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# Continued Contexts of Terror: Analyzing Temporal Patterns of Hashtag Co-Occurrence as Discursive Articulations

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## Abstract

This study looks at how terror attacks are rendered discursively meaningful on social media through the concurrent use and reiteration of terror hashtags, which were created following previous incidents of terror. The article focuses on 12 terror attacks in Europe in 2015-2017 and their relating hashtags on Twitter, to see how various combinations of these were reused and co-articulated in tweets posted in relation to subsequent attacks. Through social network analysis of co-occurring hashtags in about 3 million tweets, in combination with close readings of a smaller sample, this study aims to analyze both the networks of hashtags in relation to terror attacks as well as the discursive process of hashtag co-articulation. The study shows that the patterns by which attack hashtags are reused and co-articulated depend on both temporal and contextual differences.

## Keywords

terror attacks, social media, discourse, articulation, framing

## Introduction

The number of fatal terrorist attacks in Western Europe has increased in recent years (Hanrahan & Wang, 2017), and a series of high-profile attacks starting in 2015 in France, Belgium, Germany, the United Kingdom, Turkey, Sweden, and Spain have contributed to making such events a prevalent part of the collective consciousness in many European cities. While social media platforms, such as Twitter and Facebook, have been frequently discussed in relation to their role as potential tools for terrorist recruitment, mobilization, and coordination, a particular strand of research is interested in how the same platforms can be used by victims and the general public for creating unity and for exchanging information during and immediately after attacks (Buntain, Golbeck, Liu, & LaFree, 2016; Cheong & Lee, 2011; Eriksson, 2016, 2018; Sumiala, Tikka, Huhtamäki, & Valaskivi, 2016). Crisis points, such as terror attacks, create “information holes” that the public works collaboratively to fill in in real time (Lin, Lachlan, & Spence, 2016, p. 627). Such practices resonate more broadly with developments in which social media has come to be an important tool for disaster and crisis management among civilians as well as

governments (Boulianne, Minaker, & Haney, 2018; Liu, Fraustino, & Jin, 2016; Murthy & Gross, 2017; Yates & Paquette, 2011).

The fact that tweets in the wake of terror events often seem to focus their attention not only on the attack at hand but also simultaneously on previous attacks illustrates how Twitter reactions to such events express a referential system in which terror attacks become discursively connected to one another. This mnemonic function of social media-based information sharing has been previously underexplored. In this study, we are interested in how attack hashtags co-occur in tweets over time and in how such co-occurrences contribute to discursive articulations of the terror attacks in question. While it might not be surprising that dramatic and tragic events awaken memories of similar events in the collective consciousness, this insight constitutes a starting point for

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taking a closer look at more detailed patterns of how such connections are made, or sometimes are not made.

Most research in this area has been focused on single terrorist acts that have limited generalization. The overarching aim of the present study is to employ a cross-event approach, with a particular analytical focus on how publics create meaning in relation to crisis events, in this case, terrorist attacks. More specifically, this study draws on discourse theory and directs its interest toward how previous and current terror events are understood through, and in relation to, each other through a process of *articulation* (Laclau & Mouffe, 1985, p. 105), where discursive relationships between the attacks are established through the co-use of their related hashtags.

This study follows an empirical design where we analyze how relationships are established through the concurrent use on Twitter of two or more event hashtags relating to 12 terror attacks in France (three attacks), Turkey (two attacks), Belgium (one attack), Germany (one attack), Sweden (one attack), the United Kingdom (three attacks), and Spain (one attack) between 2015 and 2017. The following research questions will be addressed:

How do co-occurrence patterns among terror hashtags differ over time in relation to the various terror attacks?

To what extent, and how, do the identified patterns suggest discursive relationships that bridge, amplify, extend, or transform the individual or initial uses and meanings of the co-articulated hashtags?

## Previous Research

This study is interested in the textual processes by which terrorist attacks become discursively linked through the co-articulation of hashtags on Twitter. Hashtags, as such, were originally user-led innovations that were subsequently integrated into Twitter's architecture as a metadata indicator aimed to coordinate discussions and simplify the finding, following, and listing of messages related to a specific theme. Hashtags are a kind of "folksonomy," a tagging system emerging from the free social tagging of information and objects. As put by Vander Wal (2007),

The value in this external tagging is derived from people using their own vocabulary and adding explicit meaning, which may come from inferred understanding of the information/object. People are not so much categorizing, as providing a means to connect items (placing hooks) to provide their meaning in their own understanding.

The discursive aftermath of terrorism and other violent attacks has been researched using mainstream media reporting on such attacks (Eyerman, 2011; Sumiala, 2013), but as social media reactions toward such events are given an increased societal focus, the hybridity of news events has

been increasingly emphasized in research on terror attacks (Sumiala & Valaskivi, 2018). Terrorism research has focused heavily on the societal causes and outcomes of terrorism, but studies on the socially produced understandings of sociocultural traumatization that may follow upon terrorist acts has not been given as much attention. Truc (2018) has proposed that a "sociology of terrorism" must extend into questions concerning what connects us to each other in the aftermath of terrorist attacks. This study focuses on these social aftermaths of terrorist attacks, specifically within an online context.

