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Impersonal subjectivation from platforms to infrastructures

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Abstract

The rapid expansion of social media has led to the concentration of digitized, networked, and mediated processes into the hands of a few giant corporations (e.g. Google, Facebook, and Amazon), their partners and affiliates. From smart watches to targeted advertising and reputation scores, this new political economy of subjectivation – or subject making – sees an intensification of datafication to sell commodities, manipulate moods, inject ideologies, and influence behaviors. This article argues that in order to understand this new political economy of subjectivation, we need to complicate and build upon framework that focus on the collection of personal data and its risks on individual users. We argue that as social media and digital media giant corporations move away from an enclosed platform model toward a distributed, impersonal infrastructure, the mining of individual data and the shaping of individual attitudes is increasingly geared toward establishing relationships between user data and a plethora of non-human, environmental data. Such an infrastructure invokes impersonal subjects, and thus requires a new politics of relationality.

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Introduction

In its classical sense, subjectivation is a complex set of processes whereby one's sense of self as an individual agent is paradoxically shaped according to processes and forces external to the self. Such factors include not only race, class, and gender of course, but also social norms, educational and economic circumstances, labor potential, and health. In his l978–1979 lectures at the Collège de France, Foucault highlighted the recent rise of a new set of techniques focused on cultivating the appropriate subjects for the then nascent neoliberal doctrine, wherein the value of one's life was now indexed to the profitability of one's existence. In other words, Foucault showed that neoliberal subjectivation hinged upon both social power and the ability to derive profits out of individual life.

In the contemporary neoliberal context then we can see a shift away from the core institutions of subjectivation (e.g. traditionally, the Church and the State), toward the rise of for-profit industries of subjectivation spanning the media, PR, marketing (Hochschild, 2012), and also privatized education (Lakes and Carter, 2011) and health (Brown and Baker, 2012). The political economy of subjectivation involves two complex and linked characteristics. First, the contemporary subject is both personal and impersonal, unique and distinct, yet banal and aggregated. Privatized education and health, for instance, are based on the logic that people want to become successful economic agents, and thus should be encouraged and rewarded for pursuing appropriate professional objectives and maintaining optimal health. Of course, there is a paradox here: such industries foster a sense of oneself as a subject separate from others, brimming with entrepreneurial agency. However, this very sense of a self, including one's convictions, emotions, and aspirations, is articulated to fulfill large-scale strategies to create markets and increase profit-margins well beyond the individual person. Indeed, more recent work on subjectivation points out that it is not the cultivation of persons that is the final goal of some of the major industries of subjectivation, but rather the mining and mobilization of subjective materials. PR, the mass media, and mass marketing have long illustrated that the mobilization of attention, desires, and affects has nothing to do with personal agency (Horkheimer and Adorno, 2001) and everything to do with what we call, following Lazzarato (2004), 'conditions of existence' (p. 95), that is, the possibility of using subjective materials to reorganize life in its broadest sense according to specific hierarchies of power. This leads to the second characteristic of the political economy of subjectivation: subjectivation now involves multi-sited processes where the many dynamics of existence and life itself – from pre-individual materials such as DNA to consciousness and the unconscious, from one's inner thoughts to one's social behavior and credit record, in short, from the intimate and personal to the impersonal aspects of the self – are mobilized and mined by a variety of social and economic actors and institutions to fulfill a neoliberal agenda. In its darkest form, such mining serves to foster deep inequalities and deprive targeted populations and persons of agency (O'Neil, 2017; Pasquale, 2016). And indeed, metaphors of 'mining' or 'drilling' are often used in the media (Tarnoff, 2017) to describe the industry of subjectivation, invoking images of relentless profit seeking that depletes, pollutes, and diminishes the capacity to live a meaningful existence.

