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## PROTEST IN AN INFORMATION SOCIETY

A review of literature on social  
movements and new ICTs

*New Information and Communication Technologies (ICTs) are changing the ways in which activists communicate, collaborate and demonstrate. Scholars from a wide range of disciplines, among them sociology, political science and communication, are working to understand these changes. The diversity of perspectives represented enriches the literature, providing an abundant repertoire of tools for examining these phenomena, but it is also an obstacle to understanding. Few works are commonly cited across the field, and most are known only within the confines of their discipline. The absence of a common set of organizing theoretical principles can make it difficult to find connections between these disparate works beyond their common subject matter. This paper responds by locating existing scholarship within a common framework for explaining the emergence, development and outcomes of social movement activity. This provides a logical structure that facilitates conversations across the field around common issues of concern, highlighting connections between scholars and research agendas that might otherwise be difficult to discern.*

**Keywords** social movements; activism; information and communication technology

### Introduction

New Information and Communication Technologies (ICTs), such as cell phones, email and the World Wide Web, are changing the ways in which activists communicate, collaborate and demonstrate. From cell-phone coordinated protest against the World Bank (Ahrens 2001) to software built to circumvent state-sanctioned censorship (Hacktivism 2003), examples of changes in the social movement landscape abound. Scholars from a wide

range of disciplines, among them sociology, political science and communication, are working to understand these changes, with numerous journal articles, dissertations and books published since the mid-1980s. By the mid-1990s, the topic had matured into a stable research area.

The diversity of perspectives represented enriches the literature, providing an abundant repertoire of tools for examining these phenomena, but it is at times also an obstacle to understanding. Few works are commonly cited across the field, and most are known only within the confines of their discipline. The absence of a common set of organizing theoretical principles can make it difficult to find connections between these disparate works beyond their common subject matter. The scholarly community would benefit from a broader view of the field.

One strategy for aligning these writings into a coherent literature is to adopt a theoretical framework in which existing and new work can be located. This conceptual scaffolding would help scholars to recognize connections between apparently dissimilar works, and to identify fruitful areas for future study. This paper advances one such framework and provides an overview of the major ideas represented in the literature.

### *Framework*

The product of an effort to integrate major developments in the field of social movements over the last three decades, McAdam *et al.* (1996) offer a framework intended to explain social movements' emergence, development and outcomes by addressing three interrelated factors: mobilizing structures, opportunity structures and framing processes. Organizing a review of the relationship between social movements and new ICTs along these lines facilitates conversations across the field around common issues of concern, highlighting connections between scholars and research agendas that might otherwise be difficult to discern.<sup>1</sup> The breadth of the framework, integrating several major strands of social movement scholarship, makes it particularly appropriate to the task. A recent volume addressing the relationship between social movements and new ICTs (van de Donk *et al.* 2004) effectively employs a similar strategy for integrating the studies it includes. The editors invoke a comparable framework in order to generate observations and raise questions, greatly enhancing the value of the collection as a whole. Their success in this regard is further evidence that organizing a more extensive review along these intellectual lines will shed new light on the field.

A brief overview of this framework sets the stage for the review that follows. Mobilizing structures refer to the mechanisms that enable individuals to organize and engage in collective action, including social structures and tactical repertoires (McCarthy 1996). Social structures encompass both formal configurations, such as social movement organizations or churches,

and informal configurations, such as friendship and activist networks. Tactical repertoires describe the forms of protest and collective action that activists are familiar with and able to utilize. Thus, supporters are more likely to mobilize around an issue if there is an existing organizational infrastructure and familiar forms of protests.

Opportunity structures refer to conditions in the environment that favor social movement activity, and include factors such as the relative accessibility of the political system, the stable or fragmented alignments among elites, the presences of elite allies, and the state's capacity and propensity for repression (McAdam 1996). For example, civil rights mobilization efforts in the 1950s and 1960s were successful in part because of the differing attitudes between elites in the North and those in the South toward the rights of African-Americans (McAdam 1982).

Framing processes are strategic attempts to craft, disseminate and contest the language and narratives used to describe a movement. The objective of this process is to justify activists' claims and motivate action using culturally shared beliefs and understandings (Zald 1996). The various terminology and stories used to describe the protests against the WTO and the IMF exemplify a contemporary framing process. For example, 'anti-globalization' is the label most often used by the mainstream news media, while activist publications often refer to the 'global justice,' 'anti-capitalist' or 'fair trade' movement, each of which implies slightly different justifications, strategies and objectives.

