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Masses, Crowds, Communities, Movements

Collective Formations in the Digital Age

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**Institute for Social Sciences
Organizational Sociology and Innovation Studies**

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Research Contributions to Organizational Sociology and Innovation Studies

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Abstract

From prosumers to swarms, crowds, e-movements and e-communities, the Internet allows for new forms of collective behavior and action anywhere on the spectrum between individuals and organizations. In all of these cases, online technologies function as connectivity-enhancing tools and have prompted the search for novel or inherently different collective formations and actors on the web.

However, research to date on these new collective formations on the web lacks a sociologically informed and theoretical focus. Instead, loosely defined terms such as “swarm”, “crowd” or “network” are readily used as a catch-all for any formation that cannot be characterized as a stable corporate actor. Such terms contribute little to an understanding of the vast range of collective activities on the Internet, namely because the various collective formations differ significantly from each other with regard to their size, internal structure, interaction, institutional dynamics, stability and strategic capability.

In order to bridge this gap, this study investigates two questions: One, how might the very differently structured collectives on the Internet be classified and distinguished along actor- or action-centered theory? And two, what influence do the technological infrastructures in which they operate have on their formation, structure and activities? For this we distinguish between two main types of collectives: non-organized collectives, which exhibit loosely-coupled collective behavior, and collective actors with a separate identity and strategic capability. Further, we examine the newness, or distinctive traits, of online-based collectives, which we identify as being the strong and hitherto non-existent interplay between the technological infrastructures that these collectives are embedded in and the social processes of coordination and institutionalization they must engage in in order to maintain their viability over time. Conventional patterns of social dynamics in the development and stabilization of collective action are now systematically intertwined with technology-induced processes of structuration.

Zusammenfassung

Dieses Discussion Paper geht den beiden Fragen nach, wie sich die sehr unterschiedlich strukturierten kollektiven Gebilde im Internet – beispielsweise Swarms, Crowds, Social Networks, E-Communities, E-Movements – akteur- bzw. handlungstheoretisch einordnen und voneinander abgrenzen lassen und welchen Einfluss die technologischen Infrastrukturen, in denen sie sich bewegen, auf ihre Entstehung, Strukturierung und Aktivität haben. Dazu wird zunächst zwischen zwei wesentlichen Varianten kollektiver Formationen unterschieden, die als nicht-organisierte Kollektive und als strategiefähige kollektive Akteure charakterisiert werden. Daran anknüpfend wird herausgearbeitet, was das Neue ist, das kollektive Formationen im Internet auszeichnet: Es besteht in einer so zuvor nicht gekannten Verschränkung nach wie vor unverzichtbarer sozialer Konstitutions-, Koordinations- und Institutionalisierungsprozesse mit den technischen Infrastrukturen, die das Netz bietet. Klassische soziale Entstehungs- und Organisierungsmuster kollektiven Verhaltens bzw. Handelns mischen sich im Online-Kontext systematisch mit eigenständigen technischen Strukturierungsleistungen.

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1 Introduction

Historical evidence shows that far-reaching socio-technical transitions are likely to bring change to the conditions under which established actors operate while also giving way to new types of actors and configurations, often with considerable or even radical repercussions for society. For example, in Western societies, labor unions and collective forms of action emerged in the course of industrialization in the late nineteenth century (Kocka 1983; Hinton 1983). Then, starting with the late 1960s, new social movements, spurred by new social and technological challenges, have risen to the ranks of influential societal entities. Among these are the civil rights, student, anti-war, anti-nuclear and environmental movements (Della Porta & Diani 2006: 33–63; Rucht 1994).

Today, several decades later, the extensions and differentiations in the spectrum of actors and actions of modern societies are less determined by core social conflicts or clearly defined social controversies than by new offerings from information and communication technologies. The latter are characterized by two main features: one, they can be collectively used, and two, the type of use can vary significantly. For example, the technologies allow for the aggregate compilation of consumer preferences on the one hand and for new forms of mobilization and organization of political protests on the other. Further mass phenomena include the obtaining of customer feedback for online shopping and the use of social media (e.g., Facebook) or file-sharing platforms (e.g., The Pirate Bay). In addition, there are the core groups of open content and open source projects such as Wikipedia, Linux, Apache and themed blogs as well as informally structured protest collectives such as Anonymous or Occupy. In all of these cases, online technologies seem to function as “organizing agents” (Bennett & Segerberg 2012: 752) or as “technological tools that fundamentally enhance connectivity among people” (Bimber, Flanagin & Stohl 2012: 3). In that context, research seeks to identify any novel or inherently different communities and agents on the web, many of which are considered to have far-reaching leverage to take action and assert influence.

So far, this search has remained unsatisfactory for two main reasons. One is the lack of sociological and theoretical studies that better correlate the different forms of web behavior and web actions to actor and action theory and that go beyond the presentation of trendy terms or the focus on individual cases. The various collectives on the Internet differ significantly from each other with regard to their size, internal structure, interaction, stability, performance and strategic capability. As a result, the effort to find one term for them all can only be done at the expense of making statements that are too general to be of any scientific value—which unfortunately happens all too often. Generic and otherwise loosely defined terms such as “swarm”, “crowd” or “network” are regularly used as a catch-all for any new social formation that is not a stable social entity. Subsequently, such terms contribute as little to an understanding

of the vast range of collective activities on the web as do the similarly broad definitions of these web phenomena as “undefined (and generally large) network[s] of people” (Howe 2006; see also Hammon & Hippner 2012; Ritzer & Jurgenson 2010).

In addition, there is a lack of any sociological conceptualization of the ways in which technical infrastructures impact the emergence, structuring and orientation of the new online social formations. All the possibilities of expression for users and the possibilities for action of masses, crowds, communities or social movements on the web would not be thinkable without technical platforms and their structuring services. These technical infrastructures not only enable new forms of collective behavior and action, they also participate in structuring that behavior and action, sometimes to a considerable degree. More than ever, the emergence of new online social formations is becoming a socio-technical process marked by the close interaction of social and technological patterns of structuration. While the literature again and again points to the enabling or empowering character of new online technologies (Bennett & Segerberg 2012; Benkler 2006; Bimber, Flanagin & Stohl 2005), the role of technical infrastructures, including their relationship to social structuring, in the formation and operation of web-based collectives are generally not addressed.