The explosion of privately owned computing technologies geared toward attracting and capitalizing on users have led to a vast expansion of the scope and capacities of this

political economy of subjectivation. A large part of how we come to experience and make sense of all aspects of life now involves large-scale data analytics, instantaneous information networking and multiple media interfaces that orchestrate our relationships to the world, to others and to ourselves. From surveillance cameras to wearable technologies, new technologies of information and connectivity increasingly track, datafy, quantify, and analyze our every move, gesture, and emotion. Indeed, such techniques of subjectivation begin at the very possibility of life, tracking the growth and movement of fetuses (Leaver and Highfield, 2018), the feelings and emotions of teenagers on social media apps and platforms (Van Dijck, 2013), and a health conscious aging demographic through smart watches (Gilmore, 2016). In short, we could say that the political economy of subjectivation today involves a new private infrastructure of interconnected 'heterogeneous systems and networks' (Plantin et al., 2018: 7) that shapes the very conditions through which anyone gains a possibility of existence in this world.

In this article, we are interested in examining this new infrastructure by focusing on key economic actors at the forefront of the development of contemporary technologies of subjectivation: social media and digital media companies, in particular *Alphabet* (which includes *Google*), *Facebook*, and *Amazon*. Such leading data-intensive companies strongly cultivate the 'creation and exchange of user-generated content' (Van Dijck and Poell, 2013), whether personal content (e.g. pictures, posts) or ambient content (buying patterns, viewing habits). These giant global companies are currently expanding outward from their Internet and even mobile platforms, establishing themselves in seemingly eclectic areas, from smart cars (Alphabet) to supermarkets (Amazon) and self-balancing robots (Facebook). Such new markets and commodities, we argue, corresponds to the 'infrastructuralization' of digital and social media platforms (Plantin et al., 2018), highlighting the shifting and increasingly contradictory ways of extracting value from – while also (de)constituting – the subject. In particular, we interrogate how digital and social media giants are now moving away from solely focusing on individual users and persons (i.e. account holders) toward mobilizing subjective capacities toward broader social and economic projects, the purposes of which remain nascent, but nevertheless aim to re-order conditions of existence. Such new infrastructural dynamics force us to re-consider subjectivation as a site of power struggle that requires a new set of politics. Indeed, faced with this new infrastructure, one can only acknowledge the inadequacy of current frameworks that focus on various forms of *platform individuation*, that is frameworks that question the impact that such companies have upon their unique subscribers or account holders (Arvidsson, 2016; Fuchs, 2012). We make the claim, conversely, that this new infrastructure of subjectivation does not have the *person* (i.e. the unique, individual user) as the sole end product, or source of value. Rather, its aim is to mobilize subjective materials usually associated with an individual in order to transform broad conditions of existence. *Infrastructural subjectivation is, in other words, impersonal*: it establishes a set of relationships that mobilize and aggregate users and non-users with non-human data points. Such a data economy is no longer constrained or otherwise limited to the person.

Resnick (2005) was among the first to recognize the rise of 'impersonal sociotechnical capital' whose purpose is to 'co-ordinate activities' and where, paradoxically, 'connecting happens without personal connections and organizing without organizations'.

Such a perspective raises the question of how relationships can be activated without discrete, personal and social bonds. Similarly, the concept of impersonal subjectivation raises the question of how the extraction and processing of user data paradoxically takes place at a distance from the user as an identifiable individual. And indeed, going back further in time before the advent of computer networks, early modern sociologists such as Werner Sombart, like Max Weber, viewed the rise of large institutions and their accompanying bureaucracies as sites of impersonal organization. Sombart defined early financial capitalism as fundamentally 'impersonal', noting that in the earliest private corporations the personal ownership of capital was separated from the day-to-day functioning and decision making of business (Segre, n.d.). In other words capital was managed by proxies (company managers) and embedded into corporate and accounting practices and processes. Individual ownership of capital, in other words, no longer necessarily meant direct operational control over capital. Hence capital itself became an impersonal construct – it was separated from the individual (owner).

In the contemporary context, Sombart's (2017) notion of impersonal capital offers us an important tool for questioning contemporary forms of subjectivation on and across the social media infrastructure. Subjectivation is not a personalized construct, rather it is impersonal in one obvious sense – digital and social media account holders do not control their own data. This estrangement from our data-selves (and as forms of capital) has long been established, in particular through the terms of service debate and now the rise of the quantified self (Lupton, 2016). Thus impersonal subjectivation invokes a politics beyond the individual user, calling into question the integration of non-users across a large infrastructure connecting heterogenous systems and networks, including data generated from unconscious and preconscious behaviors as well as increasingly, environmental, non-human data such as food crops, pollution, spatial constraints, and so on. It is this impersonal process that calls for a move away from the strict notions of consent or intent to – and on – social media platforms, toward an infrastructural framework that questions the relations between human, non-human, and environmental data. Such relationships are the building blocks of intervening in the politics of contemporary subjectivation.

