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Political Agency, Digital Traces, and Bottom-Up Data Practices

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This theoretical article explores the bottom-up data practices enacted by individuals and groups in the context of organized collective action. Conversing with critical media theory, the sociology of social movements, and platform studies, it asks how activists largely reliant on social media for their activities can leverage datafication and mobilize social media data in their tactics and narratives. Using the notion of digital traces as a heuristic tool to understand the dynamics between platforms and their users, the article reflects on the concurrent materiality and discursiveness of digital traces and analyzes the evolution of political agency vis-à-vis the datafied self. It contributes to our understanding of “digital traces in context” by foregrounding human agency and the meaning-making activities of individuals and groups. Focusing on the possibilities opened up by digital traces, it considers how activists make sense of the ways in which social media structure their interactions. It shows how digital traces trigger a quest for visibility that is unprecedented in the social movement realm, and how they can function as particular “agency machines.”

Keywords: datafication, bottom-up data practices, digital traces, political agency

Social media have dramatically changed the way individuals and groups mobilize and organize for collective action. As “tools for (personal) storytelling and narrative self-presentation” (van Dijck, 2013, p. 200), social media have altered the way people make sense of themselves and of the world around them. These emerging protest/media configurations have brought under the spotlight the role of mediated processes in shaping collective action. As a result, social media have become the privileged observation point for political protests and innovative forms of activism. Scholars have stressed the personalization (Bennett & Segerberg, 2013) and individualization (Juris, 2012; Milan, 2015a) of activism promoted by social media. Others have highlighted the consequences of social media in the decision to join a protest (Tufekci & Wilson, 2012), their role as flywheel of contagious digital enthusiasm (Gerbaudo, 2016) and as

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promoters of everyday engagement with politics (Highfield, 2016), and their positive impact on access to and management of resources (Shirky, 2008). Yet one important set of questions remains: How might activists make sense of the ways in which social media structure their interactions? How might they leverage them for collective action?

To be sure, social media play an active role in the “datafication” of interpersonal connections and interactions, contributing to “render into data many aspects of the world that have never been quantified before” (Cukier & Mayer-Schoenberger, 2013, p. 29), including friendships (in the form of “likes”). Not surprisingly, this bears important consequences for the agency—both factual and perceived—of social actors. Research has exposed how social media impose on users their own “logic” made of specific norms, mechanisms, and economies (van Dijck & Poell, 2013; see also Dencik & Leistert, 2015; Gerlitz & Helmond, 2013; Gillespie, 2010). Social media force users to give up data in order to participate—including personal and intimate information. They organize information in specific, prescriptive ways, pushing their own processes of knowledge production: Paraphrasing Marres and Weltevrede (2013), they have their own “epistemology built in” (p. 319). Further, the “extension of social media platforms into the rest of the Web and their drive to make external Web data ‘platform ready’” (or “platformization”; Helmond, 2015, p. 1), increasingly traps users into a pervasive technological framework of cross-platform programmability. But are users able to retrieve some space for creative, self-directed action—real or perceived—in the fringes of this technological framework? Teasing out the possibilities for agency entrenched in the datafication of user experiences prompted by social media, this article provides a cautiously optimistic account of social media’s potential to contribute to contemporary organized collective action.

The article understands datafication as a productive force: not as merely a data collection dynamic bearing potentially negative consequences for activism—like surveillance, for example (Hintz, 2016; Lyon, 2015; Uldam, 2016)—but also as a process of “feeding such data back to users, enabling them to orient themselves in the world” (Kennedy, Poell, & van Dijck, 2015, p. 1). The term *data* here refers to social media data—that is, the set of records produced by users in their actions and interactions on social networking services, including hashtag usage, likes, and mentions.² Combining critical media theory and platform studies with the sociology of social movements, and playing with the notion of digital traces as a heuristic tool to understand the dynamics between platforms and their users, this theoretical contribution explores how activists who are largely reliant on social media for their sense-making and organizing activities may exploit datafication in its own right. Defining digital traces as the “fragments of past interactions or activities” (Reigeluth, 2014, p. 250), this essay follows such traces as they are critically activated by political actors. It explores “digital traces in context” (the topic of the Special Issue) by foregrounding human agency and the meaning-making activities of individuals and groups. In so doing, it contributes to the study of “the variable ways in which power and participation are constructed and

² The platforms considered here include microblogs such as Twitter, social networking sites such as Facebook, and video- and photo-sharing venues such as YouTube or Instagram—where the emphasis is on content production and sharing and/or participation in social networking activities for leisure purposes, and where users have a certain degree of choice with regard to the shape their interventions might take.

enacted" (Couldry & Powell, 2014, p. 1) in bottom-up data practices (see also Beer, 2009).³ Further, by focusing on the possibilities for activism opened up by datafication and exploring "subject formation within these data regimes" (Dalton, Taylor, & Thatcher, 2016, p. 1), the article addresses a gap in social movements research, which, as we shall see, tends to be oblivious to the social affordances of technologies, platforms, and data.