This paper is divided into five sections. Having introduced the objectives and briefly outlined the organizing framework, the next three sections situate existing scholarship on new ICTs in social movements within the framework. Each section also describes the limitations of the literature. The paper concludes with a discussion of several promising areas for future research.

## **Mobilizing structures**

Scholars have written more about ICTs' relationship with mobilizing structures than the other two elements of the framework combined. The discussion of this literature is divided into three subcategories: participation levels, contentious activity and organizational issues.

### *Participation levels*

ICTs' influence on participation in social movements – and on political participation more broadly – is controversial. The literature describes three mechanisms that potentially link technology and participation: reduction of participation costs, promotion of collective identity and creation of community.

By reducing costs associated with publishing and accessing movement information, ICTs have the potential to alter the flow of political information, to reduce the cost of conventional forms of participation, and to create new low-cost forms of participation, ultimately contributing to an upsurge in participation (Leizerov 2000). Bonchek (1995, 1997) offers a model for explaining this dynamic that includes a number of nuances not found elsewhere. He claims that by lowering communication and coordination costs, ICTs facilitate group formation, recruitment and retention while improving group efficiency, all of which contribute to increasing political participation. Looking at recruitment specifically, Bonchek (1995) suggests that lower communication costs will facilitate member recruitment by increasing the benefits associated with participation. Other research suggests that enhanced recognition for contributions, a factor Bonchek does not discuss, may also prove to be an incentive for participation (Butler *et al.* forthcoming).

Bimber, however, is critical of the assertion that increasing communication capacity will heighten political engagement. He observes that political engagement among US citizens has not changed significantly since the 1950s despite the increases in communication capacity resulting from the expansion of television and increases in formal education levels (Bimber 1998b). Analysis of survey data from 1996 to 1999 reveals little evidence of a relationship between Internet use to obtain political information and any of several forms of political activity (Bimber 2001). Based on research in political psychology, Bimber argues that human beings have a limited capacity to absorb information systematically. Having access to more information at lower costs, therefore, will not significantly influence participation levels.

The second mechanism linking technology and participation is the promotion of collective identity, a perception among individuals that they are members of a larger community by virtue of the grievances they share. ICTs may be able to foster collective identity across a dispersed population, which organizers can then mobilize in support of collective action (Arquilla & Ronfeldt 2001; Myers 2000; Brainard & Siplon 2000). For example, Roscigno and Danaher (2001) find that radio station proximity was significantly related to strike activity among geographically dispersed Southern textile workers in the 1930s, and that the content of the broadcasts emphasized workers' common plight. The authors conclude that this technology played an important role in the development of collective identity by making workers aware of similar struggles across the region, and by helping them shift responsibility for their circumstances to the mills' owners and managers. Scholars have found evidence of similar processes occurring over the Internet. For example, case studies described by Gurak (1997) and Leizerov (2000) demonstrate that protest groups have formed and acted collectively on the basis of shared concern regarding Internet privacy.

The third mechanism identified in the literature is ICTs' facilitation of community creation. Online community members report that their experiences with these groups significantly reinforce existing social networks, while simultaneously allowing them to connect with those who hold different views (Norris 2004). Numerous case studies suggest that new technologies are also facilitating the maintenance of geographically dispersed face-to-face networks (e.g. Brainard & Siplon 2000; Elin 2003). It is unclear whether new ICTs foster stable relationships and provide an effective medium for conveying strong social pressures, but at least one study has shown that online social networks affording only weak connections can facilitate collective action (Hampton 2003).

To the extent that ICTs can alter community, Diani (2000) claims that the ramifications of this capacity are dependent on the nature of the social movement organization (SMO). First, he predicts that SMOs that mobilize mainly professional resources will see their sympathizers transformed into slightly more interactive virtual communities. By lowering costs and increasing opportunities for communication, new ICTs provide the largely passive support base with a low-intensity forum for issue-based communication, potentially strengthening their identification with the movement. Second, he predicts that ICTs will serve to reinforce existing social ties in SMOs whose emphasis is on mobilizing participatory resources. New ICTs support a variety of mechanisms for interaction, potentially strengthening existing relationships and expanding the ways in which they are employed. Third, he argues that transnational organizations could not exist without the communicative efficiencies afforded by ICTs, claiming that costs and delays associated with prior communication technologies made coordinating transnational advocacy too cumbersome to be effective. Keck and Sikkink (1998), however, take issue with this last claim, arguing that new ICTs are valuable, but not essential, to contemporary transnational advocacy.

