

A democracy of groupsby Beth Simone Noveck

Abstract

In groups people can accomplish what they cannot do alone. Now new visual and social technologies are making it possible for people to make decisions and solve complex problems collectively. These technologies are enabling groups not only to create community but also to wield power and create rules to govern their own affairs. Electronic democracy theorists have either focused on the individual and the state, disregarding the collaborative nature of public life, or they remain wedded to outdated and unrealistic conceptions of deliberation. This article makes two central claims. First, technology will enable more effective forms of collective action. This is particularly so of the emerging tools for "collective visualization" which will profoundly reshape the ability of people to make decisions, own and dispose of assets, organize, protest, deliberate, dissent and resolve disputes together. From this argument derives a second, normative claim. We should explore ways to structure the law to defer political and legal decision-making downward to decentralized group-based decision-making. This argument about groups expands upon previous theories of law that recognize a center of power independent of central government: namely, the corporation. If we take seriously the potential impact of technology on collective action, we ought to think about what it means to give groups body as well as soul — to "incorporate" them. This paper rejects the anti-group arguments of Sunstein, Posner and Netanel and argues for the potential to realize legitimate self-governance at a "lower" and more democratic level. The law has a central role to play in empowering active citizens to take part in this new form of democracy.

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The wisdom of crowds

The wisdom of crowds [1]: “In the beginning was the group” [2]. The group in its myriad forms is the basic unit of social and political organization [3]. Social life is full of the groups and associations that Tocqueville lauded a century ago [4]. Activism and organizing require the mobilization of communities of interest. Lawmaking demands collective decision-making and deliberation. Organizations of all kinds depend on the work of teams. Yet our rights-based legal theory grows out of a liberal vision centered on the relationship of the individual to the state [5]. The Tenth Federalist decries the danger of factions [6] and later theorists, such as Freud and Arendt, saw in the group the root of totalitarianism [7]. Traditional political theory ignores the group out of a commitment to individualism and for fear of the mob [8]. We rely upon juries and legislatures, yet our account of the law in law school centers around individual legal actors and their rights. Proponents of social capital building [9] applaud the value in the “dense network of reciprocal social relations” but communitarians [10], such as Robert Putnam in his magisterial work *Bowling Alone*, focus on the role of community in strengthening participation in traditional democratic institutions, not as first order legal actors [11]. We have constructed our legal institutions atop willful ignorance of groups as a center, not of social capital, but of power [12].

In groups we can do together what we cannot achieve alone [13]. With networks and new computer-based tools now ordinary people can become a group even without the benefit of a corporation or organization. They can make decisions, own and sell assets, accomplish tasks by exploiting the technology available. They no longer need to rely on a politician to make decisions. They can exercise meaningful power themselves about national, state and local — indeed global — issues. Senior citizens and teenagers use networked handheld computers to police the conditions of urban land use [14]. The Google search engine offers a “Google Groups” service to make it easier for people to create and maintain groups and to do everything from “treating carpal tunnel syndrome or disputing a cell phone bill” [15]. The mobile phone “smart mob” [16] allows groups to self-organize a political protest or campaign, such as the one that elected the President of South Korea [17]. Young people are meeting in videogames and using the virtual world to organize real world charitable relief for victims of natural disasters. When the Chihuahua owners of San Diego, California get together via Meetup.com, they discover, not only a shared animal affinity, but also their ability to change the conditions of local parks, affect local leash laws and police the park for themselves [18]. Meetups have no offices, secretaries, water coolers or other appurtenances of formal organizations yet they have as much effect. Parents come together to decide on policy in their children’s school or a group of scientists collaborate to overthrow an age-old publishing model and distribute their research collectively online [19].

In groups we can do together what we cannot achieve alone.

This technology is enabling people to engage in complex, socially contextualized activities in ways not possible before [20]. While it used to be that geography determined the boundaries of a group and the possibilities for collective action — I had to be near you to join you — now technology is revolutionizing our capacity for purposive collective action with geographically remote actors. This evolution toward technology for groups is evident from Meetups [21], wikis [22], LiveJournal [23], peer-to-peer [24], groupware [25], virtual worlds [26], GRID computing [27], a wide range of so-called “social software” [28] tools — such as Friendster [29] or Wallop [30]. New social and visual technologies are emerging to facilitate the work of groups. What was an “information revolution” is becoming a social revolution.

As a result, groups will increasingly be able to go beyond social capital building to lawmaking. Or, to borrow from Robert Putnam, new technology is helping to marry the purposiveness of the macher with the spontaneity of the schmoozer [31]. We may be bowling alone, but online we are beginning to click together. Our legal and political theory has yet to take full account of this development.

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The point of this paper is not to describe the rise of newly empowered groups. Rather, the goal is to make two central claims. First, purposive groups (think neighborhood association rather than faction) are exploiting new social and visual technology to make decisions and wield power. Mancur Olson already demonstrated that small groups function effectively within organizations; my aim is to argue that in the new era of social and visual technologies groups can also wield power for themselves independently of formal structures [32]. The second normative claim grows out of this analysis. We should explore ways to structure the law so as to circumscribe malevolent groups while deferring political and legal decision-making to decentralized group-based decision-making. We know from other accounts in the literature [33] that people are collaborating to make art, music and computer code. But I argue that law must also recognize the way people are coming together, not just to create content, but also to create power. It is no longer an issue of whether we ought to give power to groups; they are taking it. There are far-reaching and positive legal implications of the ability to make decisions at a lower level, congruent with the values of those affected by the decisions. We must focus on how groups strengthen the fabric of democratic political culture and help us to move away from a vision of democracy as once-a-year voting toward a new vision of engaged

democracy where everyone — not only elites — participate. New technologies hold out the promise that groups can become more central to lawmaking and the resolution of legal and political problems — if they are allowed to do so.

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It is important to mention at the outset that this argument about groups re-centers a misguided debate we have had about so-called “e-democracy” [34]. Electronic democracy theorists tend to focus either on the binary relationship between the individual and the state, ignoring the collaborative nature of public life, or they remain wedded to conceptions of deliberative democracy [35], mired in an outdated technological reality that ignores the way groups work today.

A futurist vision of hyper-liberal e-democracy enabled by the Internet (of the kind expounded by technocapitalists such as Toffler) [36] fails to recognize the sociability of life online and off and the tendency toward collaboration [37]. When they want to solve problems, people work together — not alone. The neo-futurist vision that the network will simply aggregate individuals misunderstands that as a group we function differently and, in certain cases, more effectively and intelligently, than we do as individuals.

Habermasian visions of deliberative e-democracy do not scale well.

Habermasian [38] visions of deliberative [39] e-democracy do not scale well. No one has figured out how to go from a parochial, small group of neighbors discussing local issues to widespread ongoing deliberation on a national scale [40]. Many scoff at the utopian scenario of interminable, virtual meetings that citizens have neither time nor knowledge to accomplish [41], even with the aid of technology [42]. Online deliberative democracy has not taken off and will not [43] so long as people do not hold in common the values necessary to construct widespread deliberation [44]. The myriad procedural rules of deliberative democracy (perfect representation, face-to-face, equally informed) take no account of how technology may undermine the need for these traditionally indispensable requirements. With new tools, we can exchange public reason through shared maps and diagrams rather than meetings.

Direct democratic governance [45] — the push-button plebiscite — ignores the fact that radically disconnected individuals cannot accomplish decision making in a complex and pluralistic society. Or, more accurately, people can accomplish much more than simply reacting (negatively) to a proposal. While, it turns out, that individuals are good at

critiquing or saying “no” to a suggestion, more effective tools allow them to make nuanced, positive proposals. Reactive, push-button voting on the ideas of attenuated representatives does less to foster engagement than taking action for oneself about school policy, workplace management or urban planning.

If technology changes the calculus of group self-governance, our account of e-democracy ought to include an examination of groups and technology.

The failure to account for groups in the literature on e-democracy is predicated, in part, on the outdated assumptions in democratic theory, generally, about what groups can do. Their power and limitations depend on the tools at their disposal. Yet we have consistently under-theorized the role of technology — and in turn the way technology creates the spatial [\[46\]](#), temporal and material conditions for interaction — in what we describe as legitimate political institutions [\[47\]](#). If technology changes the calculus of group self-governance, our account of e-democracy ought to include an examination of groups and technology.