The article is structured as follows. First, it reflects on the materiality and discursiveness of digital traces, and on their heuristic value. Second, it elaborates on the evolution of political agency in relation to datafication, and the datafied self in particular. Third, it looks at the rise of visibility as the new barycenter of collective action. Finally, it considers digital traces as particular agency machines empowering users to exercise political agency, and explores six agency-producing mechanisms supported by social media that allow people to appropriate the meaning-making mechanisms of the latter.

The Materiality and Discursiveness of Digital Traces

Likes, shares, check-ins, selfies, and other forms of expressivity, interaction, and affectivity on social media are only some of the visible digital traces disseminated by users on the Web in an equivalent of virtual footprints. Other traces, such as the records of Web searches and the logs of website visits, are unintended and largely invisible. Although in the era of mass self-communication individuals "are often themselves aware of being classified," because this is "one of the main 'facts' they have to deal with" (Couldry & Powell, 2014, p. 2) today, people might not be aware of the extent to which they are subjected to monitoring and tracking.

There is a rich literature on digital traces in the French philosophical tradition.⁴ In the context of this article, digital traces indicate those digital records, largely in the form of content "left behind" as a result of users' activities online. Metadata (i.e., data about data) constitute key components of digital traces as they are constantly "seized" from unsuspecting users by means of, for example, cookies and trackers. However, here the focus is exclusively on traces that are intentionally generated and that display constructed and/or intrinsic meaning, such as likes and shares and text and visuals, which end up working as "stand-ins for people" (Agre, 1994, p. 104). The notion evokes three sociopsychological dynamics, widely observed in the study of organized collective action. First, digital traces embody an expressive function, thus contributing to self-expression, self-perception, and self-representation in the digital sphere—the latter seen as a permanent "front stage" where actors strive to optimize the (re)presentation of the self (see Goffman, 1959). Second, the notion encompasses identitarian elements, if we consider

³ The activism rubric embraces various contemporary forms of action across the political spectrum as they are mediated by digital platforms, including what has been termed "hashtag activism" (Khoja-Moolji, 2015) and "connective action" (Bennett & Segerberg, 2013). Forms of organizationally centralized, structured digital advocacy such as MoveOn.org (see Karpf, 2012) and e-petitions platforms such as Avaaz.org are excluded from the analysis, because they allow for a restricted array of user intervention. Also excluded are hacktivism tactics such as distributed denial-of-service attacks (Milan, 2015b), because they assume a distinctive, more informed relation to technology.

⁴ For an overview in English, see Reigeluth (2014).

digital identities to stem from “the collection or the sum of digital traces . . . involuntarily and ubiquitously produced” (Reigeluth, 2014, p. 249) by the users’ online relationships and exchanges. Third, once and if woven together, digital traces “allow a pre-emption and prediction of future behaviours” (Reigeluth, 2014, p. 250) of individuals and groups. Thus, they can be seen as a “form of control of the self and self-control” (Reigeluth, 2014, p. 244). Offering crucial hints in the navigation of social relationships and the formation of expectations, they are the building blocks as well as the “tangible” manifestations of collective identities on the Web.

Following digital traces rather than generic data allows us to move into the realm of “the open set of practices relating to, or oriented around” (Couldry, 2004, p. 117) technology, integrating a sociological perspective that is key to understanding the situated uses of social media and their consequences. Concentrating on practice, in turn, foregrounds human agency and the sense-making activities of individuals and groups. In addition, focusing on digital traces allows us to stress the “continuity with ‘previous’ or existing social, political and economic structures” (Reigeluth, 2014, p. 249)—hence to forefront the productive dynamics between agency and structure. Interestingly, digital traces have a dual nature: They entertain a tangible relation with the off-line (as they originate in the off-line world), yet they are also the result of specific “ordering practices” negotiating plurality and alternatives within platforms and devices (cf. Bowker & Star, 2000; Mol, 2001). This ordering is jointly performed by the “computational infrastructure” (Bogost & Montfort, 2009) supporting data collection and processing and by the governance setup that knits together (and provides a justification to) such infrastructure—hence the very *material* nature of digital traces. Paying attention to the material conditions enabling digital traces to be produced, shared, and exploited helps us to trace the space for individual and collective agency in times of datafication, and to understand the intimate relation between the agency of social actors and the sociotechnical environments shaping it.