*Discussion.* New ICTs present another recruitment opportunity that is largely absent from the literature. These technologies allow very small contributions to be effectively aggregated. Coordination costs have historically outweighed the benefits of small contributions, but new ICTs can be used to lower the associated overhead. As a result, organizations can more effectively pool small-scale acts of support. These 'micro-contribution' strategies are frequently employed for fundraising, for example through 'click-and-give' websites. The organizations backing these sites collect revenue from advertisers who pay a fee each time a visitor views their advertisement. This model can also be applied to other arenas. The online coordination of short-term-commitment canvassing and phone-banking volunteers during the US elections in 2004 provides a recent example (Resnick 2004). Another potential benefit of micro-contributions is that small actions may lead to a greater

sense of obligation. Cognitive dissonance theory predicts that, having committed to a course of action, an individual will seek to enhance the attractiveness of the chosen option (Festinger 1964). Thus, having contributed to a movement, an individual is likely to feel more committed to the issue and more certain that action was required.

If Bimber is correct in asserting that an individual's ability to absorb information, not her/his ability to access it, is a key factor limiting political sophistication, and consequently, participation levels, then new ICTs could still contribute to a participation increase. New ICTs afford a variety of capabilities that can be used to augment a person's ability to integrate and retain new political information, thereby facilitating increased participation.

First, new ICTs make it possible to offer on-demand access to current information. Allowing an individual to access relevant information quickly and easily when she/he is most receptive to it may facilitate information absorption. Second, new ICTs allow multiple, overlapping associations between materials. For example, placing links on a website to related material can help contextualize new information. Third, ICTs allow the creation of a flexible information environment, in which an individual may tailor how he/she encounters content so that the experience best suits his/her learning style (Jones & Berger 1995). For example, content may be provided in a range of modalities, including text, images, audio and video, and with a variety of levels of interactivity, from static documents and reports to dynamic user-controllable models.

### *Contentious activity*

An oft-noted feature of ICTs is their ability to accelerate and geographically extend the diffusion of social movement information and of protest (Myers 1994). For example, news coverage of protest activity in one location can increase issue salience across a much broader region, potentially motivating future actions elsewhere. This has a number of potential ramifications for social movements. Myers (2000) identifies numerous factors influencing the diffusion of past protest activities, and offers a model for understanding future diffusion patterns. Given the characteristics of Internet-mediated communication, he concludes that cycles of mobilization and response will be more rapid, causing issue support to wax and wane more quickly. Other scholars have arrived at similar conclusions (Bimber 1998b; 2000). By virtue of this acceleration, ICTs may ultimately contribute to an intensification of conflict.

This situation could be further exacerbated by a decline in the accuracy of the information being circulated. If individuals, because of the ease with which they can disseminate information online, exert less effort to vet information before sharing it with others, the quality of social movement

information online could decline, potentially catalyzing a transition from protest to riot (Ayres 1999). On the other hand, people can also use the Internet to verify information and check claims against multiple sources, ultimately enhancing accuracy (Elin 2003, p. 103).

Another factor that could foster political polarization is the unprecedented control over information exposure that modern information systems afford. News consumers are increasingly able to create a homogeneous information environment. For example, email listservs allow groups of like-minded individuals to share issue- or ideology-specific news from a variety of sources. Online news also enhances people's ability to be selective, and its use is on the rise (Kohut *et al.* 2004). Individuals using these sources may perceive that a political situation is more dire, and the appropriate response more extreme, than they would otherwise have thought (Sunstein 2001). There are questions, however, regarding the likelihood that people will engage in these types of behaviors. Survey data collected in 2000 suggest that Internet users are more tolerant and open-minded than non-users (Robinson *et al.* 2004). Another survey conducted in the US during the 2004 presidential election suggests that online news users are not utilizing the control afforded by these technologies to filter out viewpoint-challenging information (Horrihan *et al.* 2004).

ICTs are also producing changes in repertoires of contention, allowing activists to engage in new forms of contentious activity and to adapt existing modes of contention to an online environment. Comparable transformations have occurred before. For example, the availability and mobility of print enabled by the printing press helped move protest from transient local direct action to more flexible and sustained national contention (Garner 1999).

