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16. Social movements and the ICT revolution

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Researchers have examined the relationship between social movements and new information and communication technologies (ICTs) for decades, but with exponentially increasing intensity. Scholarship in the area has shifted from emphasizing a small number of high-profile cases to a more theoretically driven body of research that considers a range of technologies, social movements, and outcomes. The number of publications has grown tremendously and today this subfield represents a burgeoning area of research. With this expansion, a number of distinct theoretical questions and positions have emerged, and new research frontiers have been identified.

In this chapter, we review important developments in the field, highlighting central theoretical questions and debates and summarizing key findings. We focus on two levels where theoretical discussion and debate have taken place. First, there have been 'grand'-level debates about whether or not ICT usage has impacts on activism and social movements, and, if so, whether these effects are the product of amplifying well-known social movement processes (e.g., making diffusion happen faster or diffuse farther) or they represent a more fundamental transformation of our models of social movement activity.

Second, theoretical discussion and debate has also taken place within established social movement subfields, such as within research on repression, movement outcomes, and so on. At times these discussions are linked to the grand-level debate we begin with. For instance, we consider at length research examining whether the role of social movement organizations is fundamentally altered by more extensive ICT usage. At other times, ICT-related research focuses on issues that have been long central to social movement subfields without reflecting on the larger animating debate, as is the case with research on repression and the internet.

No matter which of these kinds of theoretical dialogues one focuses on, we argue that it is also critical for researchers to make theoretical distinctions between the forms of internet activism they are discussing and, therefore, the kinds of internet activism to which their findings might generalize. We review various typologies of internet activism so that readers

can have a bird's-eye view of meaningful distinctions amongst different kinds of online and offline activity.

Through reviewing both kinds of theoretical dialogues – those occurring at the grand or macro-level, and the numerous more specific debates happening in existing subfields – we provide a relatively comprehensive review of research on ICTs and protest. Our review begins by engaging three top-level and animating topics: (1) early research on ICTs and an examination of how the field has changed over time; (2) typologies for internet activism; and (3) different positions in the grand animating debate over the theoretical ramifications of ICT usage. We then move to more subfield-specific reviews to analyze the impacts of ICTs in particular social movement subfields, including: (a) ICT usage and micro-mobilization and participation; (b) ICT usage in organizing and by organizations (which has important tie-backs to grand theoretical debates); (c) ICTs and collective identity and social movement community; (d) ICTs and transnational social movement action; (e) ICTs and repression; and (f) the consequences of internet activism. We close with reflections on where the field stands and major topics to be addressed by future research.

EARLY AND CONTEMPORARY RESEARCH CASES

Although some of the earliest research on ICTs and protest focused on systems like PeaceNet (Downing, 1989), which was an early email and conferencing system for peace movement organizations, the literature hit its first growth spurt with research on two movements: the Zapatista movement and the anti-globalization (also known as global social justice) movement. The Zapatista movement is a guerrilla movement representing indigenous people in Chiapas, Mexico, which attracted global attention when it forcefully seized a number of cities and villages in 1994 in hopes of beginning a revolution in Mexico. When the Mexican military countered, the Zapatistas turned to the internet to gather support from around the world. Attention, support, and financial donations came rolling in, buoying the movement and constraining the Mexican government's response in the face of an attentive international audience.

Scholars quickly seized on this high-profile case as an example of the promise of internet-enabled technologies for social movements. In analyzing the case, scholars documented the history of the movement (Schulz, 1998), examined how the Zapatistas used ICTs to mobilize weak ties to support the movement, described the broader network of actors on the web connected to the Zapatistas (Garrido and Halavais, 2003; Salter, 2003), and examined particular online tactics used by Zapatista supporters

(Wray, 1999). Other researchers framed the Zapatistas in more militant ways, casting the Zapatistas as waging a 'net war', even while acknowledging that the war was really a war fought through discourse, not conventional weapons (Martinez-Torres, 2001). Yet, even within research on this early case, there were prescient calls to consider issues that are still at the cutting edge of research today, such as theoretical discussions of how movements will need to compete with one another for attention in an increasingly crowded information space (Kreimer, 2001).

Much of the scholarship on the Zapatistas came about around the beginning of the millennium, which also coincided with the rise of the anti-globalization movement, the second major case to push the research area forward. Initial work examined the role of ICTs in supporting offline protests, such as the so-called 'Battle in Seattle' that took place in 1999, through online support and direct action (Cloward and Piven, 2001; Eagleton-Pierce, 2001). Researchers also examined other major global social justice protest campaigns, including the campaign challenging the OECD's Multilateral Agreement on Investments (Ayres, 1999; Smith and Smyth, 2001).

In terms of major findings, work on anti-globalization and internet activism suggested that the quick provision and transfer of information was a key affordance of ICTs for social movements, even if it might sometimes lead to the spread of misinformation (Ayres, 1999). Researchers also saw transformative potential lurking in new capacities brought by social media (Bennett, 2003b), particularly in terms of stressing networks of association and their role in social movement organizing (Bennett, 2003a, 2004b). However, not all commentators saw such a strong upside from the internet. For instance, while Tarrow (1998) recognized that ICTs might spur diffusion, he nonetheless argued that the net impact of ICTs on protest would be limited because of the importance of thick, face-to-face ties.