Self-expression and interpersonal interactions unfold today in a landscape of “digital enclosures” (Andrejevic, 2007) setting the rules for the ubiquitous commercial capture of data. The context in which digital traces come to life and are recursively reproduced, made visible, and traded is a constellation of opaque algorithms operating in the realm of machine learning and acting at the hidden level, creating an illusion of platform neutrality (cf. Gillespie, 2010; Pasquale, 2015). Yet these algorithms “produc[e] and certif[y] knowledge” (Gillespie, 2014, p. 168) and tightly structure users’ interaction in online platforms. The combination of rules regulating the government of others and the (externally imposed) government of the self, to paraphrase Foucault (2008), constitutes a novel “algorithmic governmentality” (Rouvroy & Berns, 2013), which is material and discursive at the same time. Some have acknowledged the unequal power relations that characterize these technologies (Dahlgren, 2013), while others have pointed to the emergence of an “algorithmic power” with generative properties that leaves little room for human agency (Lash, 2007). Still others, such as Zuboff (2015) and Dencik, Hintz, and Carey (2017), have highlighted the challenges to democratic norms that derive from the new expression of power enshrined in the global architecture of data extraction, commodification, and control.

But there is more to the material nature of digital traces; as Thompson (2005) notes, “by using communication media, individuals create *new* forms of action and interaction which have their own distinctive properties” (p. 32, emphasis in original). These new forms of action and interaction are a

function of the discursive character of digital traces.⁵ In the same way that social media platforms, sizable producers of digital traces, perform a key “discursive work” (Gillespie, 2010, p. 348) in shaping sociality, digital traces themselves take on *discursive* properties, activated, for example, by prompting certain types of interactions instead of others (cf. Gerlitz & Helmond, 2013). Digital traces are discursive to the extent that they not only capture reality but simultaneously act to modify it (see Gerlitz & Lury, 2014). Building upon and extending Reigeluth’s (2014) notion of “digital discursiveness,” we can therefore distinguish at least four types of discursive properties of digital traces as they are generated by the datafication and platformization of Web-mediated interactions: (a) *measurement* as the objectification and quantification of the self (cf. Beer, 2016); (b) *visualization* as the exploration and discovery of the self, “made-tangible” by the platform through digital traces; (c) *performance* as public display of the self and mechanism of self-evaluation and recognition of like-minded others (cf. Goffman, 1959); and (d) acceleration and desynchronization of action and its reproduction as the *modified temporality* of the self on social media. These discursive properties can be seen as the meaning-production mechanisms specific to social media platforms. They contribute to the emergence of the datafied self—a sort of “digital double” (Haggerty & Ericson, 2000) that mirrors, resembles, and reflects but especially interacts with the subject that originates it (Ruckenstein, 2014).

Political Agency vis-à-vis the Datafied Self

What is the space of political agency in this sprawling sociotechnical configuration? Here, agency is sociologically understood in its guise of intentional, reflexive practice oriented to (political) action, or the process of “making sense of the world *so as to act within in*” (Couldry, 2014, p. 891). It concerns “domains in which action is both personal and informed, and in which it is appropriately so” (Feenberg, 2011, p. 1)—hence excluding occurrences with no agential character, such as unintentional or routine, customary acts. It is rooted in sense-making, or the “interactive process of constructing meaning,” also referred to as “meaning work” (Gamson, 1992, p. xii). The interpretive processes through which people—individuals, groups, and bystanders, in isolation and in interaction with one another—make sense of the world around them concern the surrounding sociopolitical context, values and desires, grievances and claims as well as emotions and identitarian elements, including collective identities.⁶ The element of perception is crucial in meaning making, as social movement scholars have noted in relation to political opportunities: To take action, people must come to a shared definition of the situation (cf. McAdam, McCarthy, & Zald, 1996), whether it is a faithful assessment or not. The prognostic perception of the situation and of the individual or collective potential “affect[s] people’s expectations for success or failure”

⁵ The term *discursive* is borrowed from Foucault’s notion of discursive practices, described as the set of rules, culturally and historically determined, which produce and organize knowledge (see O’Farrell, 2005). The way *discursive* is used in this articles goes one step further by emphasizing the determination inherent in this process.

⁶ This definition inserts political agency in the tradition of the conflictual dimension of politics (see Mouffe, 2005) typical of social movements and, more recently, of alterglobalism (Marchetti, 2013). However, here I focus exclusively on the micro (individual) and meso (group-level) dimensions of political agency, ignoring the macro level of the systemic relations with the state. The emphasis is in the interplay between the micro/meso levels of agency and the structure of social media.