The key issues to be discussed in this paper arise from these two deficits and are examined by posing the questions of (1) how collective formations on the web might be captured, classified and differentiated based on actor- and action-based theory, and (2) what role the technological infrastructures in which they operate play with regard to their development, structure and activity. We hold that these questions can only be answered by the systematic recourse to established sociological actor and action concepts. Only in this way can we identify the distinctly new and different features of online communities, in contrast to those of collective formations that existed in other forms before the Internet era.

In the following *Chapter 2*, we begin with a short review of basic sociological representations of actors, which we apply to our subject. In *Chapters 3 and 4*, we distinguish between two major variants of Internet-based formations: non-organized collectives on the one hand and collective actors capable of intentional, strategic action on the other. In that context, we also discuss the significance of web infrastructures for their development, operation and stabilization. In the final *Chapter 5*, we present what we believe to be the distinctly new feature of online collectives, namely the unprecedented intertwinement of the, still required, social processes for the constitution, coordination and institutionalization of a collective with the technical infrastructures of the Internet. In the online context, the classic social formation and organizational patterns of collective behavior or action mix systematically with discrete technological forms of structuration.

2 Individual, corporate and collective actors

In order to understand the dynamics of web-based social formations and their structuring, organization, capacity and patterns of action, we begin by looking at existing actor and action concepts. In this chapter, we examine the heuristic and analytic value these concepts (can) have for the study of new social collectives on the web. Three basic types of social actors that shape the realities of modern societies and that also operate on the web form the starting point of our deliberations: individuals, organizations and collective formations. These types have different perceptions of reality, preferences, action orientations and decision-making modes and accordingly resort to different tangible and intangible resources for pursuing their goals (Scharpf 1997: 51–68). Whereas the individual and corporate actors represent relatively clearly defined units, the various collectives, on which this study focuses, are considerably more heterogeneous (*Table 1*).

Table 1: Typologies of individuals, organizations and collectives

	Individual actors	Non-organized collectives	Collective actors	Corporate actors
	<i>e.g., users, prosumers</i>	<i>e.g., masses, crowds</i>	<i>e.g., movements, communities</i>	<i>e.g., companies, NGOs, NPOs</i>
Capacity for action	At the individual level	No independent capability for intentional, strategic action	Capable of intentional and strategic action beyond the participating individuals	
Resources for action	Individual resources	Situational aggregation of individual resources	Collective Resources contingent on the contributions of the participants	Organizational resources
Activity pattern	Individual	Collective behavior as aggregate of individual actions	Collective action on the basis of consensus, negotiation, voting	Corporate action on the basis of formal and hierarchical structures
Mode of decision-making	Individual decisions along individual preferences and goals	No collective decision-making capacity	Strategic decisions dependent on individual preferences of the participants	Strategic decisions independent of individual preferences of the members
Stability	—	Low	Context-dependent	High

2.1 Individuals

The ability of individuals to act intentionally and creatively as actors is no longer disputed (Schimank 2000). Of course, the actions and scopes of action of individual actors are co-determined and influenced by the given social context, by social rules and norms, and by specific role expectations. By and large, individual action aligns itself with the orientations of regulatory, normative and cultural institutions; is subject to significant pressure to conform to a group; and is highly inclined to imitate behavior observed elsewhere or already regarded as socially positive.

Nevertheless, the actions of individual actors are not limited to the simple fulfillment of prescribed role expectations, the rigid focus on social norms and values, or compliance with well-defined rules, as was argued by the early proponents of structural functionalism (Durkheim 1970 [1885]; Parsons 1937; Dahrendorf 1968). Rather, individuals are quite capable of consciously perceiving their personal and social environments and of offering their own interpretation thereof; of developing subjective, and often context-specific, preferences; of formulating their own goals for action; and of making their own decisions and following through with them (Turner 1978). In sum, acting individuals may be understood “neither as mere conformists nor as narrow-minded opportunists, but rather as more or less free, competent, creative and very emotional players” (Ortmann 2003: 133, our translation).

On the Internet as well, individual actors set themselves apart by very different action orientations and different levels and scopes of activity and creativity. Each of them makes use of the expanded possibilities offered by the web in an independent and selective way. However, only a few of these actors intervene actively or creatively in the development of new technologies, products, services or content, make substantial contributions to the expansion of web services and infrastructures, or stand out for deliberately rule- or standard-defying behavior.

Instead, the vast majority of individual web users use the new information, communication and consumer opportunities in the manner recommended by the respective web-based provider. For example, Facebook users wishing to be active on this social networking site can do so only within the confines of its technical parameters and by complying with its social etiquette, namely by agreeing with its terms and conditions—which they generally do without hesitation. This gives full rein to the behavior-shaping and norm-setting power of the Internet and its possibilities: With all its applications, the web has significantly expanded people’s individual possibilities for expression and their information and communication practices. Yet at the same time, it shapes individual action orientations as would a new institutional setting that prescribes a regulatory frame for action. The impact of technology-mediated platforms and their social and technological rules on Internet users is essentially that of orienting users’ individual behavior, by far eclipsing the creative and independent participation of these users in the development of platforms (Smith 2013; Lewis 2012).

That said, individual actors who use the Internet primarily as offered to them can nevertheless have a social, political or economic impact through their actions and can influence processes or the concrete design of applications. However, this occurs only if and when their actions, be they individual preferences and forms of appropriation, concerns or resistance attitudes, consolidate into a mass phenomenon to which industry or politics must respond sooner or later. These include market-mediated individual consumer decisions as well as non-market exchange processes (e.g., file sharing) or non-organized resistance against offers, advertisement and data analysis practices on social networking platforms. This type of collective joint behavior develops in a largely uncoordinated manner and can be described as the contingent accumulation of similarly oriented yet often diffuse and malleable individual beliefs, understandings of problems, and usage and consumption patterns (Dolata 2003: 33).

2.2 Organizations

Of course, modern societies are not primarily structured around individuals but are first and foremost shaped and motivated by the actions and the interaction between formal organizations (March & Simon 1958; Coleman 1974; Perrow 1991). Much more so than individuals, corporate actors such as companies, political organizations or research institutes have the leverage to act systematically and reliably; have established and formalized action and decision-making routines; and have greater strategic capability when implementing their organizational resources, namely because they are largely independent on the preferences and interests of their members. Of course, they too are subject to the prevailing economic, political and social conditions. However, they are in a much better position than individual actors to, through their activities and resources, participate in the creation of the institutional foundation of their actions (Mayntz & Scharpf 1995; Geser 1990).