While much of the work discussed so far focused primarily on offline protests that were facilitated using the web, or online civil disobedience conducted in support of offline protests (e.g., Cloward and Piven, 2001; Eagleton-Pierce, 2001), scholars also used the anti-globalization movement to examine how activism could take place more exclusively online (e.g., Carty, 2002). Scholars interested in movements beyond the Zapatistas and global social justice soon started reporting on other online movements and campaigns. For instance, Earl and Schussman (2003, 2004; Schussman and Earl, 2004) examined the strategic voting movement, which developed during the 2000 US presidential election. Gurak (1997, 1999; Gurak and Logie, 2003) examined a variety of online cases, including battles over the so-called 'Clipper Chip', which would have

facilitated government surveillance within the USA. More recent work has examined the digital rights movement (Postigo, 2012), although this work draws on controversies with longer digital histories such as the struggle to make DeCSS[1] scripts available online (Eschenfelder and Desai, 2004; Eschenfelder et al., 2005).

The diversity of cases has only continued to grow over time. Whether one considers cultural tactics such as culture jamming[2] (Madrigal, 2012), hacktivism through distributed denial of service actions (Jordan and Taylor, 2004), or the use of Twitter in social movements (Segerberg and Bennett, 2011), it is clear that the kinds of technologies, tactics, and movements that scholars study only continue to expand.

We suspect that work on the Arab Spring and the role of ICTs, particularly social media use, may become an important anchoring debate in the literature, just as the Zapatistas and the global social justice movement were early touchstones. Early work on the Arab Spring is already shedding light on deeply opposing positions. For instance, Tufekci and Wilson (2012) argue that social media usage, such as Facebook, was critical to the Arab uprisings. One can find scholars who share this view (Ems, 2009; Grossman, 2009; Zhuo et al., 2011) and scholars who hotly contest it (Burns and Eltham, 2009; Morozov, 2009, 2011a; Gladwell, 2010).

TYPOLOGIES OF INTERNET ACTIVISM

As cases became increasingly diverse, a welter of findings began to amass; the diversity of technologies, uses, and movements made discerning clear trends difficult. Two reactions have helped to make sense of so much apparently competing work. First, as this section discusses, scholars have developed a variety of typologies of internet activism that could be used to organize quickly amassing scholarship. Second, as addressed in the following section, scholars have positioned work within a larger, orienting theoretical debate.

Two approaches have been taken to classifying online action in ways that allow the literature to be more easily parsed. First, scholars have created broad theoretical conceptualizations that capture major theoretical fault lines. For instance, Vegh (2003) distinguished between 'internet-enhanced' and 'internet-based' activism: internet-enhanced activism denoted activism made more efficient but not fundamentally changed by internet usage, whereas internet-based activism occurred almost wholly online and often had fundamentally different dynamics. Van Laer and Van Aelst (2010) add a second dimension to this typology, distinguishing between low- and high-threshold actions. This dimension is illustrated in

the contrast between 'hacktivism', wherein tech-savvy activists exploit computer networks and security weaknesses as an expression of protest, and online petitions that anyone with a web browser can 'sign'.

Earl and collaborators (Earl et al., 2010) took a different approach by focusing on different styles of use. They distinguish between forms of internet use that are entirely about serving information (which they refer to as brochureware), uses that facilitate offline protest (e.g., online advertising of offline protests), uses that facilitate online participation (e.g., online petitions), and uses that allow entire movements to emerge and thrive online (i.e., online organizing). They found that in terms of empirical prevalence, information provision was the most common activist use of the web (i.e., brochureware sites), but that online forms of participation and organizing were also quite common. However, in contrast to what the literature might otherwise suggest, uses of ICTs to facilitate offline activism were relatively rare.

A second group of scholars have focused on enumerations of potential online tactics, instead of larger classificatory systems. For instance, Wray (1998) discussed five different online tactics (e.g., politicized hacking) as did Lievrouw (2011; i.e., including culture jamming, hacking, participatory journalism, facilitating offline mobilization, and the co-production of knowledge). Other scholars have offered conceptually analogous enumerations of different feature sets that activist websites might include (Della Porta and Mosca, 2009; Stein, 2009). These enumerations help to make the diversity of online protest cases clear, and provide standard feature sets to compare across movements and platforms.

ANIMATING THEORETICAL DEBATES

A second path toward making these myriad findings more interpretable as a whole is to position them within a larger animating debate over whether existing models of movement emergence, maintenance, and success can be applied with little or no adjustment to online cases. In other words, can existing theories designed to explain protest prior to the pervasive use of ICTs be readily adapted to explain online activism and how technologies relate to protest? The stakes that ride on the answer to this question are significant. If extant theories can be easily applied or adapted, then online protest represents only a minor theoretical challenge to the field. If, however, there are numerous circumstances that call for new theorizing because existing models fail to hold – even with modifications – then the field will require a steep learning curve to keep up with new cases.

