to.html](http://tweepy.readthedocs.io/en/v3.5.0/streaming_how_to.html).

Twitter, 2018, *Developer Agreement & Policy*. Available from: <https://developer.twitter.com/en/developer-terms/agreement-and-policy>

Van Dijck, J., and Poell, T., 2013, Understanding Social Media Logic, *Media and Communication*, 1(1), pp.2-14.

Williams, M.L., Burnap, P., and Sloan, L., 2017, Towards an Ethical Framework for Publishing Twitter Data in Social Research: Taking into Account User's Views, Online Context and Algorithmic Estimation, *Sociology*, 51(6), pp. 1149-1168.