Users between platforms and infrastructure

To expand our conceptualization of subjectivation as impersonal, let's first review the tensions experienced by social media corporations as they move away from a platform to an infrastructure model (Planting et al., 2018: 7). This has involved profound shifts in the conceptualization and mobilization of users and their data. Social media platforms came to prominence by capitalizing upon the communicative capacities of a public infrastructure for information exchange: the Internet. At the time of the rise of Web 2.0 and the platform model in the early 2000s, the Internet offered multiple sources of information, particularly through new technologies that enabled users to express themselves. This participatory media moment (Jenkins, 2006) provided a key turning point, transforming users into produsers (Bruns, 2008), and ultimately into a source of revenue.

Indeed, the platform model (Gillespie, 2010) involved distinctly branded communicative spaces, enclosed properties that 'sat on top of' the Internet infrastructure, and turned

toward enhancing and adding value to the relations users could have with informational objects, including other users as datafied beings. In other words, while in the previous Internet infrastructure, the user was a generalized concept defined as anybody with access to the infrastructure, in the platform model each user became a unique source of data that could be linked to other sources of data and information in personalized ways, and thus had to be constantly tracked in order to differentiate it from other users. Such linking of data sources was automated through algorithms, which applied specific logics to sort through data and to configure unique connections between specific data points. The platforms that emerged around that time could be divided between social network platforms, which connected users to other users; and search platforms, which connected users to relevant information. Facebook at its beginning epitomized the social networking model of enabling personal information sharing among users affiliated with each other through their educational background, geographic location, and so on.

The switch from public infrastructure to platform became especially visible when the Google Search engine transitioned from defining relevant information as highly linked content through the PageRank algorithm, to information customized to users based upon their past keyword searches, geographical location, Internet browsing habits, and affinities with likeminded users. What was then known as e-commerce was also at the forefront of matching the right kind of information (i.e. information about specific commodities) with users. Amazon is a case in point: it introduced techniques of matching commodities with users by analyzing buying patterns through algorithms such as item-to-item collaborative filtering (Linden et al., 2003). The boundaries between these categories – social networking and search – blurred over the years as different platforms refined their business models and engaged in a series of acquisitions: Google purchased YouTube in 2006, while more recently Facebook has acquired Instagram and WhatsApp. In so doing, these social media corporations established themselves as intermediaries among platforms: the common point in all their business models is a focus on their capacity to connect data points, that is, to organize relationships with users as potential consumers, spectators, electors, and so on.

Such capacities for connectivity have allowed platforms to create viable revenue streams by linking with third-party developers, advertisers, and marketers. Indeed, platforms' Application Programming Interfaces (APIs) were developed to enable adding connections between services produced by third parties and their users. However, as Helmond et al. (2017) further show, the history of just a single social media corporation such as Facebook and its partnership program since 2010 reveals an evolution of the long-standing emphasis on 'tracking users and their activities' not only on the Facebook platform itself but, since 2015, across the whole digital marketing landscape so as to 'enable marketers to find existing customers on Facebook using their own data and to find new audiences on Facebook with the help of third-party data partners'. Thus begins the transition from platform to infrastructure: it is not the user within the specific space of the platform that is the sole source of focus anymore, but rather the relational data that conjoins users, non-users, objects, locations, and temporalities (time periods, lengths of attention, and so forth).

In the first instance infrastructuralization shifts attention away from platform specific user interfaces and functions to the integration of user data in 'back-end' databases.