In the case of dramatic, acute, and emergent public events, ranging from riots and protests to disasters and terrorist attacks, the Twitter platform stands out from other social spaces by its ability to convey public responses at high speed. Twitter might thus provide a space for understanding and in some way coming to terms with terror attacks and other incidents of societal disruption (Bruns & Hanusch, 2017; Eriksson, 2018; Lin et al., 2016; Stieglitz, Bunker, Mirbabaie, & Ehnis, 2017). Publics can form ad hoc—hence the notion of "ad hoc publics" (Bruns & Burgess, 2015)—the very point in time that they are needed. Once established, the hashtag and its nascent public becomes "a space, an event and a network" to engage with (Sauter & Bruns, 2015, p. 47). The hashtag thus enables a large number of Twitter users, who are otherwise uncoordinated, to organize a discourse around a particular event or issue. Thus, rather than being connected through, for example, follower/followee networks or through formal organizations, users of the hashtag come together through "ambient affiliation" (Zappavigna, 2011), that is, by bonding around the evolving topics of interest that are rendered findable by emerging hashtags. The hashtags that are created in relation to terror attacks are a way for individuals and collectives to share and discuss these events, and thus the hashtags function as a space for meaning-making practices (Eriksson, 2016).

When it comes to research on the role of hashtag publics and ambient affiliation in relation to terrorist attacks, Buntain and colleagues (2016) point out that the focus has largely been on single events of terrorism. Examples of such studies have dealt with the attacks in Mumbai, India, in 2008 (Oh, Agrawal, & Rao, 2011) and 2011 (Gupta & Kumaraguru, 2012); in Utøya, Norway, in 2011 (Eriksson, 2016); the Boston Marathon bombing in 2013 (Sutton et al., 2014); the murder of Lee Rigby in London in 2013 (Burnap et al., 2014); and the Stockholm lorry attack in 2017 (Eriksson, 2018). However, a couple of studies have also looked at online responses to terrorist attacks beyond single instances. First, Olteanu, Vieweg, and Castillo (2015) showed in a study of 26 different crisis situations in 2012 and 2013 (including accidents, natural disasters, and terrorist attacks) some commonalities and differences in social media responses. While the Twitter responses differed for the various events in their study, there was a similarity in the responses to specific types of events such as human-induced crises or natural disasters. As such, Twitter is

understood as a “tool that becomes incorporated into the social construction of the disaster event” (Olteanu et al., 2015, p. 1004). Second, Buntain and her co-authors (2016) performed a comparative analysis of social media interactions before and after the 2013 Boston Marathon bombing, the 2014 Sydney hostage crisis, and the 2015 Charlie Hebdo shooting and found that some types of user accounts—predominantly those of the police/government and news organizations—came into focus in the information-sharing activities of the publics that developed in response to these events.

As stated above, this study takes a cross-event approach in analyzing how discourse is produced in relation to a set of terrorist attacks by looking at how previously introduced hashtags are reiterated in conjunction with new ones as new events unfold. This resonates with Faltesek’s (2015) argument that “studies of the circulation of hashtags need to pay particular attention to the temporality of their circulation” (p. 84). Hashtags are neither registered nor controlled, which means that they are never retired from public use and can in theory be used perpetually. At the same time, however, the role and meaning of any particular hashtag is all but static and might change considerably over time (Bruns & Burgess 2015, p. 14). Indeed, meaning-production through and around hashtags occurs dynamically:

[H]ashtag-mediated discursive assemblages are neither simply the reflection of pre-existing discourse formations nor do they create them out of digital aether. Rather, they are nodes in the becoming of distributed discussions in which their very materiality as performative utterances is deeply implicated. (Rambukkana, 2015c, p. 3)

A hashtag, which is any combination of characters lead by a hash (“#”) symbol, can be used by itself or together with others for a variety of effects. It can operate as a reflexive meta-commentary to express context around a given message (#tgif, #showerthoughts, #parenthood), as an affective amplifier (#fail, #happy, #dancing), or with a range of humorous purposes. In the context of news, events, and politics, however, hashtags have been highlighted because of their ability to aid in the formation of “hashtag publics” (Rambukkana, 2015b). The open form of Twitter hashtags allows users to partake in conversations that are going on outside of their own social networks.

Rambukkana (2015a, p. 30) explains how hashtags function in a space between what is contextual and what is chronological and how they thereby are “nodes of continued context” across conversations. In the case of the discourse on Twitter in the wake of terrorist attacks, hashtags can thus be used to point out the current event being discussed as well as “expand the space of discourse” by pointing, in a formation with other hashtags, to one or several other events. It is in such cases that notions of discursivity, articulation, and temporality, which will be discussed in the following sections of this article, become of interest.

## Conceptual Framework

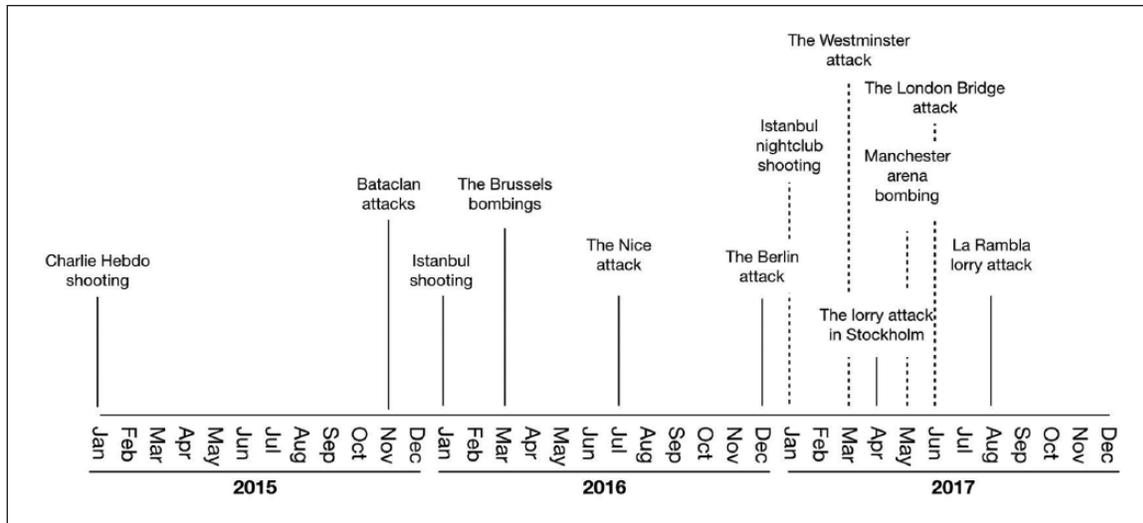
A key focus for this study is to determine how hashtags related to terrorist attacks have been *co-articulated* over time (which addresses the second research question). We draw here on two concepts from discourse theory to assess how hashtags for different attacks have been used together. The concept of articulation is based on the theory of Laclau and Mouffe (1985) and refers to how discourses are the result of an ordering of elements and subject positions in chains of meaning. They define “articulation” as