The first manifestation of changing repertoires is evident in street-based contention. Evolving protest tactics exhibit several shared characteristics that derive, at least in part, from their reliance on loosely coupled networks of individuals and groups, which are made more feasible by new ICTs (Arquilla & Ronfeldt 2001). Actors can mobilize rapidly and can engage in swarm-like challenges, taking simultaneous action on multiple fronts, and in multiple ways. These qualities were visible during the Seattle WTO protests in 1999 (Smith 2000).

Another type of innovation in contention is adaptation of existing tactics for use in an ICT-mediated environment. The categories of tactical adaptations most often discussed in the literature are ICT-supported media tactics and ICT-mediated civil disobedience. Media tactics seek to influence public opinion and create political pressure through publicity. These tactics have a long history, but ICTs afford new mechanisms for collecting information relevant to movement issues and generating publicity (Rucht 2004; Denning 2001). For example, Amnesty International has effectively employed

this approach against repressive political regimes, mobilizing successful letter-writing campaigns within hours of receiving documentation on urgent human rights violations (Lebert 2003, pp. 214–215).

James Snider (cited in Bimber 1998b) suggests that the ability to disseminate information rapidly could ultimately increase political accountability. Elites are more likely to behave in a manner consistent with citizen concerns if they work in an environment where they must assume their actions are being observed and that news of any inappropriate actions – even those traditionally outside the media spotlight – will quickly reach the public. This can be seen as a reversal of the Foucauldian panopticon.

The panopticon is a unique prison design in which guards are stationed in a shuttered watchtower surrounded by well-lit prison cells. The virtue of this design is that guards can monitor any prisoner's activities, but prisoners cannot detect when they are being watched. As a consequence, prisoners censor themselves, avoiding prohibited behavior.

For Foucault, the dynamics of power in the panopticon are a metaphor for power dynamics in society more generally. Oppressive self-regulation is the basis of power in a modern disciplinary society (Foucault 1977). New ICTs potentially invert this metaphor, allowing challengers to observe elites. For example, activists at CorpWatch, part of the anti-corporate movement, claim that their website leads corporations to engage in self-censorship (Rosenkrands 2004, p. 60). Nevertheless, this reverse surveillance is not perfect. The string of accounting scandals that shook the US stock market in 2002 demonstrates how many transactions may be hidden from the public even within high-profile organizations.

'Electronic civil disobedience' and 'hacktivism' are a second common example of tactical adaptation.<sup>2</sup> These are efforts to conduct actions in an ICT-mediated space consistent with the philosophy of civil disobedience (Manion & Goodrum 2000). An example of such a tactic is the 'virtual sit-in', where users attempt to render a target website inaccessible by creating artificially high demand for its content (Wray 1998). There is little evidence to date that these disruptive tactics have been an effective means of pressuring elites; however, societies' increasing reliance on information infrastructures mean that more significant disruptions are possible (Edwards 1998; Denning 2001; Reilly 2003).

Activists who pursue more aggressive disruptions face risk, however, as the negotiation over boundaries of socially acceptable protest activity is still underway. While it is clear that tactics that put lives in jeopardy, such as an attack on a flight control system or national power grid, constitute terrorism, some boundaries are less obvious. For example, does a website encouraging 'individuals to don a character's costume, enter a Disney theme park, and distribute children's literature explaining the problems with Disney's depictions of revisionist history' constitute terrorism, as some have suggested (Braun *et al.* 2000, p. 160)?



Finally, technology-enabled additions to the repertoire of contention also potentially limit activists. By formalizing the role of participants, automated tools supporting online action offer a constrained set of actions, thereby excluding important opportunities for collective action. For example, Galusky (2003) points out that the Environmental Defense's website, scorecard.com, validates the role of expert scientific knowledge at the expense of community-member experience.

*Discussion.* Predictions of radicalization emphasize the Internet's technical capacities while downplaying the importance of people's behavior. Though the Internet *could* allow inaccurate information to travel farther and faster than previously possible, the shift from protest to riot is dependent on people's actions. People must choose to circulate movement information indiscriminately in order for inaccurate ICT-mediated movement communications to become the norm.

New ICTs could also contribute to an environment characterized by more sustained activity. First, the low cost of maintaining organizational ties online could mean that fewer supporters are needed to keep a movement active. For example, it is unlikely that a single outcome will satisfy all members of a large coalition, and groups with specific grievances not addressed by the resolution may continue action on a much smaller scale. Second, the ability to coordinate globally means that challengers from around the world can arrange their actions so that they function as part of a larger collective movement. By reducing the burden on any one group a movement may be more sustainable. Together, these characteristics could produce globally sustained action that comprises many brief, local protests. The anti-globalization movement appears to provide an example: protests occur regularly around the world, but activity generally does not continue at a single location for extended periods, and a particular location is unlikely to see more than a few protests a year.

