"Affective Publics"
Performing Trust on Danish Twitter during the COVID-19 Lockdown
Breslin, Samantha Dawn; Blok, Anders; Enggaard, Thyge Ryom; Gårdhus, Tobias; Pedersen, Morten Axel

Published in:
Current Anthropology

DOI:
10.1086/719645

Publication date:
2022

Document license:
Unspecified

Citation for published version (APA):
https://doi.org/10.1086/719645
ANTHROPOLOGICAL CURRENTS: REPORT

“Affective Publics”
Performing Trust on Danish Twitter during the COVID-19 Lockdown

Samantha Breslin, Anders Blok,1 Thyge Ryom Enggaard, Tobias Gårdhus, and Morten Axel Pedersen

In Denmark, as with elsewhere in the world, Twitter has emerged as an important arena of public discussion on issues relating to the COVID-19 pandemic, including the handling of the crisis by state authorities and health institutions. On the basis of approximately 140,000 tweets from the period between February 24 and April 28, 2020, harvested from Danish Twitter, this report explores how tweeting about mis/trust on this digital platform can be understood as a kind of biopolitical nationalism. Combining computational and qualitative methods, we identify shifting performances of mis/trust and other affects on Danish Twitter and suggest that this “affective public” plays a key role in the public response to the coronavirus crisis.

Twitter is part of a wider political economy of attention (Pedersen, Albris, and Seaver 2021; Zuboff 2019) that has reshaped public discourse and publics. As a “technocultural assemblage” (Sharma 2013), it enacts certain networks and “affective publics” (Papacharissi 2016), which allows people to express interest in or allegiance to shared issues in new ways. These communicative practices involve different emotions and attitudes, including fear, anticipation, promise, and hope, which shape how specific digitized publics coagulate, expand, and disband again around shifting bonds of citizen sentiment, even as they are (co)produced through the design of Twitter as part of a broader landscape of social media platforms.

One way in which Twitter shapes communication and differs from Facebook, for example, is through the combination of short posts (maximum of 280 characters) and continual public-by-default updates. Yet hashtags also draw people and posts together topically or indexically, producing a shared temporality and community (Bonilla and Rosa 2015). Platform-specific designs (e.g., the 280-character maximum) promote “haste and emotion” (Yardi and Boyd 2010:325) and the formation of both ephemeral and permanent groups around hashtags and hashtagging practices (e.g., Sharma 2013). At the same time, social media sites may also serve as a “metafriend” that users can engage with when bored or lonely (Miller 2013). These more fleeting and crowd-like—but simultaneously also more engaged and interactive—capacities of social media imbue it with a unique “liveness” compared with traditional news media (Marres and Weltevrede 2013). This also entails a shift from a language of the (national) public sphere to publics in the plural and with variable geographies, as has been seen within contexts of transnational social and political activism such as the Arab Spring and the #MeToo campaign (Mendes, Ringrose, and Keller 2018; Tufekci 2017)—but also as political elites mobilize the agenda-setting capacities of Twitter within the context of election campaigns (Verger 2015), national referendums (Grčar et al. 2017), and, as we shall now see, COVID-19.

Social media has emerged as a critical arena of political and social discussion during the recent pandemic; discussion has included the handling of the crisis by different state authorities as well as regional, national, and global health organizations. Denmark is a case in point. On March 13, 2020, the government announced a lockdown of most public institutions, restaurants, and retail, as well as other “social distancing” measures—one of the first countries in Europe to do so. During this time, Twitter provided a platform for discussion on a variety of issues, including health policy, economic policy, and civic morality, with calls to “stay home” (blivhjemme; Breslin et al. 2020; Enggaard et al. 2020). As suggested above, these topical discussions also entail expressions of emotion and attitudes. Our aim here is to show how tweeting about COVID-19 came to operate performatively before and after the 2020 lockdown.

1. Anders Blok contributed equally to this work with Samantha Breslin.
enacting affective registers that were inextricable from the technical and discursive affordances of the Twitter platform.

