When algorithms shape collective action: Social media and the dynamics of cloud protesting

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Abstract

How does the algorithmically mediated environment of social media restructure social action? This article combines social movement studies and science and technology studies to explore the role of social media in the organization, unfolding, and diffusion of contemporary protests. In particular, it examines how activists leverage the technical properties of social media to develop a joint narrative and a collective identity. To this end, it offers the notion of cloud protesting as a theoretical approach and framework for empirical analysis. Cloud protesting indicates a specific type of mobilization that is grounded on, modeled around, and enabled by social media platforms and mobile devices and the virtual universes they identify. The notion emphasizes both the productive mediation of social and mobile media and the importance of activists' sense-making activities. It also acknowledges that social media set in motion a process that is sociotechnical in nature rather than merely sociological or communicative, and thus can be understood only by intersecting the material and the symbolic dimensions of contemporary digitally mediated collective action. The article shows how the specific materiality of social media intervenes in the actors' meaning work by fostering four mechanisms—namely performance, interpellation, temporality, and reproducibility—which concur to create a "politics of visibility" that alters traditional identity dynamics. In addition, it exposes the connection between organizational patterns and the role of individuals, explaining how the politics of visibility is the result of a process that originates and ends within the individual—which ultimately creates individuals-in-the-group rather than groups.

On 23 November 2011, it is a gray misty morning in downtown Toronto, Canada, when about a hundred police officers intervene to evict the local Occupy encampment. The few dozen activists overseeing the site limit themselves to witnessing peacefully, smartphones in hand, while the city waste management collects and destroys tents and the garish posters that had decorated St. James' Park for little over a month. Rather than protesting or opposing the eviction, they engage in intense live reporting and emotion sharing via social media.

Social media have become the "curators of public discourse" (Gillespie, 2010, p. 347), altering practices, discourses, and even protest dynamics. They "are not transmitters but rather producers of sociality, enabling connections as well as forging them" (Van Dijck, 2013, p. 57). Personalized and collective narratives are performed in social media platforms as much as they are through face-to-face interactions—and this contributes to shift the exercise of dissent to the digital realm. As the above example illustrates, the locus of dissent is "redistributed" (Latour, 2005) from the Occupy camp to the phones and platforms where

content comes to life and is disseminated. Capturing images and footage becomes part of the act of dissent itself, and as much a part of *going public* and *"organizing publics"* (Marres, 2012) as "traditional" protest.

Scholars have rightly linked social media to the emergence of new social configurations, which have been variably termed "networked collective action" (Rainie & Wellman, 2014), "crowds of individuals" (Juris, 2012), and "connective action" (Bennett & Segerberg, 2013). Bennett and Segerberg, especially, have gone as far as positing the end of the textbook dynamics of collective action, allegedly replaced by leaderless, molecular organizing mechanisms that rely on social media to personalize action frames. Although these analyses have the merit to expose digital

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media "as organizing agents" (Bennett & Segerberg, 2012, p. 752), they assume a sort of "myth of us" as a "natural collectivity" emerging from interaction on social media (Couldry, 2015, pp. 619-620), downplaying the fact that these impose specific "strategies, mechanisms, and economies" (Van Dijck & Poell, 2013, p. 3) on their social affordances. While they take social media as structural metaphors, they overlook the "politics of the platform" (Gillespie, 2010, p. 347).

This article seeks to fill this gap by analyzing the consequences of the "medium-specific infrastructure" (Gerlitz & Helmond, 2013, p. 14) of social media on the emergence and unfolding of contemporary mobilization. To this end, it offers the notion of cloud protesting as a theoretical approach and framework for empirical analysis, one that is able to simultaneously emphasize (a) the constitutive (versus vehicular) mediation of social and mobile media and (b) the importance of activists' sense-making activities. Similar to other recent conceptualizations, and connective action in particular, cloud protesting indicates a specific type of mobilization that is centered on individuals and their needs, identities, and bodies. It is grounded on, modeled around, and enabled by social media platforms and mobile devices and the digital universes they identify. However, it differs from connective action in three ways. First, it calls attention to the multilayered ways in which social media shape interactions at the micro level, instead of simply facilitating them. Second, it recognizes that social media set in motion a process that is sociotechnical in nature rather than merely sociological or communicative and can be understood only by intersecting the material of human–machine interactions and the symbolic of human action. Finally, it acknowledges the role of collective identity as the "esprit de corps" (Blumer, 1939) that binds actors together in an instance of organized collective action—no matter how volatile, empirically thick, or simply imagined such collective identity might be (Milan, 2015a).