(Tarrow, 1998, p. 77). Consequently, we ought to distinguish between factual and perceived agency, where the latter indicates the subjective interpretation of political agency.

But there is a second element to consider when contemplating political agency: its nature of process (as opposed to attribute). Emirbayer and Mische (1988) have called attention to the temporal dimension of agency. In their words, agency is

the temporally constructed engagement by actors of different structural environments—the temporal-relational context of action—which, through the interplay of habit, imagination, and judgement, both reproduces and transforms those structures in interactive responses to the problems posed by changing historical situations. (p. 970)

Agency is not one and given, nor is it static; rather, it is the ability of social actors to variably engage with and react to the context in which they are embedded that empowers them to change their relation to structure. Further, Emirbayer and Mische (1988) distinguish three elements of human agency: iteration, or the selective activation of past patterns, which contributes to order social universes and to sustain identities and interactions over time; projectivity, which denotes the imaginative generation of future trajectories and possibilities; and practical evaluation, which is the ability of social actors to make practical and normative judgments and act upon them (p. 971). The three can be seen as the “different temporal orientations of agency” (pp. 970–971), accounting, respectively, for past, future, and present.⁷

Having established that meaning work lies at the core of political agency, that agency consists in distinct “temporarily variable social manifestations” (Emirbayer & Mische, 1988, p. 963), and that social media are one of the main channels through which we experience the world today, we should explore how social media—and, by extension, the ongoing datafication and platformization of the Web—alter sense making and the perception of time by social actors. In other words, how does acting on social media affect political agency? Using digital traces as the lens through which we look at the platform/user assemblage, I now reexamine the discursive properties of digital traces described above to explore their potential impact on political agency.

Measurement of the self and of interpersonal interactions is the most visible consequence of digital traces on collective action, and the most significant feature of the datafied self. As neoliberal subjects, argues Beer (2016), we have a “cultural interest in numbers, and a culture that is shaped and populated with numbers” (p. 149). The seduction of metrics contributes to flatten meaning work to a matter of numerals and quantities, which are perceived as objective and unambiguous representations of the self. But because social media intervene in changing the nature of reality altogether (Gerlitz & Lury, 2014), the impact of measurement may go as far as steering interactions—for example, instilling unintended directions or funneling relations in the direction of shallow button-mediated exchanges. The

⁷ By embracing a perspective postulating the interpenetration of agency and structure, I do not deny the agency that is also located in the structure making datafication possible—namely, the algorithms and hardware, data farms, corporate interests, and regulations (see, e.g., Fuchs, 2014a; Mosco, 2014). Rather, I explore the dynamics of adaptation of the datafied self and the structure bringing it to life.

stream-like visualization of people's activities and preferences "breaks" the "shared definition of the situation" (McAdam et al., 1996, p. 8) at the core of political agency into smaller, disempowered-to-be units of meaning (e.g., images, feelings, short texts). These can be activated ad hoc, but they also can be easily disregarded and shelved if they prove unpopular in one's social network. Likewise, performance, in its function of public display of the self and means to identify compatible others, reduces one's ability to reveal oneself to the most "marketable" and "likeable" elements, in search of an optimal self-branding resulting in increased popularity and, by extension, augmented self-esteem (see also Banet-Weiser, 2012).

Measurements, visualization, and performance bear severe consequences for meaning work, which is reduced to the mere juxtaposition of discrete, minimal units of meaning. They trap these units into an unusual isolation and a bizarre temporal dimension, allowing barely for the emergence of hyperpersonalized, scattered accounts rather than complex, collective narratives that people can act upon as a group (in other words, collective identities). For these reasons, measurement, visualization, and performance alter the ability of the datafied self to exercise projectivity: By leveling discourses, amplifying simplified self-representation and emphasizing reputation, and downgrading the self into diminutive, disempowered units, they may reduce social actors' "capacity to imagine alternative possibilities" (Emirbaye & Mische, 1988, p. 963) and act upon them. At the same time, they might distort people's ability to engage in practical evaluation: They may, for instance, project inflated numbers that can be interpreted as a sort of illusionary "collective we" that stands for collective identity but that might not function as such when activated beyond the walled gardens of social media. In other words, social media may boost the perceived political agency of social actors at the expense of a realistic analysis of the situation.

Finally, by transforming the perception of and the engagement with time, digital traces interfere with "the temporal-relational contexts of action" (Emirbaye & Mische, 1988, p. 970). The modified temporality of social media, of which acceleration and desynchronization of interactions and self-representation are the main features, intervenes to alter the flow of time—both real and perceived—of political action. It can affect what Emirbaye and Mische called iteration, or the selective activation of previous experiences and past patterns. Particularly worrisome is the potential impact of this modified temporality on the ability of social actors to sustain interactions and identities over time.