any practice establishing a relation among elements such that their identity is modified as a result of the articulatory practice. The structured totality resulting from the articulatory practice, we will call *discourse*. (Laclau & Mouffe, 1985, p. 105)

In the case of this particular study, then, we are interested in how understandings of certain terrorist attacks are modified as a result of the articulatory practice of conjoined hashtag usage. Furthermore, we are interested in the co-articulation of different discourses and the connections that are made between them. This article presents a discursive analysis in the sense that it sees the tweets in terms of the different discourses that they draw upon and articulate together through hashtags. In Fairclough’s (2003) terms, what is presented is an analysis of discourse expressed in tweets, where “discourse” is seen as “a mediating level between the text per se and its social context (social events, social practices, social structures)” (p. 37). We approach the terrorist attack hashtags as expressions of “social elements” that are “articulated together in particular ways in orders of discourse . . . They make the link between the text and other elements of the social, between the internal relations of the text and its external relations” (Fairclough, 2003, p. 37).

Furthermore, this study focuses on what types of discursive relationships are expressed through the hashtag co-articulations. We do this by drawing on the four different types of “frame alignment” described by Snow, Rochford, Worden, and Benford (1986). This means that we see the hashtags as similar to “frames” in Goffman’s terms. For Goffman (1974), frames refer to “rules which, when followed, allow us to generate a ‘world’ of a given kind” (p. 5). Framings of phenomena and events are what render them socially meaningful because they function as a code, “as a device which informs and patterns all events that fall within the boundaries of its application” (Goffman, 1974, p. 5). Hashtags, like frames, contribute in building “schemata of interpretation” that make it possible “to locate, perceive, identify, and label” events and phenomena in social reality (Goffman, 1974, p. 21).

Goffman’s perspective has been extended and refined to enable a more fine-grained categorization of four different types of frame alignment (Snow et al., 1986). First, there is *frame bridging*, which refers to the linkage of two frames that are “structurally unconnected” but still in some way congruent or compatible (Snow et al., 1986, p. 467). In the case



**Figure 1.** Terror attacks featured in the study.

of the analyzed terrorist attack hashtags, this might refer to such cases where two or more attacks that are structurally different in terms of geography, scale, modus operandi, and so on are discursively interlinked through hashtagging practices. Such interlinking might be more or less forced or “natural” depending on the degree and type of congruence or compatibility.

Second, as a kind of effect of such bridging, the process of *frame extension* refers to how the topical area covered by a hashtag becomes enlarged (Snow et al., 1986, p. 472). In our data, this might be exemplified by how the domain of the hashtag #notafraid is continuously extended as the tag is used alongside more and more event hashtags over time.

Third, there is *frame amplification*, which occurs when an interpretive frame, which is bearing on a specific issue or event, is clarified or reinvigorated (Snow et al., 1986, p. 469). In the context of the hashtag analysis, this could, for example, be in cases where a previously established hashtag becomes reinvigorated through its concurrent use during a later event with one or several more current hashtags.

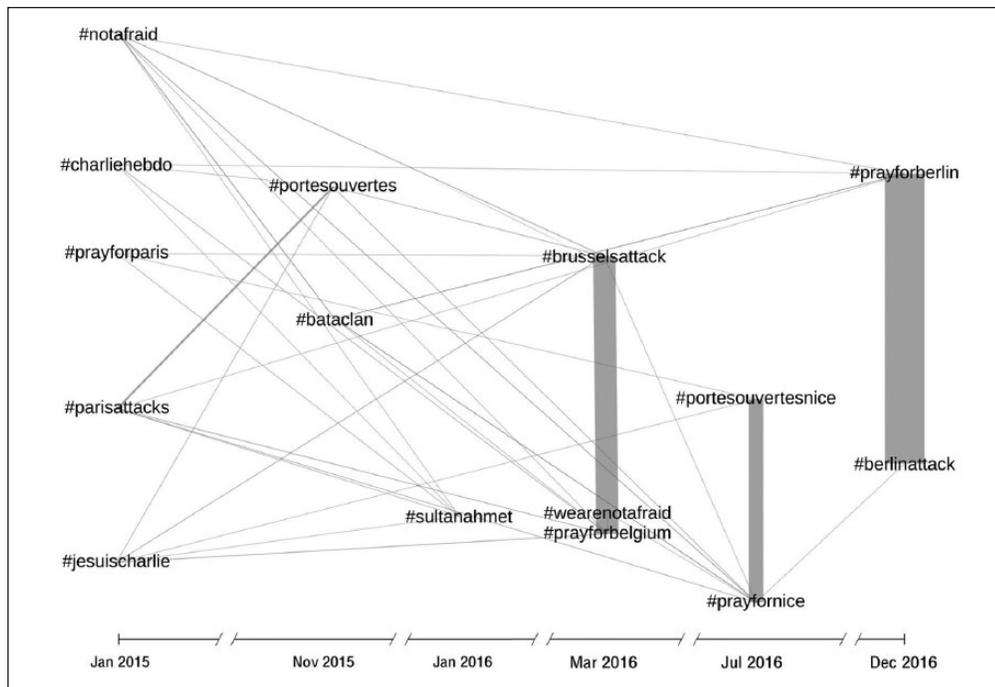
Finally, there is the more overarching issue of *frame transformation* or, as Goffman (1974, pp. 45–46) calls it, “keying.” This refers to the process where the meaning of an activity, event, or phenomenon is redefined to the point where it “reconstitutes what it is for participants that is going on” (Goffman, 1974, p. 45). In the case of this study, the concurrent use of two or more hashtags could potentially be construed as a keying where new layers, or “laminations” (Goffman, 1974, p. 82), of meaning are imposed upon the original meanings. This could, for example, be the case if event hashtags such as #prayforlondon, #prayforbarcelona, and #prayforbrussels are used together in a way that comes to express something other than what they did separately, such as a more general anti-Islamist sentiment.