In the same way that the rise of gunpowder changed the face of warfare and the invention of the railroad enabled industrialization, we will look back on the way new technology revolutionized the ways groups work [\[48\]](#) and the potential to work in groups. If we encourage it, this could be the beginning of a fundamental democratic overhaul of our legal and political institutions, giving rise to collective institutions that engage more people in new forms of participation.

If we take seriously the power of groups and the impact of technology on collective action, we ought to think about what it means to give them body as well as soul — to “incorporate” them.

The aspiration to greater self-governance at a “lower” level is as old as democracy itself. But the argument about groups clearly calls to mind the other example of law recognizing a center of power independent of central government: namely, the corporation [\[49\]](#). In organizational life, we define corporations as those groups to which the law defers and, when certain conditions are fulfilled, permits the ownership and alienation of assets. Now

if we take seriously the power of groups and the impact of technology on collective action, we ought to think about what it means to give them body as well as soul — to “incorporate” them. How can we create the legal framework for groups that perform a wide variety of functions? What kind of baseline conditions should we set to distinguish malevolent from productive groups while encouraging groups to govern themselves according to their own, diverse values? A hundred and fifty years ago a variety of technological, social and political factors created a ripe historical moment for the birth of the modern business corporation. Such a moment has arisen again, this time to create the new democratic corporation.

To this end, the next [section](#) explains in more detail the meaning of “group.” I discuss what makes groups work, focusing on structure, culture and information. [Subsequently](#), this paper explores some of the features of the new technologies and their effect on the structure, culture and information of a group. In order to know how groups might wield power, we need to know what technology does to the ability of people to make decisions, own and dispose of assets, organize, protest, deliberate, dissent, resolve disputes together. I [evaluate](#) how technology, specifically, the computer screen, changes group life and argue that visual and social interfaces, or the tools designed for “collective visualization,” help people to perceive the group and their role in it. The paper then [responds](#) to the trenchant anti-group arguments of Sunstein, Posner and Netanel and addresses the problem of “bad” groups, such as terrorist cells. Finally, this paper suggests [two approaches](#) to devolving more power to groups. The first proposes a way to make existing political power accountable to more diverse and distributed groups by instituting a citizen jury scheme. This is a transitional stage with the end goal being groups taking power themselves. The second introduces a possible solution for transferring power from the state to groups: new corporate forms — the democratic corporation — to enable groups to make legitimate decisions. I begin the exploration of the legal framework to support group life. This is not at all an argument for dissolution of the state. The state has a central role to play in fostering the active citizen who can effectively take part in the groups that will become central legal actors in the democracy we must reinvent.



On the Internet, everyone knows you’re a pack of dogs

In the decade leading up to the American Revolution, the colonies organized Committees of Correspondence [\[50\]](#) to communicate their practices of self-governance and opposition to the British. These Committees enabled the colonies to benefit from each other’s experience and fortified their resolve to pursue the revolutionary path. Through the exchange of ideas about successful ways of working, they coordinated decentralized efforts at resistance.

Even in the absence of immediate gain or the ability to see one another, hikers in the American West stop and take the time to contribute to the “cairn,” [\[51\]](#) a mound of rocks

which marks the path for the next hiker to come along. Each hiker feels part of a community enough to participate in showing the way to the next visitor.

What makes these two communities into groups is not that they self-define from within or that they are institutionalized from without. By “group” I understand a community of individuals (whether on or offline) who seek to accomplish something in the world — some kind of purposive change — as a group. I am interested in our ability to come together voluntarily to engage in collective action. I am therefore not referring to a group as a class or a category to which one belongs by dint of birth or accident, such as race or ethnicity (though these are factors that can influence the choice to join particular groups). The group exists *qua* group not as the mere sum of the actions of its individual members but as the product of the interactions and influences within the group [52]. The group is also not the accidental angry mob [53]. Rather the group comprises the actions of its members to achieve something in the world in their roles as members of the group [54].

In addition, groups, in the sense that I use the term here, are also not the same as communities, a term that has become ubiquitous to describe the emotional attachments of people online. Virtual communities, according to Howard Rheingold, are defined by conversations among people who meet in cyberspace [55]. But a group in the sense that I use the word is unlike two people talking or ten people on a street corner or even unlike ten thousand people on Craig’s List [56]. It is not defined or determined by the size of its membership or the level of sociability. It is not defined by the rights it has or does not have (though we want to talk later about giving greater rights to groups). A group is an agglomeration of people with the affirmative purpose of bringing about change. The group moves beyond the “illusion of companionship without the demand of friendship” that characterizes virtual community [57].

A group is an agglomeration of people with the affirmative purpose of bringing about change.

In laying out the definition of groups, it is not my intention to characterize the group normatively. I separate the question of what a group is from the question of whether we should defer to it. The motivating force behind this project is to recognize that groups operate according to different values and that there is inherent worth to making decisions in the context of the group. Just as industry players set standards as an alternative to state action, parents organize themselves to determine issues of school policy. Groups set out to accomplish things in the world in different ways and there is no need *a priori* to impose one set of values on what those ways should be. Whereas it would be simple to recognize only those groups that are small and deliberative and bracket out anything else, the empirical reality is that in social, civic, economic and political life there are groups arising who collaborate in new ways we have not previously seen or defined as

legitimate. The aim is to return to first principles and discover what those ways are — how technology affects groups and the way they work — before we address legitimacy.

A group aspires to do something in the world as a group. Like a corporation, a group exists for varied purposes. While not exclusive, the following characterizes the qualities of a group.

1. The group is an intentional collective.
2. The group creates a sense of belonging to something — a public sensibility.
3. The group manifests a shared purpose.
4. The group desires to produce something together.
5. In the group roles and responsibilities are shared.
6. The group has boundaries and membership and exists as an independent entity, whether legally formed or not.
7. The group creates incentives and structures to facilitate belonging.
8. In a group, interaction must be sustained over some period of time.
9. A group develops its own internal norms or culture.
10. A group does its work through the participation of its members.

A group may exhibit more or less of one of these characteristics and I do not imply a normative judgment based on these characteristics. While members assume roles within the group to achieve the goal as a group, groups may be differently participatory. Those roles may be equally engaged, wildly hierarchical or spontaneously emergent. It may have more or less defined roles and structures. Max Weber has a lengthy taxonomy of group types, all of which assume a hierarchical structure [58]. Much collective action is organized in a hierarchical fashion and dominated by charismatic leaders. Yet today new forms of decentralized and distributed collective organization are emerging aided by networks. In contrast to those political theorists who judge a group by how “participatory” it is [59], we must (perhaps reluctantly) resist the temptation to deem one type of group better *a priori* [60].

To be clear, it is not that participation is not relevant; rather in the Internet era, participation takes such different forms and is not limited to equal time in a conversation, as deliberative theory would suggest. A clear delineation of roles and responsibilities might require active engagement in a discussion process. Alternatively, it might mean coordinating disparate opinions into collective action across a network [61], enabled by peer-to-peer technology such as that used for music file swapping. New forms of participation are emerging that are not dependent on identity, contiguity, or conversation. Peter Steiner’s famous *New Yorker* cartoon captioned “On the Internet, no one knows you are a dog,” might now be entitled “On the Internet, no one knows you are a pack of dogs” [62].

Technology is changing what it means to deliberate.

Participating in a group — in whatever form — is also not the same as deliberation. Deliberation — or the public exchange of reasoned ideas [63] through face-to-face conversation — can be one of the central activities of group life. But groups can now engage in “conversation” without talking. Much recent political theory describes experimental forms [64] of idealized deliberation that is perfectly representative [65] or pluralist [66] or equal [67]. These strictures make the institutionalization of deliberation impossible in an imperfect world of busy people. They also constrain our ability to “scale” deliberation into a widespread practice by means of the Internet. This contributes to a perception of deliberation as an elite pastime. This is not to say that there is no place for socially engineered conversations but that the Internet is enabling forms of collective dialogue that produce social interaction without formal deliberation in any technical sense. Members of a group can create a shared map [68] or diagram to represent the state of mind of the group as, if not more, easily than they can have a conversation in real time [69]. Representative politics has co-opted the term deliberation. Not everyone needs to converse face-to-face about every issue every time to achieve collective action. Technology is beginning to replace the vast array of social and visual clues, cues and customs that we depend upon to organize the public exchange of reason. Technology is changing what it means to deliberate.