In particular, we are interested in the central role played by trust (tillid) on Danish Twitter during the pandemic. The relationship between trust and social media has been the object of much research pertaining, for example, to company branding, public policy, and the trustworthiness of Twitter users (Park et al. 2016; Pentina, Zhang, and Basmanova 2013; Zhao et al. 2016). Contrary to this line of work, however, our focus here is not on trust as a “matter of fact” whose quality and quantity can be measured and compared. Rather, we are interested in trust as a “matter of concern” (Latour 2004) within Danish public discourse. By combining computational and qualitative approaches,2 we show that tweeting about trust enacted an “affective” (Papacharissi 2016) and “biopolitical” (Rose 2001) public, which played a key role on Danish Twitter in the early phase of the pandemic. Contrary to received wisdom (e.g., Svendsen and Svendsen 2015), we do not automatically see this as an expression of the purportedly high degree of trust in Danish society. Rather, when people in Denmark tweeted about trust during the lockdown, they reproduced widely shared political and cultural idea(l)s of what it means to be Danish, or what we shall identify as a particular case of “biopolitical nationalism” (de Kloet, Lin, and Chow 2020).

Data, Methods, and Results: Dynamics of Affect on Danish Twitter during COVID-19

We draw on a data set comprising ~770,000 tweets from the period between February 24 and April 28, 2020. Each contains at least one of 147 initial search terms identified by us as pertaining to the COVID-19 pandemic.3 We filtered out all tweets not written in Danish and included only tweets containing at least one of five explicit COVID-19 search terms,4 reducing our corpus to ~140,000 original tweets.5 Having first mapped predominant topics before and after the lockdown, we explored potential patterns in the attitudes and affects expressed toward the pandemic in the content of people’s tweets (see Enggaard et al. 2020). To do this, we used the common (but controversial; cf. Puschmann and Powell 2018) technique for text mining called sentiment analysis (Ignatow and Mihalcea 2017). This technique, which has gained extensive usage in economic and psychological research, classifies each tweet according to its so-called polarity (“positive” or “negative”) and then calculates an average polarity for the entire corpus. This resulted in a plot showing that, while tweets about the coronavirus were on average “negative” before the lockdown (with an average score of approximately −0.75), they became more “positive” afterward (around −0.30). To illustrate, this means that the word “thanks” was used more and the term “destroyed” was used less in every fourth to fifth tweet in the period at hand.

Anthropologically speaking, this entails a very narrow idea of what these tweets are about. Indeed, text mining in general and sentiment analysis in particular suffer from several methodological and epistemological problems (Ceron, Curini, and Lacus 2014; Puschmann and Powell 2018). First, near-isolated words are assumed to signify their original context of use and yet have been ripped away from it. For example, to detect “sadness,” our automated model counts the number of tweets mentioning at least one word from the corresponding “sadness” dictionary, which includes related words such as “worried” and “loss.” The point is that, like most quantitative text mining techniques, this dictionary model is unable to detect negations (“not sad”), let alone more complex semantic forms and genres, such as humor and irony (see also Sykora, Elayan, and Jackson 2020). (Hence, e.g., the phrase “I have no trust in the government” would, according to the model, fall within the label “trust.”) Second, it would be naive, reductionist, and speculative to claim that what is identified by the automated sentiment model corresponds directly to the emotions or opinions of the users posting these tweets.

It is for these reasons that we pursued a different approach that we call affect and not sentiment analysis. The difference is crucial for three reasons. First, our approach differs substantially from more standard sentiment analytical methods in methodological terms in that we complement an automated quantitative mapping of tweets with a qualitative assessment of a sample of them based on contextual knowledge, as further discussed below. Second, and more theoretically, we conceive of tweets as affective performances shaped by Twitter’s platform-specific technocultural assemblage rather than naively assuming, as many sentiment analyses do, that they directly represent the mental states of the people tweeting. Finally, as we are going to see and substantiate in more detail below, by combining these methodological and theoretical considerations, it becomes possible for us to explain a conspicuous increase in tweets about trust (and a concurrent fall in posts expressing fear) during the lockdown as an instance of affective nationalism whereby Danish identity was communicated, experienced, and inscribed via the expression of the particular performative registers of trust and “trustiness.”

With these clarifications in mind, we may now outline how we carried out our text mining study. To generate our data set, we used the Danish version of the National Research Council Emotion Lexicon,7 which maps ~9,500 Danish words to eight

---

2. While many anthropologists have extended ethnographic methods to digital contexts (e.g., Bonilla and Rosa 2015; Müller 2013; Pink et al. 2016), few have explored the potential for a distinctly computational anthropology (Pedersen, forthcoming).