Increasing reliance on ICTs in contentious activity also poses a risk for social movements because it creates new opportunities for demobilization efforts. In many cases, elites and their allies own and/or control the infrastructure on which new ICTs depend. If a particular use becomes too threatening, challengers may be denied access to resources, or a system's architecture may be modified to prevent undesirable uses. For example, if activists depend on cell phones to coordinate action, disrupting cell phone service could have a demobilizing effect.

### *Organizational issues*

New ICTs facilitate collaboration between traditional social movement organizations, and they may also make other kinds of social movement

configurations more likely. The technologies facilitate the adoption of decentralized, non-hierarchical organizational forms, and make movement-entrepreneur-led activism more feasible.

Several scholars suggest that ICTs will contribute to a decline in the importance of hierarchical organization and established institutions. They argue that these will be eclipsed by networked organizational forms that they characterize as robust, adaptable and highly maneuverable in the face of conflict (Arquilla & Ronfeldt 2001). For example, people from all over North America have engaged in efforts to support the Mexican Zapatistas' challenge to their government's policies and its human rights record. The Zapatista leadership does not coordinate this collaboration; instead, its supporters plan and execute actions largely independently. Actions are linked by a common political agenda, not by central leadership (Castells 1996; Cleaver 1999).

Based on their analysis of the vote-swapping websites that emerged during the 2000 US Presidential election, Earl and Schussman (2003) suggest another alternative to organizations with traditional hierarchies. Traditional social movement organizations are formal, often hierarchically arranged, organizations that align themselves with a social movement's goals and that serve to aggregate resources, to reinforce relations between supporters, to coordinate action and so on (Buechler 2000). Earl and Schussman predict that Movement Entrepreneurs (MEs) – individuals who are motivated by individual grievances to undertake social movement activity and who rely on their own skills to conduct their actions – will be more prevalent than social movement organizations among Internet-based movements because ICTs reduce the incentives to form SMOs. As a result, they predict that the more movements shift their operations online, and the greater the number of online-only movements, the more prevalent movement entrepreneurs will become. Though Bennett (2003) agrees that new ICTs may prove to be a transformative resource for new SMOs, he argues that these technologies are likely to be subordinated to organizational routines in more established groups. Edwards's (2004) analysis of the Dutch women's movement offers concrete evidence of this phenomenon.

Bimber (1998a; 2000) argues that there will be a shift away from public and private institutional structures more generally. Based on the assumptions (1) that people will continue to attend to relatively few political issues despite increases in the flow of political information and (2) that ICTs lower the obstacles to grassroots organizing, he argues that transient, fragmented and pluralistic structures will become more common, boosting the importance of issue groups that exist only for the duration of a single political effort.

Finally, case studies suggest that ICTs make collaboration between social movements more likely (Cleaver 1999; Ayres 1999). There is a particular interest in mesomobilization, the capacity to coordinate actions without an

inter-organizational hierarchy (Scott & Street 2000). The cooperation between diverse and otherwise unconnected organizations during the WTO and IMF protests over the last several years exemplifies this practice.

*Discussion.* Though the increasing feasibility of networked forms of organization creates opportunities, it is also a significant threat. Activists are not the only group capable of using technology to become more fluid and flexible. Since the 1970s, many elite organizations have already realized just such a transformation (Castells 1996). As a consequence, these organizations are less dependent on traditional leadership structures, and less susceptible to location-specific pressures. New organizational forms may prove to be a necessity of survival, not a source of advantage, for many social movements.

The mechanisms by which new ICTs diminish the importance of traditional organizations are thought provoking, but scholars should weigh these against factors that contribute to the continued importance of SMOs. For example, ICTs only reduce some of the incentives for the creation of SMOs. Solidary benefits, the social rewards that individuals obtain through membership of an organization, continue to reinforce organizations' importance. Nor is it clear that ICTs create an incentive for people to abandon priorities to SMOs. It is equally plausible that ICTs will be employed in support of traditional organizations.

The categories that we use to describe organizational forms, though useful, can also lead us to lose sight of hybrid possibilities. We should not neglect the significance of mixed forms, employing traditional hierarchies for some tasks while utilizing new ICTs to facilitate more decentralized, collaborative processes for others. To date, there is no clear analysis of the integration of these strategies within SMOs.