Inspired by the Occupy Wall Street mobilization wave, this article explores the role of the algorithms that sustain social media in shaping the symbolic dimension of dissent, specifically collective identities and narratives. It takes an interdisciplinary approach that combines social movement studies (SMS) and science and technology studies (STS). Whereas SMS shed light on interpersonal dynamics both at the micro (i.e., individual and interpersonal) and meso (i.e., group) level, STS follow the ontological distinctiveness of the medium (Rogers, 2013). SMS acknowledges the "persistence of collectivity" within digital protest (Gerbaudo, 2014, p. 264), accepting that the collective dimension is a key to the very existence of dissent, notwithstanding the growing role of individuals and content or emotion exchange. Furthermore, SMS rejects the individual as the sole unit of analysis, overcoming the "methodological individualism" (Gerbaudo, 2014, p. 266) of much of the ongoing research into political protest. It also moves beyond the "purely aggregative visions" (Gerbaudo, 2014, p. 266) of techno-centric

analyses, which tend to see movements as "the sum of thousands of small acts" on social media (e.g., Bennett, Segerberg, & Walker, 2014; Castells, 2012). However, SMS fail us in understanding *what is in social media* that makes them such a powerful tool for mobilization (Poell, 2014), as scholars typically "black box" media and the Internet into support tools devoid of sociopolitical and economic restraints (Latour, 1987; McCurdy, 2013). STS, in turn, have the ability to look *inside* social media and explore their situated nature (Sismondo, 2004), moving away from the human subject alone and into the *relationships* between people and their tools. From SMS, this article derives an interactionist perspective that, upholding the crucial role of microinteractions, considers organized collective action as a social construct with communicative action at its core (Melucci, 1996). In the STS tradition, it approaches social media and their algorithmic environments as actors that encode specific design choices that enable but also shape and constrain users' action—at the communicative, organizational, and tactical level.

While sociologically "keeping distinct the valence of digital networks as such and of the social networks, including networks of political socialization, which may or may not be associated with digital networks" (Couldry, 2015, p. 609), the article takes social networking platforms and mobile devices as a whole in order to stress the combination of sociality and mobility at the core of cloud protesting. In what follows I explain how social media are best seen as sociotechnical and "cultural-ideological" (Van Dijck, 2013, p. 57) artifacts with an agency of their own: they carry specific encoded politics (a certain worldview) and policy (community rules and legislation) and have the ability of "modify[ing] a state of affairs by making a difference" (Latour, 2005, p. 71). Second, I explore how they contribute to changing organizational patterns of contemporary movements and outline the notion of cloud protesting as a theoretical and empirical tool to interpret this evolution. Third, I describe how social media intervene in meaning construction, examining how activists leverage the technical properties of the medium to develop a joint narrative. Finally, I focus my attention on the process of identity building, illustrating how contemporary protesters engage in a "politics of visibility" that has altered the textbook notion of collective identity.

Social Media as Actors

Social media have brought collective action closer to those "phenomena that weave together the material and symbolic" (Paré, Millerand, & Heaton, 2014, p. 519). Certainly, movements have always been characterized by an intimate intertwining of these dimensions: take, for example, the placards and camouflage often used in street demonstrations but also the physical embodiments of the protest like camps. These material embodiments of the protesters' values, grievances, and emotions are the *outcomes* of complex "meaning work,"

that is to say the "interactive process of constructing meaning" (Gamson, 1992, p. xii) enacted by social actors in building and reproducing joint action. Social media, however, have exacerbated the connection between the symbolic and the material. Subsuming materiality and an "intense concentration of symbolic power" (Couldry, 2015, p. 609), they play a novel *broker* role in the activists' meaning construction processes. With many interactions being filtered by social media, the material dimension has taken central stage and so has the perception of this mediation: rather than being a sporadic and intermittent encounter, it has invaded the quotidian. Of material nature here are the very devices and platforms activists regularly use for interpersonal communication or organizing, and the messages, images, and "datafied" emotions exchanged online. In this "semiotic-material co-presence" (Leistert, 2013a, p. 4), content and infrastructure are intimately linked, as the former would not exist in the same form outside the frame of social media platforms. The "material" of social media has come to constitute the *vehicle* of meaning work: in other words, it has become the process through which the symbolic comes into being, instead of its mere physical (or digital) representation. But it is not a neutral vehicle: platforms not only carry but also "transform, translate, distort, and modify" (Latour, 2005, p. 108) content and relationships—by, for example, metrifying interactions with the goal of altering the very same reactivity they incite (Gerlitz & Lury, 2014).