4. Since we used the automated Python package langdetect, our corpus probably includes some non-Danish tweets and leaves out some Danish tweets.

5. These search terms were “corona,” “covid,” “epidemi,” “pandemi,” and “virus.”

6. By “original,” we mean tweets that are not retweets.

“basic emotions” (fear, anger, surprise, sadness, joy, disgust, anticipation, and trust; Ekman 1992; Plutchik 1994). Since this Danish version is a machine (Google) translation of an original English lexicon (Mohammad and Turney 2013), four people manually checked whether the 100 most frequent words for each affect were meaningful in a Danish context using standard procedures for intercoder reliability (Weber 1990). It turned out that fewer than 25% turned out to match this criterion for each dictionary—a testimony to the importance of including human annotators with contextual knowledge in text mining research (Grimmer, Roberts, and Stewart 2020). Using this revised dictionary, we could then count and plot the prevalence of each affect.

Figure 1 shows a smoothed plot of the proportion of tweets containing words associated with each of the eight affects across the study period relative to the first week.8 In particular, we see that tweets representing the words associated with trust (tillid) in the manually cleaned dictionary were used twice as often on April 2 compared with the period between February 24 and March 1. Uses of words associated with fear (frygt) also fell to less than half the initial number during the same period, while the six other affects did not present such dramatic shifts. This is a noteworthy finding suggesting that, relative to the other affective registers (especially fear), trust became a major concern on Danish Twitter during the lockdown.

Prompted by what looked like a clear pattern, we took a closer look at these tweets. Given that we would not have time to read through all tweets associated with trust, we decided to randomly pick 10 tweets per day from the tweets that were labeled as “trust” by the uncleaned dictionary.9 This amounted to a sample of ~500 tweets that we first manually coded (once again deploying standard content analysis procedures) to assess whether each post expressed mis/trust. Of the ~500 tweets identified by the uncleaned dictionary, only ~35% turned out to actually express trust, confirming the importance of manually validating the results generated by automated dictionaries.10 Drawing on anthropological and sociological theories of trust (Carey 2017; Lewis and Weigert 1985; Maguire and Albris, forthcoming), we then classified all posts expressing mis/trust in terms of their object of mis/trust (see fig. 2).11 To better understand their context, we assessed all tweets twice by both reading the tweet and potentially looking at any URLs and related comments. More than one category could be assigned if relevant. Finally, we took the average across the two assessments so that a tweet would contribute 0.5 percentage points toward an object if only one of the two reviewers categorized it with that object.

Surprisingly for a country whose citizens are often hailed as the most trusting in the world (e.g., Svendsen and Svendsen 2015), and contrary to surveys of the Danish population that showed relatively high degrees of trust during the pandemic (Andersen, Andersen, and Hede 2021; Petersen and Roepstorff 2021), more than half of the tweets analyzed by us turned out to express mistrust rather than trust. What are we to make of this in anthropological terms? We suggest that, rather than being polar opposites, the two are intimately related, in that they attest to trust (tillid) as generally a matter of concern in Denmark during COVID-19. As we see in figure 2, tweets expressing mis/trust were thus to a large degree directed at public objects, including the government and different state (including public health) institutions, such as in the following (shortened and translated) tweet: “The problem is that doctors don’t take it seriously... Even if you call to tell them that you might have coronavirus, you are told that you are overreacting.” This suggests that we are faced with a citizen-like and not, say, a consumer-like affect, which would presumably have been directed at private companies (which also figure in fig. 2 but less prominently than, e.g., “the government,” “fellow citizens in Denmark,” and, indeed, “Mette Frederiksen,” the Danish prime minister). In other words, the 2020 lockdown exerted a clear, if also ambiguous, increase in performances of citizen-like affects of mis/trust on Danish Twitter, for which we must now try to account.

