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From connection to contagion

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This essay proposes that we 'think data' with a complex legacy of work, once disavowed and now resurgent in social theory, on crowd formations. I propose this move because social media platforms' mobilization of data – the extractions, ever-shifting reaggregations, and micro-targeting, on the one hand, and our engagements, re-tweets, acts of sharing, and production of virality, on the other – has fuelled such anxious concern about the very things that animated much crowd theory in the first place. Key among these concerns are the force of emotional contagion and the threat of social dissolution; the composition of 'the social' by elements that well exceed the human; and pressing questions about the media through which energetic forces travel, often with lightning speed. What questions might be enabled by attending to the resonance between crowd theory's 'anti-liberal' preoccupations and contemporary concerns over how social media platforms crowd us?

Thinking data: crowds and clouds

With what tools might we 'think data'? In this essay, I suggest that we do so with the crowd, or, rather, with a complex legacy of work, once disavowed and now resurgent in social theory, on crowd formations. I have been thinking these two things (data, crowd) together for a while now under the rubric of 'crowds and clouds' (see also Hayden in press). I am certainly not alone in doing so. Among my fellow travellers, Lilly Irani, Chris Kelty, Nick Seaver, and a suite of collaborators laid the foundations for what compels me here in their 2012 issue of *Limn*, precisely under the title 'Crowds and clouds' (Irani, Kelty & Seaver 2012). The volume broached a crucial question: how was the cloud (as data aggregation, social media platforms, and algorithmic filtering, among other things) generating new kinds of collectives or aggregate formations? That question is no less crucial today, though its urgency has since taken another turn. In this essay, I want to pose again the question of how clouds crowd.

Let me clarify what I mean by each part of that question. First, the cloud: in much recent work, the cloud is many things. It is not just a usefully imprecise synonym for 'the internet', but a materialized imaginary, and a nexus of power and sovereignty (Hu 2015; Noble 2018); an infrastructure (see Starosielski 2015); and a medium or environment (Parks & Starosielski 2015; Peters 2015). Here, I am using cloud in

a narrow sense to refer to social media platforms as engines for data production, data gathering (including by tracking our clicks, scrolls, likes, and shares), and data aggregation. These practices continually de- and re-compose their units (individuals, preferences-purchases, demographics, 'interests') into provisional, ephemeral, infinitely expandable, and highly partible collectives (see Besteman & Gusterson 2019; Boellstorff & Maurer 2015; Latour 2010; Seaver 2012). But what exactly, we might ask, is 'crowded' or crowding about these aggregating effects?

With this invocation of the crowd, in turn, I am pointing not to just any aggregation, but specifically to the crowds of crowd theory, an ambivalent conceptual and methodological archive including late nineteenth-century French work in psychology and the emergent sciences of the social (Gustave Le Bon, Gabriel Tarde, and Émile Durkheim), Freud's engagements therewith, Canetti's mid-twentieth-century meditations in *Crowds and power*, and quite a bit more. Much early crowd theory either articulated or generated an anxious concern with the ways that crowds, sutured together not by 'rational thought' but by the powers of imitation and suggestion, dissolved the boundaries of the autonomous individual. In this way, for Le Bon at least, crowds threatened to dissolve society itself. As Christian Borch has argued in a supremely careful account of this body of work, early crowd theory was banished from 'respectable' social science for much of the twentieth century (Borch 2012: 2). But the very reasons it was pushed to the margins – including what he calls its 'anti-liberal' epistemological commitment to notions of imitation, suggestion, and 'emotional contagion,' as well as its uncomfortable proximity or utility to authoritarianism – are, I will suggest, among the reasons why it (the crowd of crowd theory) beckons again. For multiple reasons, 'anti-liberal' crowd theory is no longer banished.

On the one hand, there has been a recent explosion of interest in crowd theory in anthropology, sociology, science and technology studies, political theory, and cultural studies, among other fields. Much of this work has been drawn to crowd theory's unorthodox vocabularies and its otherness vis-à-vis the tenets of liberal social and political thought, not least its decentring of the individual as the basic unit of analysis (see, among many, Borch 2006; Candea 2015; Chowdhury 2019; Dean 2016; Mazzarella 2010; Schnapp & Tiews 2006). In crowd theory, anthropologists and others have found what William Mazzarella (2017) calls a mimetic archive: a source of disavowed questions and sensibilities that in fact continue to seep back into frame and that may well help us animate other-than-liberal conceptualizations of the social and the political (Chowdhury 2019; Dean 2016). (We could think of affect theory as a closely related conversation here.)