To be sure, the discursive properties of digital traces also carry positive effects on collective action. Measurement helps translate personal analytics in a format that is immediate, engaging, and actionable. Visualization and performance make meanings easier to share with others. They facilitate the exploration and discovery of the self and others, which social media platforms contribute to make "tangible" and leisurely to navigate. Thus, social media make possible a subjective dialogue between the off-line self and its online counterpart, which becomes part of a new, reflexive self (Bode & Brogård Kristensen, 2015). Modified temporality, moreover, might play into collective action and organization. For instance, iteration might be strengthened by digital traces. Think of a well-liked post on a Facebook wall—say, a video of a street protest: Popularity in one's network might result in the reiteration of the video well beyond its real occurrence, amplifying positive emotions and a sense of belonging. In this way, collective identity is constantly activated and therefore reinforced in the day-to-day interaction over social media

rather than being enacted only in face-to-face action such as protest demonstrations and meetings (for a more detailed account of this process, see Milan, 2015a). Last, both projectivity and practical evaluation might emerge strengthened from the mincer of social media, as (perceived) time becomes more malleable by social actors, and algorithms, unnoticed in their disruption, facilitate the emergence and accentuating of shared well-liked units of meanings over unpopular ones.

But the evolution of political agency taps into the broader question of identity formation, and the two cannot be understood in isolation. What does the identity of the digital self look like? By influencing self-perception and self-representation and the ability to form expectations about the behavior of others, digital traces trigger a particular identitarian process in present-day activism: visibility.

The Quest for Visibility

Digital traces trigger a quest for visibility that is unprecedented in the realm of organized collective action. While historically social movements have sought the alliance of sympathetic journalists (Gamson, 2004), struggled to put their issues on mainstream media (Ryan, 1991), or set up their own media to bypass the bottlenecks of traditional information flows (among others, Atton, 2002; Downing, 2010; Dunbar-Hester, 2014; Milan, 2013), never has activism been so oriented to its mediatic representation. Not only have mediated processes installed themselves at the core of the mobilization cycle; the very same goals they purport—interchange, sharing, and especially visibility—have come to constitute the kernel of collective action.

Visibility indicates the online manifestation and embodiment of individuals and groups and their associated meanings, which users must persistently (re)negotiate, boost, and update. It is the user-bound ritual that results in digital traces. Social actors are “transmuted” into an ever-changing multitude of posts, pictures, videos, and emotions expressed in varied formats among those enabled by a given platform—including via dedicated buttons and emoticons.

My notion of visibility echoes Thompson’s (2005) concept of “mediated visibility,” whereby the “making visible of actions and events”—through which “previously hidden practices and events [are] given an entirely new status as public”—is an “explicit strategy of individuals” (p. 31). As discussed earlier, this visibility generates specific forms of action and interaction.⁸ I contend that visibility has become so prominent a meaning-making mechanism to redefine (and in part replace) the process of identity building (and the sociological notion of collective identity, through which social actors recognize one another as part of the same struggle; Melucci, 1996).

Scholars of various disciplines agree that we are witnessing epochal changes in the social movements realm. Some have argued that an emerging dynamic of “connective action” has replaced old-school collective action (Bennett & Segerberg, 2013), with uncertain outcomes for the ability of collective identities to emerge. Although some have postulated the “persistence of collectivity” (Gerbaudo, 2014, p. 264) within digital protest, much of the social movements and digital activism scholarship has ignored the

⁸ Thompson’s analysis, though, concerned solely television, the press, and the Internet.

relation between the materiality of social media, and digital traces in particular (and the related governmentality arrangements), and their sociological affordances.⁹ Yet social media have agency, and they embed political decisions and preferences that bear consequences on the users' engagement with them (see Gillespie, 2010, 2014).

The notion of cloud protesting brings under the spotlight the materiality of the algorithmic environment of social media in shaping contemporary organized collective action (Milan, 2015c). Cloud protesting indicates a form of organized collective action that revolves around the changed role of individuals in interaction with their devices and preferred platforms, focusing on their identities and bodies and their virtual representations. It is made possible by as well as modeled after social media platforms, the digital imagined space they originate ("the cloud"), and the interaction dynamics they trigger. Cloud protesting calls attention to the micro level of interaction, postulating that social media do not simply facilitate these interactions; rather, they reshape them altogether. Furthermore, it brings sense-making activities back to the center of organized collective action, countering the recent tendency to emphasize instrumental relations over meaning making.