Before proceeding any further, we need to consider three potential limitations to our methodology and study design, namely, (i) its reliance on Twitter, (ii) that our data cover a limited period of time and a limited region, and (iii) our almost total dependency on computational methods. In terms of the latter, some fairly consistent ways ethnographies are carried out—participant observation, interviews, and so on—should always be tied to the context at hand, including virtual or digital contexts (Boellstorff 2008). Twitter affords a new context that allows for new methods, which should not be taken at face value, but at the same time, if ethnography is, broadly and loosely speaking, to take and give an account of cultural practices, then certainly these computational methods can give ethnographic insights. Of course, what, specifically, that insight is merits close and careful scrutiny (see also Breslin 2019; Isfelt et al. 2022; Pedersen, forthcoming). As for the first issue, there is no way of denying that Danish Twitter tends to be a high-status community with an overrepresentation of middle-class users who consist largely of politicians, interest groups, journalists, and politically minded citizens (Blach-Ørsten, Eberholst, and Burkal 2017). This contrasts with Facebook, where most Danes, especially those aged between 20 and 60, are active on a daily basis (DR Audience Research Department 2020). Yet this is not a big problem given that our focus is precisely on dominant political imaginaries and public discourses. Finally, ours is very much a national case study, even if other nationally demarcated social

8. These trajectories are smoothed to focus on the overall trends.
9. We randomly sampled a certain number of tweets per day from the original uncleaned dictionary for manual coding. We did this to ensure that the same conclusions would have been reached had the human coders read all the tweets in the corpus and to best capture potential changes over time while also gauging the error from using the fully automated approach.
10. The disagreement of the coders was between 20% and 40%, which is quite significant.
11. The typology was slightly adjusted after the first batch of the sample had been classified.
media publics were identified in other contexts both before (e.g., Albris 2017; Murthy and Longwell 2013) and during COVID-19 (e.g., Chen, Lerman, and Ferrara 2020). Yet, even if some of our findings may well be an effect of restricting our study to tweets in one language over a limited time span in a specific national context, we insist that general and valid insights in terms of how national identity was performed before, during, and after the lockdown can be extrapolated.

Discussion: Trust Discourses during Times of Crisis

As recent anthropological work has shown (e.g., Carey 2017; Coates 2018), trust is a deeply affective category that undergirds various political and cultural imaginaries, including nationalist ones. Scandinavia is a case in point. Much like similar political movements elsewhere, “Nationalist populist parties in Sweden, Denmark, and Norway use myths of national exclusiveness and myths about the common man to radicalize popularly held sentiments to attract votes” (Hellström 2016:25). However, what sets Scandinavia apart is that one such prominent “popularly held sentiment” is, precisely, trust. As Hellström points out in reference to the Danish People’s Party (DF), “The DF combines an organic conceptualization of the nation with a pro-welfare stance—i.e. the welfare depends on solidarity between the citizens and is shaped by a common trust in the country’s values and traditions” (106). Crucially, for our purposes, this is not simply a discourse of trust in fellow members of the nation (presumably a feature of nationalism everywhere) but one of
trust in the state and its different manifestations in institutions, infrastructures, and individuals. Indeed, it is not uncommon for Danish politicians and ordinary people to express pride or even to brag about “our” allegedly exceptional degree of trust compared with other countries.

Affective publics, according to Papacharissi (2016), are networked and often digitized publics that are “mobilized and connected, identified, and potentially disconnected through expressions of sentiment” (311). Might this term help explain the spike in both trust and mistrust language in Danish COVID-19-related tweets during the 2020 lockdown? Certainly, many of the features of an affective public can be found in our case study. This is hardly surprising given that Twitter can be seen as representing a particularly “good source of affective expressions due to the quick, spontaneous and affective in tweets and other social media postings correspond in a direct way to tweeters’ inner emotional states, we are working under the premise that the affective registers at hand are irreducible from the digital platforms and genres through which they are enacted and performed. Instead of conveying people’s innermost fears, hopes, and trust in relation to the pandemic in a simple sense, then, we see people’s Twitter posts as an implicit and semiconscious effort to perform and negotiate norms, values, and ideas pertaining to the coronavirus crisis within the distinct genre and platform of tweeting.

For the same reason, our data do not allow us to conclude that people in Denmark or elsewhere in the world have become more trusting during the pandemic (although data from the World Health Organization do support this; see Böhm et al. 2020). What we can infer is a subtly different but no less crucial point, namely, that no matter what people “really felt” when they were posting on Danish Twitter during the 2020 lockdown, something compelled them to tweet about mis/trust more than they had before. More than trust itself, it is this propensity to talk and tweet about it—the obligation to perform trustiness—that we find intriguing. In keeping with recent anthropological literature on mis/trust (e.g., Carey 2017), we propose that trust is best theorized as an ideology that is associated with distinct discursive genres, performative registers, and linguistic conventions, including in the Danish case the expectation and the responsibility that subjects must talk about mis/trust as a public matter of concern. Consider, in this context, the expression “being together apart” (sammen hver for sig), which was first used by the Danish prime minister on TV on March 11, 2020, and which, along with her resuscitation of the half-forgotten term “societal spirit” (samfundssind), gained significant traction on various forms of media over the ensuing weeks and months. The rise in the popularity of these and cognate terms substantiates, we believe, our argument that the performance of trustiness tapped into existing political imaginaries of Denmark and the Danes as an already immanent community of trust that during the pandemic was elicited and forged together in new ways via tweets and hashtags (see also Enggaard et al. 2020).