But of course, there is another anti-liberalism or perhaps illiberalism that draws attention 'back' to crowd theory today. The rise of authoritarian, anti-democratic regimes in the United States and Europe, to take a very narrow view of the matter, has returned us to the close relationship between Le Bon's understandings of the crowd, in particular, and authoritarian rule or aspirations (Mussolini found him quite useful). Not for nothing did the UK newspaper *The Telegraph* pronounce that 'a 19th century Frenchman' had predicted the rise of Donald Trump, overlaying his profile picture with a choice quotation from Le Bon: 'A crowd is only impressed by excessive sentiments. Exaggerate, affirm, resort to repetition, and never attempt to prove anything by reasoning' (Ryan 2016).

There are certainly many reasons to re-attune to invocations of 'the crowd' and its 'surging energies, light and dark', as Mazzarella has memorably put it (2017: 2). One of

them, I suggest here, is how they might help us pose questions about 'data', in the form of social media. What follows is not a review of crowd theory, but a brief meditation on why some of the questions that have animated and haunted that work might be good for 'thinking data' today. To think data and crowd together is not to invoke a thinly conceived return of the repressed (the crowd went away and now it's back!), or a project of applying old theory to new data (which in this case is 'data'). My speculative proposal hews more to the sense that there is quite a lot of seepage and contagion, a mutual saturation, or a kind of persistence, in the questions that preoccupy (some of us) about data and the questions that have long preoccupied (some of us) about crowds. In its mobilization through and as social media, data carries crowds/crowd theory within.

There is something admittedly and explicitly dystopic about my interest here. I am asking how the cloud crowds us (again) at a moment in which that question has taken an explicitly anxious, arguably 'anti-liberal' turn. For it seems increasingly difficult to disentangle various insurgent illiberalisms, from conspiracy theories to racist violence, from the data that transits through and constitutes social media. How far we are from those the heady days around 2012 and 2013, when the Occupy movement and the Arab Spring, heralded (by some) as Facebook and Twitter Revolutions, allowed some to hope that social media platforms might indeed be uniquely positioned to unleash crowd potency in the service of radical, (small-d) democratic visons (see Dean 2016; Milan 2015; Tufecki 2015). That story has of course changed dramatically. As Facebook's algorithmic filters and revenue models (for example) have enabled extreme forms of political polarization and disinformation (Vaidhyanathan 2018), it is hard these days to countenance any necessary relation among crowds, the internet, democratic emergence, or the 'wisdom of the crowd', as proponents of crowdsourcing would have it, even as instances of all of the above persist. The role of Facebook, WhatsApp, YouTube, Twitter, 4Chan, and other platforms in a growing catalogue of 'dark' surging energies (state genocidal campaigns 'waged on Facebook' [Mozur 2018], the role of Cambridge Analytica's deceptions in both the Brexit and Trump campaigns [Cadwalladr & Graham-Harrison 2018], the rise of the alt-right, and so much more) have all made it difficult to hold onto any fantasy – which was of course always already under critique (see Han 2017 and Hu 2015) – that social media companies, built up as massive, private data-generating and data-gathering engines, would obviously serve as the lubricants of liberal, much less radical, democratic crowd emergence.

I can think of no better shorthand for this arc than Facebook's own transformation from self-branded engine of 'connection' to accused vector of 'contagion'. The latter, highly charged term, which is so important to crowd theory, has become even more charged in the context of the 2020 coronavirus pandemic. The World Health Organization, the United States Centers for Disease Control and Prevention, and other public health bodies have indeed issued warnings about an 'infodemic' fuelled by the major social media platforms – an overabundance of information, much of it false, racist, and dangerous, which, along with the other virus, must be contained.[1] Infodemic and Cambridge Analytica, QAnon and 'memetic warfare' (Philips 2018), and white nationalist marches have arguably supplanted Facebook and Twitter 'Revolutions' as iconic instances of the cloud and its crowds. I might go so far as to venture that the presence of the crowd in those early, celebratory imaginations of Twitter Revolutions even anticipated the turn from hype to dystopia that Douglas-Jones, Seaver, and Walford name in relation to 'data' more broadly, in the introduction to this issue.