## Analysis of Hashtag Co-Occurrences Over Time

Empirically, this study draws on an analysis of about 3 million tweets that were accessed via Twitter’s public search interface. The sampling was made based on whether tweets included any of a set of predefined hashtags related to a set of recent terror attacks in Europe. We as researchers are ourselves European, and as the study focuses on the sociocultural outcomes to terrorism, a European focus has not merely been strategic for data collection purposes but also an ethical choice. As understanding the cultural context of Europe is important when studying these European discourses of terrorism, we have focused on European instances of terror first and foremost.

Hashtags were selected following manual searches to identify prominent hashtags that were commonly used in relation to the events. To get purer data, while risking losing out on some of the discussion, we chose to avoid hashtags with just city names. A set of general hashtags that have been used in relation to acts of terrorism in general, and to some of the analyzed attacks in particular, were also made part of the sample. The attacks and related hashtags selected for analysis were as follows (Figure 1):

- Charlie Hebdo shooting, 7 January 2015: #charliehebdo, #jesuischarlie (plus #prayforparis and #parisattacks, which also became the main hashtags for the November 2015 attacks in Paris, while the hashtag #notafraid was widely used in combination with other, more attack-specific hashtags).
- Paris mass shooting, suicide bombing, and hostage situation in the Bataclan district in Paris, 13 November 2015: #prayforparis, #parisattacks (and the hashtag



**Figure 2.** Co-occurrences of 2015 to 2016 attack hashtags in tweets posted during 2016.

#portesouvertes, which was highly used at this point, but was less incident specific).

- Istanbul suicide attack, 12 January 2016: #prayforistanbul, #sultanahmet (plus #istanbulattack, which also was the main hashtag for the January 2017 attack).
- Brussels suicide bombings, 22 March 2016: #brusselsattack, #prayforbelgium (and the #wearenotafraid hashtag, which was used in this post-attack conversation, but was less incident specific).
- Nice lorry attack, 14 July 2016: #prayfornice, #portesouvertesnice.
- Berlin lorry attack at a local Christmas market, 19 December, 2016: #berlinattack, #prayforberlin.
- Istanbul nightclub shooting, 1 January 2017: #istanbulattack.
- London lorry attack and stabbing incident in the Westminster district, 22 March 2017: #westminster, #prayforlondon.
- Stockholm lorry attack, 7 April 2017: #openstockholm, #prayforstockholm.
- Manchester Arena bombing, 22 May 2017: #manchesterattack, #prayformanchester.
- London Bridge lorry attack, 3 June 2017: #londonbridge.
- Barcelona lorry attack in the La Rambla district, 17 August 2017: #prayforbarcelona, #barcelonaattack.

Searches were made for the period between 1 January 2015 and 30 November 2017, which yielded a total of 3,078,219 hits. This means that roughly 3 million tweets using any of

the hashtags, and that were posted between these dates, were accessible via the Twitter search. It is important to note that what is returned via that search function is not by any means based on a complete historical record of all tweets ever posted. Rather, only some tweets are retained in this public archive. The principles or criteria, if any, by which tweets remain accessible are not publicly known, but it is likely that some kind of popularity criteria with an element of randomness are at play. For the purpose of this study, we consider the contents of the 3 million search results, which are the “full history” of these events available to users, to be an indicator of how hashtags have been used in the wake of terror attacks.

Because we are interested in co-occurrences of hashtags in tweets, we zeroed in on those tweets in this first sample that contained two or more of our selected hashtags. From these we extracted all hashtag pairs along with metadata on what points in time each pair had been posted. This gave a total of 115,014 tweets. Figures 2 to 5 in this article are network graphs, visualized with *Gephi* (Bastian et al., 2009), where attack hashtags have been plotted along an approximate timeline with connecting lines whose relative widths represent the number of co-occurrences of hashtags. It is important to note that while the figures display *all* hashtags used along the entire part of the timeline that is shown, the figures only display *some* of the connections between them—those connections made in a specific time frame as defined in the figure caption. We use these visualizations of hashtag relationships as starting points for our analysis of co-articulatory practices among the hashtags.

Looking at the ways in which tweets about terror attacks are articulated, that is, how their meaningful units are put together, a pattern arises by which the memory of previous attacks is mobilized as new attacks occur. We focus here on how hashtags relating to the various attacks are used together, and we interpret such co-use as a discursive articulation where the simultaneous referencing of two or more attacks constitutes a discursive connection between them. The following section aims to answer the first research question in regard to how attack hashtags co-occur over time.