For the analysis of structural patterns of new online-based collective formations, a look at organizations, in particular companies, is relevant in two ways. For one, large global corporations are the main drivers of innovative web-based communication technologies, which are then, secondly, made broadly available to individual users as well as collective formations.

The five currently dominant Internet companies—Apple, Microsoft, Google, Amazon and Facebook—each operate their own large-scale research centers, generally under top-secret conditions, and regularly present the Internet community with new offerings. They expand their own innovative capacity primarily through far-reaching cooperation and acquisition strategies—such as the purchase of Flickr by Yahoo, of YouTube by Google, or of Instagram and WhatsApp by Facebook. Of course, they must recognize and consider the often volatile user preferences and dynamics if they want to remain competitive. For this, they use data readily provided to them by the users themselves, and also draw on the creative potential of prosumers or micropro-

neurs, among them app stores for mobile devices (Dunkel & Kleeman 2013; Thackston & Umphress 2012). But at the same time, they manage to maintain control over their innovative and productive activities or their core business (Dolata & Schrape 2013; Trott & Hartmann 2009; van Dijck & Nieborg 2009). Even when hardware, software, services or content is developed by involving a large pool of users, this generally takes place under the direction of the dominant companies, who provide the framework for capturing and evaluating the impulses from these semi-professional contributors (Papsdorf 2009).

In that context, the leading Internet companies are those who provide and develop the foundations of the web infrastructure. Typically, one or a few market-dominating companies control the central platforms that are frequented by individual web users and by many of the online-based collective formations. Apple and Google control the market for mobile devices, Google the search engine market and Internet advertising, Amazon online trading, Apple the distribution of digital media content, and Facebook social networking—not only regionally but internationally. These dominant Internet corporations are thereby regulatory actors who, by determining the socio-technical framework for the movement of individual users, shape the online experience of these users and co-structure their collective behavior and action. In this way, mediated through the technical infrastructures which they themselves provide, they become the main influencing factors of the formation and movement of social collectives on the web.

2.3 Collective formations

In the wide spectrum from individuals to organizations, all kinds of collective formations can be found. Such collectives may have very different coordination and movement patterns and cannot be indiscriminately regarded as social actors with shared objectives, resources and action orientations. In the following, we present what we believe to be the two basic types of social collectives, which apply to both the off- and the online context.

The first type consists of *non-organized collectives*, whose main attribute is the aggregation of similar decisions and behaviors of individuals. These collectives have no organized and action-guiding core, but have shared perceptions, approaches to consumption or ways of perceiving of problems, which may consolidate into a mass behavior. This phenomenon was identified as early as the end of the 1930s by Herbert Blumer (1939: 187), who maintained that: “The form of mass behavior, paradoxically, is laid down by individual lines of activity and not by concerted action.” Blumer also pointed out (ibid.) that such a mass behavior can have far-reaching social effects: “A political party may be disorganized or a commercial institution wrecked by such shifts in interest and taste.” However, such effects cannot be attributed to, as emphasized by Fritz W. Scharpf (1997: 54), deliberate or intentional

decision-making of a collective actor but result from the similarly oriented behavioral decisions of individual actors: “The aggregate effect is then a result of individual choices, but it is not itself an object of anyone’s purposeful choice.” In other words: non-organized collectives do not act as one entity. Rather than constituting a rational and reflective entity of actors that makes deliberate decisions, they are characterized by spontaneous and volatile forms of *collective behavior*.

Such amorphous and rather random social constellations may then consolidate into social movements or communities who do have deliberately shared objectives, rules and identity attributes as well as more or less informal patterns of organization—in which case they represent *collective actors* capable of intentional, strategic action, the second type of social collective. Over time, most formations emerging from collective behavior develop a separate group identity, stabilize through institutionalization processes that allow for the reproduction of group structures, become differentiated internally between activists and hangers-on, and develop corresponding power asymmetries—which together gradually renders them capable of developing and implementing strategies and of mobilizing across a wide range of situations (Marwell & Oliver 1993; Eder 1993: 42–62, 1990). Collective actors are characterized as having forms of organization that are specific yet nevertheless significantly different from formal forms of organization, as identified by Dieter Rucht (1994: 70–98) with regard to social movements and by Leonhard Dobusch and Sigrid Quack (2011) with regard to communities. Neither social movements nor communities are “‘non-organized’, as they are based on implicit and explicit rules, their members share a conscious feeling of togetherness, and they form regularly around formal organizational units. However, in contrast to formal organizations, membership to a community is acquired [...] through certain practices, decisions are made without reference to a binding legal framework, and there is no ‘shadow of hierarchy’” (ibid.: 177, our translation). Dobusch and Quack have termed this organizational pattern of collective actors as “organized informality”, in contrast to the formal organizing in organizations. It is only when this organized informality becomes established that the respective formations become capable of developing and implementing strategies beyond the individual level and to move into the ranks of *collectively acting social actors*.

3 Non-organized collectives and collective behavior

3.1 Masses, crowds, publics – types of collective behavior on the web

Many of the more recent forms of more or less spontaneously arising collectivity (e.g., masses, crowds, mobs, shitstorms) are in principle no new phenomena for sociology. One of the first, and still inspiring, taxonomies of *collective behavior* was de-

veloped by the aforementioned Herbert Blumer (1939). He differentiates between three types of such behavior, each of which may transition into more stable and organized forms of *collective action*.

The unorganized *mass* may be described, along certain criteria, as an aggregate of reciprocally anonymous individuals (Scharpf 1997: 53f.); yet, as these do not consciously interact with one another, they do not give rise to concerted behavioral dispositions. Comprised of the users of socio-technical infrastructures, recipients of mass media offers, voters and consumers, the unorganized mass may have, as a sum of individual choices, considerable influence on economic, political or technological developments; however, this influence is not collectively intended or deliberately staged. “Mass behavior, even though a congeries of individual lines of action, may become of momentous significance. If these lines converge, the influence of the mass may be enormous, as is shown by the far-reaching effects on institutions ensuing from shifts in the selective interest of the mass” (Blumer 1939: 187). The resounding success of Google as the preferred search engine, or of Facebook as the most popular social networking service, the rapidly growing recognition of the free encyclopedia Wikipedia, or the economic threat to media industries due to large-scale file-sharing—all these are results of cumulative but not consciously or deliberately coordinated individual choices. As such, these constitute genuine mass phenomena that operate without an organizing or orienting core.