But what kind of relation am I suggesting here? If crowd theory can be a conceptual resource for thinking data, it is not only because these platforms help generate crowds as aggregates in their various forms. Rather, this move is important because social media platforms' mobilization of data – the extractions, ever-shifting reaggregations, and micro-targeting, on the one hand, and our engagements, re-tweets, acts of sharing, and production of virality, on the other – has fuelled such anxious concern about the very things that animated much crowd theory in the first place. Not least of these concerns are the force of emotional contagion and the allied threat of social dissolution; the composition of 'the social' by elements that well exceed the human; and pressing questions about the media through which energetic forces travel, often with lightning speed.

Contagion, heterogeneity, medium

What is transiting through our preoccupations with social media as data extraction and aggregation right now? Another way to ask that question is: what transits through crowd theory's crowds? There are three points of contact on which I want to focus, drawing them out very briefly from crowd theory, and then, in the next section, turning to how these preoccupations might help us think data in social media. The first of these points of contact is *emotional contagion*. The term played a significant role in Gustave Le Bon's late nineteenth-century work *The crowd: a study of the popular mind*, which sounded his alarm about the ill-understood, 'barbaric' power of the crowds rising up against an elite order he was committed to preserving (Le Bon 2009 [1895]). This work is an easy target for understanding why crowd theory might have been shoved to the margins of respectable social science in the twentieth century. Le Bon's writings were a reaction to the century-long aftermath of the French Revolution, and in particular to the rise of socialism and workers' demands in late nineteenth-century Paris. These movements and these masses represented nothing less, in his view, than 'a determination to utterly destroy society as it now exists' (Le Bon 2009 [1895]: 7). His anxiety about the mysterious power of these crowds was infamously suffused with the stink of evolutionary racism: '[B]y the mere fact that he forms part of an organized crowd, a man descends several rungs on the ladder of civilization. Isolated, he may be a cultivated individual; in a crowd, he is a barbarian – that is, a creature acting by instinct' (Le Bon 2009 [1895]: 19).

But it was not the specific demands of these crowds, nor even their size, that ultimately defined their power and thus required study. What most drew Le Bon's attention was the force that held a crowd together, and here he and his fellow travellers become much more interesting. Not just any mass of people constituted a crowd: a group became a crowd only when 'emotional contagion' took hold of its members – a mutual susceptibility to ideas, images, emotions, or actions that, in a crowd, spread like fire from one person to the next, outpacing and indeed swamping reasoned thought or deliberation. In a crowd, Le Bon fretted and Elias Canetti later marvelled, we lose ourselves. Le Bon's version of this argument was drawn from late nineteenth-century experimental research on hypnotism and somnambulism, which suggested that vulnerability to influence and suggestion might be a generalized tendency, and not a weakness specific to pathologized subjects. He was not alone in finding this work interesting: if this argument lands us firmly in the zone of anthropology's 'primitive participation', late nineteenth-century psychology, sociology, and criminology, including the work of Gabriel Tarde, also drew heavily on these

insights, committing to suggestion and imitation as prime movers for everything from market speculation to the constitution of society ('sociality') itself, as Tarde argued (Tarde 1903 [1890]; see also Candea 2015; Schnapp & Tiews 2006).

This commitment to imitation-suggestion, whether in Le Bon's overwrought sense of emotional contagion, or in Tarde's much more complex arguments about the entanglement of imitation and the social, is why Christian Borch has called crowd theory an anti-liberal formation. Late nineteenth-century French crowd theorists working in this idiom noted that suggestion, imitation, and contagion meant not only a 'loss' of rationality and capacity for discernment (Le Bon), but also, closely related, a dissolution of the individual as an autonomous, bounded, stable, and sovereign subject. It is this fundamentally de-individuating move that puts crowd theory at odds with the tenets of 'liberal' social theory (see Borch 2012: 17; Brighenti 2014; Candea 2015).