Groups may be institutionalized or decentralized. They may participate in representative political life or they may just as well be a non-incorporated collection of people committed to a particular issue, such as the Dean Corps or a Meetup [70]. Yet these groups can have real political power, produce real affective loyalty from their members and shape the political culture of a society.



The work of groups: Group physics, culture and information

There has been recent interest in the role of groups in collaboratively making forecasts, enhancing production and making decisions in economic and business life [71] as well as in the scientific behavior of groups [72], groups doing science [73] and in groups on networks [74]. Stanford University has announced plans to offer a new humanities course entitled, “Toward a Literacy of cooperation.” [75]. There is a literature on the social psychology [76] and sociology [77] of groups. Significant political science deals with the theory of participation (albeit not much on the mechanics) [78]. While myriad disciplines study them, legal scholars have yet to recognize the power of groups. There may be writing about the jury [79] as a specific institution [80] but the legal literature, including cyberlaw and electronic democracy, says little about the way technology alters the possibilities for collective action and for our understanding of power.

Scholars have written about new technology and the construction of self-identity [81] but not about technology and the dynamics of groups. They have examined how the design of

technical architecture conditions individual action in virtual space (human–computer interaction) [82]. There is a new generation of technology–designers–cum–social–critics [83] — the new *philosophes* [84] — who build “social software,” [85] such as social reputation systems [86], peer–to–peer trading systems [87], open source collaboration [88] and groupware [89]. But far too little attention has been paid in the traditional literature to the impact of technology on the power of groups.

For the last decade of cyber–theorizing we have explored how technology changes the way we think about “me”[90] but not enough about what it does for “us.” We focus on the individual experience with tools rather than on the “shared, social meanings” [91]. When “we hear the word ‘software,’ most of us think of programs like Word, PowerPoint, or PhotoShop, tools for individual users. These tools treat the computer as a box, a self–contained environment in which the user does things,” as technology theorist Clay Shirky points out. “Our actual behavior is closer to computer–as–door, treating the device as an entrance to a social space” [92].

Hence this section aims to analyze the impact of technology on group life by examining how technology affects the dynamics of groups and the possibilities for new arrangements. Distilling from the discussion of group dynamics in the literature of other disciplines, I put forward in this section that there are three essential elements to the work of groups. They are: 1) “group physics,” 2) group culture; and, 3) group information. They are what allow the group to form, sustain itself and do productive work. First, I describe these constituent parts and then, I turn to an analysis of how technology affects each of them, arguing what is most conducive to groups is software that offers social and visual screens to shape group interaction with and through the technology.

Group physics [93] gives shape and direction to the work of groups. By “physics,” I am referring to the rules and structures, which define the boundaries of the group and shape how participants in a group interact [94]. I prefer to use the term group physics (or what John Clippinger has termed “social physics”) [95] rather than structure, because it conveys something of the dynamic, complex and messy social interaction that characterizes human relations. Physics is not the same as legal structures or external interventions [96]. Physics describes all the forces that define the group and its behavior.

Group physics gives shape and direction to the work of groups.

The social physics are the basic rules governing the interactions that allow the group to form. Having a structure ideally gives participants, not only a sense of the group as a whole, but also a clear indication of their role and function within the group, which, in turn, contributes to a sense of belonging. Structure generally takes the form of some kind of governance or organizational rules. Without such rules, the division of roles necessary for collaboration cannot take place. Is it legally incorporated or simply a loose agglomeration? How large is the group? (Differently sized groups behave very differently

from one another, on average). Does the group have an explicit policy about who can join and what membership requires? Who makes the decisions and by what means? Is there prior discussion and deliberation or is the decision an aggregation of individual opinions? Structured interaction is necessary to coordinate participation within a group to produce a result, focus a conversation or achieve a desired goal, especially where members are distributed and working from a distance without the benefit of physical proximity or social cues and clues to coordinate their work [97]. The structure and rules may be embedded in legal rules, perpetuated through informal norms or even encoded in the tools the group uses to manage its collective action.

In any biological system, the physics governs the basic structures but additional energy is then required to sustain and operate the system. Beyond physics groups also depend on group-specific history, experience, ideas and purpose, which ensure reciprocity, trust and shared sense of mission. In other words, there must also be that social glue that I term group culture. While the physics describes the way the group can form, the culture describes the way the group sustains itself and does its work [98].

Participants have to be able to depend on some form of iterative interaction and non-defection [99]. This is not to say that groups have to persist indefinitely. There are many temporary forms of group life. But a group must last long enough to achieve some kind of “tranquil stability” and “abiding attachments” [100] so that it can accomplish its purpose.

Participants have to be able to see themselves as the group and demonstrate their belonging in order to build trust [101]. The culture of a group is shaped by many factors that promote or discourage a sense of the group. These can include something as simple as a common uniform, logo or other symbol of belonging (*i.e.* secret decoder ring); an explicit expression of mission, goal or purpose; the perceived type of work to be done or problem to be solved by the group and material factors, such as funding and meeting spaces that enhance the work of the group. To be clear, a successful group does not require a common cause; people can be joined by difference. All of these blend together to define a culture within the group and to sustain its membership in the collective enterprise.

Finally, the life of the group depends, not only on physics and culture, but also upon having access to the necessary assets [102] to accomplish its stated purpose. We focus on the primary asset groups need to do something, namely information (which includes the communication that produces it) [103]. Groups have to be able to connect information to the task at hand and to the purpose of the group. It is not information *per se*; it is group information [104]. That information may come in the form of outside data or may be the information exchanged through deliberation and dialogue within the group. Paramount is that the information be manageable enough to exploit, clear enough to understand and transparent enough to minimize manipulation. Crucial are ways of understanding the relationship between the information, the desired outcome and the different roles of members of the group *vis-à-vis* that information.

Physics, culture and information are, of course, terms to describe intertwined constitutive phenomena. But they help to give us a roadmap of the group and a guide to understanding the dynamics of group work. Breaking down the group helps, at once, to dispel prevalent fear of anything “groupish” and to uncover the material and technological conditions underlying our understanding of group dynamics. This is to the end of making the argument, as we will do in the next [section](#), that technology can have a positive impact on the formation of group physics, culture and information. This might enable the growth of new and more productive kinds of groups to which the law ought to defer.



The body electric: Political sociology of groups and technology

For groups to flourish they have to form, sustain themselves and enable people to work together as a group. The combination of physics, culture and information give shape to a group. Yochai Benkler describes how groups use communications networks to collaborate and produce economic value [\[105\]](#). New technology provides the tools to “rip, mix, burn,” [\[106\]](#) or create one’s own cultural products (including music and porn). It also enables shared work [\[107\]](#) such as the NASA’s “Clickworkers” project [\[108\]](#), where distributed computing enables thousands to collaborate on solving complex math problems for the space agency.

Contrary to the expectations of economists [\[109\]](#), people do cooperate online. They want to be groups. They upload music [\[110\]](#). They form social networks [\[111\]](#). They write Wiki entries [\[112\]](#). They want to create and work together [\[113\]](#). They are not only consumers but also creators of culture; the World Wide Web is evidence enough of that.

Contrary to the expectations of economists, people do cooperate online. They want to be groups.

We are coming to appreciate that groups use technology. But we have yet to ask how technology changes the nature of group life and the prospects for individuals coming together to engage in collective action. What aspects of the technology facilitate and what characteristics thwart group physics, culture and information? What obstacles and what benefits does cyberspace present to groups? What is the potential for expanding the peer production of economic value into the “peer production of collaboration” in political, civic and other arenas? [\[114\]](#) Is cyberspace changing the ability for groups of ordinary people to own and sell assets, solve problems, make decisions and govern themselves?