The role of social media vis-à-vis mobilization is not just instrumental. They contribute to a "redistribution" of action well beyond the realm of technological practice, promoting a self-regulating rearrangement of both actors and participation dynamics (Latour, 2005; Marres, 2012). By narrowly defining users' actions and possibilities, they impose precise material constraints on social action. What is more, they promote a (*socio)cultural shift* that alters the "process of inscribing meaning into our contemporary social and spatial interactions" (Farman, 2012, p. 1). They generate a new sense of self that emerges as social action is rearranged across digital platforms in ways that may enhance or disrupt established practices and rework our idea of community as experienced through media.

Mobile and social media are algorithmic media sustained by running code acting as a "control technolog[y] [. . .] dynamically modifying content and function" through programmed routines (McKelvey, 2014, p. 598). These algorithms profile users on the basis of their behavior and select, rank, and personalize content according to user data. Operating at both the individual and the interpersonal levels, they "provide a means to know what there is to know and how to know it" (Gillespie, 2014, p. 167). Examples include the Like button (Gerlitz & Helmond, 2013) and the algorithms that populate users' Newsfeeds on Facebook (Bucher, 2012) and Twitter's Trending algorithm, which automatically compiles a list of the 10 most popular topics (c.f. Gillespie, 2012). However, algorithms leave no records and

are meaningful merely when operational, existing only in the microtemporalities of computing (McKelvey, 2014, pp. 602-603). While typically opaque (read: proprietary) and imperceptible to users, their generative properties create rules for social interactions. By acting at the hidden, underlying level, they contribute to create an illusion of platform neutrality (see also Gillespie, 2010). They also conceal the presence of "non-human actants" (Akrich & Latour, 1992) such as bots or virtual agents that perform automated tasks unbeknownst to human users. Although user-generated content has optimistically been equated with user empowerment (e.g., Östman, 2012), there remains a fundamental condition of asymmetry between producers and users of commercial social media.

To understand social media as sociotechnical artifacts, we ought to "move constantly between the technical and the social [. . .] between the inside and the outside," focusing on the "consequence of such interaction" between these dimensions (Akrich, 1992, p. 206). Artifacts are inscribed with the visions of their designers and their representations of target users and intended uses. Social media, for instance, prompt a type of sociality based on predefined activities like recommending, sharing, and emphatic exchange, fostering "participation by default" and the intensification of user (positive) affects (Gerlitz & Helmond, 2013, p. 14). They are political (c.f. Winner, 1999) in that they are built and ideologically positioned as to support the anticipatory idea of a level and accessible space affording opportunities (Gillespie, 2010).

Social media services have also assumed the role of policing and "politicking their users' (Gillespie, 2015). Their mechanisms at once describe and prescribe thus "establishing [their] own rationality and regime" (Leistert, 2013a, p. 2). The constituents of said regime include the centrality of corporate power (Turow, 2011), vertical service integration (e.g., Google), "leaky" software (Van der Velden, 2015), and the recentralization of data collection resulting from the "platformization" of the web (Helmond, 2015). Users experience the regime through prescriptive terms of service that bury privacy threats in murky descriptions—a symptom of the ongoing "privatization of the forms of decision-making and contestation" defining practices, values, and artifacts (Striphas, 2015, p. 406). Twitter's App Graph, analyzing users' subscription to third-party services to deliver targeted ads, and Facebook's "real name policy" are a case in point: they function as a "law of the excluded middle" (Latour, 1992, p. 226), whereby users "trapped" in agreements between the provider and third parties cannot but comply (or abandon the platform).

While luckily sociotechnical objects are subjected to continuous negotiations and co-production (Taylor, 1995), the question here is whether and to what extent social media are permeable to user agency. We known from literature that the gradient of user agency varies according to both contingent and institutional factors, among which are architecture and governance choices (Latour, 1992). Opaque algorithms typically correspond to a severe "loss of agency in technological systems"

(Winner, 1977, p. 295), whereby lay users can only address a platform's content and configuration layers, rather than its architecture (Latzko-Toth, 2014). Users have "mobilized" with some success to counteract this power asymmetry, for example, requesting multilanguage services and opposing draconian content moderation policies and design choices; they have occasionally engaged in strategic litigation. But these initiatives do not really have the ability to corrode the regime and the economic model that operate in the back.