The 12 attacks included in this study occurred between 2015 and 2017, and our analysis focuses specifically on the discursive relations established through the co-use of hashtags in tweets posted during and after these attacks. Figure 2 shows the co-occurrence relationships between attack hashtags during 2016. The hashtags are plotted in a time dimension (left to right) starting with the January 2015 attacks in Paris and ending with the Berlin attack in December 2016. Note that even though hashtags referring to attacks throughout 2015 and 2016 are included in the graph, the connecting lines illustrate how hashtags were being used together in tweets posted at some point during 2016 (not during 2015), and the line width reflects the relative frequency by which this co-occurrence was evident. This focus on the 2016 tweets is based on the focus of the study on how hashtags become reiterated over time, and because the timeline's starting point is 2015, this function of reiteration and referencing back to previous attacks would not be evident in the tweets posted in the early months of 2015.

The figure illustrates that during 2016, the hashtags used during and after the four major attacks included in the study (the Istanbul bombing in January, the Brussels bombing in March, the Nice attack in July, and the Berlin attack in December) were most strongly connected to hashtags relating to the same attack (see line width). But while these intra-event connections are most notable in the graph, the pattern whereby hashtagged tweets referring to newer attacks are continually referring back to previous attacks from both 2015 and 2016 is clear. During 2016, for example, newer attacks continuously referred to, particularly, the Charlie Hebdo shooting through the creation of discursive connections by reiterating event-specific hashtags from that attack (*#notafraid*, *#charliehebdo*, *#prayforparis*, *#parisattacks*, and *#jesuischarlie*).

Tweets during and after attacks occurring in 2017 (which in this study includes the Istanbul attack in January, the Westminster attack in March, the Stockholm lorry attack in April, the Manchester Arena bombing in May, the London Bridge attack in June, and the Barcelona attack in August) are shown in Figure 3 and show the same pattern of discursive interconnectivity between newer and previous terror attacks. By connecting and reiterating hashtags, newer attacks are given a setting and framing that aids in meaning making in the midst of terror attacks, and the hashtags play an important role for how the new events are understood.

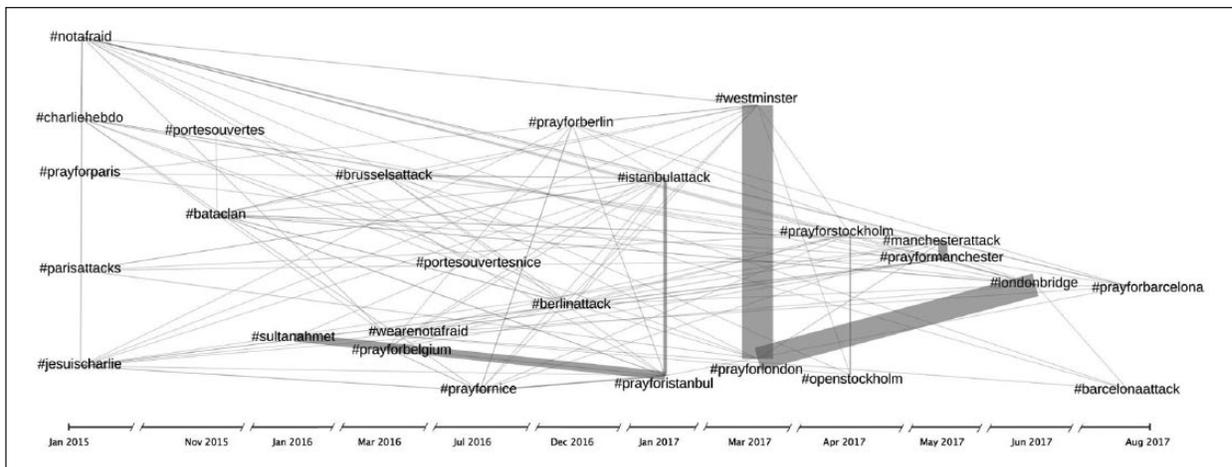
First, let us look at the dimension of *time*. There is indeed a pattern in which tweeting in the aftermath of new attacks points back to the most recent previous attack, which is at the time the freshest in the collective memory. Some attacks, however, are not given that same discursive attention. An example of this is the attack in the Sultanahmet district in Istanbul in January 2016, where none of the Brussels, Nice, or Berlin attack-related tweets were using the *#sultanahmet* hashtag in tweeting about these newer attacks. Tweets were, in this way, focusing mainly on terrorism occurring in the western hemisphere, which we will discuss further later on. However, they made connections between each other, for example, linking *#prayforparis* with both *#brusselsattacks* and *#berlinattack*. By comparison, the Charlie Hebdo shooting seems to be a consistent reference point for these 2016 attacks, where the hashtags from the newer attacks, such as *#sultanahmet*, *#brusselsattack*, *#prayforparis*, and *#prayforberlin*, tended to refer to, for example, *#jesuischarlie* and *#parisattacks*. This shows that the Charlie Hebdo shooting, in spite of the growing distance in time, seems to have become established as a more important and given discursive point of reference than some of the later attacks.

Second, let us shift focus to the dimension of *place* in terms of geographical distance. It is certainly a prominent, if unsurprising, feature of our data that attacks occurring in the same location are strongly connected through the co-use of hashtags. As can be seen in Figure 3, the hashtag co-occurrences bring out two specific hashtag networks based on geographical location. The attacks in Istanbul and London were respectively co-articulated through hashtag use. As the width of the lines between hashtags in Figure 3 shows, the strongest connection was between hashtags relating to the London attacks.