There are three basic positions in this debate (see the following for

more elaboration on this argument: Earl et al., 2010; Earl and Kimport, 2011). First, early scholarship claimed that extant theory could be applied without even modest adjustments. Scholars taking this perspective were primarily concerned with explaining ICT impacts on offline organizing (Van de Donk et al., 2004). They reasoned that since ICTs only provided new methods for outreach, but did not fundamentally change the dynamics of the offline events that were being supported, existing theory could easily accommodate these new cases. This essentially meant that all major existing theories – from resource mobilization (RM) to political process – were thought to be directly applicable to internet activism without any modifications. Most work stressed the importance of offline social relationships to the health and maintenance of social movements, implicitly arguing that ICTs could not be used to develop, maintain, or extend these deep social ties (Tarrow, 1998; Diani, 2000). Other researchers made an even more aggressive argument, asserting that ICTs might actually be harmful, further disadvantaging the already politically disadvantaged (Tilly, 2004).

Over time, this early, hard line position has given way to a second position that argues that online protest can be understood with only minimal adjustments to existing theories. This is still a theoretically conservative position in that it argues that the theoretical status quo needs little adjustment in order to explain protest in the digital world. This approach sees major existing theoretical approaches, such as RM, as still largely informative and relevant. However, scholars from this camp would suggest minor adjustments to these major approaches to accommodate unique or novel aspects of the digital world. For instance, Peckham (1998) argues that RM is already equipped to explain internet activism except that we need to expand the definition of resources to include digital resources such as bandwidth. But, once these minor modifications are made, major existing theories could be readily applied to online settings.

An alternative that is still within this line of work is the argument that ICT usage accelerates, enlarges, or otherwise magnifies existing theoretical expectations. For example, diffusion processes might work the same way processually, but one might expect information to diffuse further, faster, and at lower costs than it would without ICTs (e.g., Ayres, 1999). Earl et al. (2010, p. 428) framed the argument in this way:

> Although the internet may let groups disseminate information quickly (Ayres 1999; Myers 1994), reduce the cost of online communication (Fisher 1998; Peckham 1998), and/or enhance the ability of groups to create and represent broad online coalitions through links to other websites (Garrido and Halavais 2003), it doesn't change who activists are, what activists do, or how they do it in some more fundamental way.

Foot and Schneider (2002) refer to this theoretical approach as a 'scale change' approach because the underlying model is unchanging; only the scale at which it operates is different. One could think of this as similar to a quantitative, but not qualitative, shift in processes. Earl and Kimport (2011) referred to this as a 'super-size' approach, making cultural reference to larger fast food meals offered under the same moniker. The idea being that nothing but the portions changed when a meal was super-sized. Likewise, the theoretical processes of social movements were thought to be unchanged, though they operate across larger geographical areas or at faster paces than they had traditionally. Thus, major approaches such as RM could still be readily applied to understanding internet activism: the processes that RM describes might be amplified or sped up, but they are not fundamentally altered.

A third, and much more radical theoretical position has been that ICT usage within social movements can actually alter underlying dynamics or processes, requiring more significant shifts in our theoretical approaches. For some scholars, theoretical changes are required because fundamental assumptions of extant models no longer hold. For example, Bimber et al. (2005) argue that the free-rider dilemma, which was an important foundational concern for RM, is not theoretically relevant in the information age. This, in turn, implies that RM itself might be less relevant to explaining the rise and fall of some kinds of internet activism. For other scholars, aspects of theories that historically have been treated as constants must now accommodate extreme variation. Earl and Kimport (2011), for instance, argue that although costs have had minor variation historically, when unique affordances of internet-enabled technologies are leveraged, costs for organizing and participating can drop to unprecedented lows. In fact, these costs become so low that basic tenants of RM – such as the importance of social movement organizations to organizing – start to unravel. In fact, Earl and Kimport (2011) go so far as to argue that ICT usage is ushering in a new 'digital repertoire of contention' that reflects these fundamental theoretical shifts. Thus, this approach marks a larger departure from existing major social movement approaches such as RM and political process by arguing that new theories or major redesigns of RM or political process would be needed to explain internet activism.

This brand of theorizing has been referred to as the 'model change' approach by Foot and Schneider (2002) because it requires changes to fundamental models of contention. Earl and Kimport (2011) argue new 'theory 2.0' approaches are required. By analogy, they suggest that while super-size models used a gas combustion engine that increased in size from a four-cylinder to an eight-cylinder engine, the model change approach is more like replacing a gas combustion engine for an electric engine

– its mechanics and principles are different. One could also think of this approach as arguing that there have been qualitative, not just quantitative, changes in how movements emerge, maintain themselves, and succeed.

To summarize, these three camps are very differently positioned in terms of their relationship with major extant theories designed to explain offline social protest. The first line of work sees no need to modify extant theories such as resource mobilization or political process. The second line of work argues that these theories are still largely applicable, but need minor retrofits to maintain their digital relevance, such as adding in new digital resources. The third line of work questions whether the assumptions underlying extant theories – such as the centrality of resources and/or organizations – are still valid and argues that scholars need to break new theoretical ground in order to understand some kinds of online activism. In this way, this approach calls for a paradigm shift in theorizing about the development, maintenance, and success of movements online.