In the next section, I zoom in on the sociocultural shift social media produce in the public sphere, focusing on the evolution of organizational forms within social movements.

From Organizations to Networked Individuals: The Dawn of Cloud Protesting

Supporting particular modalities of social interactions, social media have a certain type of collective action "built in." In order to historically situate this claim, we can identify three macrotrends in organized collective action from the 1960s onward, when modern "new social movements" emerged in the West. Each macrotrend is characterized by a combination of access to communicative resources[1] and the organizational forms these support: specifically, social movement organizations backed by self-organized media, print and broadcast; informal networks and affinity groups grounded on Internet cultures and modes of interactions, and networked individuals supported by the "self-centered forms of communication" of social networking (Fenton & Barassi, 2011). These macrotrends represent ideal types: offering a simplified reading of social reality, they fail to account for potential nuances (e.g., the coexistence of different organizations in a given period) but help us to outline an evolution. Next, I present the main features of these three phases.

The leaders of the 1960s mass protests belonged to anti-war organizations and identity-based, student, or church groups—in other words, formal groupings characterized by a well-defined membership and robust sense of belonging (McCarthy & Zald, 1977). Movement leaders "steered" the crowds, managing crucial resources like access to funding. Championing a carefully crafted narrative, they performed the role of "social movement entrepreneurs" (Oberschall, 1973), monopolizing the cultural production of the movements. Mobilizations were supported by self-organized media, including "free" radio stations and self-print publications (Downing, 2001).[2] Movement organizations and their media were the voice of the protesters, actively interpreting collective identity and leadership. In sum, formal groupings had organizational and normative control over the movement.

The diffusion of the Internet in the mid-1990s changed things dramatically. The web became the backbone and metaphor of new ways of organizing (Bennett, 2003), nurturing a "logic of networking" (Juris, 2008, 2012) that favored

informal arrangements. It also allowed movements to reduce and externalize the costs of mobilization (della Porta & Tarrow, 2005). Internet cultures inspired the organization into affinity groups: these short-lived action-oriented clusters, which "reflected the convergence of the people who act through them" (McDonald, 2002, p. 115), became the main organizational code of dissent. Contrary to their predecessors (which however co-existed with the new formations), these informal networks allowed for multiple and flexible identities, fluctuating and horizontal leadership, and temporary aggregations on the basis of affinity. They staged noisy "global justice" protests and disruptive actions against multilateral summits (della Porta & Tarrow, 2005; Juris, 2008). The Internet favored the mushrooming of self-organized digital media, which became the main vehicle for the movements' cultural and normative production. Activists could develop their narratives in a myriad of websites, bypassing mainstream media and the monopoly over symbolic production previously detained by resource-rich organizations. For example, the Independent Media Center, or Indymedia, created in 1999 in Seattle and rapidly diffused globally, allowed activists to report directly from the demonstrations without any editorial control (Kidd, 2010).

Then came social and mobile media, which facilitated a new "global" wave of protests that brought under the spotlight the networked individual. Following the 2010 uprisings in the Middle East and North Africa, the *Indignad@s* (literally, the outraged) protests exploded in Spain in mid-2011, inaugurating the season of protest camps (Feigenbaum, Frenzel, & McCurdy, 2013). In the fall of the same year, protesters in several Western countries, starting from New York City, adopted the Indignad@s' repertoire to oppose anti-austerity policies (della Porta, 2015). By emphasizing individual needs and contributions, Occupy and its siblings brought to a new extreme the organizational innovations of the most radical sectors of the global justice movement (McDonald, 2006). Social and mobile media supported this development: portable, always on, complementary to face-to-face communication and strictly personal (and personalized)—but also proprietary and centralized.[3] They hogged the core of the action, alone or in combination with other modes of communication, and sometimes even in absence of mobile reception or the Internet. They also extended political action into the realm of the private and the quotidian, as protest ceased being a separate pursuit and is now accessible from one's phone. In these dispersed but "leaderful" (Costanza-Chock, 2012) constituencies, "influential Facebook admins and activists tweeps become "soft leaders" or choreographers, involved in setting the scene, and constructing an emotional space within which collective action can unfold" (Gerbaudo, 2012, p. 5). Social and mobile media offered the organizational principle for cloud protesting.