If emotional contagion, imitation, and suggestion are one key point of contact, a second, closely related idiom is crowd theory's insistence on the *heterogeneity* of the crowd. Le Bon noted repeatedly that a crowd is something distinctive and even new; the force of emotional contagion results in a recombination and hence an essential transformation of its constitutive elements. A crowd is, in this idiom, something different to, and far more than, a 'summing up-of or an average struck between its elements' (Le Bon 2009 [1895]: 16). More broadly, indeed, crowd theory produces a notion of crowds that are constitutively not-simply-human; there is, in much of this work, something peculiar, arguably 'more-than', about their nature. For Tarde, humans are not the only monads in the world, or even in the universe, through which the forces of imitation, vibration, and irritation bring about resemblances, nor is imitation a 'psychological' principle transiting between individual people and their individual minds (Tarde 2012 [1893]). Actions imitate actions, gestures imitate gestures, and ideas imitate ideas (Latour 2005; Tarde 2012 [1893]). Elias Canetti, writing in a very different idiom a half century later, evoked crowds at times as something almost alien, and hungry. 'Open crowds', he wrote, want to 'feed on anything shaped like a human being' (Canetti 1962: 16).

Third, among resonances for how we might think data and crowd together, I would suggest that many crowd theorists indeed already understood crowds as *media* through which transit palpability and urgency, in Le Bon's idiom, as well as the infinitesimal acts of imitation that generate both crowds and sociality more broadly, in Tarde's work. The mystery, for which imitation-suggestion served as both answer and further question, was: how? How to account for the ways that affect, impulses to action, ideas, even consumer preferences for commodities (such as coffee, over which Tarde marvelled) travel, at what seemed to be such uncontrollable speed? In much crowd theory literature, the media of suggestion did not exist in any one plane or register. Tarde wrote of the 'imitation rays' that transited through and within people, and molecules, and 'the ether' (1903 [1890]: 69-70). Le Bon saw the human mind as the medium of contagion. Canetti, writing in the mid-twentieth century in a way that only glanced off of the idiom of imitation-contagion, wrote of the transformative effect of physical touch, and the density of bodies, pressed against each other. But he also wrote of other elements and forces through which crowd dynamics manifest: fire, forests, and the sea, among them.

The rise of mass communication in the late nineteenth and early twentieth century was of course part of the ether within which such musings emerged, and which carry crowding firmly into questions of data as 'social' (i.e. as social media). Jackie Orr shows as much in *Panic diaries* (2006). Revisiting the many (after-)lives of Orson Welles's

famous 1938 radio drama *War of the Worlds*, Orr traces a route forward from the induction of 'the Martian panic' to a war-time-driven, rationalizing US social science research programme seeking to experimentalize (and hence to harness, or at least mitigate) the forces of mass-mediated suggestibility and emotional contagion. In so doing, she also traces a thread directly from Le Bon and Tarde to a range of US social scientists whose concerns anticipate many of the conversations that have haunted fears about mass media, and that have attached to social media today. Robert Park, writing in 1904, hoped that the circulation of a new thing called 'facts' might rescue the public from its own mass-mediated vulnerability to suggestion, contagion, and panic (Orr 2006: 44). Edward Ross, writing in 1908, drew directly on Tarde to argue that mass media (the telegraph) produced unprecedented conditions for 'contagion without contact': that is, the ability for suggestion to travel even or especially through a crowd-at-a-distance (Orr 2006: 48-9). Crowds are media, Orr reminds us, not just for contagion at a distance, but for the conduct of experimental social science as well. We will return to this point below.

Meanwhile, I think it is important to note that in the first half of the twentieth century, 'cloud' was also not far from crowd-as-medium. In the concluding chapter to *Terror from the air*, Peter Sloterdijk introduces us to a conversation of sorts between the young Elias Canetti, who later went on to write the beautiful and unnerving book *Crowds and power*, and the German poet Hermann Broch. Writing during the toxic interwar years in Germany, Broch decried the ways in which Hitler's nationalist communications operations worked on the 'somnabulent' masses, as if these operations were an extension of the chemical warfare that had been deployed with such terrible effect in the First World War. Sloterdijk reads Broch to say that mass-mediated authoritarian nationalism created its own noxious bubble, enveloping its publics in a 'suffocating' fog in which, Broch implied, one could only breathe in the excrescence that one has just exhaled (Sloterdijk 2009: 96-105).