The *crowd*, somewhat more delineated, does not have any pronounced coordination structures either; however, it differs from the mass through elementary forms of collectively-oriented behavior. This unfolds alongside nameable and often emotionally charged events, generating a temporary attention-grabbing field of tension without consolidating into a more solid form just yet. Blumer (1939: 178) further differentiates between the *casual crowd*, whose participants briefly turn their attention to the same source of stimulation (e.g., a street performance); the *conventionalized crowd*, whose participants encounter each other at recurring events (e.g., soccer matches), the often religious *expressive crowd*, which expresses itself primarily through physical movement, and the *acting crowd*, whose participants move impulsively along common objectives and, dominated by an object that captivates them, give up their critical distance or lower their individual standards with regard to rational action. Disparate and self-reinforcing clusters of attention of a great number of individual onliners, such as the hundred- or thousand-fold “likes” made to an entry, “clicktivism” in campaigns and crowdsourcing processes, or “shitstorms” as waves of emotionally-charged outrage—these are all crowd phenomena par excellence. They differ from the *mass* insofar as they display rudimentary features of event-related collective behavior, prior to its adopting a more permanent and organized social form.

Blumer also distinguishes masses and crowds from the *public*, which he defines neither as a general political public sphere in the sense of Jürgen Habermas (1989

[1962]) nor as the following public of a celebrity, but as a *volatile issue public*, whose participants engage actively in discussions on a given topic and who exchange about their different ideas or suggested solutions: “We refer to the public as an elementary and spontaneous collective grouping because it comes into existence not as a result of design, but as a natural response to a certain kind of situation” (Blumer 1939: 189). In this respect, the spontaneously emerging yet rather ephemeral *public* differs from stabilized groups, which are not only characterized by organizational or cultural core structures such as communities or social movements but also by the ability to substantially co-determine the agenda-setting in situational public spheres (Schrape 2011). Temporary and barely regulated discussion boards about medially introduced topics on Twitter, social networking platforms or the general blogosphere—these are *publics* in the sense of volatile issue publics.

All three of these variants of collective behavior are characterized by, in contrast to phenomena of collective action, their volatility and spontaneity as well as the absence of distinct coordination and identity structures that go beyond a given moment. They are characterized by a *situational formation of the collective*, which generally dissipates after the event as rapidly as it appeared. Blumer emphasizes that phenomena can only be characterized as being of a social order if they are characterized by a shared set of stable expectations and coordination structures—criteria that apply neither to masses nor to crowds or publics, be it in the off- or online context. However, such manifestations of elementary collectivity occasionally occur at the beginning of a social structuring process, which can then lead to more stable forms: “As the interaction between people continues, collective behavior secures form and organization” (Blumer 1939: 221).

3.2 The foundations of collective behavior: infrastructures of the collective

These classic distinctions of collective behavior allow to trace out and differentiate between non-organized web-based social formations more precisely, and more likely on the first attempt, than the very fuzzy analytical references to “fluid social networks” that currently prevail (Bennett & Segerberg 2012: 748). Yet, Blumer’s set of distinctions fails to address two aspects that are of particular relevance in our context: First, the constitutive meaning of infrastructures for the creation, orientation and cross-situational reproducibility of collective behavior more generally, and second, the technological foundations that encourage and structure collective behavior more specifically. For Blumer, collective behavior develops unconditionally and spontaneously in largely unmediated and context-free situations.

By contrast, Urs Stäheli (2012) holds that the outlined forms of collective behavior originate and evolve not, as it appears, without any conditions, but rather in the presence of social and technical infrastructures that allow for the emergence of similarly oriented individual actions and the resulting collective behavior and that coordinate,

guide, monitor and, to a certain degree, control those collective activities. He describes these *infrastructures of the collective*, as he terms them, as virtual and material arrangements that enable the convergence of a collective in the first place, yet that also organize the circulation of goods, people and information.

This idea is of great importance for the study of non-organized collectives and collective behavior on the web. Viewed from this angle, new forms of collective behavior result directly from the selective and individualized appropriation of already existing technological possibilities and infrastructures by their users. The many variants of non-organized collective behavior in the Internet are strongly based on the there offered digital services and technical infrastructures, in particular the highly frequented social networking platforms:

- First, web infrastructures have *enabling characteristics*. The different web platforms expand the options for the procurement of information, facilitate the mutual observation of the behavior of other individuals, increase the interactivity and speed of collective forms of communication and exchange, and allow to communicate and take votes independently of location. All this facilitates the situational formation of non-organized collectives and expands their sphere of activity.
- Secondly, web infrastructures develop *coordinating and regulatory characteristics*. The fixed and reproducible applications, functions, terms and conditions of their platforms not only contribute to the social structuring of non-organized collectives and collective behavior but also to their gradual stabilization. These structuring and coordination services, essentially provided by any web-based platform, can be used very differently by each but are not developed by collectives.
- Thirdly, web infrastructures are generating fundamentally new means of *social control*. Namely, they allow to observe, evaluate and judge (be it to sanction or to disapprove) motion profiles of non-organized collectives and forms of collective behavior much more accurately and effectively than was previously possible (Fuchs 2012; Smythe 2006). This control can be exercised not only by the private operators of the platforms but also by government intelligence agencies, who, as is now confirmed, perform a near-total surveillance of user activities.

Empowerment, coordination and control—these are the ambivalent effects of the technological infrastructures of the web and its platforms on the formation and movement of non-organized collectives. Not only do they, as mentioned in the introduction, provide “technological tools that fundamentally enhance connectivity among people” (Bimber et al. 2012: 3), but they also have—which is often overseen—behavior-structuring effects and generate new means for the observation and evaluation of collective behavior. Moreover, users wishing to participate have no choice but to play by these rules. In that sense, the technological web infrastructures can be likened to social laws, regulations, standards or values, that, as institutions that enable as

well as structure and control individual and collective behavior, cannot easily be ignored or overridden (Lessig 1999; Dolata & Werle 2007: 21f.; Orwat et al. 2010).