Going back to the Facebook example just mentioned, we could say that in its first phase, Facebook developed tools of connectivity so that users could find meaningful ways of connecting with each other. Fairly rapidly, however, Facebook started collecting data about users, and it became pretty clear with its quick changes in its terms of service (boyd, 2008) that the company was building a vast repository of knowledge about their users, their likes, preferences, and behaviors. Such knowledge was useful for enhancing personalized content of course, but was also key in ensuring that social media corporations gained a significant leverage to attract investors and create new markets and advertising opportunities (Cohen, 2008). More importantly, the collection of user information increasingly took place regardless of users being signed up – or logged into – platforms. The multiplication of trackers and cookies from these social media giants meant that any and all Internet users could be followed: it did not matter whether one had established a social media profile – one was always accounted for.

The second aspect of this infrastructuralization of social and digital media platforms is an expansion of the web interface to a multiplicity of mobile, domestic, and corporeal devices: smart phones, tablets, and smart watches of course; increasingly, smart speakers and home assistants with voice recognition (e.g. Alexa, Google Home); and also experimental devices such as the Google glasses and virtual reality headsets. In short, social media have expanded their tracking of users to capture not only their online behaviors but increasingly every moment and potential place for social interaction. Subsequently, we might ask ourselves what kind of development and shift in practices such a move toward the constant tracking of not only what users consciously produce (e.g. the expression of thoughts and sentiments) but also what they produce unintentionally (heart beats, movements, gaze) might bring.

The third aspect of the infrastructuralization turn is that we now see an expansion of social and digital media away from being situated and located in specific online spaces toward embedding themselves in a new distributed infrastructure of life in all its forms: by attempting to build privately owned Internet and mobile infrastructure (e.g. Facebook's Free Basics, which is present in 42 countries despite its setbacks in India), in transportation with driverless and intelligent cars (Alphabet) as well as smart cities and neighborhoods (Google's Sidewalks Labs is currently planning a smart neighborhood in Toronto), on one's body with smart watches, and in the material aspects of life such as food supermarkets (e.g. Amazon buying Whole Foods). Such rapid expansion into all aspects of life means that we are witnessing a profound refashioning the logics of production and distribution of all sorts of immaterial and material goods, and in particular, the shaping of a new type of service that organizes relationships among people and between people and their environment. To refer back to Plantin et al. (2018), we could say that social media corporations are moving their 'focal interests' away from 'seeking user benefits' such as social connectivity toward 'public value' and 'providing essential services' such as urban planning, transportation, means of communication, health, and food (Plantin et al., 2018). And indeed, some forms of public-private partnerships are central to many of these new developments, especially with regards to smart cities, and with the provision of nation-wide means of communication. Such infrastructuralization means an expansion of the kind of data being collected and correlated: it is not only conscious and non-conscious user-derived data that is needed, but also all kinds of non-human, environmental

data: for instance traffic, weather, stock markets, availability of material resources, and so on.

These 'infrastructurilized' platforms, however, differ from public infrastructures in significant ways. First, they are still profit-oriented and second, they are in the process of creating a new form of service, the contours of which are still emerging, but which revolve around technologies of subjectivation. Infrastructurilized platforms in other words do not simply privatize public resources, they seek to generate revenue streams from modular (Deleuze, 1992) forms of population management. With claims to provide 'smart' cities, cars, home technologies, devices, means of delivery and so on through data sensing and tracking combined with so-called artificial intelligence (AI; Pasquinelli, 2017), the new infrastructurilized platform model currently strives on promises of the seamless management of populations and environment, guiding resources to producers, or consumers to goods.

From individual to impersonal subjectivation: reputation, attention, habit

We now have a robust literature on social media platforms and how they mobilize users (Bucher, 2012a, 2012b; Gehl, 2013, 2014; O'Neil, 2017). On the interactive side, responsive interfaces and new modes of communication – instant, ephemeral, and phatic, for instance – provide enough novel forms of connectivity to attract users. On the technical side, black-boxed and proprietorial algorithms ensure that the right kind of contextualized data is delivered in almost real-time to both users and third parties. On the human labor side, high-end (e.g. software designers) and invisible laborers (e.g. content moderators in the Philippines, click-farmers in Bangladesh) further ensure the smooth and tailored circulation of user data for a variety of purposes (Chen, 2014): communicative, marketing, advertising, raising awareness, and so on. Simply put, the logic of social media platforms is to attract users through offering an enhanced communicative experience, to track and collect data, to undertake both large-scale and detailed analysis of such data in order to contextualize it, and to provide access to data, both raw and contextualized, to third parties. The question is, in turn, what kind of mobilization of users take place in infrastructuralized social media corporations, and for what purposes?