When I read this section of Sloterdijk with my students, they (we) are brought up short. Has he delivered us directly to the thick of toxic Twitter (French 2019), the danger of filter bubbles, a growing, palpable certainty that social media – especially, here, in the overt circulation of data in the form of tweets and posts – is the data-fuelled recirculation of 'our own' excrescence? In any event, media, cloud, and crowd have arguably been impossible to disentangle for over a century. And so it is time to ask again: how does data crowd?

Social media as crowd media

There is something striking about the way that crowd theory's distinctive preoccupations, from the potentially destructive but also generative force of emotional contagion and suggestibility, to the peculiarly more-than-human heterogeneity of crowds, to a concern with how ineffable energetic forces travel, have come so alive in recent discussions of what Facebook or YouTube (for example) have wrought. As matters of concern, crowd and social media seem in some respects to be one and the same. Through algorithmically filtered feeds of similarity, likes, and likeness, Facebook, Twitter, YouTube, and other platforms seem to have become highly effective suggestionizing (Le Bon's term) machines. These machines, moreover, are constitutively heterogeneous, feeding quite explicitly on that which 'looks like a human': bots, markets in Twitter followers, click farms, 'fake' accounts that might be automated or might be human-made. The notably efficient transit of affect and 'irrationality'

('fake news,' extreme sentiment) through these networks *is* the problem named by Le Bon's concerns with emotional contagion. And 'emotional contagion', in turn, is a key principle on which social media platforms' revenue models are based (Kramer, Guillory & Hancock 2014). How do we think these relations or correlations without reproducing or intensifying a panicky breathlessness? Below, I offer a few reflections on what we might do with and within these suggestive proximities.

Crowds are made by suggestion, not scale

Perhaps social media's data *crowds* not simply because of how large or powerful the aggregations are, but because of the forces and dynamics that transit through them, and the effects thereof. The crowds of crowd theory are defined less by their numbers than by that which connects them: that is, by their modality. As with micro-targeting in advertising, electoral campaigning, or hate-spewing, crowding can evoke a process of suggestionizing, magnetizing, or gathering heterogeneous elements into Tardean 'similarity spaces', to invoke Nick Seaver's essay in this volume. This point matters to what it might mean to say that social media crowds us.

Certainly, one of the ongoing criticisms of social media as a form of datafication has been that it makes worlds so small – inducing, we fear or accuse, a kind of narcissism (from selfies to self-tracking [Wolf 2009]), shrinking people's and algorithms' news and information horizons into self-reinforcing bubbles, and otherwise radically disconnecting 'us' (Vaidhyanathan 2018). But crowd theory draws our attention to the heterogeneous scales of crowding that are at work in precisely those forms of 'atomization'. Indeed, if we take Tarde seriously, atoms, individuals, cells, and selves are already crowds – monads, in fact, that only become more complex the 'smaller' you go (Latour 2010). Thus, what crowds us even in such moments of presumed atomization is our embeddedness in algorithmic universes of suggestion and likeness. We might think of the role of Cambridge Analytica in the pro-Brexit and Trump campaigns: travelling through Facebook's homophilous 'friendship' networks (Kurgan, Brawley, House, Zhang & Chun 2019), the company used quizzes and surveys to gain access to the profiles of Facebook users and those whom they had friended. This extracted data was then mobilized in the form of 'psychographic' profiles of voters that were used, in turn, to micro-target electoral information at particular voters. Here we see the entanglement of social media's data practices: covert data extraction that is, in turn, enabled by the networks and relations of affinity produced through users' own engagements – sharing, Friendships, likeness – with the platform (see Cadwalladr & Graham-Harrison 2018). The scale of this operation was big (over 30 million profiles in the United States), but the point I am making is never only a question of scale. Perhaps we can say that a micro-targeting electoral campaign, even when it only 'targets' a small number of people, *crowds* because of the forms of similarity and even 'susceptibility' through which data points, people, ideas, suggestions, are both generated and brought into contact with each other.

Does social media crowd insofar as it incites violence, extremism, and lies?