Let us turn to examining in greater detail how technology affects the dynamics of groups and creates the conditions for collaboration. The story of groups has been a history of response to the available communications and information technologies, evolving structures to overcome, first a lack and then a surfeit of communication, eventually leading up to ways of using technology to coordinate and govern the group. We have gone from having not enough communications to too much; from face-to-face social interaction to socialization at a distance and often with anonymous partners; from inadequate access to information to the inability to manage the overflow of available data. Group physics has to contend with structuring groups with anonymous participants overwhelmed by too much talk. Group culture today faces the challenge of how to build trust from a distance and sustain it. Then groups have to make sense of information without traditional cues, clues and context. This section treats in turn physics, culture and information and the potential for positive impact from certain new technologies.

In this section, I hope to show that, while there have existed technological impediments to group work, especially in the early days of cyberspace, technology is evolving to be more social and visual and therefore conducive to collective action by providing the means for collective visualization. While these tools give rise to new challenges, this discussion focuses on the potential benefits that technology is bringing about for each of physics, culture and information.

By technology, I mean two developments: 1) the rise of networks and the related hardware and software protocols to connect people across a distance; and, 2) the emergence of more visual and social software applications. The former, while necessary, is so obvious as to be uninteresting. While networks are the ties that bind, they do not necessarily bind us in groups. I focus, instead, on the latter. The design of the underlying software as well as the graphic design on the screens of our computers, mobile phones and other devices, combine to create an experience with technology that can be conducive to groups. It is the interface to the software that determines what work the group can do, how it shares labor, what methods for collaboration it can employ, whether it will be easier to work as a group. The screen translates legal and social procedures into practices. Certain types of software and their screens are more conducive to group life. In particular, as we shall see, software and screens that allow us to see the group, to understand its structures, to see ourselves and our role within the group and to make sense as a group of the information needed to accomplish a goal create new social literacy. While the underlying hardware and transport protocols are essential for facilitating communication, it is the layer of software applications with their attendant interfaces that ultimately foster collective interaction [\[115\]](#).

It is important to clarify that by “visual screen” I am not referring to pictures or video. What makes a screen “visual” is that it allows me to perceive myself in relationship to the group and to understand my role in it, what I term “collective visualization.” There are text-based interfaces [\[116\]](#) that allow me to visualize the web of group affiliations. As the historian of science, Arnold Pacey has said, the history of science and technology is the story of an evolution toward visual thinking and representations that render human

understanding more visible [117]. It is not the medium that makes the tool visual, it is the use of it to make social relationships manifest.

Talk is cheap: Group physics

The evolution of technology has given rise to increasing outlets and opportunities for communication at a distance. While this solves the problem of too little access to information, increasingly new technologies are producing too much communication without enough coordination. There is an absence of effective organizational rules and structures to coordinate the new groupings. In this section, I focus on group physics — the structure of the group — and demonstrate how software is making it possible to create structure through code thereby enabling groups without face-to-face proximity. The new social and visual software builds the rules into the code, translating methods of interpersonal communication and coordination into social practices.

In the “Web world,” the cyberspace we know today dominated by text-based, two-dimensional Web sites, interactive asynchronous bulletin boards and synchronous chat rooms, talk is cheap, too cheap. There is an overload of textual information that no one has the time to process, sort or organize effectively [118]. For the average user, most interaction with others in cyberspace occurs via asynchronous e-mail communication or one-to-one instant messaging. People can communicate with people they know as well as with strangers they know only in cyberspace. Interaction is disembodied and occurs “in the ether,” the no-place of cyberspace. Much interaction is anonymous. Though full of images, the dominant form of self-expression on the Web is text. Over seven million people use weblogs [119] to broadcast their ideas and many more use Web sites to share information, both true and false [120].

In the “Web world” ... talk is cheap, too cheap. There is an overload of textual information that no one has the time to process, sort or organize effectively.

The problem with this is not simply too much information but that it comes in the face of a breakdown of familiar structures and rules for coordinating behavior. So while networks may aggregate huge numbers of anonymous actors to rate books on Amazon or moderate postings on Slashdot [121] by clicking a button, the lack of structure makes it harder to define roles to accomplish purposive collective action as we do face-to-face [122].

While it is becoming easier to start a group, independent of the bounds of geography, about bridge or poodles, Web technology does not make it any easier to structure the group to do something. It is easy to launch an open source software development project

where the collective mind of dozens of programmers are channeled into a common task, but most of those projects are never completed. In the end, those that do get done are largely the work of a handful of people [123]. Think of all the poorly designed ‘instacommunities,’ most of which lived short, miserable and highly expensive lives” [124] during the dot-com heyday.

What the new software does is to create rules and structures to govern and define roles within a group [125] and enforces these roles through the code of the software itself [126] as a way to solve coordination problems. Elsewhere I have written at length about the way software makes manifest the structures of a group’s interpersonal communications methods [127]. While all software structures behavior in some way, there are myriad examples of tools that are designed specifically to structure a group in that those interfaces show members their role in relationship to the group and structures those relationships so as to overcome the specific challenges of solving a problem across a distance. To reduce the “cascading” problem [128] of one person swaying the debate by being the first to respond, the H2O Rotisserie discussion software [129], for example, requires participants to respond to a particular question before the answers are displayed to the members. Web Lab or Unchat divide large numbers of people into smaller groups to facilitate structured deliberation. Unchat allows members of the group to select and change the rules for participation by its members, precisely in an effort to open up the array of governance structures available to groups working across a distance [130]. All wikis, such as the Wiki Encyclopedia [131] — the user-written and edited encyclopedia, show a history of the group’s editing as a way to manage posting and show the boundaries of the group. This transparency also creates an incentive to appropriate participation.

Me, myself and avatar: Group culture

Groups have relied on face-to-face interaction among identified participants in a given place. What is a jury without the jury room? What is a protest without a sidewalk or a square? Geography has always been essential to the group by which I mean, that groups need to be able to conceive of the “place” where they meet as well as to see who is meeting there. Yet cyberspace in its early manifestations has gotten rid of all that geography entails: physical space and place, physical embodiment in corporeal form [132] and the concepts of proximity and contiguity. As Jack Balkin describes it, in cyberspace “I can’t get next to you baby” [133]. Or, put another way, there are no sidewalks in cyberspace [134]. The decoupling of cyberspace from geography gives rise to encounters with new people but, at the same time, it impedes the purposive interaction that fosters belonging and friendship and allows groups to cohere. We not only lose the civility that comes from face-to-face interaction [135], we lose the idea of places that has been central to having a sense of the group and we lose the sense of a body through which we perceive the group. But technology is changing. We are beginning to create technologies that inculcate group culture. Through visual and graphical representation, this new technology enables people to see themselves and others and to perceive the role they have assumed. Appearing as a defined person — whether by name or in an embodied avatar — makes it easier to sense oneself as part of a group and, arguably, will

facilitate the inculcation of the social norms at the heart of a group's culture [136]. We are creating new social cyberspaces that are spatially oriented with their own geography of space [137]. They have the potential to foster the kind of iterative social engagement we are familiar with in a face-to-face environment but without physical proximity. These new possibilities for reintroducing space and body into cyberspace upend traditional assumptions about the necessity of physical geography for collective action.

This section addresses both the challenge that web world technology has posed to forming group culture and the benefits of new collective visualization tools that overcome the lack of geography through the simulation of space and of self. We look first at space and place and then at the issue of identity and physicality.

Space and place

The absence of place in cyberspace means I need never “run into” anyone from the group, reducing the incentive to loyalty and lowering the costs of exit [138]. As Robert Axelrod writes in his classic work on the theory of cooperation: “the very possibility of achieving stable mutual cooperation depends upon there being a good chance of a continuing interaction” [139]. But in cyberspace, the boundaries are open, interaction is relatively anonymous [140] and therefore there is little incentive to cooperate when disputes arise [141]. The ability to sanction or shame defectors or, conversely, to reward loyalty is further limited. Let us address, first, the challenge of the de-spatialized Web world and the potential of tools that reintroduce place.