We are here reminded of Gullestad’s (2002) observation that, in Norway and other Scandinavian countries, equality is equated with sameness. Producing this sameness requires work, as Sacks (1985) suggests of “doing ‘being ordinary’.” An already latent sense of individual responsibility for demonstrating collective sameness was elicited by means of the platform-specific technocultural assemblage of Twitter, which fostered and summoned specific affective responses, including what we have here coined as trustiness. Gullestad (2002), however, also points out that “equality conceived as sameness (‘imagined sameness’) underpins a growing ethnification of national identity” (45). Additionally, as Rytter (2010) has argued, the use of seemingly innocent wordplay in public discourse (e.g., “the family of Denmark”) reproduces hegemonic images of an imagined (ethno)national community encompassing all (or, well, most) Danes. To be sure, the neologism “being together apart” does not seem to have any such significant exclusionary effects, intended or otherwise. Nevertheless, like all moral economies (Fassin 2009) and imagined communities, the discourse at hand turns on a distinction between a morally superior inside (“us”) and a morally inferior outside (“them”). While different groups of people will be placed on different sides of this moral boundary between us and them, during last year’s lockdown, a fault line emerged between all Danish citizens on the one hand and people from other countries, including, notoriously, “the Swedes,” on the other. Yet this fault line gradually began to shift in the course of the ensuing months. While our data do not allow us to explore this, the attacks on “Somalis,” “Pakistanis,” and other minority groups by the Danish prime minister (Maach 2020) and right-wing politicians (Tvede 2020) for their alleged lack of community spirit (samfundssind) suggest that trustiness as a vehicle of the Danish nationalist imagination began to have more domestic exclusionary ethnicized and racialized effects as the crisis became endemic.

Conclusion: Biopolitical Nationalism in Denmark

In closing, let us situate our case in the literature on emotional contagion, made (in)famous in the Facebook experiment (Kramer, Guillory, and Hancock 2014) but part of a broader discussion of “virality” online, including in relation to COVID-19 (e.g., Gruzd and Mai 2020). Contra Dawkins’s (1989) dubious term “memetics,” which reduces social practices to genetic code (Sharma 2013), anthropological theories of magic as mimesis (Taussig 1992) may shed light on the spread of digital affective performances. William Mazzarella (2017) explores how encounters filled with energy, effervescence, and emotion, often marked by anthropological attention to “mana” and recognized primarily in relation to “otherness: magic, the primitive, art,” can also be found in current “mass society” (136). Indeed, considering the magic involved in popular music marketing, Les
Roberts (2014) concludes that “viral marketing [via social media]. . . marks the coming of age of contagion as an economic tool of magic and mimesis” (27). Similarly, we suggest, Twitter produces connections that are conducive of powerful mimetic effects—magical contagions—due to this platform’s hypernetworked nature, where subjects are called on to respond with hashtags and retweets (Collins 2017; Foucault 1997; Sharma 2013).

Is this perhaps what makes the rise in performances of trust on Danish Twitter so prominent—very potent affective resonances and encounters that are shaped and enhanced by sediments of material and media technologies (what Mazzarella [2017] calls a “mimetic archive”) in ways that almost magically fit and thus tap into and affirm latent nationalist imaginaries? Mazzarella (2017) additionally highlights, drawing on Durkheim, that in mass-mediated societies, “the field of mana—established by the polarity of sacred and profane is . . . replicated at finer and finer levels of resolution all the way down into the most capillary dimensions of everyday life” (161). These magical contagions of affective resonances can further be seen as producing a kind of collective effervescence—the generation of shared national affective performance through everyday online encounters. This, then, is the crux of our argument: people on Danish Twitter felt compelled to tweet about mis/trust during the lockdown as part of a broader discourse about and performance of an imagined national community of individual Danes who were uniquely willing and able to mobilize and pool their unsurpassed social and cultural resources to collectively shoulder the economic burdens and physical dangers imposed by a global pandemic.