The social media-driven exercise of identity is being enacted through four mechanisms: individual choices, performance, visibility, and juxtaposition. This social media-induced personalized identity is experiential, polycentric, fine-grained, and multilayered (Milan, 2015a). Identities have become fleeting, elusive temporary affiliations rooted not only on copresence in real life but especially on its reproduction in online settings severed from the sharing of a given temporal-spatial dimension. Personal stories and ways of making sense of one's reality converge in the creation of personalized yet universal narratives that are real-time, flexible, and crowd-controlled. Unified by platform-specific semantic devices such as hashtags, these joint narratives are built on juxtaposition and selection, malleable to individual interpretations and open to new contributions.

The idea that media institutions and mediated processes are critical agents in the construction of identities is not new in social movement research (see, e.g., Gamson, 1992; Mattoni, 2012; Mattoni & Treré, 2014). If we imagine "collective action as emerging in conversations and solidified in texts" (Kavada, 2016, p. 8) and concur that "collective identities are talked into existence" (Hunt & Benford, 2004, p. 445), we should examine how social media funnel and shape this "talking"—in other words, how digital traces produce and foster visibility.

Digital Traces as Agency Machines: Producing Visibility

In 2012, a group of Mexican university students opposing the forerunner in the national presidential campaign challenged his truth by summoning supporters through social media. In response to the allegations by mainstream media that a protest against the candidate, who was delivering a talk at a private university, had been maliciously staged with no involvement of the actual student body, 131

⁹ With some notable exceptions, denouncing, for instance, the discrepancy between the revenue-based business model of commercial platforms and the values of grassroots movements (Dencik & Leistert, 2015; Fuchs, 2014b; Mosco, 2009).

enraged students created a video and shared it on YouTube. In the movie they identified themselves, one by one, with a progressive number and their student cards. The video ended with a call to arms, inviting the public to become (student) "number 132," thereby joining the protest (Treré, 2015). The protest became known as "yosoy132," Spanish for "I am number 132."

Digital traces can work as producers of political agency—both perceived and factual. The yosoy132 protesters showed how activists are capable of appropriating digital traces and/or the mechanisms of their production for advancing their causes. Similarly, the "We are the 100%" Tumblr, which played a key role in mobilizing the Occupy Wall Street protest, collected faces and stories of people who struggled to get by and reclaimed social justice (Rosen, 2011). "We don't claim to speak for anyone, we merely present stories," maintained a comment posted on the platform, exposing how agency in the time of social media does not necessarily and exclusively come from exercising citizen agency in traditional formats such as voting or street protest. Instead, it is also generated by self-representation and the act of coming together and making it visible on the Web—what Couldry (2010) would call "voice as process," which involves "the act of giving an account of oneself" (p. 3).

Social media create subjectivities that orient themselves toward the algorithm—in other words, users are trained to think of themselves with (what they believe is) the logic of the subtending algorithms (Agre, 1994; Humphreys, 2016). As "tangible" hints at the functioning of social media, digital traces become primary sites of user intervention. I distinguish six agency-producing mechanisms supported by social media, which correspond to six ways in which users can engage with digital traces to advance their goals. Acknowledging these instances in which user agency can (try to) be "transformative of the structures" (Kaun, Kyriakidou, & Uldam, 2016, p. 1) of social media does not underrate the opacity of algorithms and the illusionary character of much of the user interference with corporate platforms. However, this exercise allows us to explore "the possibility of [human] agency, and the spaces in-between" (Kennedy et al., 2015, p. 3).

Digital Traces Make the Unseen Visible

Although digital traces certainly do not make algorithms visible, they make explicit the materiality of social media. They expose the "active role of devices and material artifacts in shaping how publics and public problems are organized and articulated" (van der Velden, 2018, p. 2) and render somewhat evident (however not transparent) the mechanisms of meaning production of the former. By allowing users to get a glimpse of the datafication they enable, digital traces offer unprecedented possibilities for users with a political agenda to directly engage with the medium. They contribute to mobilize social media data, turning them into a contested terrain of imagination and practice. They empower users to produce their own data inscriptions to leverage such mechanisms (e.g., popularity by measurement) in view of supporting their goals. While the intermediaries are not neutralized (automated processes have simply supplanted and muddled newsroom practices), users experience a renewed sense of self-sufficiency and empowerment, no matter how untruthful and misleading. In sum, by participating to make the possibilities visible, digital traces boost the perceived political agency.