Cloud protesting is better understood looking at the properties of cloud computing to which it bears some resemblance. In computing, the cloud designates the centralized

storage of services like software and their delivery via the Internet. Customers, who do not own the services hosted in cloud, can access and use them at will, thanks to easy-to-use web interfaces. Services can be infinitely customized to fit the needs of single organizations, and sharing products and infrastructure allow end users to reduce costs. That is, the cloud enables organizations to have a lighter structure while enjoying a diffuse and tailored access to resources vital to their operation. When transitioned to sociality, the structural metaphor of the cloud might appear controversial as it relies on a centralized configuration to capture social dynamics that are allegedly distributed. The term presents some disadvantages: it can be confusing, as the industry uses it to indicate alternatively distributed infrastructure, multipurpose platforms, or sharable software; it risks getting muddled by the marketing lingo around it; it might get rapidly outdated as the industry moves on to the next buzzword. However, I prefer it to "platform" (c.f., Bogost & Montfort, 2009) for three reasons. First, it is not (yet) as ideologically charged (read: infused with positive expectations) as the notion of platform is. While the latter has become synonymous of a "flat, featureless and open to all [. . .] progressive and egalitarian arrangement, promising to support those who stand upon it" (Gillespie, 2010, p. 350), hence eliding issues of political and controversial nature, the former has been associated with privatization, control, and threats to individual privacy and the environment (Dourish & Bell, 2011; Mosco, 2014). Second, referring to the cloud allows us to portray social (and mobile) media as a whole rather than a set of discrete services, in line with the analyses of web 2.0 as constituted by infrastructure-prompted connections across multiple platforms and websites (Gerlitz & Helmond, 2013). Third, the reference to cloud computing exposes the ultimate ambivalence of contemporary movements: while distancing themselves from the values and exploitation of digital capitalism, protesters rely on its products to organize and mobilize.

If we apply the computing metaphor to collective action, the cloud assumes two meanings: on the one hand, it indicates a digital *imagined space* where *soft* resources critical to collective action are stored and experienced by participants, and on the other, it is a metaphor for a specific way of connecting individuals in an instance of joint action. Here, I concentrate on the second meaning, for the first will be explored in the next section. How does the cloud function as an organizational principle? Take a typical General Assembly, the self-governing body of Occupy camps where all participants could in principle speak (Costanza-Chock, 2012). Assemblies unfolded like a conversation in a social media platform, connecting self-contained individuals rather than pre-existing groups. The so-called "human microphone," that is, the choral repetition of a speaker's statement, represents a working example: it enabled each participant to contribute in the first person to the definition of the situation while echoing with its "reverberating" mechanism, multi-author nature, and

emphatic exchange the way messages move across on social media. Similarly, on the imagined space of the cloud reverberation and emotional support (e.g., emoticons and repetition) function as mechanisms for recognition, whereby users validate the content offered by others.

How does the cloud function as an organizational principle? Facing the rise of a "dispersed and individualized constituency" (Gerbaudo, 2012, p. 5), membership-based groups and nongovernmental organizations have moved to the background, pushed back by the activists' rejection of pre-packaged identities. To be sure, forms of individualism are not new in social movements. McDonald (2002) identified similar tendencies in the anti-globalization protests of the 1990-2000s, characterized by individual engagement and "other grammars of action: healing, touching, hearing, feeling, seeing, and moving" (2006, p. 37). Cloud protesting has taken these trends to the next level as today these involve also a digital-yet-material dimension of personalized and nonstop interpersonal exchanges that contribute to the experience of the real.

The cloud leaves little room for traditional movement organizations as the same symbolic space identified by the cloud becomes the group. Cloud protesting groupings are temporary, elusive, and action-oriented micro-organizations (Milan, 2015c). However, as we know from SMS, sustained mobilization is a function of opportunity structures and resources but also of the organizational capacity of social actors (della Porta & Diani, 2006). The action-oriented, emotion-laden, and expressive nature of cloud protesting might eventually hinder the ability of social actors to find what Bennett and Segerberg (2013) call "long-term adaptive responses" (p. 9) to the political context. The same vulnerability affects the ways in which the cloud affords specific processes of meaning creation, which we delve into next.

Inside the "Seamless Web" of Cloud Protesting: Meaning Production and the Material

We saw how the cloud indicates also the imaginary space where meaning work occurs. This imagined space is to be intended in the guise of a *symbolic place between* devices and platforms, as evoked by Bruce Sterling's (1993) definition of cyberspace as "the "place" where a telephone conversation appears to occur. Not inside your actual phone, the plastic device on your desk. Not inside the other person's phone, in some other city. The place between the phones."