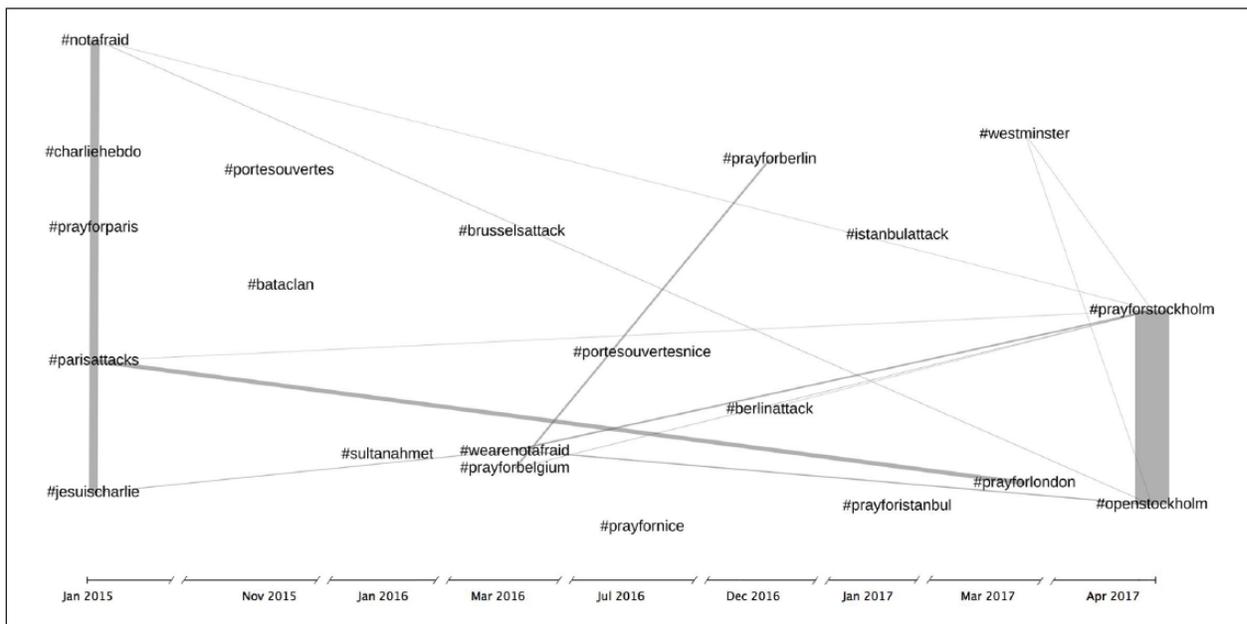
Third, we shall look closer at some particular patterns of hashtag co-use that came into prominence in relation to two specific attacks—the lorry attack in Stockholm in April 2017 and the Manchester Arena bombing in May 2017.

After the lorry attack in Stockholm in April 2017, the two event-specific hashtags included in this study relate first to each other and second to other hashtags from previous attacks, but they do so in an excluding and selective manner because users appear not to have included hashtags from all previous attacks in their tweeting activity. As can be seen in the hashtag co-occurrence network in Figure 4, the co-articulations with hashtags from previous attacks were few and scattered. A connection was made to the then most recent attack in Westminster, London, which occurred roughly 2 weeks prior to the Stockholm attack. Other than this connection, there were only ties to the Charlie Hebdo shooting in 2015 and the Berlin attack and the Brussels bombings in 2016, and, as can be seen in the graph, the strongest connections were made to the *#wearenotafraid* hashtag, which can be understood as a more universal and less event-specific hashtag, though initially relating to the Brussels attack in 2016.

This indicates further that the tweeting activity in the midst of the Stockholm attack focused strongly on an ethos



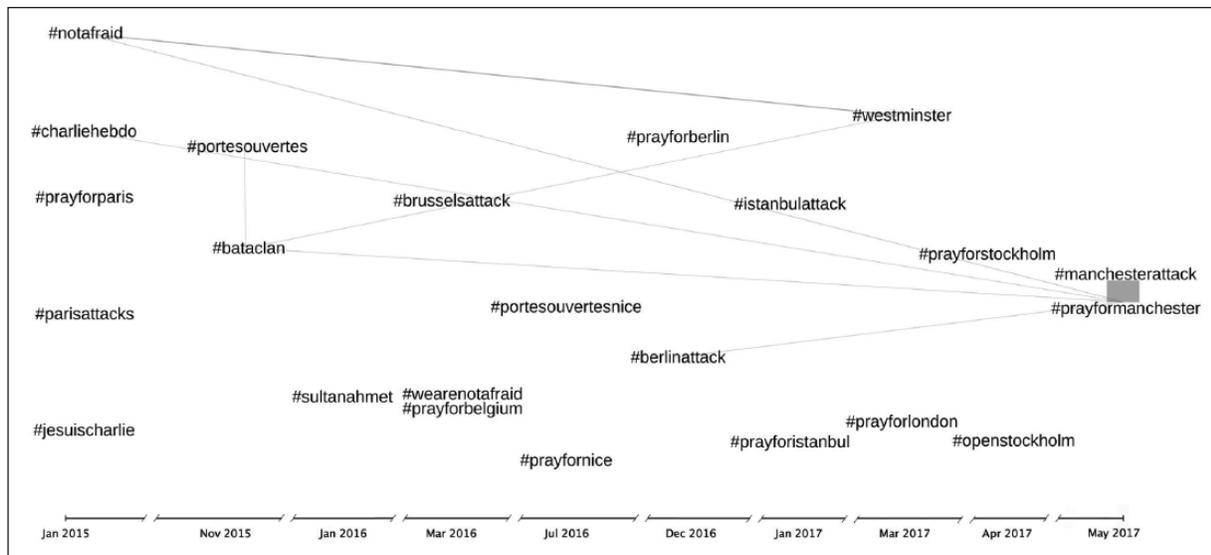
**Figure 3.** Co-occurrences of hashtags referencing the 12 incidents in the study occurring in 2015 to 2017, in tweets posted specifically during January to December 2017.