Although we have a sense of being somewhere [142] when we visit a Web site, the absence of place makes it *harder* to create the connections for “the body politic” [143]. The inability to see self and others in relationship to a space problematizes group culture. The social rituals and visual totems that inculcate culture within the group are also absent. Not only are there no uniforms or explicit manifestations of belonging in a world of disembodied identity, but there is no food. I mean this literally. The ritual of breaking bread as a way to cultivate solidarity and belonging does not exist. There is no substitute in cyberspace for the fellowship of the *Kaffeehaus* [144].

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Adding to the challenge of maintaining bonds, there is also no way to cultivate allegiance or attachment to a place. In real space, the group may be defined by the physical space where it meets. Anyone who shows up at the Church is part of the group [145]. Cyberspace changes this calculus.

The new generation of technology is reintroducing the concept of space and place online. In a virtual world [146], a three-dimensional computer environment such as the videogame, I can occupy a plot of “land,” [147] build a house there, invite guests over to

break bread, and drink tea [148] (or unlimited margaritas, for that matter). In addition, the second generation Internet looks more and more like a virtual world with three-dimensional, immersive, simulated environments. By reintroducing the concept of space, groups and communities can cohere around specific locations and community once again comes to be defined by space (or at least the simulacrum of space).

In all virtual worlds, for example, groups develop their own themed spaces where they congregate. In Second Life, the popular commercial virtual world, there are areas for World War II fanatics and for skydiving enthusiasts. Residents have built a Chinatown [149]. Sometimes groups construct new landscapes to resemble a particular place they like, including the landscape of another virtual world or game. The attachment to land and place is further evidenced by the protests in Second Life against the use of flying or “teleporting” (Star Trek style) from one location to another. Protesters wanted everyone to walk to promote social encounters. Though virtual world characters can fly, Second Life is full of sidewalks. The residents, not the company, built these.

The landscape need not resemble a town square or Main Street or the country fair (though it could). In the virtual world, the country fair is everywhere that people come together and interrelate. Precisely because the space is a social and technical construct, it more explicitly represents the otherwise unarticulated function of space as a locus for social gathering. Having to operate in a defined and bounded place requires that players mediate their differences to cooperate and cohabit a shared cyberspace [150]. The whole idea of the virtual world is to engage in collective action.

In addition to reintroducing sidewalks and other forms of attachment to place and context, these new cyberspaces are real-time, social environments. Of course, synchronous communications options have existed, not only in the Web world but also with the telephone. But there are more technologies now available that give a choice of temporal modes of interaction. While real-time interaction that could be avoided in the world of the Web, in the virtual world it now becomes prevalent. People participate in a common activity of play or work. As inherently social environments, they have been singled out as ideal testbeds for social and legal experimentation because they emulate society in all its complexity [151]. But they go beyond social scientific experiments in constructing artificial life [152] by offering a space for genuine interaction in *real-time* [153] or asynchronously.

These culture-building technologies for “collective visualization” are by no means confined to videogames. Visualization technologies use maps to create a sense of space and place. MoveOn.org, the left-liberal political action group, uses a Web-based visual map of the United States to highlight and strengthen a sense of belonging and visually connect one person to another [154].

Identity and self

Perhaps the most important characteristic of the new visual and social cyberspace for groups is the avatar, the simulacrum of self [155]. New communications platforms allow

subscribers to create individuated characters with unique identities they and others can see. While we are familiar with the avatar in the context of familiar videogame technology, soon we will be represented by a digital representation of online identity everywhere online. Whereas now I have a login and password and pin code to define me, in the near future I will also have a visual manifestation. Some programs permit one to have avatar seen as a third-person character or, increasingly, to view the world through the gaze of the avatar. As videogame designer Warren Spector [156] writes, “the power of seeing something through your own eyes, even with the barrier of a tiny glass screen and a goofy mouse-and-keyboard interface is so compelling to me there’s no point doing anything else ” [157].

What is relevant for the group about assuming a body in cyberspace is not the replication of real world physicality. After all, one cannot feel pain or physical sensations through one’s avatar (yet) [158]. Rather, by acting through avatars players take on a role distinct from yet related to their own identity. This makes it possible to see oneself a member of a group.

Selecting an avatar is akin to assuming the role of citizen. Avatars are “public” characters, personalities designed to function in a public and social capacity. Avatars think and act as members of a community, rather than as private individuals. Having to construct an avatar in a virtual world not only allows me to see myself but it demands that I design a personage for interaction with others. Like choosing a game piece to represent ourselves (remember the childhood fights about who got to be green or red or the blue piece?), creating a fully featured avatar, much more so than selecting a piece of plastic, is a serious choice about the public persona we want to adopt within the group.

As a persona, the avatar is the citizen — a legal and moral personage distinct from the private individual — who acts in a social capacity [159]. Avatars are citizens of the online world, imbued with rights and responsibilities [160]. The avatar, like the citizen, can also choose to behave in public-spirited ways that the avatar’s creator might not. It is tremendously difficult in the real world to separate private from public interest [161] and to articulate public reason [162] rather than thinking only in terms of short-term self-interest. The distinct person of the avatar offers new promise for the notion of public citizenship and public spirit and suggests the need to observe and experiment.

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The avatar construct helps to overcome a particular problem with defining group culture, namely the difficulty of coordinating work within a group and getting people to assume roles in order to divide labor effectively across a distance. Practically, the avatar is a way to distinguish roles within a group. A character can become associated with a particular function that can be assumed by different people. The videogame *Neverwinter Nights* [163] uses something called the “Character Vault” to allow players to check out an avatar from the library. The *Neverwinter Vault* protects players against cheating and the artificial manipulation or leveling of characters (think of someone starting a marathon and then paying Florence “FloJo” Joyner to jump in midstream and finish the race). But groups might use the character vault idea as a way to create and store particular roles to be played within a group in cyberspace. Once one person checks out that role, it is taken. Members of the group can then see the person assuming that role. For example, in a deliberative exercise, the moderator can assume a particular avatar (a skin or costume), which can then be passed from person to person in the world so that everyone can easily identify the moderator (or the librarian or the current speaker or the ostracized member).

Avatars can assume socially diverse roles. Avatars can be imbued with physical, social and economic disabilities and participants made to play “with a handicap” as a way to teach empathy and learn the impact of political choices on those of differing ability. Imagine participating in a group where you must assume the persona of someone of a different race or gender. It is one thing to voluntarily pretend to be African–American [164] in a chat room and for others to have to guess at your racial identity. It becomes a different exercise when one can project that identity unambiguously to others. I am not talking about socially engineered deliberation experiments — although these become possible in a virtual world — but enabling choices about identity that facilitate better social outcomes.

Even more interesting, imagine the use of an avatar to represent a group. The avatar becomes the physical manifestation and embodiment of the group. Its action and even appearance reflect the collective will. Just as we talk about corporations as fictional legal persons, who sue, are sued, issue statements, own assets, make collective decisions, now we can see those persons. The members of the group can control the avatar collectively and look to the avatar to see the group and give it life in the world.

Before we leave the subject of avatars, we have to address one important question about the usefulness of avatars for collective action. Avatars and online identities generally can be changed like outfits [165]. If avatar identity is not persistent, does that reduce the

probability of cooperation and participation within the group? After all, identity is as fluid in a visual Internet as it is in a text-based one. People sell characters on e-Bay or in the game's bazaar all the time [166]. Is this a hindrance to deepening group culture?

While it can be, participants also have an incentive to be identified within the group and to maintain a constant identity for purposes of that group even if they change it for participation in other groups. Second, the mutability of traits in cyberspace may strengthen group ties by driving people into groupings where they have persistent identities [167]. This may enhance the strength of group culture by encouraging membership. Third, even if hairdos and body shape change, avatars have other identifying characteristics, which can be used to encourage membership. Fourth, the mutability of avatars is a design choice. It would be just as easy to have places where a constant avatar is a requirement of the group and, in that way, to overcome issues of trust. Finally, we are developing technology to manage trust and identity and ensure authentication [168].