The original industry of social media subjectivation focused on the individual account holder as a source of revenue. In that regard, it was perhaps most aligned with the classical conceptualization of neoliberal subjectivation, which is centered around ideas of self-determination and the ability to freely transform oneself, that is, in reference to Margaret Thatcher's famous quip, to be an individual rather than be subjected to society. However, such neoliberal individual subjectivation cannot be simplified to the dichotomy between external social forces and the inner strength of the self. Neoliberal subjectivation includes forces broader than the self: it requires and expects that expressions of our inner self (e.g. one's convictions, emotions, aspirations) be activated, mobilized, and articulated with these seemingly external forces to create the neoliberal subject (Illouz, 2007; Konings, 2015). As such, subjectivation implies combinations, compositions, and assemblages that traverse and combine forces external to the self, and those that seem to

emerge from the self itself, so much so that achieving neoliberal socio-economic goals feels like finally finding one's authentic self (Berlant, 2011; Hochschild, 2012).

Social media platforms have added an omnipresent layer of individual subjectivation for users, which we understand as the conscious work to establish of one's self-worth and value in relation to others. As social media users, we strive to configure and enhance our value and self-worth in social life through our connections with others, in public life through the production of comments, reactions, and analyses, in private life (e.g. recording memories), in political life, and in all aspects of economic life, from consumerism to finance. This level of individual subjectivation is most visible with the rise of reputational economies, whereby scores are attributed to users. Of course, reputational scores are most prominent in the so-called gig economy, which is organized around the idea that individuals as free entrepreneurs can offer services (driving with Uber, hosting with Airbnb) that can then be evaluated by other users, so as to enable the best service provider to rise to the top. Such business models have directly emerged from the social media platform model and fit quite smoothly with individual subjectivation as it pits individual service providers in competition against each other. However, as Hearn (2010) and Gerlitz and Lury (2014) have shown, reputational models are not simply limited to work, but also involve articulating one's social influence with marketing opportunities. Reputational scores are measured by examining how many people a social media user can impact, that is to say, by identifying which users create highly desirable images of themselves and their lives. Highly ranked influencers on social media platforms such as Instagram and Twitter receive free products to advertise to their audiences and therefore do the work of lifestyle branding: the user becomes the advertiser.

Individual subjectivation, however, is only one technique of subjectivation deployed by social media corporations. Individual subjectivation is mostly visible at the user-interface level, which is intensely me-centric, in that the user only has access to highly personalized information. While this individual subjectivation is what we users experience, back-end data processes seek to capitalize upon impersonal relationships. Even reputation scores, which scrutinize individual users' actions toward establishing themselves as influencers, are in reality ultimately meant for purposes beyond individual satisfaction: one's reputation is based on one's individual performance of course, but the goal for social media corporations is to correlate such performance to a host of other data points such as user habits, market demands, aggregated audience/consumer profiles, socio-economic clusters, and other such impersonal categories. As much as building one's reputation online relies on sustained personal efforts to develop the right kind of social media presence, the economy of reputation is built on articulating this type of personal data with other data points, and on orchestrating the relationships among these multiple data points in order to achieve specific kinds of effects (e.g. increasing sales of a specific commodity).