## **Opportunity structures**

Opportunity structures are attributes of a social system that facilitate or constrain movement activity. They shape the environment in which activists operate, and activists must take them into account when crafting actions. According to McAdam (1996), the four dimensions of political opportunities are (1) the relative accessibility of the political system, (2) the stability or fragmentation of alignments among elites, (3) the presence of elite allies, and (4) the state's capacity and propensity for repression.

The increasing importance of global political dynamics that characterizes the information society has a profound impact on opportunity structures. The growing number of relevant political actors has significantly altered activists' ability to identify elite allies and capitalize on schisms among elites. The ability to bypass censorship and escape regulation may also be important in

some circumstances, though historical accounts suggest that these capacities can be effectively curtailed.

Scholars make two claims regarding the relationship between ICTs and opportunity structures. The first is articulated most clearly by Ayres (1999). He suggests that ICTs, in combination with global economic processes, foster transnational activity, including contention, and this ultimately influences national-level political opportunity structures. Operating globally, social movements have more opportunity to identify elite allies and fragmented alignments among national elites and their international counterparts (Schultz 1998; Vegh 2003). As a result, a nation's opportunity structures are strongly influenced by international events and alignments.

The second claim is that new ICTs, especially the Internet, offer a mode of communication that is fundamentally resistant to state regulation, reducing a state's capacity for repression by hindering its ability to control the flow of information and political communication (Scott & Street 2000; Kidd 2003). The relationship between innovative technology and communication control has historical precedent. For example, the same radio broadcasts that enabled Southern textile workers to identify themselves as part of a larger struggle in the 1930s also allowed them to recognize a conflict between local and national elites. Through this technology, they learned that the federal government granted them a right to collective action that was opposed at the local level (Roscigno & Danaher 2001). The regulatory freedom that initially characterized radio communication, however, was later replaced with effective regulatory structures as the technology matured (Hargittai 2000a).

*Discussion.* Though some attributes of new ICTs, especially the Internet, do make regulation more difficult, there are a variety of social and technical mechanisms that effectively preserve the state's ability to regulate.<sup>3</sup> The most common cited form of regulatory freedom is the ability to bypass censorship. Two attributes of the Internet form the basis of this claim. First, it is highly interconnected, with multiple routes between nodes. Second, it offers the ability to automate the process of finding a path for delivering a message. Taken together, these attributes mean that one cannot prevent a message from reaching its destination by controlling the data flow across an arbitrary node on the network.

This capacity to bypass censorship, however, is vulnerable on two fronts. First, it is only significant to the extent that it is available to citizens: people must have free access to the network if they are to send and receive messages. The government-sanctioned shutdown of the Genoa offices of the Independent Media Center (IMC), a volunteer-run network of news outlets that relies heavily on the Internet to publish news for the activist community, demonstrates that such access cannot be taken for granted (Kidd 2003). Second, the technological attributes on which the ability to bypass regulation

depend must remain. A state can preserve censorship by altering network architecture such that all information traveling to and from the Internet must pass through controlled gateways, or firewalls, providing a mechanism for screening messages already on the network. The Chinese government employs this strategy on a national level (e.g. see Hermida 2002).

I suggest that the capabilities available to those who *temporarily* evade efforts to control the flow of information online are more important than the dream of unchallenged regulatory freedom. Chinese activists who break through the state-sanctioned firewall even briefly have immediate access to a global network of information and allies. Shortly before the US-led invasion of Iraq, critics of the war achieved international media attention by manipulating the Google search engine such that the top result for the query 'weapons of mass destruction' was a satirical imitation of a Web error message stating that 'The weapons you are looking for are currently unavailable . . .' (Cox 2003).

### **Framing processes**

Framing processes are dependent on the flow of carefully crafted movement information, in the form of frames, across networks of influence. New technologies have helped to create new networks over which these frames can be propagated. ICTs have transformed the role of communication media in politics, making media skills, persuasion and socialization fundamental to contemporary contention (Castells 1997; Keck & Sikkink 1998). The ability to bypass the mass media is among the most discussed changes associated with new ICTs. Mass media outlets tend to exhibit a bias favoring established institutions and figures of authority. These entities are more likely than activists to have their positions accurately and completely represented in the news (Gitlin 1980; Ryan 1991). New ICTs allow challengers to avoid the distortion introduced by mass-media filters, realizing new levels of editorial control (Myers 2000; Scott & Street 2000). Though the creation of activist news media as a means of bypassing gatekeepers is not new, new technologies have dramatically reduced the required resources (Rucht 2004, p. 44). A content analysis of 17 global justice movement websites from around the globe suggests that this movement is effectively using the Web to promulgate a coherent frame (Van Aelst & Walgrave 2004). On the other hand, le Grignou and Patou (2004, p. 172) also observe that activist websites can sometimes contribute to 'frame clouding', obscuring the thematic visibility of the movement.