What is the reach of the structuring and coordination functions of web-based technical infrastructures? Is it possible for non-organized collectives to move beyond the mere aggregation of individual action and become collectively capable of action without having organizing core structures or social structuring activities of their own, in other words, through the behavior-structuring features of communication technology platforms alone? The works by W. Lance Bennett, Alexandra Segerberg and Bruce Bimber suggest just that (Bennett & Segerberg 2012, 2013; Bimber et al. 2012). Building on Mancur Olson's (1965) *logic of collective action*, which emphasizes the constitutive role of incentive setting and coordinating organizations for the formation of collective action, these researchers hold that the traditional role of formal organizations can now occasionally be assumed by "digital media as organizing agents", which they refer to as *logic of connective action*: "Connective action networks are typically far more individualized and technologically organized sets of processes that result in action without the requirement of collective identity framing or the levels of organizational resources required to respond effectively to opportunities" (Bennett & Segerberg 2012: 752, 750).

Although this matches closely with our understanding of non-organized collective behavior, the argument is problematic for two reasons. First, the generally available technical infrastructures on which the majority of individual action and collective behavior on the Internet are based do not come from out of nowhere. Instead, these highly complex, costly and labor-intensive technologies are designed, offered, operated and maintained by only a few of the leading classic organizations, mostly from the Internet industry. These channel collective behavior by means of social rules that are inscribed in the technology, and that often go clearly beyond mere technical requirements. They provide incentives, in the sense of incentive engineering, for certain behaviors, and they promote specific forms of communication while making others more difficult (Gerlitz 2013; Dickel 2013). Thus, the technology itself only appears to execute, or implement, the coordination and structuring functions that enable collective behavior on the Internet. The real protagonists are above all the big Internet-related corporations (e.g., Apple, Google), who, operating behind the backs of the collectives, lay the foundation on which non-organized collective behavior on the web can unfold and adopt more stable forms. In this way, these corporations are assuming technologically-mediated social structuring functions. For example, a shutting down of Facebook would have immediate and significant repercussions on all institutionalized forms of online social communication, given that all are shaped and structured by the technical features of this particular social networking platform.

Secondly, empirical evidence indicates that, on the Internet, the transition from non-organized and volatile collectives to action-capable collective actors is likewise regu-

larly accompanied by distinct *social* formation and differentiation processes and the emergence of more stable forms of organization and coordination. In particular the examples provided by Bennett and Segerberg (2012: 752) of *connective action*—open source software communities, Wikipedia or WikiLeaks—are not characterized, as they suggest, by technically mediated and otherwise unorganized structures, but have what Dobusch and Quack (2011) refer to as organized informality. Generally, such platforms and their respective communities rely less on widely available technical infrastructures and more on independent and mainly self-organized socio-technical structures, informal patterns of organization, a shared identity and community-specific rules that frame their activities (Berdou 2011; Stegbauer 2009).

4 Collective actors and collective action

4.1 E-communities and e-movements – variants of collective action on the web

The trend toward informal organization as a collective matures becomes evident when looking at more stable social formations such as *communities of interest* and *social movements*. They too have existed before the Internet and have been an object of study in the social sciences for a long time.

A concept of community that goes beyond kinship or locally anchored classic communities (Tönnies 2005) was first introduced in 1955 by George Hillery. In the subsequent decades, the term *communities of interest* was coined to refer to groups of people who are consciously and deliberately connected by shared views of reality or specific objectives rather than any geographical or friendship ties (Adler 1992). Such communities of interest are neither based on any explicit hierarchical order, as exists with organizations, nor do they have a formal membership structure or binding rules of conduct. Nevertheless, as they mature, they generally begin to exhibit certain institutional characteristics, such as conventions, values, standards and knowledge structures, that shape the behavior of their members, mark the boundaries of the community, and foster a certain identity. Moreover, with time, specific coordination patterns and hierarchies also emerge that stabilize the joint action (Cross 2013; Knorr Cetina 1999).

The Internet is a perfect playing field for communities of interest in that the new web-based communication tools allow for coordination and collaboration independently of location. This too explains the emergence of numerous and diverse variants of online communities especially in the open source and open content domains. Among these are: *epistemic communities*, which Haas (1992) describes as a “network of professionals with recognized expertise and competence in a particular domain”;

communities of practice, whose participants deal with similar (professional) tasks (Wenger 1998); *brand communities*, who share a sense of togetherness around a brand (Fournier & Lee 2009); and *subversive communities* (Flowers 2008), who use and develop technological infrastructures in unlawful ways for ideological reasons or for commercial gain. Their main commonalities are a thematic focus that goes well beyond an ad-hoc approach as well as the gradual institutionalization of a group identity with shared principles, conventions and rules among the active community participants, who operate projects of various kinds without a marked formal and hierarchical organizational structure (Mayntz 2010).

Similar to communities of interest, who focus on collaborative work and production processes, *social movements*, whose essential feature is collective protest, are not characterized by distinct boundaries. They are not held together through a formal membership structure, do not have binding and enforceable rules, and rely on continuous polling and consensus building among the participants (McAdam & Scott 2005). However, similar to communities, social movements do not operate without a structure or organization. Charles Tilly and James Rule (1965) conducted early research on how shared values and visions for change can lead to targeted collective action. For this, they examined, aside from the political opportunity structures, the organizing cores of social movements, as they believed these to play a central role in a wide range of processes, ranging from the mobilization of resources to the emergence of identity models, the steering of protests and the recruitment of participants. Dieter Rucht likewise emphasized the reliance of social movements on specific forms of organization: “In this context, organization means establishing planning and decision-making structures, building communication channels, and gathering informal, motivational, material and cultural resources, which are needed in particular during conflicts with external groups” (1994: 87, our translation). As with communities, an increasing level of organization generally leads to internal differentiation in social movements as well—with opinion activists and coordinating core structures on the one hand and a broad network of supporters than can be mobilized on the other (Eder 1993, 1990).