This "place between" social and mobile media hosts a set of symbolic "ingredients" that enable mobilization, such as narratives, know-how, identities, and solidarity networks. These ingredients, which SMS scholars would call resources, are negotiated both online and in real life, but are brought to life, exchanged and stored "in the cloud" composed of blogs, social networking sites, and storytelling platforms. In other words, it is not only the metaphorical meaning of the cloud

that maps onto contemporary forms of social movements but also its very material infrastructures give a presence and a multilayered shape to immaterial (hence, "soft") resources, in an array of digital objects such as tweets, links, videos, tags, likes . . . that render meanings *tangible*. These embodiments are to a large extent immanent to the digital realm as they do not exist in the same form outside the cloud. They occur in the "seamless web" (Hughes, 1986) where the social dimension of human action and the material of social media entangle in a continuous symbolic-yet-material stream.

The cloud becomes the environment where the cultural and symbolic production of the movements takes place through the contribution of many individuals acting on their own account. Exchanges in social media become the main conduits through which activists can shape in the first person the meanings associated with collective action. Everyone can participate in building the collective plot as illustrated by the collective blog "We Are the 99 Percent" on Tumblr, where in the wake of Occupy Wall Street a multitude of individuals pictured themselves holding up a sign summarizing their grievances.[4] The cloud gives voice and visibility to personalized yet universal narratives: this hashtag-style collective narrative is flexible, real time, and crowd controlled. It connects individual stories into a broader context that gives them meaning. Not only does the cloud provide individuals with an option to reclaim and reinvent a collective space; it also allows them to cherry pick the soft resources that used to be single-handled by organizations. This has two interesting, yet potentially treacherous, consequences: on the one hand, the easy access reduces the costs of mobilization as others have noted (e.g., Bennett & Segerberg, 2013); on the other, activists can customize their participation and narrative. This customization represents an occasion for self-expression and a relaxed affiliation working on an individual basis. There is no need for and no means of organizational control over the collective narrative of the protest because the cloud collectively "votes" by selecting, emphasizing, and sharing content. Furthermore, the availability of symbolic resources on the move and on a global scale ensures that they travel across groups and borders: think of the Occupy repertoire and slogans being repurposed in different parts of the world.

Interestingly, this customization of protest narratives might work as a flywheel for engagement and inclusion as it offers an occasion for self-expression and makes the mobilization attractive to a broader, and more diverse, spectrum of individuals. However, as we shall see next, the dynamics of representation and visibility triggered by the cloud redefine identity building in ways that might turn out to be detrimental on the long run.

Toward a Politics of Visibility

In SMS, collective identity indicates the process that allows social actors to give meaning to their experiences and to develop emotional attachment to their fellows (Polletta & Jasper, 2001). It is a matter of individuals "collapsing" into a group, recognizing themselves in some sort of real or imagined "we-ness" that stands for collective agency (Snow, 2001). Identity work is situated at the crossroads of the private sphere of the individual and the collective dimension of action. It is an "interactive and shared" process in which "elements are constructed and negotiated through a recurrent process of activation of the relations that bind actors together" (Melucci, 1996, p. 70).

Social and mobile media subvert the terms of the identity-building process with encouraging consequences for engagement and deterring ones for sustainability. First, they amplify the "interactive and shared" properties of collective action by offering always-on platforms in which interaction is practiced on a recurrent basis. Second, they enhance it by introducing in the process of meaning negotiation a novel element of materiality, which translates into the practice of visibility. Simply put, by visibility, I indicate the digital embodiment and online presence of individuals and groups and their associated meanings, which are (and need to be) constantly negotiated, reinvigorated, and updated.

We have seen how social media provide the material support for embodying semantic units in an assortment of images, messages, and datafied emotions. These embodied semantic units are the building blocks of collective identity. They are incessantly reproduced, modified, and shared to produce a scattered user-generated narrative that is in constant evolution. The cloud ensures accessibility and customization, resulting in personalized assemblages of available meanings and offering the option of creating new contiguous meanings. Individual participants can select, appropriate, and pass on (e.g., re-tweeting or sharing) the elements that best match their identity, history, and feelings, thus creating "personalized identities" (Bennett & Segerberg, 2012, p. 744) while contributing to the collective representation of "who we are." But even so the cloud continuously activates the relationships that fuel joint action, rather than merely allowing for these personalized identities to emerge—which qualifies the process as collective identity in the making (Milan, 2015a). This collective identity, however, allows individuals to take along their own cultural-ideological background and grievances, adapting them in dialectic interactions with their fellows. The resulting collective identity, created by juxtaposition and selection, can virtually fit anyone since it is built on malleable minimum common denominators rather than ideological strongholds impermeable to individual interpretations. In sum, the cloud allows individuals to *tailor* not only their participation but also their sense of belonging to a group.