Establishing a difference between individual and impersonal subjectivation helps clarifies well-known concepts in the analysis of social media, chief among them is 'the economy of attention' (Goldhaber, 1997; Kessous, 2015; Simon, 1971). As Citton (2017) recalls, the proliferation of material goods and services advertised for consumption has led to a paucity of available attention: competition among goods and services is now so intense that capturing, directing, and redirecting consumer attention has emerged as one

of the most – if not the most – powerful and valuable business sectors in the world (think Google's search functions, Facebook's newsfeed advertising, and Apple's app ecology). However, while encouraging users to pay conscious attention to specific product and services is a core goal for social media platforms, especially as an important part of their revenue is based on targeted advertising and recommendations, there are other strategies for directing users' attention. These take place without conscious and sustained awareness from a subject, exist at the preconscious and unconscious levels, and are therefore indicative to a turn toward impersonal forms of subjectivation. Indeed, we now have an entire economy of affects that proceeds through provoking instant preconscious reactions in users. Take for instance the clickbait advertising industry that capture preconscious affects and in so doing contradict the individual subjectivation model, which should ideally provide ways to enhance users' personal quests to further invest in their self-worth and value. On the contrary, clickbait ads promote distraction and procrastination, short-circuiting conscious concentration. While many of these techniques of distraction and procrastination were originally deployed as spam by third parties, they nevertheless have been integrated into the social media model, so much so that there is an inherent contradiction on the Facebook newsfeed where often personalized and meaningful information compete with memes, viral videos, and news articles that disrupt our trains of thought. Such a contradiction is symptomatic of the friction between individual subjectivation and impersonal forms of subjectivation, the latter of which tap into subjective materials in order to produce effects that are at once removed from the individual.

Facebook is now heavily invested in producing impersonal forms of subjectivation. Take, for example, the infamous 2014 Facebook mood experiment, which revealed how users' emotions could be shaped by filtering their newsfeed (Kramer et al., 2014). Rather than focusing on user satisfaction as per the individual subjectivation model, Facebook claimed a new capacity to not only manipulate user emotions, but also to do so in ways that users would not be conscious of. In the same vein, the 2016 US presidential election continues to be a hotly debated form of impersonal manipulation (Beckett, 2017), as illustrated with the high circulation of fake news. Viral fake news was not simply shared by users, it was the product of a whole industry dedicated to producing viral content, through calls to politically active users to share certain pieces of information across social media platforms, buying likes and clicks to enhance the ranking and visibility of certain kinds of content, and using social bots to make certain pieces of information go viral (Beckett, 2017). Fake news was about promoting content that would not withstand rational, informed, conscious inquiry. Rather, it triggered affects, such as anger, aggression, and mob mentality through constant bombardment of specific kinds of messages on select user demographics.

Another set of techniques for orchestrating massive shifts in attention has relied on psycho-graphics, which involved the capacity to launch large scale campaigns with messages that could be immediately personalized for different categories of users. Data-mining and analysis company Cambridge Analytica became infamous for its claims to have established the psycho-graphic profiles of millions of Facebook users, defining personality types and identifying the specific affective triggers for each type (Concordia, 2016). Different sets of political ads targeting each sets of triggers were then unleashed on Facebook – this strategy has been credited with Sen. Ted Cruz winning the Iowa

Caucus. This new impersonal subjectivation model is unique in that it boasts its ability to target very specific affective responses – for example, fear or pride – for very targeted effects (winning an election) regardless of their deeper, long-term psycho-social impacts.

While large scale psychological manipulations have been primarily deployed on social media platforms, we can expect that with the further infrastructuralization of social media to all aspects of life we will see new models for orchestrating large scale subjective responses via mobile devices and technologies mentioned in the first part of this article. Indeed, we now see the development of processes to track preconscious routines, from biological rhythms to behavioral habits such as time spent scrolling, staring, clicking, and so on. The tracking of heart beats from a smart watch, for instance, does not require any kind of attention from the subject, and requires a preconscious routine habit of keeping one's smart watch on. Here, we are dealing with what Wendy Chun (2016: x) calls 'habitual media', that become pervasive 'by disappearing from consciousness'. Overall, social media corporations have established themselves firmly as intermediaries in this new infrastructuralization model: they allow for connections between users, non-users, as well as between users and third-party products and services (Srnicek, 2016). They sell their own services such as relevant user data and their capacity to influence moods and attention, and they allow third parties to collect their own user data and link it with other datasets to create their own large-scale campaigns of manipulation. With their recent expansions into providing 'smart' services such as transportation, urban planning, and so on, social media are attempting to establish themselves as the unavoidable mediators for all aspects of life, with a capacity to act simultaneously at the molar level of large-scale social shaping of attitudes and habits and the molecular level of personalized targeting of users.