In most of the literature, one does not see this debate playing out as the central argument in any given work. Rather, this larger animating argument is being adjudicated within more discrete debates across a host of meso-level theoretical issues. For instance, do organizations play fundamentally different roles when ICTs are heavily leveraged? In the rest of this chapter, we weave this animating debate through most of our discussions of each more specific theoretical issue. However, we don't discuss this grand debate in every section as a substantial amount of research on ICTs and activism is nested within subfields disconnected from this broader debate.

MICRO-MOBILIZATION AND PARTICIPATION

Research on micro-mobilization has questioned whether ICT usage hurts, helps, or doesn't really affect participation. Studies finding that online support for offline protest has positive impacts on individual political participation are more prevalent than those finding negative impacts. In Boulianne's (2009) meta-analysis of existing work on internet use and civic engagement, there is no support for the assertion that internet use has negative consequences for political participation but there is statistically significant support for a positive relationship (although the effect size is substantively quite small). A number of scholars have found that ICT usage has a positive impact on individual participation in offline protest demonstrations for particular subsets of activists, such as internet-savvy activists (Van Laer, 2010) and individuals lacking traditional organizational and network ties to other activists (Fisher and Boekkooi, 2010).

Norris (2005) concludes that in democratic countries, shifts towards information societies, generated in part by ICTs, lead to increases in cause-oriented and civic forms of offline activism.

Some work on offline mobilization suggests no impact on participation or mixed impacts. Bimber (2001) utilizes survey data on internet use and various forms of political participation to evaluate the long-standing belief that successful attainment of political information translates into increases in the likelihood of political participation. He finds that the only form of participation that is affected by internet use is the likelihood of donating money. Quintelier and Vissers (2008) find no support for the time-replacement hypothesis that proposes that more time spent using ICTs will allow for less time spent on offline political and public participation. Hooghe and colleagues (2010) attempt to understand differences between online and face-to-face efforts at mobilizing individuals to engage in general, offline political participation, and conclude that the internet can be used effectively to spread knowledge and raise issue salience, but lacks efficacy in creating actual behavioral changes.

Research explicitly comparing factors that contribute to online and offline micro-mobilization is limited. Some scholars assert that online expressive participation strengthens political engagement online and off, and suggest that ICTs support new ways of connecting the personal and political (Bakardjieva, 2009; Rojas and Puig-i-Abril, 2009). Earl and Kimport (2011) find changes in scale when focused on offline mobilization facilitated by the web, but suggest that changes related to online forms of participation are more transformative. Brunsting and Postmes (2002) identify differences in predictors of online and offline political participation, arguing that online participation is determined more by perceived efficacy, while offline participation is more dependent on identification with a cause or movement. The relationship between online and offline mobilization is an important topic, and merits further study.

Scholars have also debated whether internet use promotes inequalities in micro-mobilization and individual participation levels. A number of studies have found that the positive relationship between ICT usage and mobilization only holds for a specific subset of the population, identified by demographic characteristics and varying levels of internet savvy (Krueger, 2006; Van Laer, 2010). In contrast, other studies suggest that online mobilization can reduce participatory inequalities by offering alternative pathways to the political process (Rojas and Puig-i-Abril, 2009), helping to expand our conceptions of what defines civic engagement (Bakardjieva, 2009; Cohen et al., 2012), connecting the otherwise isolated to political causes (Fisher and Boekkooi, 2010), and increasing the voice of those lacking traditional organizational resources (Norris, 2005). Still

others suggest that participatory equality is dependent on a number of factors related to how ICTs are used, including the way that the internet is institutionalized in a given country or political environment (DiMaggio et al., 2001; Ganesh and Stohl, 2010).

ORGANIZING AND ORGANIZATIONS

One of the most developed, and also debated, areas of research on internet activism involves the role of individuals, networks, and social movement organizations (SMOs) in organizing. Broadly speaking, one strand of work, associated here with the scale-change perspective, argues that SMOs benefit from technology because they are able to better accomplish existing goals. Another strand of work, which we associate with a model-change approach, argues that organizing without organizations is possible in specific situations and seeks to understand why SMOs may be less critical in these instances. A third strand of work is not easily classified as either scale or model change, as it has elements of each, arguing that technology use is changing organizations and how they behave (which has model change implications) but that organizations are still the central organizers of protest and this is unlikely to change (which is a scale-change, or even no-change argument). We outline each strand below and argue that the approaches are not as incommensurable as many believe.