This personalized yet collective identity is intersubjective (people still define themselves in interaction with others) but it is also experiential (as opposed to practiced), conflictual, and multilayered. It is experiential in that it is structured by recursive digital interactions: thanks to social media, co-presence in a physical space is no longer a precondition for

embodiment, nor a requirement for experience (and collective experience in particular). "Bodies are "not practiced but experienced" (Farman, 2012, p. 21)—in other words, one does not need to actually camp to undergo Occupy nor to join camps in foreign countries to experience a sense of transnational commonality. Second, this identity is multilayered. By enabling a sort of permanent "hanging out in public" (Fenton & Barassi, 2011), social media function as a performative "front stage" for the self in the Goffmanian sense (Goffman, 1959). But the front stages are multiple as the platforms and the screen names one might adopt. Finally, this identity is potentially conflictual because the practice or experience dichotomy amplifies the tension between individual and collective agency. While narrowing down the practice of embodiment of the collective, social media enhance its individualized experience through a multiplicity of simultaneously enjoyed platforms. Performing on several fronts, identity becomes open to manipulation and concurrent interpretations.

The materiality of social media intervenes in meaning work by fostering four mechanisms that concur to create the "politics of visibility," as follows:

- *Centrality of performance.* Social media allow users to enact a story of which they are the protagonists. Events unfold in real life as much as they do in the cloud, and often at once. For instance, within Occupy protesters actively participated in building a collective identity by partaking the action also (or exclusively) over social media. Those who followed the eviction of the Occupy Toronto camp via live web streaming by far outnumbered the few dozens *in situ*. The digital performance becomes the *conditio sine qua non* of social action, whereby *making protesting visible* on social media turns out to be constituent of the protest.
- *Interpellation to fellows and opponents.*[5] Social media enable users to call other people into the action, by means of tags, citations, and mentions—a consequence of the ability of social media to "strategically exposing (user affect and engagement) to the other users to evoke further interactions" (Gerlitz & Helmond, 2013, p. 14). By including other participants in the story, one appeals to and reproduces the commonalities and the oppositions typical of collective identity. This mechanism is exemplified, for instance, by the use of hashtags in Twitter, which spur conversations and content exchange.
- *Expansion of the temporality of the protest.* By enabling asynchronous interactions, social media rearrange our perception of the time of collective action. Bypassing co-presence, activists can join in at their convenience. In addition, the "continuous media" of social networking (McKelvey, 2014, p. 603) means that protest actions are reproduced, played out, and discussed beyond the actual occurrence, stretching the duration and life cycle of action. This way, the collective identity is continuously activated and recursively reinforced as opposed to surfacing only in occasion of meetings or demonstrations.
- *Reproducibility of social action.* Social media allow for a permanent re-enactment of social action; they also change its fruition by the public, reiterating it, with two downsides. First, the life cycle of an item on social media is very short and second, social media tend to work as "echo chambers" (Lovink, 2011, p. 2), where the message reverberates mostly among like-minded people. At the same time, the non-linear life cycle of online posts means that items can re-surface in other contexts, re-starting the circle of virtual simulation. But, similar to what Benjamin (1936) observed for artworks in times of mechanical reproduction, the fact that action can be reproduced over and over again undermines its authenticity. The reproduction by means of "shares" and "re-tweets" takes something from the original by changing its context.

These four mechanisms manufacture the visibility that is so central not only in contemporary mobilizations but also in the business model of social media (Gerlitz & Helmond, 2013; Turow, 2011). Visibility generates the emulation typical of Internet cultures and creates rituals (Collins, 2004; Milan, 2015b) where "communications concerning social relationships are passed on, in stylized and dramatized ways" (della Porta & Diani, 2006, p. 109). Rituals, in turn, contribute to reinforcing collective identity, regenerate bonds, and promote group solidarity.