The increasingly strong association between violence, misinformation, and social media is deeply relevant to the question of how data crowds us (Frenkel, Casey & Mozur 2018); it is certainly relevant to the arcs, or perhaps oscillations, I am sketching here from hype to dystopia, from connection to contagion. But how, again, might we think about this relation? With what confidence can we say that particular data

practices – licit and illicit forms of data collection, aggregation, message sharing, liking, boosting, re-tweeting – *produce* particular political atmospheres, waves of violence, or other concretely atmospheric or affective modulations? In a 2018 article given the arresting headline 'A genocide incited on Facebook', the *New York Times* reported that members of Myanmar's military had created fake Facebook profiles and poured a great many resources into deliberately (and effectively) using the platform to set the conditions for its ethnic cleansing campaign against the Rohingya Muslim minority (Mozur 2018). A 2018 study in Germany conducted by two researchers at the University of Warwick and published by the Social Science Research Network concluded that 'social media can act as a propagation mechanism between online hate speech and real-life violent crime' (Müller & Schwarz 2018). In their report on the study, *New York Times* journalists Amanda Taub and Max Fisher describe its results – its own exercise in data mining – as follows:

> Towns where Facebook use was higher than average, like Altena [Germany], reliably experienced more attacks on refugees. That held true in virtually any sort of community – big city or small town; affluent or struggling; liberal haven or far-right stronghold – suggesting that the link applies universally. Their reams of data converged on a breathtaking statistic: Wherever per-person Facebook use rose to one standard deviation above the national average, attacks on refugees increased by about 50 percent (Taub & Fisher 2018).

Methodologically, this relation poses a problem, and politically, it does, too, but in neither sense are the problems completely new. Correlation or causation? Medium or message? How do we get inside and pin down the relation between the violence and the platform? Decades of work on media have wrestled with precisely these questions, of course. Will the masses do whatever masses do, regardless of the medium? Jean Baudrillard argued so, doubling down on the masses as the medium that matters:

> It has always been thought – this is the very ideology of the mass media – that it is the media which envelop the masses. The secret of manipulation has been sought in a frantic semiology of the mass media. But it has been overlooked, in this naïve logic of communication, that the masses are a stronger medium than all the media, that it is the former who envelop and absorb the latter (Baudrillard 2007 [1978]: 44-5).

Or, *pace* McLuhan (to whom Baudrillard is responding), does 'the medium' generate something particular, something of its own, *becoming* the message? In other words, is social media merely a monetized effect of, even a parasite on, extant forms of collective effervescence, or is it the source of palpable energies itself, a mode of configuring atmospheres and affective/informational environments? This is a question that, taken in the instrumentalized register of accountability and responsibility, animates a growing chorus of calls to more strongly regulate Facebook and Twitter. But it is also a question that animates much recent work on new/digital/social media and the cloud, in which media and the cloud are conceived of as environmental and even elemental: that is, as a robust surround, like air, or soil, and not merely as a source of semiotic inputs (and hence manipulation) (Parks & Starosielski 2019; Peters 2015).

I think crowd theory might suggest another, closely related way in, or perhaps a third question with which to contemplate this dilemma. I cannot help but think of Le Bon's anxious – and more than halfway noxious – understanding that if crowds are peculiarly 'receptive' to extreme sentiment, they are also the transformative medium through which such sentiment both travels and is animated. What, then, if the notions of suggestion-imitation and emotional contagion in crowd theory profoundly blur the line

between message and medium, between input and environmental surround, between the violence and Facebook?

What connects is *contagion*

We cannot address this question of medium vs message without also pointing to the fact that Facebook is a platform that 'connects' precisely by instrumentalizing and monetizing emotional contagion itself (Kramer, Guillory & Hancock 2014; Lanchester 2017).[2] Indeed, until users and others objected too loudly, academic psychologists collaborating with Facebook's own research team had used the social network as a ready-made experimental platform for studying more or less the thing that concerned Edward Ross about the telegraph in 1908: contagion without contact (Orr 2006). In a now-infamous 2014 study, 'Experimental evidence of massive-scale emotional contagion through social networks', published in the *Proceedings of the National Academy of Sciences*, the study's authors took one step further in what was, at the time, a commonplace practice of using Facebook not just as a data source but also as a test bed for studying the psychology of emotional contagion (Kramer *et al.* 2014; see also Meyer 2014). Their particular innovation, enabled by collaboration with Facebook's own research team, was that they first manipulated user feeds and then tracked the results (Meyer 2014). With the spectacularly matter-of-fact tone of those accustomed to asking these kinds of questions, the study authors described their research results as follows:

> We show, via a massive ($N = 689,003$) experiment on Facebook, that emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness. We provide experimental evidence that emotional contagion occurs without direct interaction between people (exposure to a friend expressing an emotion is sufficient), and in the complete absence of nonverbal cues (Kramer *et al.* 2014: 8788).