Digital Traces Activate the Intimate and the Mundane

Supporting and emphasizing emotional bonding, social media platforms prompt users to share private and ordinary aspects of their life that have traditionally been excluded from political action,¹⁰ facilitating the incorporation of the intimate and the mundane into the activists' narratives and action repertoire. The mediation of everyday technologies such as smartphones eases the interpenetration of political activism and daily life, and the individualized temporality of engagement with digital traces transforms the process of meaning making into an intimate affair. Intimacy tends to be returned, because visibility is "reciprocal (at least in principle)" (Thompson, 2005, p. 35), while the activation of the private and the ordinary strengthens the role of emotions in sustaining collective action (cf. Goodwin, Jasper, & Polletta, 2001). These dynamics set in motion a process of coproduction of meaning that approximates identity building, although it is centered on the private dimension.

Digital Traces Are Narrative Builders

They engage users in conventions specific to each platform (e.g., hashtags), which identify distinct "grammars of action" that "formalize the interaction patterns" (Agre, 1994, p. 109) available to users. By productively interacting with these set grammars, activists can involve social media data points in a process of interpretations and creation, turning "raw" information into collective narratives—no matter how scattered or simplified. Think, for example, of "complex" hashtags such as #JeSuisCharlie, expressing solidarity following the terrorist attack against the French satirical weekly *Charlie Hebdo* in January 2015. #JeSuisCharlie resurfaced in the European streets when people marched holding signs with the same slogan and evolved to support other narratives such as #JeNeSuisPasCharlie, which gave voice to alternative frames such as hate speech, Eurocentrism, and Islamophobia (Giglietto & Lee, 2015). This example shows how digital traces can be appropriated to foster a narrative form of agency, or "the capacity to create stories on social media . . . in a way that is collective and recognized by the public" (Yang, 2016, p. 14). These stories become collective if and when they are inserted into a temporal framework composed of a beginning, a crisis/conflict moment, and an ending (Yang, 2016). There are three outcomes of this process: Digital traces might make meanings actionable as they partake in creating a plot that resembles recognizable narrative forms (cf. Clark, 2016); they can favor the connection amid the online storytelling and the off-line copresence; and they contribute to the formation and affirmation of the activists' self-identity (Giglietto & Lee, 2015).

Digital Traces Allow for the Live Historicizing of the Activist Experience

Animated by a "new 'self-help' and 'self-actualization' ethos" (Lee, So, & Leung, 2015, p. 356), activists of the Umbrella movement (Hong Kong, 2014) have been found to rely extensively on social media for online expression and online explanatory activities (Lee & Man Chan, 2016). Similarly, when the Occupy Toronto camp was evicted in winter 2011, activists peacefully broadcasted the event to the world through their smartphones and a streaming platform, deeming more impactful documenting action and

¹⁰ With the exception of, for example, feminism, identity politics, and political consumerism and, to a degree, alterglobalism (McDonald, 2004).

"creating history" on the go rather than resisting the eviction.¹¹ By virtue of their nature as an experiential medium, social media give voice to the activists' subjective experience, meeting the needs of today's "experiential movements" (McDonald, 2004). By making possible the instant live reporting from protest actions, they allow for the live-historicizing of the activist experience. Historicizing equals narrating a story and rendering it historical, and both bear the empowering effects that derive from live storytelling (cf. Polletta, 2006; Rodriguez, 2001). By emphasizing and amplifying the performative component of contemporary activism, digital traces contribute to mythologize collective actions and emotions: By participating and concurrently making it visible online, each activist can become the hero of the collective plot (Milan, 2015c). Finally, although altered by obscure algorithms, the mechanisms of mediated collective memory, including the dimensions of time and copresence (or the lack thereof), represent an additional playground for activists.

Digital Traces Allow for the Recognition and Involvement of Like-Minded Others

Digital traces promote and show(case) collectivity by drawing attention to (and making tangible) the participation, networking practices, and the "logic of aggregation" (Juris, 2012) of activists and bystanders, regardless of their physical locations. In Chile, for example, a protest that broke out on Facebook (where 118 groups were created within two days) managed to stop the establishment of a power plant that would have impacted a large penguin population (Valenzuela, Arriagada, & Scherman, 2012). Digital traces might intervene in three ways: They facilitate the discovery of popular meanings and activities by emphasizing lower-common-denominator storylines (Milan, 2015c); they appeal to others, summoning potential activists by means of, for example, underscoring affective involvement (Papacharissi, 2015) and positive emotions above all (cf. Jasper, 1997); and they invite these others to participate in the coproduction of the collective narrative, rapidly including them into the public of a given page, group, or list (cf. Yang, 2016).¹² This "function" of digital traces shows "distributed agency" (Rammert, 2008) in action, where the task of "calling in" is equally divided between humans, actively pursuing new audiences, and material actors, algorithmically contributing to the challenge.