What differentiates the politics of visibility from the collective identity we have known so far? Not the incidence of contradictory elements since also Melucci (1996) identified the presence of incongruous elements lying behind seemingly coherent identities. Not its relational properties or its quality of "learning process" (Melucci, 1996, p. 75). What changed is the role played by the group, as visibility results in a spiral process that originates and ends within the individual, rather than dissolving into the group. The group remains a necessary stage since "autoidentification must also gain social recognition" (Melucci, 1996, p. 73)—but it is an *intermediary* stage functional to peer recognition. The group is the means of collective action, rather than the end, and visibility creates individuals-in-the-group rather than groups. The resulting identity is strong in the present and as far as it is kept alive by the brokerage of social media, but might turn out to be fragile and evanescent in the long term. The cloud as an organizing principle might ultimately be daunted by the short-lived loyalties it promotes (see also Couldry, 2015): while these groupings offer a convenient flexible sense of belonging which stands for collective identity, they do not impose the degree of responsibility toward fellow activists that real-life groups do—and this might have dramatic effects on a movement's duration and sustainability (Leistert, 2013b).

In Conclusion

Evoking the "material" of (symbolically loaded) social media in the analysis of contemporary collective action has epistemological, ontological, and methodological consequences. It impacts the way in which we can learn about and make sense of contemporary protest and questions our tendency toward methodological individualism, techno-centrism, and the over-stretching of "readable evidence" (Couldry, 2015, p. 609). This article combined SMS with STS to explore organizing and meaning work in relation to the technical properties of social media. While SMS allowed us to address the "problem of a disappearing social" emerging in many recent accounts (Couldry, 2015, p. 611), STS enabled us to approach social media as actors that embed politics. It is a question of both vocabulary and method: we ought to avoid "terms that assume a distinction between the technical and the social" and look for empirical cases characterized by "disagreement, negotiation, and the potential for breakdown" (Akrich, 1992, pp. 206-207). Studying social media protest is a good test bed where "the inside and the outside of objects are not well matched" (p. 207): this mismatch is visible in the discrepancy between the allegedly horizontal nature of movements and the hierarchical character of commercial infrastructure. With this paradox in mind, I linked the algorithmic environment of social media to the meaning work that produces organizations and narratives and argued that social media have a certain type of collective action built in. I found that the infrastructure dramatically configures people's options and ends up steering collective action in problematic ways. In fact, "there is a difference in what the cloud wants and what Facebook can give" (Leistert, 2013b). By enabling only some forms of engagement and positive affectivity, social media "facilitat[e] a web of positive sentiments in which users are constantly prompted to like, enjoy, recommend, and buy as opposed to discuss and critique" (Gerlitz & Helmond, 2013, p. 15).

By enabling composite flexible identities and elusive no-strings-attached actions, the cloud might hamper "how robust the political trajectory can become" (Leistert, 2013b). Social media might indeed help generating spectacular outbursts of protest and bypassing the tedious task of organizing, but they do not produce freedom. On the contrary, today's "communicative capitalism" produces a political discourse that may be "free" but is also devoid of political potency (Dean, Anderson, & Lovink, 2006). Platforms matter, and matter more than activists like to believe. Unfortunately, present-day movements are not sufficiently preoccupied with the infrastructure, contrary to their predecessors (Milan, 2013). Although some activists have claimed that "Next to mobile phones, Facebook is the most subtle, cheapest, and best surveillance technology available" (Nadir, 2012), the majority does not seem to have the ability, or the will, to take this paradox seriously (Leistert, 2013b). There remains for scholars of social movements the imperative to "dig into the real conflicts that emerge from the network condition" (Lovink, 2011, p. 3) and make them explicit for social action.

Notes

1. The notion of resources is central to the resource mobilization theory, which assumes a direct connection between access to material (e.g., funding) and immaterial (e.g., social relationships) resources and movement emergence (McCharthy & Zald, 1977). Here, I rely on a notion of resources that underscores immaterial and symbolic capital such as narratives and focuses on the interaction between resources and social actors.
2. To be sure, these earlier self-organized media were not immune from the impact of materiality. In the 1960s, for example, law enforcement occasionally shut down underground publications and regularly engaged in surveillance of civil rights leaders in the United States (see McMillian, 2014); "free radios" were repeatedly attacked in Europe (Downing, 1988).
3. It is worth noting that there are elements of the recent waves of mobilizations that still favor non-proprietary and privacy-aware platforms such as independent Internet rely chat services. Their ideological commitment can be traced back directly to earlier experiences like Indymedia. See for example Milan (2015a) and Sauter (2014).
4. http://wearethe99percent.tumblr.com
5. My use of the term resonates with Althusser (2011), who claimed that individuals are never fully in control of their doings but are produced by social forces able to shape their identities.

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