The orchestration of existence

As they expand their focus away from individual to impersonal forms of subjectivation, social media are becoming producers of conditions of existence. In that sense, they are not only pervasive, but environmental, dealing with ontological matter that renders existence bearable, and possible (Dieter, 2011). The transition from capitalizing on the person to capitalizing on the conditions of existence through impersonal means requires a new critical framework. Obviously, such an environmental role of social media raises crucial questions and requires a new set of politics. First, we want in this section to highlight the need to move away from a set of responses that are centered around the rights of the individual person and user, and second, to expand the critique of the production of sociality to include broader questions about the production of conditions of existence.

The traditional approach to networked subjectivation has focused on the question of privacy, which usually is about the impact of data mining and processing on the person of the user. On the legal side in particular, the question of privacy dominates when dealing with the question of user data (Fuchs, 2012; Nissenbaum, 2009). Overall, privacy arguments center around an individual's right to own or be able to reclaim user data, to be, in other words, their own person again. The European 'right to be forgotten', where users can request that personal information be not indexed in search engines is the main instance of such approach (Rosen, 2012). Newer arguments about privacy in turn focus

not only on the right to have data forgotten or erased but also of being able to choose the contexts and purposes of use for user data. Marwick and boyd's (2014) discussion of 'networked subjectivity' goes in this direction. Part of the problem for any form of advocacy based on the privacy paradigm is that it only focuses on a specific kind of data that is personal and intimate, or could be used to inflict harm: for instance, embarrassing pictures. Increasingly though, the kind of user data that is collected is banal and impersonal: one is not going to feel vulnerable because the number times they liked things on Facebook, walked past a particular store or intersection, or for the amount of time they spent reading or looking at viral memes or news items, or for their sleep patterns. The limits of privacy-based approaches are that they are focused on preventing personal harms, thereby only targeting individual subjectivation processes. But as we are now seeing, current impersonal subjectivation processes do not focus solely on the person, but on orchestrating a set of relations among groups, humans, non-humans, services or products, places, spaces, technologies, and times. In other words, such impersonal subjectivation processes are not about establishing the social value and worth of a person, but about mobilizing one's potential for engaging with others and with the world.

Moving away from the protection of individuals' capacity for self-definition (i.e. the defense of the person), we now turn to the production of relations among humans. The bulk of recent critical work has focused on the production of sociality through social media platforms (Gehl and Synder-Yuly, 2016). The focus has been on the question of users' social production which, on social media platforms, takes the form of producing, sharing, and valuing mostly social information (e.g. personal information, media stories). The bulk of the work on the politics of social media platforms and subjectivation is centered around three axes: the anonymity of users against constant tracking; the reshaping of affective gestures (e.g. likes) away from reputation scoring and toward new forms of solidarity; and the production and circulation of information to escape algorithmic biases and the reinforcement of socio-economic and political inequalities (Gehl, 2015). An important endeavor in that regard are the alternative models being developed in answer to the gig economy and in particular the platform co-operative model, which formulates a new ethics of labor relations and practices (Scholz, 2014). Engaging with impersonal subjectivation from this perspective means turning to the social or the collective, understood here as the formulation and exercise of shared ways of life in response to specific conditions of existence. Importantly, the collective is not opposed to the individual. Rather, along the lines of the concept of transindividuation articulated by Simondon (2007) and Stiegler (2010), the individual and the collective are co-constituted through the relationships that emerge between them, and these relationships are in turn technologically and economically mediated, especially through the new infrastructure of impersonal subjectivation. In that regard, alternative models could further benefit from relational psychotherapy (Benjamin, 2004; Winnicott, 2005) in understanding how one's sense of individuality, including the very capacity to think, feel, be attentive to and care for, are not innate but rather given by other human and non-human agents. Citton adopts this framework when discussing collective attention as a way to develop a new politics of attention, especially through the case study of the transformative classroom experience, which requires the capacity for all participants to co-create and co-modulate attentional capacities in a space and with technologies conducive to such practices. Through

this, a new form of solidarity emerges different and divergent affects are attuned with each other. The focus on the collective, in turn, makes it possible to reimagine the concept of the person as intrinsically social, and therefore offers an alternative to the impersonal subjectivation model, which either posits the person against the collective (as in the original neoliberal model), or mines subjective materials in ways that renders strong collective bonds impossible.