Also significant is the immediate, global reach of ICT-mediated dissemination strategies, which stand in contrast to the regional, fixed-schedule news cycles characteristic of other information outlets. Furthermore, information published on the globally connected Internet can remain

available indefinitely, allowing interested individuals to access them long after the mass media's attention has shifted (Leizerov 2000). As a consequence of these capabilities, however, activists and social movement organizations face growing pressure to produce issue-relevant content. Creating this material is a necessary step to realizing the benefits described above, and public expectations that current information should be accessible directly from movement sources are increasing (Lebert 2003).

Ultimately, activist publications may be seen as an authentic alternative to the mainstream press (Zook 1996; Garner 1999). Preliminary evidence suggests that materials posted online are often granted an air of authority reserved for more traditional media outlets (Fisher 1998). For example, Zook observes that for members of the American Militia, technology 'disconnects information from a traditionally recognizable source and provides a sense of equal legitimacy for all materials' (Zook 1996, p. 41). As a result, new ICTs afford activists a previously unattainable appearance of legitimacy.

On the other hand, the absence of gatekeepers could also be a source of problems for activists (Castells 1997; Bimber 1998b). While removing filters makes useful information available, it simultaneously makes it more difficult to differentiate accurate information from fabrication: conspiracy theories may be as prominent as well-substantiated claims (Gurak & Logie 2003; Wright 2004, p. 85). This increases the burden both on organizations, which must work to distinguish themselves from others that are less credible, and on individuals, who must develop new strategies for assessing the claims themselves (Lebert 2003). This phenomenon may ultimately serve to increase the individuals' dependence on the press (Bonchek 1997). In such an environment, news organizations may be transformed from gatekeepers to brokers that use their expertise and credibility to link information consumers and producers.

Publication unconstrained by gatekeepers also introduces the risk of information overload. As the cost of publication drops, the competition for an audience increases. In many cases, activist-produced information will be eclipsed by better funded and more widely advertised mainstream alternatives. Recognizing this, activists may want to use new ICTs to gain access to the established media outlets, as previously suggested in the discussion of media tactics (Wray 1999). To this end, new ICTs can be an effective tool for generating publicity and news coverage. Activists who provide information in a format that is easy to use and easily verified are more likely to have their views and interpretations presented alongside those forwarded by elites (Ryan 1991; Vegh 2003).

*Discussion.* The literature identifies several opportunities associated with information flows that are less constrained and more rapid, while acknowledging some of the associated challenges; however, the claim that technology

creates an environment in which activist claims are perceived to be more legitimate requires further examination. At present, new ICTs have created an environment in which it is not always possible to determine an organization's size or wealth based on its website, or to distinguish between the websites of elites and their challengers. There are, however, significant incentives to reintroduce mechanisms for differentiation both for elites, who want to maintain their position of control, and for those who must make decisions about where to focus their limited time and attention. For example, search engines, which are one of the primary mechanisms by which individuals navigate the Web, can be recruited into the service of differentiation. The most used search engine today, Google, ranks sites based in part on the number of other sites that link to them. As a result, resource-rich organizations are likely to be ranked more highly by virtue of the number of people who link to them because of their high profile offline (Hargittai 2000b). Though challengers will continue to find ways to undermine these mechanisms for differentiation, it seems likely that the ability to discern an organization's resource level will ultimately be preserved at some level.

## Conclusion

Scholars know much about the ways in which social movements are evolving in the face of new ICTs. Activists have devised numerous ways to use these technologies for mobilizing, realizing new political opportunities and shaping the language in which movements are discussed. Nevertheless, not every application of technology is productive, and many of the anticipated benefits of new technologies remain out of reach.