**Figure 4.** Co-occurrences of 2015 to 2017 attack hashtags in tweets posted in April 2017, that is, before, during, and after the Stockholm lorry attack on 7 April 2017.

of resilience and calm by connecting the attack to previous statements of “coming together” and standing up against narratives of fear. Previous research on the tweeting activity after this attack (Eriksson, 2018) has shown that the social media response to the Stockholm attack was largely focused on the construction of counternarratives that were working against discourses on fear, Islamophobia, and the need for closed borders. This was primarily done by using the #openstockholm hashtag and by discursively formulating the issue by downplaying such narratives within the discursive context of this hashtag.

A similar pattern of selectivity in hashtag usage during and after an attack is also evident when looking more closely into the hashtag co-occurrences in the tweeting activity during and after the Manchester Arena bombing, which was the second attack in the United Kingdom in 2017 and which occurred exactly 2 months after the Westminister attack in March. The suicide attack occurred as attendees of an Ariana Grande concert in Manchester were exiting the concert hall. This attack was the largest in the United Kingdom in 2017, with 512 people injured and 23 killed, and due to the nature of the concert many of the affected were children and young



**Figure 5.** Co-occurrences of 2015 to 2017 attack hashtags in tweets posted from mid-May until second June, one day before the London bridge attack on third June, that is, before, during, and after the Manchester arena bombing in 2017.

people. As Figure 5 shows, very few of the previous attacks were referenced within this conversation.

Similar to what was the case after the Stockholm lorry attack in April, the Manchester Arena bombing seemed to invoke the memory of terror attacks occurring in recent history to a lesser degree than the reactions following most other attacks in our data. In this case, the selectivity, as opposed to the Stockholm case, seems to reflect upon the specificity of this event rather than functioning as a way of downplaying the attack and showing resilience in the face of the attack. The hashtags that were in fact co-articulated with the Manchester hashtags were the Berlin attack, Bataclan, and the Charlie Hebdo attack, showing the distinct character of this attack. This can be seen as an indication that the Manchester bombing was so different and specific, due to the number of casualties and ages of the victims, that many previous attacks were not utilized as a means of understanding and providing meaning to this attack. Both of the Paris attacks in 2015 were massive instances of terror in Europe and have become strongly entrenched in the collective memory. The implication of the Manchester Arena bombing being referenced specifically to Bataclan and the Charlie Hebdo attack—the only other reference being the Berlin attack—might imply that this attack was so specific and different from other attacks in Europe during 2016 and 2017 that the referentiality of other attack hashtags was not evident during this attack.

### Co-Articulations

The tweets themselves are, given the size of the data, scattered and diverse. But when looking more closely into the ways in which attack hashtags were co-articulated in terms of framing both the understanding of the attacks themselves

and the issues connected to the attacks, there are some patterns that characterize how previous attack hashtags are reiterated when newer attacks occur.

Twitter has become a central platform for both news sharing and commentary, and posted tweets can be read by users and non-users alike. On the other hand, no matter how open and accessible these tweets may be, it is important when using tweets as research data to reflect upon the ethical approaches to this very data. This is especially the case when tweets are used as quotations, as they have been in this article. These tweets have, for the sake of protecting the source of the tweets, been anonymized in this article by being slightly altered for them to not be “googleable,” that is, not traceable in their original form through online searches of direct phrases. This creates a distance between the actual Twitter user and the reader of Internet research because the anonymity of the sender of digital texts should be prioritized (Markham, 2012). For the same purposes, user names and real names have been deleted from the dataset.

Simply stacking attack hashtags is an example of making discursive connections between different events by chaining them. This form of *frame bridging* means that two or more initially unconnected frames are textually interlocked. This adds new meaning to these events because it extends the frames by which it is suggested that they can be interpreted. However, in the case of mere stacking, none or very limited additional text is provided for understanding why this connection between different attacks was made. Such stacking might refer to the multitude of attacks occurring in a specific time frame. It might, however, also be a form of critique, where hashtags from high-profile attacks are interlocked with little-known attacks occurring in other parts of the world, and as such might be a form of structural critique

against trending topics and the attention given by online audiences, as might be the case in the following example:

#Pray4London#PrayforJapan#PrayForNigeria#PrayForMizzou  
#PrayForTheWorld #Pray4Paris #ParisAttacks.

This is a recurring theme in social media responses to terrorism because some events are given more attention than others, specifically those occurring in Western contexts. Some tweets also criticized the western bias of the #prayfor-type hashtags, the use of which is not as common in instances of non-Western locations of terror attacks:

So you can #PrayForNice you liars but you didn't  
#PrayForIraq you are all hypocrites #JeSuisCharlie but no  
#JeSuisNigeria.

In some cases, the actual sentiment might in fact be hidden behind the web addresses linked within the tweet rather than in the language of the tweet itself. In this analysis, the content of the tweet is the focus, while content outside of the tweet itself is not given that same attention. This approach has been previously critiqued by some scholars (see, for example, Burgess & Matamoros-Fernández, 2016), but due to the focus of this study and the amount of data, the tweets themselves have been the unit of analysis. For example, in the following tweet there is a good chance that more information is given within the provided URL:

#Terrorism #London #England #Police #Terrorist #Ramadan  
#LondonBridge#LondonAttack#Muslims#ISIS#PrayForLondon  
[URL].