The study was conducted by deliberately changing users' newsfeeds – omitting or hiding words of putative emotional valence – and tracking whether this affective modulation proved 'contagious': that is, whether the induced change in affect spread detectably to those users' Facebook friends' subsequent posts. The resulting proof of contagion was, others have noted, arguably quite small, only becoming visible, statistically, because of the massive scale of the experiment (Meyer 2014).

(Statistical) significance notwithstanding, perhaps it is not surprising that the study's publication generated quite a bit of outrage about the very idea of researchers manipulating users' feeds without their consent; others responded that this is in fact effectively what Facebook does all the time anyway (Meyer 2014). But I am intrigued by the 'obviousness' of using Facebook for such a study in the first place. This obviousness brings a few considerations into view. First, as Nick Seaver has suggested in an insightful comment on this essay, Facebook is not just a rich site of extant social data to be extracted. Rather, the platform is an experimental infrastructure itself, one that is already shaping social relations into data amenable to analysis. That is, our moments of contact with each other transit along quantifiable, already-defined channels, and, I would add, these channels themselves formalize and automate some fairly dense and non-innocent social and political histories. I am thinking particularly of Laura Kurgan and colleagues' brilliant 2019 account of the racialized history that gave rise to algorithmic formalizations of Facebook's 'like' and 'friend' functions (Kurgan *et al.* 2019).

That Facebook is indeed non-innocently and experimentally shaping what will count as 'social relations' is, in turn, a point that has been enlivened by critics who note that if it is an infrastructure for data extraction, it is also, therefore, an infrastructure for labour (and value) extraction. Artist and curator Laurel Ptak's manifesto 'Wages for Facebook' – a nearly word-for-word version of Sylvia Federici's 1973 'Wages against Housework' – says the following:

> To demand wages for Facebook is to make it visible that our opinions and emotions have all been distorted for a specific function online, and then have been thrown back at us as a model to which we should all conform if we want to be accepted in this society. Our fingertips have become distorted from so much liking, our feelings have gotten lost from so many friendships (Ptak 2014).

Contact, as friendship, likes, sociality itself, and even as 'emotional contagion', is thus not just an ancillary effect of Facebook's platform, to be studied after the fact. It is baked in to the platform as an infrastructure for data extraction (by Facebook) *and* data generation (by 'us'). Not incidentally, it is also the basis of Facebook's business model: the company sells attention, and hence sells advertising, by multiplying clicks and shares, which in turn accumulate and spread more effectively the more intense the emotional affect involved (Lanchester 2017; Vaidhyanathan 2018; Wu 2016). Facebook is certainly not unique in this regard. This principle is the business model of multi-platform, data-driven news and entertainment media more broadly (see Baldwin 2019).

In a 2018 report written for the Data & Society Institute on the challenges for journalists posed by the nexus of extremism, violence, misinformation, and digital and social media, Whitney Philips writes:

> In the social media age, the measurability and commoditization of content, in the form of traffic, clicks, and likes, has tethered editorial strategy to analytics like never before. The emphasis on quantifiable metrics stacks the news cycle with stories most likely to generate the highest level of engagement possible, across as many platforms as possible. Things traveling too far, too fast, with too much emotional urgency, is exactly the point (Philips 2018).

Things travelling too fast, too far, and with (too much) emotional urgency is the scenario that crowd theorists contended with, that early twentieth-century social scientists experimentalized, and that monetized data materializes and enables. That phrase is also pointed shorthand, for it's not just any 'thing' that seems to transit in this way. Elsewhere in the report, Philips advises journalists working in today's social media and data-driven news landscape to '[t]reat violent antagonisms as inherently contagious', in much the same way that standards have developed for covering 'suicide, mass shootings, and terrorism, all of which are known to inspire and even provide behavioral blueprints for future copycat attacks' (Philips 2018: 10).