However, focusing on users' social production only runs the risk of not taking into account the kind of impersonal and habitual data mentioned above, nor addressing non-account holders. Furthermore, we also have to examine how user data can be combined with other kinds of environmental data: one's location, for instance, combined with the availability of a certain service and the likelihood that it will soon be on high demand given current conditions (e.g. Uber's 'surge' pricing when public transportation is down). Consequently, critical analysis should be directed to the more recent turn toward integrating user-derived data with non-human, environmental data. In that regard, a critical approach to impersonal subjectivation would benefit from an even broader conception of relationality. Indeed, we need to think in turn about the politics of mediated relationalities that are orchestrated through the mining of human and non-human, environmental data. We suggest that there is crucial work being done on this topic under the umbrella of new materialities. Among others, Donna Haraway's (2016) call to make kin with non-human agents and processes offers a way of questioning the hidden and automated correlations being made between user-derived data and non-human environmental data. As well, Jussi Parikka's (2017) exploration of how computer hardware produces a deep time of toxic waste offers a new way of formulating collective temporalities away from the relentless speed of capital production and toward a new awareness of the profound impacts of the constant mining of human and non-human materials. Interestingly enough, all three levels for analyzing the infrastructure of subjectivation: the individual, the collective and the environmental, fit into Guattari's ecosophical model (Guattari, 2008). Guattari argues that the new political alternatives can only emerge is they take into account three intertwined planes: the subjective, the social, and the environmental. Ecosophy operates a move away from the individual human as the center of all things, but rather reiterates a need to reinvest the broad and heterogeneous relations between the environmental, the social and the subjective in order to define new conditions of existence. Overall, there exists a seemingly eclectic, but potentially robust theoretical framework to formulate alternatives to the current dominant subjectivation models, one which moves away from the question of the person, to an open inquiry into the web of relations that builds the worthiness of our existences.

Conclusion

We finish writing this article in a period of turmoil and unrest for giant social media corporations, conflicts that are directly linked with the transition from individual to impersonal modes of subjectivation. The classical model of the neoliberal subject capable of fulfilling its capitalist destiny of judicious return on investments in all aspect of its life is under attack, not only because economic and labor conditions are quickly deteriorating, but also as the social and digital media giants that have made their empire on the

mining of individual drives and desires are now turning away from models of individual subjectivation. The new paradigm of social media giants is paradoxically the disappearance of the user as a social being deserving of integrity. Uber, for instance, is looking forward to a future of driverless cars and therefore is expressing very little concern over bettering working conditions for its current human drivers (Etherington, 2018); Facebook is facing backlash after backlash for its casual treatment of users and the kind of large-scale user manipulation it has enabled, most recently, at the time of writing, with the news that Cambridge Analytica was able to harvest 50 million Facebook US user profiles since 2014 (Cadwalladr and Graham-Harrison, 2018). There are growing calls for the regulation of social media corporations amid questions about their market dominance, their treatment of data and their claims toward immunity from liability as Internet hosts and therefore neutral third parties.

And yet at the same time, social media giants, their affiliates, and partners are still expanding and taking over the running of cities, transportation, communication, food distribution, and so on, claiming the need not to be subjected to public regulation because they are breaking new grounds, in effect demanding a new state of 'permissionless innovation' to shape our conditions of existence (Naafs, 2018; Thierer, 2014). Critical work needs to further unpack the ideologies, discourses, paradoxes, and oftentimes incoherence of this infrastructuralization of social and digital media corporations as we struggle to, in turn, define new possibilities of life together. As we argue throughout this article, the new infrastructure of subjectivation is heterogenous: it is not focused simply on the shaping of persons as agents, but on mobilizing subjective materials to link them with non-human, environmental processes in order to orchestrate conditions of existence. Such nascent large-scale infrastructure requires in turn heterogenous creative thinking capable of investing in relationalities that link together the individual, the collective, and the environment.

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