While there is a consensus that the Internet influences and changes the organizational and mobilization patterns of social movements, there is debate about the reach of this change. One stream of research maintains that the new media are changing the coordination structures of social movements to the extent of dissolving the need for an organizing core for mass mobilization; the argument being that the new media lead to lower transaction costs of joint action, thereby removing cost as a barrier to participation (Bimber et al. 2005). Other research, markedly more cautious, does acknowledge an anticipated drop in the operational costs of organizing classical forms of protest through more efficient communications, yet does not see a radical change in the patterns of organizing (Rucht 2005). Jennifer Earl and Katrin Kimport (2011: 12), for their part, maintain that both types of anticipated effects can occur, depending on the

context, and distinguish between three forms of online-supported movements: *e-mobilizations*, for which the web is used primarily as a tool to facilitate the coordination of offline protests (e.g., demonstrations); *e-movements*, where both the organization of the protest and the protest itself take place online (e.g., virtual sit-ins); and *e-tactics*, which combine online and offline components (e.g., for petitions). It should be noted, moreover, that this ideal type categorization serves more as a conceptual tool and that any one movement will most likely be a combination of two or all three forms, especially since online and offline protests generally overlap, as was the case with the Occupy movement or the Spanish Indignados (Bennett & Segerberg 2013).

4.2 The basics of collective action: The institutionalization of the collective

Despite their heterogeneity and diversity, communities of interest and social movements have three main features that distinguish them from volatile non-organized collectives and that raise them into the ranks of empowered collective actors: (1) institutionalization dynamics, which allow for, structure and stabilize collective action on the basis of their own, primarily informal, rules, norms and organizational patterns; (2) the building of a collective identity that orients the group's vision and actions and that defines its activities to the outside; (3) internal differentiation processes that, over time, spawn the emergence of organizing cores and opinion-leading activists, alongside their respective networks and support bases. While non-organized collective behavior develops on the basis of generally available *infrastructures of the collective*, a successive *institutionalization of the collective* is therefore typical of collective actors and collective action, which finds its expression in independent organizing and structuring activities and services of the community or movement.

These institutionalization dynamics, which are part and parcel of the creation, consolidation and establishment of each community and movement, have traditionally been understood and analyzed as purely or primarily *social* processes, in other words, as the emergence of social rules, social identities, social organization patterns and social differentiations. By contrast, the role and significance of technical infrastructures for the institutionalization of collective actors and collective action has received little research attention until only a few years ago (Hess, Berymann, Campbell & Martin 2007; Davis, McAdam, Scott & Zald 2005). To be fair, this is not a failing of research and results more from the fact that for a long time there was simply no need to deal with such matters.

Yet with the Internet this changed significantly. Much of what distinguishes movements and communities—collective opinion-forming and voting, political campaigns and mobilization, organization and coordination of activities, professional exchange and collaborative production—has now moved into the online realm. Through this, the mentioned *social* characteristics of the institutionalization of collective actors are not overridden; however, their means of organizing and structuring their communica-

tions, production and protest are substantially expanded by the new *technological* infrastructures provided by the Internet and its platforms. Accordingly, the institutionalization of the collective can today no longer be represented as a purely social but only as a *socio-technical* process, understood as the systematic interweaving of social and technical organization and structuring services, the interplay of which, however, varies greatly from case to case.

Still today there are social movements in the more classical sense that, while utilizing web-based communication platforms to mobilize participants and coordinate their activities, nevertheless maintain significant similarities to their offline counterparts in their fundamental organizational modes and structures. They are carried by a series of activists, associations, NGOs and parties who, while independent, nevertheless cooperate on campaigns, plan thematically focused protest actions and implement these both offline and online. Moreover, leadership in the organization and coordination of activities is usually assumed by some of the actors (Earl & Kimport 2011: 147–151). Among such movements are the mass protests against the Anti-Counterfeiting Trade Agreement (ACTA), which were coordinated and effectively publicized by a broad coalition of established left and green parties, NGOs such as ATTAC or Campact, clubs such as the Chaos Computer Club, and well-known web activists from the participating countries (Herweg 2013). Further examples are the German protests against the ancillary copyright bill (*Leistungsschutzrecht*) or for net neutrality. Coordinated by several closely linked political social media organizations (e.g., netzpolitik.org, Digitale Gesellschaft e.V., re:publica), these movements now have a solid repertoire of protagonists who serve as political and economic consultants, as points of contact for the mass media, or as digital political mobilizers (Wendelin & Löblich 2012).

The above movements are different from loosely networked movements such as Occupy, where the framework and shared identity that inform the organization of protest actions remain very general, and where the use of web-based technologies is usually limited to existing Internet platforms, in particular those of the major providers Facebook, Tumblr and Twitter (Caren & Gaby 2012; Gerbaudo 2012). That said, even here, despite the strong role of established social web services, the movements' formation, communication and mobilization depend on more than just the web infrastructures as such. These types of movements likewise rely on, once stabilized across a wide range of situations, the mobilizing and organizing capacities of opinion-leading activists and social groups who coordinate the protests and bring them onto the streets. Here as in other comparable cases "it is combination of local grassroots organizing and web-based information diffusion that has done the trick" (Della Porta & Diani 2006: 155). In such cases, as can be seen in the digital-political protests in German-speaking countries (Haunss 2013), the organizing cores that emerge operate in highly technology-mediated social processes and are locally distributed, informal and carried by activists. These social cores stabilize the surrounding peripheries of following participants through the creation of cross-cutting coordination paths and

overarching identities across a wide range of situations. Technology alone cannot achieve that.

In addition, the Internet has elite-structured and clearly focused groups that are characterized by subversive or illegal activities. Falling somewhere in between movement and community, these groups build their own technological platforms and have core structures and core actors, sometimes hermetically closed off, as well as support networks. A good example of such a group is WikiLeaks. A highly person-centered community, it has formed around a non-commercial organization that, nearly impermeable to influence from the outside, finds classified documents and makes them publicly available. Headed and represented by Julian Assange, it employs a very small team of employees and draws on a large pool of activists and supporters. However, the latter are not actively involved in decision-making (Roberts 2012; Davis & Meckel 2012). By way of comparison, the internationally active hacktivist collective Anonymous, which carries out illegal cyber attacks of all kinds, is a much more decentralized online movement. Unlike WikiLeaks, it does not have an organizing core that is acknowledged by all participants, and the small units it operates are not necessarily aware of each other's presence. However, in and of themselves, these units are well organized and perform hacker attacks for which they publicly claim responsibility under the Anonymous label. Thus, they form different decentrally organizing cores of the movement. The movement maintains internal cohesion through its discussion forums, primarily Anonymous-own platforms in addition to public platforms such as Twitter. Yet, this aspect of the movement is not egalitarian either. Here as well, meritocratic organizational patterns and their associated opinion leaders have emerged who dominate and structure the communication (Dobusch & Schoeneborn 2013; Coleman 2013).