In the Second Life virtual world, for example, the designers chose to require players to take one of a given list of last names to foster more persistent identity. Members of particular groups assume honorifics. In other virtual worlds, players identify by the race, guild, profession, class or clan to which they belong (or in the case of Americas Army to a battalion or unit) [169]. Technologists and lawyers alike are working on creating trusted identifiers [170] for online identity [171]. Increasingly, the social and visual tools help to create identity as a member of a group.

The Golden Calf: Seeing is believing and group information

Groups require information to do their work. There are two problems they face in this regard: the availability of information and managing that information.

We have gone from a world with too little access to information impeding collective action to too much information without the means to make sense of it. This problem is especially bad in the context of electronic government and law where huge repositories of public information are put online but without any concomitant tools or processes to make use of that data.

Our two-dimensional, text-based interfaces, while allowing us to order data chronologically, do not readily lend themselves to other ways of presenting information that might be more useful to a group [172]. In reality, I process information all around me by its size, shape, color, intensity, location and relationship to other people and places. Even though cyberspace is a place for human interaction we still receive our information as if we were reading a book alone. Now, as we shall discuss in the remainder of this section, we are beginning to develop collective visualization tools that not only help us see the group but enable us to make sense of information collectively and create it collaboratively [173].

First, technologies that emphasize *visuality and seeing* enable groups to make sense of information in relationship to the group. We are evolving new ways of representing information using more visual tools. Take, for example, tree maps [174]. They look like topographical maps but they show the number and intensity of something, such as the members of a group and the range and intensity of its member comments. Not only can I perceive a great deal of information from a tree map at a glance — much more than from looking at a legal text — but that information can tell me about people as well as about data.

Visual representation of information is not a new phenomenon [175]. But now, *visuality* is becoming more prevalent and relevant to the interfaces of cyberspace. Virtual worlds and other visual technologies are emerging that permit multivariate representations of information. Instead of being limited to text, typeface and position, data can be represented through three-dimensional geography, a rich color palette, unlimited forms of style and shape as conveyed across three and even four dimensions. The three dimensional cyber-landscape like the virtual worlds are full of graphical information objects — images on the screen that communicate information.

As Tufte notes: “The world portrayed on our information displays is caught up in the two-dimensionality of the endless flatlands of paper and video screen ... Escaping this flatland is the essential task of envisioning information — for all the interesting worlds (physical, biological, imaginary, human) that we seek to understand are inevitably and happily multivariate in nature. Not flatlands” [176]. With visual technologies, virtual worlds, simulations and modeling tools, we are “escaping the flatlands” and moving away from paper-based, chronological representations of information toward the representation of information in physical and graphical form.

The significance for groups is that the presence of a visual totem — think of the Golden Calf — focuses the attention of the group on that information by getting it in front of them. The information object strengthens the sense of the group because everyone is looking at the same information, making the connection to the information manifest. As J.C.R. Licklider wrote:

“When people communicate face to face, they externalize their models so they can be sure they are talking about the same thing. Even such a simple externalized model as a flow diagram or an outline — because it can be seen by all the communicators — serves as a focus for discussion. It changes the nature of communication: When communicators have no such common framework, they merely make speeches at each other; but when they have a manipulable model before them, they utter a few words, point, sketch, nod, or object. The dynamics of such communication are so model-centered as to suggest an importance conclusion: Perhaps the reason present-day two-way telecommunication falls so far short of face-to-face communication is simply that it fails to provide facilities for externalizing models.” [177]

The ability to give information physical form may make it more likely that people will perceive it [178]. If a decision or problem is represented in physical form in a virtual

environment, it is harder for the group to ignore and gives the group a shared object for reflection and discussion.

In addition to the benefit of collective visualization for perceiving information, the new tools offer the promise to ordinary people to convey and create information, not only visually, but also collaboratively. As noted cyberlaw scholar, David Johnson, points out:

“The development of graphical interfaces has enabled a new form of ‘writing’ that involves decisions by users to place particular graphical elements in particular locations within a larger graphical environment. This ‘semantic placement’ has the potential to give us a new form of asynchronous group communication. The key point is that graphical objects can ‘stand for’ ideas or people or things — and that the placement of such objects against a background (or, in effect, in a location in a particular online place) can communicate the relationship between such persons or things (or the view of such persons or things or ideas held by the person doing the placing).” [179]

The technology offers ordinary people more effective ways to talk about complex problems. Information objects convey meaning on many levels and with more layers of complexity than text. People can use graphical representation of information with shape, size, color, sound to enrich the availability of information for the group and their own role in contributing to it.

There are myriad examples of collective visualization tools to help the group produce information. A wiki is a shared cultural resource, an open editing platform designed to allow a group to create content collaboratively. Wikipedia, the free user created encyclopedia has one million pages in over 100 languages. These tools also enable collective apprehension of information. Imagine the difference between a list of data and a visual map of the same information showing the connections and relationships. Imagine that same list of information, organized not according to an ontology imposed by third parties but according to a taxonomy chosen by the group, or what is called the “folksonomy” [180] or what we might term the “groupsonomy.” The evolution toward more social and visual forms of information representation has the potential to help people make sense of abstract information and concepts and translate them into relevant knowledge for use in solving problems and making decisions together.

The evolution toward more social and visual forms of information representation has the potential to help people make sense of abstract information ...

Through visual diagrams and other tools, too, a group can actually portray its shared opinions. If we have a group of 20 people, we can each put a push-pin on a map to indicate a point of view. We might do this on a chart in a room but we can now also place a digital pin in virtual space. The Maptastic project lets users collaboratively add pushpins to a map to show the location of important places in a city. These might be favorite restaurants or they might be sites in need of community clean-up [181]. Perhaps the computer might calculate the average of our opinions or we can rate and respond to what we see. In massively multiplayer games, “thousands or tens of thousands of people play a game whose effect is to tell a story together, instead of going to the movies and receiving the story as a finished good” [182]. In virtual worlds that function as societies, rather than mere gamespaces, participants increasingly act as self-governing creators of their own communities, who work together to build the space.

Technologies for collective visualization with their highly social and visual qualities seem particularly conducive to group practice. The “high-density” display of visual information allows “viewers to select, to narrate, to recast and personalize data for their own uses. Thus, control of information is given over to viewers, not to editors, designers or decorators” [183]. The visual interface involves viewers more actively in the processing and interpreting of information. Individuals can interpret what they see but groups can also discuss and deliberate on information objects.

Collective action and technologically assisted collaboration are springing up all around us. Cyberspace affords opportunities for the creation of new modes of production of social order, independent of the earlier assumptions about space, place and time. Social and visual software provides the structure to form a group; three-dimensional interfaces and avatars promote group culture and identity while information visualization tools enable collective perception and production of information. The resulting social order is not based on individuals acting in a marketplace [184] or the vote of Congress but based on the purposive action of a wide array of groups. The technology can and is beginning to allow groups to solve problems for themselves. Now the question remains will the law promote or discourage the rise of this technologically-enabled strong democracy.



The anti-group critics

In our discussion thus far, we have marveled at the way new tools are helping groups of ordinary people wield power in the world. These groups, connected by networks and emboldened by new social and visual interfaces designed for groups, are purposive collections of individuals aiming to achieve a “real” goal [185]. But this gives us pause. If ten dog owners cleaning up a park or ten college students launching a movement to monitor elections [186] is a group, are not twenty terrorists also a group? If new technology is a boon to parents taking responsibility for their local school, isn’t it also the mainstay of pedophiles and pornographers? While groups might do things in the world,

does that doing not include violence to other groups and individuals? After all, countless theorists have lamented the unfortunate tendency of groups to become factions from which the liberal state is designed to protect us.

This fear of mobs trampling the flowerbeds motivates the disdain for groups expressed by Richard Posner and Cass Sunstein [187], who challenge the usefulness of groups in their recent writings. They fear that the group, as a unit of social action, gives rise to excessive extremism and polarization. Groups cannot be trusted to govern themselves without bothering others. Not only are the internal dynamics poor, leading to a handful of members ganging up on others within the group, but groups will attack each other. After all, groups are a useful way for terrorists to work [188], Sunstein asserts. Posner cites familiar arguments on the social psychology of “groupthink” to assert that group deliberation is wasteful and ineffectual (especially as compared to the pragmatic judging of the appellate judge). Groups, to them, tend to be insular, parochial and intolerant of outsiders. People entrench opinions, rather than changing them, through interaction with a group. Groups are not characterized by participation but by demagogic hierarchy. Therefore, the argument follows, even if technology is good for groups, groups contribute nothing useful to the legitimate organization of power and, normatively, should not be promoted.