In terms of scale-change findings, a number of authors have examined organizational ICT usage and found that ICTs allow organizations to work more effectively and/or at lower costs. For instance, Stein (2009) argues that because ICTs allow organizations to engage people with very low costs, they are better able to engage in a variety of activities, such as outreach. In the European context, Della Porta and Mosca (2009) make very similar arguments. Reflecting on similar themes, Zhuo et al. (2011) argue that while ICTs were important to the Arab Spring, existing organizations were foundational and ICTs were only layered on top of those pre-existing ties and organizing structures. Bennett (2003b, 2004a) argues that ICTs can be used to support ideologically thin coalitions between organizations, amplifying meso-mobilization efforts. Garrett and Edwards (2007) make clear that ICTs also can be used to route around repression in some instances, and support movement decision-making and action.

Other researchers, though, have more fundamentally called into question existing theories about organizing and organizations. This work generally examines cases where organizing was accomplished outside of organizations, either through individuals or in networks. Within this area, there is a large amount of descriptive work documenting organizing

outside of organizations. For instance, Gurak (1997, 1999; Gurak and Logie, 2003) examined a range of online cases – from protests about the Clipper Chip to GeoCities' web hosting terms of service – that sprung up quickly and without centralized leadership or organizations. Likewise, Eschenfelder and colleagues (Eschenfelder and Desai, 2004; Eschenfelder et al., 2005) examined protest about censorship of DeCSS code, which allowed Linux users to play DVDs on their machines. While there were some organizations, such as the Electronic Frontier Foundation (EFF), which played a role in the DeCSS conflict, there was also substantial organizing that happened outside of organizations. The same can be said of other digital rights struggles, which tend to feature a mix of organization activity (by groups like EFF) and organizing by individuals or small groups outside of formal organizational structures (Postigo, 2012). Other interviewing projects have confirmed the non-organizational infrastructure of various online movements and campaigns (Earl and Schussman, 2003; Earl and Kimport, 2011).

A number of different explanations have been forwarded for why organizing without organizations is increasingly possible using ICTs. One argument, championed by Earl and Kimport (2011), is that with ingenious uses of ICTs, organizing costs can be driven so low that organizational infrastructures are unnecessary. This argument echoes other related claims in the literature (Earl and Schussman, 2003; Benkler, 2006; Shirky, 2008). Further, they argue that online organizing often follows a power law dynamic where only a small number of people need to take significant action in order to enable the effective, but much smaller, efforts of the masses. Others argue that traditional roles for organizations, such as providing selective incentives to prevent free-riding, are no longer required because the costs of action online are so low that free-riding is not a major concern (Bimber et al., 2005). Still others argue that this transition is facilitated by the rise of 'flash activism', which involves massive numbers of people engaging in more ephemeral actions (Bennett and Fielding, 1999). It may also be that leadership can be distributed across a diverse group of individuals such that it no longer needs to be organizationally anchored (Earl, 2007; Beyer, 2011; Howard and Hussain, 2011). Finally, some have suggested that networks may more nimbly route around existing organizations to drive a movement agenda or media coverage of a movement (Bennett, 2003b).

No matter the theoretical rationale, though, these works together represent a powerful model-change argument that suggests that SMOs are no longer ubiquitously needed. But, it is important to note that most of these authors are not arguing that SMOs will never be useful and/or will go extinct. Rather, they are arguing that in some instances, what has been

considered a basic assumption of social movements research for three decades – that SMOs are pivotal – may not hold. For instance, Earl and Kimport (2011) argue that SMOs will still play a major role when organizing offline events, even if they may be less necessary to organizing online actions. Bimber and colleagues (Bimber et al., 2012) argue that despite the increasing irrelevance of the free-riding dilemma, there is still significant interest in membership organizations.

Standing outside of this scale-change versus model-change debate, but reflecting elements of each position, is a strand of work examining how organizations themselves might be changing as a result of ICT usage. As Karpf (2012) has put it, this work is interested not in organizing outside of organizations, but rather is interested in organizing through *different* organizations. For instance, Bimber et al. (2012) argue that organizations are not being displaced by the ubiquity of technology, but are instead being reshaped so that organizational form now matters less to patterning member behavior. They argue that in any organization there is a diversity of types of members who use SMO-offered tools, but also other ICTs outside the control of SMOs (such as social networking sites and Twitter) to engage as they wish. Karpf (2012) examines the growth of 'netroots' organizations that often span multiple movements and have come to serve as central anchoring groups for progressives. Likewise, Kreiss (2012) has examined how even institutional politics, including election campaigns, are being redesigned to accommodate ICTs and netroots organizations.

MoveOn is often seen as an archetypical SMO for this kind of 'different' organizing, as evidenced by its wide academic coverage (see the following illustrative examples: Carty, 2011; Bimber et al., 2012; Karpf, 2012). MoveOn is a liberal advocacy group that organizes in pursuit of progressive change and supports political candidates that are supportive of such change. The organization's relevance to this body of literature is largely a product of its popularity in the United States and its utilization of ICT platforms and multimedia to facilitate communication between members and provide them with protest tools. Also included in this 'different organizing' line of work is research arguing that networks are playing an increasing infrastructural role in movements (e.g., Chadwick, 2007) and research arguing that organizational changes are also altering the meaning of membership within SMOs (Earl and Schussman, 2003; Schussman and Earl, 2004; Bennett et al., 2008; Earl and Kimport, 2011; Bimber et al., 2012).