Finally, in the open content and open source domain we now see very stable and infrastructurally independent production-oriented communities. These have not only developed their own and open technological platforms on which they collaborate and communicate, but also have clearly defined collective identities and clearly regulated and differentiated participatory, work and organizational structures. By now well beyond what we have referred to as organized informality, they are also supported by associated organizations such as the Wikimedia Foundation, Creative Commons and the Open Source Initiative. While these formal organizations cannot directly control or channel the activities of the contributors of a community, they do ensure the conditions for self-organized production processes to take place in the community and do represent these to the outside (Herb 2012; Ahrne & Brunsson 2011). Such production communities are characterized, as shown in the example of Wikipedia, by two main features: One, they have cross-cutting coordinating core structures that culminate in the founding of an own umbrella organization, and two, over time they generate highly structured forms of self-organization at the operational level, with clear

quality standards, work rules, control structures and a clear division of roles among the active contributors (König 2013; Stegbauer 2009).

The above overview of socio-technical institutionalization variants of collective actors on the web has given rise to two observations. *First*, the technical web infrastructures have, despite their differences, become action-orienting and -structuring reference points for social movements and communities. The conception and formation of new collective actors increasingly occurs through online-based communication and, often starting with little more than unstructured collective behavior, they eventually turn into organized forms of collective action. The Internet is, therefore, now a major starting point of new and often non-place-based social formations.

The internal structures of social movements and communities, too, are increasingly co-shaped by the web-based technical possibilities, the main ones being: new opportunities arising out of the removal of barriers to participation in collective activities, including their interconnection; an expansion of participants' radius of interaction and participation, including their possibilities to mutually observe each other; and greater transparency and control of the activities taking place in the organizing cores, which need to be promptly answered for and justified before the supporters. In addition, the new web-based technical possibilities constitute the foundation and structural basis for community-oriented work and production processes that would not be possible without the Internet. Finally, the Internet gives collective actors new means for shaping their image and visibility. It expands the possibilities for publicizing perceived grievances and influencing public opinion, and allows to facilitate the mobilization and networking of protests, and to increase the visibility thereof.

However, the online technologies thereby do not—which is the *second* point we wish to highlight—override classical forms of social organizing and structuring. Siobhán O'Mahony and Fabrizio Ferraro (2007: 1100) state that “although technology may have changed the ability of groups [...] to coordinate efforts over space and time, even the most savvy online communities are not immune to well-known general principles of organizing.” While referring mainly to open source communities, their observation can be said to apply to all types of Internet formations. Online-centered movements or communities, too, regularly resort to familiar social patterns in the course of their cross-situational stabilization and institutionalization. The main patterns, which overlap at multiple levels, are as follows:

- First, with time, collectively accepted social *rules, norms and values* take shape that have an influence on the orientation of a group's action. This applies to, for example, the editing and exclusion rules for Wikipedia entries or the collaborative work and production practices of open source communities. In this case, they evolve and manifest largely through web-based communication processes.

- Second, online-centered social movements and communities too are characterized by the gradual formation of a *collective identity*. And as was the case with their offline predecessors, collective identity serves multiple purposes: It is reflected in the group's vision, ideology or mandate; often has a reach far beyond the group's activist core; forms the motivational point of reference for participants; has a mobilizing impact; consolidates collective action; and communicates the group's meaning to the outside. In addition, a collective identity also provides an answer to the question of what brings individual players to, looking beyond mere personal gain, "modify their own unique interests in the service of obtaining collective advantages" (Offe 2008: 70, our translation).
- Third, distinctive although easily recognizable *organizational interrelations and core structures* develop that guide, coordinate and in part also control the activities of online-oriented social movements or communities. In the case of well-established collective actors in the web, these interrelations and structures are often held together through independently operated technology platforms on which the bulk of the communication, opinion-forming and the actual work take place.
- Fourth, in that context, more or less pronounced social *influence and power asymmetries* regularly emerge that arise from internal differentiation processes. Thus, online-centric movements and communities, too, are characterized by activist cores, who are largely responsible for the structuring and the output, and a far greater, in terms of numbers, periphery of participants and sympathizers who support the objectives of the formation and who can be mobilized around issues or projects (Pentzold 2011; Gamson 2004; Oliver, Marwell & Teixeira 1985).

The Internet therefore does not lead to a disintermediation of genuinely social organization and structuring services, as sometimes suspected (e.g., Bennett & Segerberg 2012: 742). Instead, classic social organization patterns and institutionalization dynamics of collective actors mix with technological structuring services in new ways. The evolution of meta-individual intentionality, the emergence of a collective identity, and the development of informally coordinated rules and coordination structures—all of which transition situational and spontaneous collective behavior into cross-situational consolidated collective action—remain genuinely social processes. Thus, while the Internet technologies can support the forming and stabilization of social movements and communities, they rely on much more than technology alone to build and maintain their momentum.

5 Conclusion: The socio-technical formation and institutionalization of the collective on the Internet

Masses, crowds, issue publics, communities and movements, as discussed, differ significantly with regard to certain characteristics, among them: level of activity and influence; action guidelines and resources; organizational forms and modes of communication; and type of web-based technical infrastructure and its role in a group's formation and operation, with infrastructures ranging from ready-made platforms developed and offered elsewhere to independently developed web-based communication and production contexts. This brings us back to the initial questions: How might the different collective formations in the Internet be classified or differentiated along actor- and action-theoretical lines, and what influence do the technical infrastructures in which they operate have on their formation, structure and activity? What is unusual and specifically new about them?