When referencing previous attacks in a long string of hashtags in this way, their meanings are co-articulated and connected in ways that contribute to how more recent attacks are interpreted and understood. This might also function as a form of *frame amplification*, for example, when previous terror attacks are co-articulated when sharing information on potential terror attacks. The way in which this might help to amplify these newer events might also prematurely increase the sense of threat described in a breaking news story, such as in the following tweet:

Gatwick terminal has been evacuated due to some suspicious man. Pls stay safe Londoners. Everybody #PrayForLondon #ParisAttacks.

This amplification might also work through reconnecting to previous attacks as a form of remembrance and simultaneously as a way of underlining the magnitude of the attack by connecting two attacks with one another. This was evident in tweets following the Manchester Arena bombing in 2017, which was co-articulated as a terror attack similar to the Bataclan attacks in Paris in 2015.

This #ManchesterArena attack will be their #Bataclan. My heart goes out to these people. #PrayForManchester #Courage

Some hashtags have been reiterated for other purposes than simply connecting two or more attacks with one another. In such cases, the connections made seem to amplify other emotive or political issues. In the case of the Stockholm lorry attack, the #wearenotafraid hashtag, which was used extensively during the Brussels attack more than a year earlier, was reiterated as a form of *frame extension*, where an ethos of resilience and calm was called upon as a way of dealing with the event.

We're Sweden and we're not afraid! #openstockholm #sthlm  
#unity #wearenotafraid [URL].

Yet other events gave rise to harsh criticisms of the relatively small amount of attention given to them, largely based on their geographical location in the non-Western world. Such criticism is performed as a form of *frame transformation*, where the understandings of previous attacks are renegotiated through this critical stance. The criticism was directed both toward news channels as well as online audiences of these terror attacks, such as in the following examples after the Istanbul bombing in the Sultanahmet district in January of 2016:

Hey France, that terror attack in Turkey. Why no turkish flag on you ppl's profile pics? #Sultanahmet #ParisAttacks.

What a hypocritical world this is #Sultanahmet #ParisAttacks.

Voices were also raised toward mainstream media platforms, such as the BBC and CNN, which were criticized for failing to provide equal coverage of attacks taking place outside of the Western world:

All these "big" news channels like @BBC and @CNN give no coverage to the #Sultanahmet attack like they did to #ParisAttacks So disappointing.

For 2 full days the news covered the #ParisAttacks without reporting anything but Paris! What abt #Sultanahmet!?

These different ways of reiterating hashtags show the different ways in which hashtags might be repurposed for making meaning of newer terror attacks and might shape the ways in which discourses on terror attacks are articulated. By bridging, amplifying, extending, and transforming frames, these terror attacks are given meaning through this reiteration, and the analysis presented here shows the variety of ways in which this might be performed.

## Discussion

This study has focused on the ways in which terror attacks are understood and interpreted on social media through the co-articulation of attack hashtags that refer to previous instances of terror attacks. Our results show that such earlier occurrences of terror, when re-actualized by reinvigorating

their related hashtags, contribute in providing new discursive meanings to more recent attacks. Through reiterating hashtags and consistently connecting back to previous attacks, the discursive and collaborative process of meaning making in relation to newer attacks is shaped by the prior framing—with its connected experiences and sentiments—of previous attacks. Simultaneously, this discursive practice shines some new light on older events and potentially contributes to reformulating their previously established meanings. This state of fluidity in the formulation of discourse connects well with the discourse theoretical understanding of meaning as unfixed and constantly renegotiated, which means that the ways in which terror attacks are understood and interpreted are never definitive. Their discourse is performed over time and, among other places, on social media through the (re-)utilization of terror-related hashtags.

In this study, our analysis of the use of hashtags relating to 12 specific attacks occurring between 2015 and 2017 shows both when connections were made to previous attacks and when they were not. In the case of the Stockholm lorry attack in April 2017, many of the common and expected discursive connections were not made due to the prevalent alternative framing of resilience and calm. Hashtag use following the Manchester Arena bombing in May 2017, on the other hand, suggested that this attack was specifically co-articulated with larger and more high-profile attacks, thus confirming its distinction from many other attacks and discursively framing it as a large-scale attack.

The analyzed patterns of hashtag co-articulations in relation to terror attacks show the different ways in which hashtags are reiterated and how this might influence the understanding of newer attacks by putting them in the perspective set by previous instances of terror. Through our adaptation of the social movement theory of Snow and colleagues (1986) with its specific terminology of frame bridging, frame amplification, frame extension, and frame transformation, the different effects of these patterns of hashtag co-usage become more discernable.

Frame bridging can be used to refer to connections that are made through the interlocking of meaning in chains of different terror hashtags, thus discursively co-articulating the terror attacks from which these hashtags are derived. Frame amplification, through the inclusion of previous attack hashtags when new attacks occur, enables a heightened interpretation of newer events through the use of older frames of other attacks. When reusing hashtags from older attacks for the purpose of reshaping the meanings of newer attacks, these reused hashtags work as a form of frame extension, where older attack hashtags are employed to assign previously set frames in shaping the understanding of recent attacks. Frame transformation, finally, happens when the meaning behind terror attacks is reformulated and understood in new ways through the reiteration of hashtags in a new setting where these attack hashtags are given new meaning and purpose.

With its focus on the sociocultural outcomes of terrorism, the study has shown that the discursive understandings of terrorist attacks are not stable, but instead changing over time in relation to the occurrence of other attacks. Digital platforms may, thus, function as a space for this interpretation to take place both during ongoing attacks as well as after. From a methodological perspective, this study underlines the importance of not letting the technical nature of hashtags fool us into assuming that they are definitive or universally given. Hashtags and their ecologies are user-created, just like discourse and culture more generally, and must be approached with similar methods. As such, this study has intended to expand the understandings of discourse production in an online setting, and the ways in which the interpretation of specific terrorist attacks changes over time.

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