To further substantiate this point, let us now consider de Kloet, Lin, and Chow’s (2020) concept of “biopolitical nationalism . . . as the dynamics between body, geopolitics and affect” (636). De Kloet, Lin, and Chow argue that, to understand how citizens in three East Asian countries related to the state during the pandemic, “It is not enough to simply reassert the classic Foucauldian biopolitical critique. . . . Yes, indeed, the people [in East Asia] are being controlled, more intensely and extensively in the times of COVID-19” (636). Yet “they seem to be fine with it, perhaps even more than fine—they seem to be stating: the more we are being controlled, the more we are in control” (636). We propose that, sufficiently modified, this line of analysis can usefully be extended to Denmark. On the one hand, the Danish case resembles East Asia in that policies of pandemic control have been widely supported by both people and politicians. On the other hand, the ways these “biopolitical efforts” have been “compared, applauded and supported” (636) in and on the media in Denmark differ from the East Asian case described by de Kloet, Lin, and Chow. Compared, for example, with that in China (de Kloet, Lin, and Chow 2020:637–638), Danish nationalist discourse has not turned on an alleged enthusiasm among citizens to abide by extensive forms of state control. Instead, as we saw, the way nationalist ideas and images have been performed on social (and other) media in Denmark during the coronavirus crisis has involved more implicit and, if you like, softer forms of (self-)discipline familiar from what Nikolas Rose (2004) and others have characterized as “late” and “advanced liberal” contexts.

The performance of mis/trust on Danish Twitter during the 2020 lockdown is a case in point. As we have demonstrated, what we have called trustiness operates as a potent means of participating in and thus also reproducing a certain idea(l) of the Danish nation and the Danish people, reenacted and enhanced through governmental COVID-19 responses. This, then, is how our study relates and contributes to the wider Foucault-inspired literature on biopolitics. Prompted by a global public health crisis, the ability to trust not only fellow citizens but also the institutions and infrastructures of the Danish state during the 2020 lockdown became figured as a matter of life and death not just for individual citizens but also for the body politic as a whole. As such, what some scholars studying the Danish welfare state have identified as a distinctly Nordic version of late liberal governmentality in Rose’s (2004) sense became intertwined with or even fused with powerful national(ist) imaginaries.

Which brings us to another way in which our argument differs from that presented by de Kloet, Lin, and Chow in their work on East Asia. As we have demonstrated, trust on Danish Twitter was performed by posting about both trust and mistrust. This implies that, in the enactment of Danish biopolitical nationalism and the wider affective public(s) in which the performance of trustiness circulates, mistrust not only can but perhaps even should be figured as a specifically Danish matter of concern. That is, being a “good” Danish citizen on social media would seem to entail expressing trust and mistrust, at least within the bounds of an imagined community of an imagined Danish nation. Our data say less about the external case (of “them,” however construed). But as hinted at above and suggested by recent government and media reactions blaming “immigrants” (some of whom are minorities with Danish citizenship) for outbreaks in COVID-19 cases, the discourse of trustiness also implicitly demarcates who is included in that imagined community—that is, those for whom trustiness (including both trust and mistrust) is a demonstration of good citizenship versus those who are excluded from recognition in such performances and thus “us” as trusting and our government and authorities as trustworthy versus “Other” groups, citizens, and nations.

Acknowledgments

We thank the three anonymous reviewers for their comments, as well as Britt Ross Winthereik and others from the DISTRACT seminar who provided comments on this paper. This article draws on coding and work on affect analysis by members of the Center for Social Data Science, especially Hjalmar Bang Carlsen, Emilie Munch Gregersen, Sofie Læbo Astrupgaard, and Friedolin Merhout, as well as Kristoffer Pade Glavind, who initially developed for these data the sentiment analysis that
provided the original impetus for developing the affect analysis (see also 3n). This work was made possible by an immediate grant from the Faculty of Social Sciences of the University of Copenhagen and by funding and support from the Center for Social Data Science and the DISTRACT research project (Advanced Grant project 834540 from the European Research Council).

References Cited


Breslin et al. “Affective Publics” 217


Puschmann, Cornelius, and Alison Powell. 2018. Turning words into consumer preferences: how sentiment analysis is framed in research and the