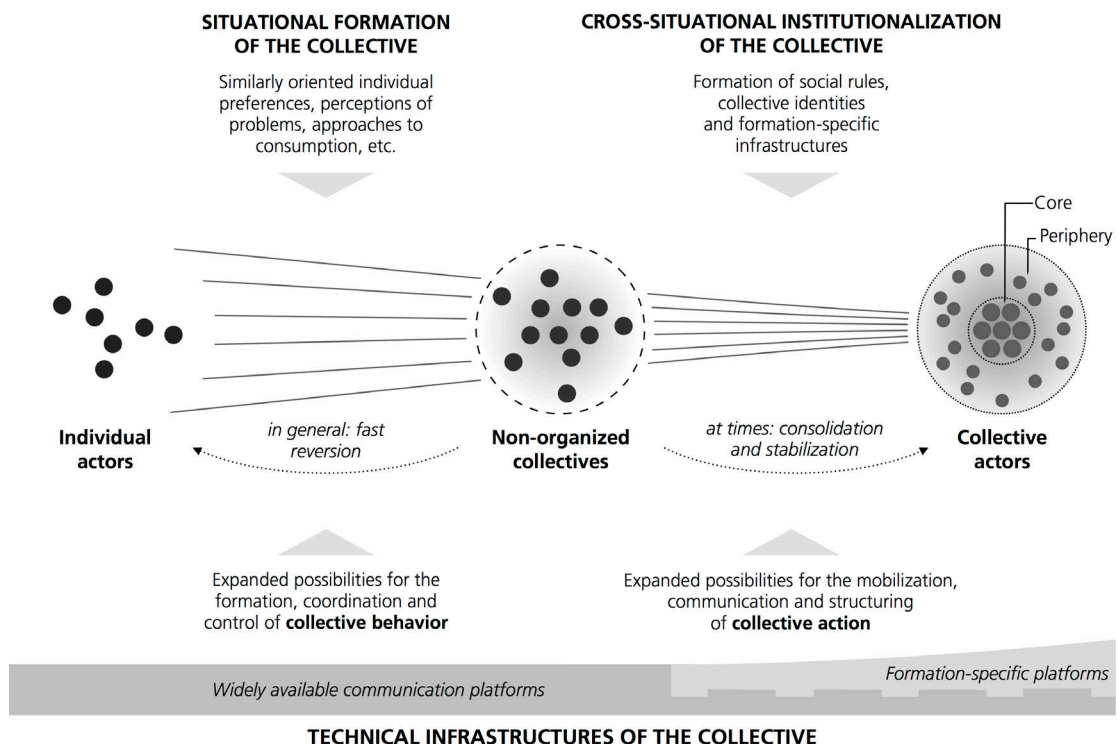
With a view to their status as actor, social collectives can be distinguished into two basic types, each of which apply to both the off- and the online context (Fig. 1):

- The first type consists of *non-organized collectives*, such as masses or crowds, whose activity is characterized by situational spontaneity and an accordingly high volatility. They have no own cross-situational coordination and decision-making structures and are not discernible as autonomous social actors but rather as spontaneous and volatile forms of collective behavior.
- The second type consists of *collective actors capable of intentional, strategic action*, such as communities and social movements, who are, by contrast, shaped by cross-situational institutionalization processes during which distinct group identities, shared rules and goals as well as coordinating and organizing core structures emerge that enable collective action.

Of course, a recourse to established actor concepts primarily captures the conservative aspects of collective formations, in other words, those that already existed before the Internet. However, this is not bad per se, namely in that it may allow to, undistracted by the hype around the Internet, focus on and identify those aspects of the formations that are actually new.

This new consists, in short, of the significantly elevated role which technology—or, more specifically, technical infrastructures—plays in terms of the shaping, formation, operation and organization of collective behavior or collective action on the Internet. Web-based non-organized collectives and collective actors can no longer be described and summarized primarily with social categories, as was previously the norm, and appropriate. Instead, they exhibit a close and novel interlinking of social and technological factors.

Figure 1: Formation and institutionalization of the collective on the web



As infrastructures of the collective that did not exist previously, the technical systems and platforms on the web do indeed facilitate the situational *formation of the collective*, in other words, the spontaneous emergence and operation of non-organized formations, and expand their range of action through reduced transaction costs and an accelerated speed of exchange. Through their rule-setting properties, these social media also contribute significantly to the structuring and cross-situational stabilization of both collective action and collective behavior, yet also to an unprecedented degree of observability and social surveillance, which is heavily exploited by the mostly private operators of the platforms and by state intelligence services.

In addition, as action-structuring and -orienting points of reference, the web-based technical infrastructures, in the form of commonly available or formation-specific platforms, contribute substantially to the cross-situational *institutionalization of the collective*. They generate greater visibility of collective expressions of behavior and action, which offers an ideal breeding ground for the formation of new collective actors with low-threshold opportunities. The web-based infrastructures also expand the patterns of interaction between the participants, contribute to the consolidation, organization and internal control of the activities of communities and movements, facilitate their external communication, and open up new possibilities for expressing grievances, exerting influence on public opinion and enhancing the visibility and mobilization of protest actions.

As inadequate as it may be to conceptualize and analyze web-based collective formations exclusively with social categories, as problematic it would be to aggrandize technology or technical infrastructures into being the main and overriding factors of collective behavior and actions on the Internet. In fact, the very technological foundations in which collective actions take place reveal themselves to be genuine social processes—be it as new general offers and infrastructures developed by the big Internet companies or as independently-operated platforms that are created and further developed in the context of communities or social movements.

None of these web platforms on which people communicate, organize, work and mobilize is merely a technological offer that users can design and redefine as they please. Instead, social structuring patterns are already embedded in the platform technologies themselves. All technical specifications—not only those of private corporations but also those created by communities or movements—have rules, standards and action guidelines incorporated into them that influence the group's activities in a manner similar to social institutions and that (co)structure the actions of their users in often very rigid ways. The presence of a clickable “like” button—and the absence of a technically just as easily implementable “dislike” button—is not just a gimmick but a structural element of social rule-setting and action-guiding through technology.

In addition, processes of the formation and institutionalization of collective actors in the web, which generally transition successively from situational collective behavior into consolidated collective action, can indeed be sustainably supported and co-structured with communication technology; however, they cannot be performed in full by technology. Among these processes are: the emergence of a meta-individual identity and intentionality; the development of collectively accepted norms and values; the development of informal rules and coordination patterns; and the establishment of organizational structures and role differentiations. Thus, even in formations that are oriented around or even motivated by the Internet, the fundamental structures and activities of communities or movements are highly dependent on social conditions, which can be supported and shaped but not substituted by technology.

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