While many see these strands of work in tension with one another, we argue that all three approaches are probably correct but describe complementary parts of the organizing story. There is strong evidence that organizing is happening, by virtue of ICT usage, outside of organizations

(although this trend has received too little research attention and deserves more). But, even though we regard evidence of organizing outside of organizations to be strong, we do not believe that this means that SMOs will fade away. Rather, we suspect that SMOs that have more distant patron–client relationships with their members will be able to use ICTs in ways consistent with the super-size arguments reviewed above. Members will not seek major reorientations and SMOs will appropriate ICTs to achieve existing goals more efficiently. SMOs whose members are more actively engaged are likely to feel more pressure to contribute to movements in new ways, which will lead to changes within organizations, or organizing by 'different' organizations.

It is important to note, though, that technological change and technology use are not the only factors contributing to a changing role for SMOs. Questions about the primacy of centralized organizations to social movements' success predate widespread adoption of the internet, and there are numerous examples of loosely interconnected activist networks existing without the aid of sophisticated digital communication (e.g., Gerlach and Hine, 1970; Gerlach, 2001). Indeed, the notion that formal organizations are not required for mobilization is one of the defining features of new social movement (NSM) theory (Buechler, 1995), a model-change argument grounded in social, not technological, transformations. Although NSM theory has been vigorously critiqued (e.g., Pichardo, 1997) few scholars dispute the existence of decentralized movements. Instead, critics question whether NSMs are in fact new, suggesting that the unique characteristics of these movements, including their fluid organization, are actually part of a larger cyclic pattern for which there are numerous historical precedents. To the extent that organizing within social movements is changing, however, it is possible also that technology-enabled capabilities are operating in tandem with other socioeconomic changes to promote these new forms (Castells, 1997; Inglehart and Welzel, 2005), as post-modernization theory would suggest. The precise nature of this relationship remains relatively unexplored as recent research has tended to focus on the significance of technology alone.

ONLINE COLLECTIVE IDENTITY AND COMMUNITY

Examinations of collective identity and community in the online context sought to determine what impact, if any, involvement online had on social and community involvement offline, which might be negative, positive, or model changing. The majority of early work warned that increases in

internet use would lead to offline decreases in community engagement and maintenance (Sassi, 1996; Lockard, 1997; Doheny-Farina, 1998). Much of this initial work raised doubts about the ability of individuals, groups, and organizations to foster and maintain an online collective identity. By comparing a feminist group whose members primarily interact with one another online to a feminist group whose members primarily interact with one another offline, Ayers (2003) concluded that the online group lacked the very things that fostered a collective identity. Nip (2004) found that while the internet group she studied was able to foster a sense of belonging and shared opposition to the dominant order, they were unable to generate and maintain a collective consciousness and failed in establishing a collective identity.

This early trend of skepticism in the literature is somewhat surprising considering evidence of the positive effects of emergent technologies on mobilization and collective identity historically. For example, Roscigno and Danaher (2001) conclude that radio played an important role in shaping the collective identity and shared understandings of political opportunity among textile workers in the US South during the late 1920s and early 1930s.

That said, there were some that asserted that online communities strengthened offline communities or expanded offline themselves (Rheingold, 1993; Elkins, 1997; Wellman and Gulia, 1999). More recent scholarship has confirmed this less skeptical view and has come to accept the instrumental role that ICTs can play in collective identity formation and maintenance. Kavanaugh et al. (2008) find that the ability to gather information and create relationships online strengthened political ties in a local community computer network, to which Haythornthwaite and Kendall (2010) add that such ties can persist even after offline links are severed. For these scholars, online community and communication can reinforce already existing collective identities and maintain them solely online even after offline contact stops.

Others have explained the importance of ICTs to activist collective identities for those disadvantaged by both distance and repression. Work by Arquilla and Ronfeldt (2001) demonstrates that for cyber-terrorists and civil society activists alike, ICTs can strengthen collective identity even in the absence of physical or geographical proximity. Reid and Chen (2007) claim that for extremist Middle Eastern groups who are not able to meet or communicate publicly, the internet offers a private, mediated way for individuals to find a sense of belonging, even if done under the condition of anonymity. It is clear that this research finds both that collective identity is important to social movements and collective action mobilization and that the internet can be leveraged to strengthen identity formation and

maintenance by increasing communication and interpersonal ties, making geographic distance insignificant, and providing safe places for people to connect.

Moving beyond these positive versus negative effect debates, other scholars have questioned whether collective identity is always as important for online mobilization as extant research suspects. For instance, Earl and Kimport (2011) argue that ICTs enable collective action without a physical co-presence among participants, which changes participants' sense of others' participation. As such, they posit that the social processes driving collective identity, or collective identity itself, will change in online contexts, possibly forcing us to change our understandings of the sources of collective identity and how it impacts mobilization. Bennett et al. (2008) reach a similar conclusion, claiming that recent, dramatic increases in the speed and scale of mobilization efforts is a product of a transformation of SMOs that is typified by looser ties with members and allows for more widespread mobilization as participants rely on much denser, personal political networks. The development of the 'networked individualism' perspective (Zhuo et al., 2011; Rainie and Wellman, 2012), which proposes fundamental changes to our conceptual models of collective identity, is consistent with what Earl and Kimport (2011) call for.