Among this literature's significant strengths is its methodological pluralism. Case studies, surveys, content analysis, simulation and network analysis have all been employed to varying degrees, offering a multifaceted perspective on the topic. There are, however, opportunities for improvement. First, though individual articles typically embrace a single approach, the most compelling works utilize multiple methods to make a unified argument (e.g. Roscigno & Danaher 2001). Using a diverse body of evidence, scholars can explore interconnected dimensions of the phenomena, yielding a more complete understanding. Scholarship in this area would benefit from more extensive use of such multi-method approaches. Second, though case studies focusing on specific organizations and individual actions have been effective in identifying innovations and adaptation associated with new ICTs, their utility is in decline. As the field matures, approaches yielding more generalizable results should move to the fore.

This review also suggests several general research areas that deserve more attention. One important theme regards our understanding of how the

conditions under which activists adopt new technologies shape movement outcomes. Evidence that ICT use is producing significant social change does not mean that the changes identified are inherent to the technology. Used in different contexts, technologies yield different effects. This may help explain the sometimes contradictory findings in the literature. For example, some scholars offer compelling evidence that technology is having no effect on participation levels, while others have data showing that participation is on the rise. It seems likely that effects such as these vary by individual, organization and movement. Identifying the factors at each level that are associated with different outcomes would provide a more nuanced understanding of the shaping influence of technology. Diani (2000) provides a useful example, carefully specifying different outcomes for different types of organizations.

**TABLE 1** Summary of specific research questions suggested in this review.

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*under what conditions can activists use new ICTs to:*

- increase participation and commitment by facilitating the aggregation of small contributions or action?
- enhance people's ability to absorb and retain political information by making information more accessible, providing more context, and affording more flexibility with regard to learning styles?
- increase elite accountability?
- successfully bypass regulatory regimes? When successful, are the benefits of these (temporary) evasions significantly different than the benefits of offline evasions?
- create messy hybrid organizational forms, combining hierarchical and non-hierarchical structures as fit their needs?

*under what conditions do new ICTs:*

- encourage the indiscriminate circulation of claims?
  - facilitate cross-referencing and fact checking?
  - promote more rapid and intense mobilization efforts?
  - enable more sustained activity?
  - prove to be a liability? For example, when might they become the target of demobilization efforts?
  - promote non-traditional movement organization?
  - reinforce traditional SMOs?
  - enhance the perceived legitimacy of activist claims by raising their profile to a level comparable to that of elite claims?
  - undermine the legitimacy of activist claims by promoting the circulation of inaccurate information and overwhelming potential supporters
-



Another type of study largely absent in the literature is the *empirical* analysis of the negative consequences of new ICTs. The importance and appeal of understanding the empowering potential of technology is obvious, but the study of undesirable effects is equally valuable. There are numerous theoretical arguments regarding the ways in which technologies could contribute to social ills, including violent conflict escalations, overwhelming flows of misinformation and political polarization, but we need rigorously collected data that help us understand whether and under what circumstances such behaviors occur.

In the course of this review I have also suggested a variety of specific questions meriting further examination (see Table 1). We need to better understand the extent to which and under what conditions the phenomena identified are occurring, and we need to consider their implications for social movements.

In sum, we have seen a proliferation of studies examining the relationship between ICTs and social movements that deepen our understanding of particular dynamics. Situating the existing scholarship within a unifying theoretical framework affords us a coherent overview of the field. Such a perspective calls attention to gaps in our understanding, while helping to ensure that future scholarship builds on what is known.

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## Notes

- 1 It should be acknowledged that though the framework of McAdam *et al.* provides an effective organizing framework, it does have limitations. For example, scholars have criticized it for exhibiting a structural bias, reducing fluid cultural processes to fixed arrangements (Goodwin & Jasper 1999), and for focusing on meso-level organizational dynamics at the expense of micro-level interpersonal and macro-level societal dynamics (Giugni 1998). Even McAdam, one of its original proponents, sees it as flawed. *Dynamics of Contention*, a collaboration between McAdam, Tarrow and Tilly (2001), offers a radical critique of the structuralism underlying traditional social movement

- scholarship. The authors advocate focusing on the mechanisms and linked processes that shape contentious political activity, rather than on static models and general laws. On this view, some analyses may be better served with an alternative analytic perspective. Even in these cases, though, this framework can serve as an effective orienting device, helping to position new scholarship within the existing landscape.
- 2 This is not an exhaustive list of work published on the topic of cyberprotest or hacktivism; instead, I have chosen to highlight major themes in this literature.
  - 3 For an extended discussion of the relationship between social and technical mechanisms of regulating technology, see Lessig (1999).

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