The anti-group critique comprises two distinct complaints, which justify for their proponents the arrangements of the liberal, republican state with its weak forms of collective participation. One criticism is that groups are homogenizing and polarizing. This is the critique of group dynamics, which are as likely to be poor as to be good. Call it the Groupthink problem. The second is that not all groups are “good.” Just as people naturally gravitate to groups, groups, so this logic goes, gravitate toward hurting other groups. The purpose of groups is to harass others. This is the gang intent on domination as juxtaposed to the picture I have painted of proactive and harmonious parents, workers, friends focused on self-governance. Technology has afforded groups new ways of doing harm as well as good. Call it the terrorist problem. I will treat these two critiques in turn.

Groupthink

This paper takes issue with the critiques of Sunstein, Posner and Netanel who reject the group out of hand. These critics fail to recognize the material and technological reality of group work and to recognize the outdated technological assumptions underlying their views. More important, they impose their vision of the good group, rather than conceding that groups operate according to different values, methods and structures.

First, the empirical evidence about group polarization — that groups reinforce extremism — is contested [189]. Dan Hunter forcefully argues that Sunstein misunderstands the phenomenon of group polarization.

“Sunstein is not wrong in identifying the group polarization effect, but his use of it is problematic. He fails to give due regards to the fact that, at times, groups actually depolarize, and move to less extreme positions; or they move to ‘extreme’ positions that

are actually moderate. Further, he fails to establish that the conditions for group polarization are actually present in the Net entities which he identifies as worrying. And finally, he draws a series of conclusions that may or may not be correct about Internet polarization — but for which he has no evidence.” [\[190\]](#)

It is simply not true that all groups are polarizing and lead members to extremes. Were this the case, as Hunter makes clear, we would never want people to congregate for fear of every group becoming a mob. But for every faction, there is also an example of a reasoned, thoughtful, productive group. If all groups tend toward extremes, then Congress would seem to be a very bad way to make decisions.

If all groups tend toward extremes, then Congress would seem to be a very bad way to make decisions.

Second, even assuming that some groups function poorly the point of technologically enabled groups is that we have better tools to manage their dynamics. The screen makes the workings of the group manifest, allowing us to visualize problems when they arise. If we can map and chart the roles and relationships within the group and see the nature of disagreements, arguably we can better adjust the dynamics to do group work. This paper argues that technology not only enables groups to do what they have done off-line but also might enable groups to be more successful [\[191\]](#).

Third, even where the dynamics are poor, this is only a problem if we are confined to one group. Developing more groups is a countervailing force to bad group dynamics. Posner writes as if there were one group; both he and Sunstein imagine that people belong only to one. But, in fact, people join many different groups and technology enables the formation of new groups for a wider variety of purposes. A thousand flowers are blooming. Technology enables the small, participatory group to be an effective social actor and, at the same time, permits the aggregation and interconnection of myriad groups via a network to “scale up” and decide large as well as small questions. We can blend the input of a plurality of groups [\[192\]](#), so that people can make decisions and take action about large as well as small matters without being hijacked by the bad dynamics of a single group. One feature of social life online is its “small world” quality. In real world networks, such as cyberspace, people and Web sites are connected by only a few clicks [\[193\]](#) (even less than the famous six degrees of separation). Groups that use the Internet will never be “alone;” they will be connected to other groups which will limit the kind of entrenchment of which Sunstein complains.

Furthermore, Neil Netanel argues that we should prefer representative institutions to self-organizing groups because groups cannot coordinate themselves to engage in proper deliberation. The communities for discussion and deliberation Netanel [\[194\]](#) describes often suffer from deficient deliberative practices. But what Netanel and others view as

problematical about these groups is that they stray from a pre-defined norm of the well-functioning deliberative group. Netanel fails to take account that technology changes the way we deliberate and therefore must alter our view of legitimate decision-making. Using shared graphical tools, like a map, deliberation and conversation may not be necessary or even the best route to exchange reasoned public opinion. Certain decisions are best taken with the explicit deliberation and vote of all members affected by that decision. In yet other contexts, the group chooses to elect experts to vote by proxy only on that decision [195]. In another setting, members of the group might clean up the park or organize a recycling campaign with neither voting nor deliberation and simply through uncoordinated collective action. The point is that groups are taking and wielding real power, not simply to govern the Internet, but to make purposive change in real world communities, too. Differently deliberative groups, not only institutions, can accomplish things in the world often more congruent with the wishes and values of their members. We must begin to take account of groups.

Terrorists

With technology enabling collaboration across a distance, we are developing new ways for groups to make choices based on their own values.

But what if those values include harming others?

There will be bad groups, such as terrorist cells, who desire to harm other groups. Groups can and will engage in bad practices. Their purpose will be to arrogate more power to themselves. But this does not negate that groups can and do wield power and that people collaborate to do good in the world as well. Nor does the existence of bad actors suggest that we should ignore the “wisdom of the crowd.”

At the same time, we do not have to recognize all groups as a matter of law. We can impose baseline conditions consonant with allowing a multiplicity of groups to function and not interfere with the work of others. As Lon Fuller imagined, the project of law is to create the conditions for good lawmaking and to set out the procedures and rules that help people to achieve their goals. So, too, here the idea is not to prefer one vision of the good life but to create the framework for groups to fulfill their purposes [196]. So just as we forbid corporations from adopting illegal or ultra vires purposes, it is consistent to dictate that the group may not be a mob. We need not defer to every group but can exclude those groups that harm their members or other groups. This is the larger project but in the final section, I want to make two proposals, by way of illustration, to suggest how we can both encourage the work of groups and the collaborative processes that are at the heart of democratic practice while avoiding the dangers which Madison feared.



Virtual world groups, real-world power

Groups matter. People can do together what they cannot do alone. Technology is changing who can form a group, how the group sustains its work and what information assets the group accesses. Technology is also changing the goals a group can have. While the focus of this paper has been on defining the group and discussing its underlying material conditions, I want, in conclusion, to talk about where we go from here and how we begin to think about those groups to which the state should defer in an effort to create a more self-governing and participatory political culture.

To that end, this section addresses technology for groups, engaging groups more effectively in current governmental structures and, finally, building the legal framework to support new forms of legally defined groups to which the state could and should defer.

Designing technology for groups

We know that the design of the technology has implications for the production of power and social arrangements. The ability of people to collaborate with each other relates directly to the technologically produced environment. In particular, as this paper argues, the design of the screens and interfaces through which we interact with technology and with each other, can help us to see the group and understand the roles and relationships within the group. So if we normatively care about the potential of the group, then technologists should design for groups. As social theorist Pierre Lévy says, “if we are committed to the process of collective intelligence, we will gradually create the technologies, sign systems, forms of social organization and regulation that enable us to think as a group ...”[197]. Or as Clay Shirky might put it, we have to move away from thinking about “computer as box” and move from thinking about me and the machine to focusing on we and the machine.

What does it mean to design for groups? How do we develop social and visual technologies to aid the creation of group physics, culture and information? Designing for groups requires devising software and the related screens conducive to collective rather than individual work. It means using the screen to address the problems with group dynamics discussed earlier that arise in trying to coordinate action in real and in cyberspace.

Group physics necessitates creating tools, like H2O or Unchat, which build in the structures to coordinate social behavior. The global computing project, known as “The Grid”[198], is one of the most exciting innovations in this arena. The Grid is a set of communication and authentication protocols, a combination of software and the rules for how to use it, to specify the flow of data among members of a group. The Grid is really a way of thinking about structuring collaboration on the Internet for virtual organizations or groups. The Grid uses software to define the resources of a group and define the protocols for sharing those resources among current and future members of the group. As such, it has wide applicability to become the computing infrastructure for collective action. The work is already underway to build sophisticated software for structuring and automating the rules for group interaction across a distance.