TRANSNATIONAL SOCIAL MOVEMENTS AND ICT USAGE

Transnational social movement activity has been impacted more by ICT usage than domestic protest because changes in the time, distance, and cost constraints of mobilization and organization are more influential among transnational movements. Globally connected internet-based communication allows the rapid diffusion of tactics (Van Laer and Van Aelst, 2010); facilitates the coordination of massive demonstrations simultaneously around the world (Smith, 2001; Kahn and Kellner, 2004; Bennett et al., 2008); enhances and eases collective identity formation (Van Aelst and Walgrave, 2002; Reid and Chen, 2007; Matsuzawa, 2011); speeds the growth of transnational protest (Nico Verhaegan, in Van Aelst and Walgrave, 2002); and alters political networks across borders (Bennett et al., 2008). The repertoire of contention may also be changing as activists experiment with adapting existing tactics to the digital environment, capitalizing on the speed and reach of the network (Ayres, 2005).

Changes in time, cost, and geographic constraints have also impacted organizational and networking processes. The internet allows for looser and more fluid transnational organizational structures to remain effective

across great distances without being highly formalized (Smith et al., 1997; Bennett, 2003a). In their work on Egypt during the Arab Spring, Zhuo et al. (2011) echo research done on the Zapatistas (Schulz, 1998; Garrido and Halavais, 2003), arguing that established activist organizations were aided in their efforts by a geographically dispersed network of allies, maintained at low costs with the use of ICTs. Similarly, Matsuzawa (2011) highlights the ways in which the internet can enable local groups, often lacking in resources, to become 'translocal' by connecting them to non-hierarchical transnational activist networks.

REPRESSION

In comparison to other areas, far less work has been done on repression online. What work does exist can largely be divided into work on repression in authoritarian versus democratic contexts. Work on repression in authoritarian contexts has examined online censorship levels with remarkably sophisticated technical designs (e.g., Deibert et al., 2008, 2010). While much of that work points to the effectiveness of authoritarian governments in censoring, research does suggest that some repressive regimes are not as effective at online repression as they are at offline repression (Alexanyan et al., 2012). A few researchers have also examined how activists might try to use ICTs to circumvent surveillance and/or censorship (Roberts et al., 2010). However, it is worth noting that work on censorship has not been well integrated into the literature on repression, although Earl (2011a) argues that scholars must work on bridging this gap.

Other work on authoritarian contexts has examined the use of ICTs as surveillance tools, particularly in Arab countries and in relation to the Arab Spring (Howard and Hussain, 2011; Lynch, 2011). Morozov (2011a) has been the most ardent critic of ICTs because of their repressive potential. In addition to arguing that ICTs can be used effectively by state agents to monitor and repress, he argues that the entertainment uses of ICTs can sap the will of the masses and limit the likelihood of mobilization. In contrast, others have argued that repressive attempts have backfired, and, for instance, emboldened Arab protesters (Mourtada and Salem, 2011). Online organizing may also make repression more difficult for states because bottom-up organizing is harder to monitor and suppress than centralized, bureaucratic organizing (Etling et al., 2010).

Work examining repression online in democratic contexts examines these issues in parallel. For instance, Chadwick (2006) is concerned with surveillance, even in democratic contexts, and Earl et al. (2013) note that police may use Twitter for surveillance. Concerns about access to online

activism in democratic states also exist: Earl (2012) notes that because so much protest happens on private servers in democratic spaces, there is little actual protection for online protest (see DeNardis, 2012 for a related point). Similarly, Peckham (1998) argues that even private actors can repress online, as when Scientology tried to limit the offline and online resources of anti-Scientology activists. Moreover, just as backfire from repression was observed in more authoritarian contexts, backfire has also been a common response in democratic contexts (Earl and Schussman, 2004; Krueger, 2005; Postigo, 2012; Earl and Beyer, 2013). However, censorship broadly construed as blocking access to information in general has not been the subject of research in democratic contexts.

THE CONSEQUENCES OF INTERNET ACTIVISM

It has been popular to argue that online activism is of little consequence, although we take issue with this conclusion. One version of this argument assumes that 'real' activism must inevitably play out in the streets, and so online activism is, at best, a gateway to this more important form of activism, and, at worst, a distraction. Noted popular writers such as Gladwell (2010), as well as respected social movement scholars such as Tarrow (1998), have made such claims. A second version of this argument indicts online activism as too easy to be effectual, implicitly tying effectiveness to difficulty. Karpf (2012) repeatedly makes this claim, and notes that his skepticism reflects a consensus about the futility and unimportance of so-called 'slacktivism' or 'clicktivism', activities that he sees as 'bemoaned by scholars and public intellectuals' (p. 29). A final version of this argument is that even when there are positive aspects of internet activism, the downsides (e.g., heightened surveillance and repression) are larger and/or organizers (or supportive governments) are not clever enough to accomplish heavy democratic lifts with these tools. Morozov (2011a) makes this argument most strongly in his aptly titled book, *The Net Delusion*. He notes: 'The "delusion" that I am attacking in the title of my book refers not only to our tendency to view the internet as the "ultimate liberator" but also to our false belief that the internet is a tool that Western policy-makers can wield at will and without consequences' (Morozov, 2011b).