Digital Traces Promote Self-Reflexivity by Curation

Agency is linked to reflection (Couldry, 2014), and self-reflection empowers individuals to become a movement, freeing them from constraining social norms and roles (Touraine, 1995). According to the same author, contributing to learning, self-reflection is key to the generation of new normative orientations in society, the struggles over which take place in the realm of sociocultural production. The Black Lives Matter mobilization in the United States, prompted by police brutality in Ferguson, Missouri, in 2014, is a case in point: Black Twitter users repurposed the Black American cultural tradition of "signifyin'" as a means of performing racial identity on the microblogging platform by exhibiting knowledge and cultural competence (Fiorini, 2013). Social media, hosting much of today's sociocultural production,

¹¹ Author's fieldwork notes.

¹² However, as multiple studies have shown (e.g., Gunnarsson, 2014; Siapera, 2014), social media reiterate current divides in the public discourse, perpetuating the existing "filter bubble" (Pariser, 2011) rather than promoting the cross-fertilization of views.

enhance self-reflexivity by inviting, through engagement with digital traces, the curation of social media data, or the selecting, filtering, and redistribution of relevant content.¹³ Activists have the chance to iteratively “look inwards and to experience their own existence” (Touraine, 1995, p. 282) through the lenses of the platform and its publics. Stretching Kelty’s (2008) concept beyond its original context, these exercises of self-reflexivity approach those “recursive publics” busy “maintaining the means of association through which they come together as a public” (p. 28).

Conclusions: The Rise of Temporary Data Publics

This article reflected on how datafication may support users’ agency, asking whether and how activists can appropriate social media data to “meet their own ends” (Couldry, 2014, p. 892) in a time when “technologies [have] change[d] their role from passive means into agents and mediators” (Rammert, 2008). It placed collective action in the material of social media platforms, foregrounding their discursiveness and materiality, and focused on bottom-up data practices in view of understanding how social media data are mobilized in tactics and narratives. The article explored how digital traces contribute to “rematerialize” the meanings produced by social actors, rendering partially visible the meaning-making mechanics inscribed in social media. But while making visible does not equal real power over those dynamics, social actors can reappropriate digital traces and the mechanisms of their creation to try to recuperate their perceived agency. As Marres (2012) noted, users are “transformed from ordinary actors, caught up in habitual ways of doing, into participants—or at the very least, ‘implicants’—in problematic assemblages” (p. 48). These interventions by “participant-implicants” contribute to the creation of “new rationalities and alternative social imaginaries around datafication” that “connect system and experience in new ways” (Baack, 2015, p. 8).

Making the unseen visible, activating the intimate and the mundane, allowing for building narratives and for the recognition of like-minded others, live-historicizing the activist experience and promoting self-reflexivity by curation are among the ways in which digital traces produce and foster visibility. This materialization, resulting from the filtering of meaning construction by social media platforms, creates *temporary data publics*, identified by the six modes of interventions, described above. “Data publics” typically emerge with data-analytic practices and the related data infrastructure, which act as mediators and contribute to the reconfiguration of expertise and social knowledge (Ruppert, 2015).¹⁴ When seen in relation to digital traces, temporary data publics are the result of the joint action of data and the corresponding platforms, which are “involved in constituting subjects in diverse and pervasive ways” (Halford & Savage, 2010, p. 952). These publics are brought to life by social media data because they depend on the data to render visible (and popular) tenuous identities and transient viewpoints for which visibility is a necessary condition for existence. Temporary data publics are performed as they are

¹³ Here the focus is on the activists’ own curation of their pages and groups, leaving aside the controversial content curation by platforms (see, e.g., Gillespie, 2014).

¹⁴ For an analysis of “material publics,” see Marres and Lezaun (2011), and van der Velden, who studied how making surveillance visible creates radical publics (2018). The idea of “making publics through technology” emerged within Science and Technology Studies, and Actor Network Theory in particular. It is evoked for its ability to foreground the agency intrinsic in the algorithmic environment of social media.

articulated in relation to and hinge on the mechanisms of social media platforms for their own survival. But they are also inherently performative—that is, they aim to change the reality they are describing. In other words, they are bearers of perceived agency that comes into being through everyday devices (cf. van der Velden, 2018). They are temporary because they are continuously assembled and reassembled by contingent action, both human and algorithmic. Yet, no matter how evanescent and transitory, these temporary data publics activate some form of political agency and enhance in particular the subjective interpretation of that agency—very often with real-world consequences.

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