The dynamic relation between contagious, destructive urgency and a business model that feeds on and hence amplifies exactly such urgency is, we might say, one of the most important sites of palpable intensification and more-than-social, crowded composition at work here. It has certainly provoked a series of concerns about the way Facebook in particular, though not alone, makes us into 'dopamine'-fuelled, emotionally driven users, ever more vulnerable to each other and to the redounding forces of irrationality, hatred, and contagious fakery (to paraphrase just a few of countless such laments). Le Bon argued that crowds, galvanized through the power of contagion and governed by extreme sentiment rather than measured reason, threatened to bring civilized society (i.e. aristocratic society) to its knees (2009 [1895]: 8). Critics of Facebook, including a chorus of former Facebook employees, have started talking about the way that social

media (or just 'social') might well be destroying society itself, and with it, the substrate of rationality on which political equality (the opposite, of course, of what Le Bon desired) is based. As former Facebook engineer Chamath Palihapitiya has publicly lamented:

> It literally is a point now where I think we have created tools that are ripping apart the social fabric of how society works. That is truly where we are … The short-term, dopamine-driven feedback loops that we have created are destroying how society works: no civil discourse, no cooperation, misinformation, mistruth. And it's not an American problem. This is not about Russian ads. This is a global problem (Wang 2017).

I confess to being quite easily hailed by such laments, even as I try to stay, well, measured and reasoned about them. Saying that we have been here before – after all, isn't this an early twentieth-century problem? – can often be a move that counters, even de-fangs, a certain sense of urgency, or even panic, about what 'we' have wrought.

But that is not quite the move I want to make by trying to think 'data' with crowd. There are so many ways in which crowd theory's preoccupations seem to persist *in* and *as* data: that is, in and as social media and the forms of data production, data mining, filtering, virality, and targeted advertising or (mis)information around which they are organized. They are alive in more-than-human crowdings, in the potency of contagious suggestion even at the most micro-level, in the potential relation between the economies of emotional urgency and the (in)stability of a social or democratic order itself. The cloud crowds us, again, in the novel formations through which these questions persist and make insistent demands on us.

NOTES

[1] See WHO Novel Coronavirus (2019-nCoV) Situation Report 13, February 2, 2020, available at *https: //www.who.int/docs/default-source/coronaviruse/situation-reports/20200202-sitrep-13-ncov-v3.pdf* (accessed 20 January 2021).

[2] As Adam Curtis's 2002 documentary series *The Century of the Self* shows so clearly, there is a direct line from Le Bon and Sigmund Freud (who engaged with Le Bon's work seriously, but insisted that the missing link in the latter's explanatory apparatus was, of course, the force of libidinal desire) to the rise of propaganda, marketing, and public relations. It is a line that conveniently takes the form of lineage, in the person of Edward Bernays, Freud's US nephew, who infamously saw the vast potential of crowd psychology and psychoanalysis to serve as a manual for controlling the masses, in peacetime (marketing) as in war (propaganda, authoritarian rule).

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De la connexion à la contagion

Résumé

Cet article propose de « penser les données » à l'aune d'un héritage intellectuel complexe, jadis décrié et qui connaît actuellement un renouveau, celui de la théorie des foules. La démarche de l'autrice part du constat que la mobilisation de données des réseaux sociaux – extractions, réagrégations en mouvement constant et microciblage d'une part, et nos activités, retweets, partages et production de viralité de l'autre – inspire de très fortes préoccupations à propos des mêmes questions que se posait initialement la théorie des foules. Ces préoccupations sont notamment la force de la contagion émotionnelle et la menace de dissolution sociale, la composition du « fait social » par des éléments qui dépassent largement l'humain, ainsi que des interrogations persistantes sur les médias qui véhiculent les forces énergétiques, souvent à une vitesse fulgurante. Quelles questions pourrait-on résoudre en se penchant sur la résonance entre les préoccupations « antilibérales » de la théorie des foules et les inquiétudes contemporaines sur les méthodes qu'emploient les réseaux sociaux pour créer les foules ?