Much of the recent debate over the consequences of online engagement has been fanned by research on the Arab Spring. A number of scholars have argued that ICTs were important to Arab Spring mobilizations (Aday et al., 2010; Zhuo et al., 2011; Tufekci and Wilson, 2012) but other researchers have questioned this finding (Gladwell, 2010; Morozov,

2011a; Aday et al., 2012). Whatever research ultimately reveals about the role of ICTs in the Arab Spring, we do not think this will resolve the outcome's controversy.

In fact, we argue that the debate up to this point has been far too simplistic and that research and theorizing (with a few notable exceptions) has been far too unsystematic for any substantial conclusions to be reached. Perhaps most importantly, research has tended to be grounded on untested assumptions about effectiveness (e.g., Gladwell, 2010) or anecdotes and isolated cases (e.g., Morozov, 2011a) instead of on more systematic surveys of social movement consequences. This means we know little about impacts that is generalizable. Research has also been structured around 'straw man' debates where authors defend or contest the uniform irrelevance of online activism. We think these kinds of simplistic arguments hide the more likely outcome of long-term empirical research, which we suspect will show that online activism is effective for certain kinds of goals and under certain circumstances, but is neither universally effective nor universally ineffective (which, incidentally, is no different from findings on offline activism).

Furthermore, research has failed to engage the same wide set of social movement consequences that research on offline activism has, including research on the biographical, cultural, and policy-agenda–setting impacts of internet activism, among others (see Earl, 2011b for more on this point). Thus, there are many untouched research frontiers in this area. Just as researchers have elsewhere failed to distinguish between dynamics associated with different types of 'internet activism' (Earl et al., 2010), so too have scholars failed to organize the debate using precise conceptualizations of technology use. This means that scholars tend to make grand claims about the consequences of ICT-facilitated protest, instead of carefully tailoring to the kinds of technology usage about which findings may generalize. Finally, scholars have failed to distinguish between alternative models of power that are at work in long-term offline social movements versus flash activism. While long-term activism works on a model of power through sustained influence, flash activism works on a flash-flood model in which ephemeral rushes of participation can have serious consequences. Although this distinction has been discussed in the literature, it has not been imported into research and theorizing on the impact of internet activism (Earl, 2011b). We hope to see more development in this area, as it is a critical and hotly contested research frontier.

CONCLUSION

Clearly, research on the relationship between ICTs and protest and social movements has come a long way over the last several decades. From humble early examinations of activists' Usenet bulletin boards and the Zapatistas, the literature has grown to examine different forms of 'internet activism' across the globe. In reviewing this ever-growing body of work, we have cautioned readers that it is critical to always remember that not all 'internet activism' is the same – there are important conceptual differences, and differences in findings, associated with online facilitation of offline action versus fully online participation. When scholars ignore this distinction, the generalizations drawn from research are suspect.

We have also outlined a grand debate over the general theoretical impact of ICTs on protest: does ICT usage have no effect on fundamental underlying theoretical processes, does it accelerate known processes or otherwise enlarge them, or are those processes fundamentally altered through ICT use? We have shown throughout the review that when scholars study offline mobilization that is supported online, no effects or scale-changing 'super-size' effects are most likely. This is apparent across all subfields reviewed. On the other hand, when *online participation* in activism is examined, researchers tend to find more model-changing consequences of ICT usage. This is true whether one examines work on organizing and organizations or collective identity. This suggests that scholars who tend to make grand conclusions about the consequences of ICT-facilitated protest are likely to be overplaying their hand. Instead, theoretical findings need to be tailored to the kind of activity and technology usage under study. Future research needs to be much more sensitive to this issue and researchers need to do a better job of discussing what kinds of cases findings might generalize to. Moreover, researchers need to spend more time examining online forms of activism because the offline facilitation of online activism has thus far received the lion's share of research attention, despite being empirically rare (Earl et al., 2010).

This review has summarized major research themes at the intersection of social movements and new ICTs, highlighting current and continuing controversies in the field. Inevitably, we have had to make difficult choices about what to omit. In a longer review, we would also have discussed work on diffusion or networks online, however, these rich areas of research are simply beyond the scope of this review. Nonetheless, the chapter presents a portrait of a compelling research area and shines a light on a number of important open questions. We anticipate important advances in the next decade.

NOTES

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1. One of the first free computer programs capable of decrypting content on a commercially produced DVD video disc.
2. Used by anti-consumerist social movements to disrupt media culture and mainstream cultural institutions, and exposing supposedly questionable political assumptions behind commercial culture, for example by refiguring logos and product images.

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