Designing for groups requires devising software and the related screens conducive to collective rather than individual work.

Group culture requires tools to connect and bind the group and to share roles among members of the group. We have already discussed how virtual worlds and avatars are proving to be promising technologies for strengthening the trust and social bonds essential to building group culture. They replace both territorial and physical geography to create attachment. Certification systems are working on ensuring persistent and verifiable identity in cyberspace [199]. The Social Physics [200] project is another example of efforts to create a technological infrastructure to support authentication. A range of social software tools and social reputation systems are just beginning to emerge to facilitate the sharing of roles and collaboration across the group, giving people the tools to foster norms.

Maps, diagrams and information visualization tools facilitate the collection and manifestation of information in new ways. But these tools are increasingly becoming collective visualization tools that allow a group to filter information for the needs of the group, specifically, and to see the information in relationship to the people in the group acting upon it. The Cairns Project, a software tool designed by the author, gathers information from groups about the way they use information as well as about how they form and build group culture [201]. Cairns is itself a collective visualization tool that uses a visual interface to draw maps that describe a group.

Designing law for groups

Designing for groups also means we need to ask how the law can create the framework for people to be able to work in groups [202]. Inevitably, various legal protections will need to come into play to encourage and safeguard the right of groups to exploit technology to engage in collective action. Most simply, we will have to make it possible for groups to own bank accounts. This is an idea propounded by David R. Johnson, the father of cyberlaw. A group has power when it controls assets so figuring out what it will take for a Meetup to control a bank account is crucial. A focus on groups also suggests that we need to ask how our approach to the legal regulation of technology and information should change as a result of rising power of groups.

This could implicate a variety of areas of legal thought from free expression and other constitutional rights of groups to the power of groups to make contracts to liability incurred by groups. We need to take a searching look at how our legal structures can foster purposive group interaction. For example, we ought to design a framework in intellectual property and information law to safeguard the right of groups to create

together. Having the freedom to tinker is not just important for free culture; it is essential to the goal of social ordering. Information access is not “only” about self-expression or artistic freedom but is also essential, as we have seen, for our ability to express ourselves collectively. The “CopyLeft” movement, which propounds freedom of access to information as a foundation of culture, can and should argue this is also a freedom necessary for engaged and participatory democracy based on group collaboration. Freedom of access to and use of information is not only integral to individual autonomy but also to group work.

Information access is not “only” about self-expression or artistic freedom but is also essential for our ability to express ourselves collectively.

Groups depend upon the free flow of information and communication and upon the ability to manipulate those data to make them intelligible to the group. As discussed, new tools are increasingly proving useful for visually rendering information and exploiting the visual interfaces of cyberspace to create a social context for information. Intellectual property law will soon have to confront how best to safeguard the fair use of information for visual representation. As groups come to use virtual spaces more and more and to create new information objects, they must not be impeded from collaborating by intellectual property strangleholds, whether in the form of copyright and other protections for the mapping of information or database protections [203] of information repositories. These are antithetical to the work of groups.

Groups must be permitted to transform the data found in a database into a visual object that can be perceived by the group. Such representations should not be prevented or prohibited by copyright or database protection. Users need to be able to “play with” information to make it meaningful and readily perceivable. By the same token, participants should not be permitted to seek intellectual property protection over visualization techniques. If I develop a way to map a set of datapoints, I can sell the map or my labor but I should not be permitted to prevent others from making such maps [204]. There needs to be a serious debate about the relationship between intellectual property law and the work of groups that expands upon the current discussion of “semiotic democracy” and collective culture creation to recognize that groups acting collectively has meaningful political as well as aesthetic implications.

We might also consider whether a more robust legal framework of digital identifiers is necessary to help with group work. This includes both protecting the freedom to be anonymous within the group as well as the technical ability to ensure identity, when desirable and necessary. We already have in place the technology and legal framework

for a system of digital signatures to authenticate people but this is not widely utilized nor has it been adapted for the world of visual interfaces and avatars.

It is not enough to say that information must be free or that intellectual property and information policy must promote innovation. The consequences are more profound.

It is not enough to say that information must be free or that intellectual property and information policy must promote innovation. The consequences are more profound, I would argue. Rather we need to apply the litmus test of *groupness*, first and foremost, to information law and policy and develop a larger legal framework to support the work of groups, the crucible for social action, self-realization and the basis for an engaged democracy.

Citizen juries

Experimenting with the design of tools can be accompanied by greater experimentation with the design of political and social processes in which groups play a role. In order to move towards a world of more autonomous groups engaged in legitimate collective action that, whether it takes place online or off, has real-world effects, we have to consider how to cross the chasm between real-world political power and groups that organize online.

Right now, there is a pervasive sense that what takes place online exists in a closed system with little impact on real world power. True, bloggers break big news stories but there is no place in cyberspace of which politicians must take note. There are no Red or Times' Squares to serve as loci for political protest [205]. So long as only a rarified portion of the population inhabits cyberspace, there is no reason it necessarily should.

To bridge this divide we can start by thinking about how to use groups more effectively as part of the representative political process. Established processes of citizen consultation and participation engage individuals in decision-making. While interest groups participate, citizen consultation is generally not organized so as to foster groups to explain complex problems and their causes and making decisions. Truck drivers, engineers, vehicle manufacturers and road workers have important information and opinions to share about a potential regulation on the future of truck weight, for example. But if their opinions are solicited as a group, the information they produce may be more manageable and deliberative.

Here is how such a group consultation process might work. This proposal is far from complete and simply to spark discussion about the practical implementation.

We have already discussed how the screen makes it possible for groups to sustain their collective action over time. Imagine if we exploited the technology to institutionalize citizen policy juries, groups to which political power could be held accountable.

For every bill proposed in Congress (or state legislatures, for that matter) and for every regulation proposed on the Regulatory Agenda of federal agencies, a citizen jury would be convened to serve for a short period in shepherding the proposal to its resolution. This does not necessitate creating a deliberative fourth chamber [206] or a centralized deliberative process but, rather, introducing distributed and decentralized input into political decision-making. The elected legislature will continue to make the final decision to ensure that lawmaking does not become so decentralized and fragmented so as to be *ad hoc*. Yet a new mechanism of collective accountability will be introduced to give citizens greater input in setting the agenda for lawmaking and produce greater accountability to a wider constituency.

For every bill and regulation proposed, a citizen jury would be convened to serve for a short period in shepherding the proposal to its resolution.

In this vision, ordinary people join citizen juries and serve for varying lengths of time depending on the jury to which one is assigned. Participation is an alternative to traditional jury service. In case requiring participation is not enough incentive to overcome personal impediments, participation might also earn a tax credit or trigger other financial incentive provided by government and industry [207]. Imagine earning bonus points for civic participation [208]. It can take place from the courthouse but also from home via the Internet or in interstitial spaces, such as bus stops [209] or subways platforms, using networked kiosks to join and visualize the jury, connect with other members, view information about an ongoing proposal and provide feedback: the so-called “deliberative bus stop” [210]. It is not deliberative in the sense of being a place for talking but, rather, a place for reasoned input via the computer screen. In fact, as we have discussed, reasoned input might take the form of working with visual diagrams, directing an avatar or other more efficient but equally critical forms of shaping opinions.

The computer kiosk might output, for example, a card (like a subway ticket) that the user could insert with a PIN number to track the progress of an initiative and participate in the life of the group. Participation would not be imposed the first time the person uses the system. Rather, exploration and surfing would be encouraged prior to joining a group. Participation might be voluntary — and by making the work of the group relevant to

decision-making should actually encourage ongoing participation and engagement. I am assuming a high degree of social stickiness in the use of the networked, visual screen but to ensure that the scheme works participation will substitute for mandatory criminal and civil jury service.

Either way, the screen would connect small groups within the same geographical area and assign multiple groups from across the country to oversee the same proposed bill or regulation. A small amount of demographic information would be collected from a participant in order to create groups that are diverse and pluralistic.

The staff members and other professionals working on a proposal (*i.e.* agency officials and Congressional staffers) become part of and report to the group. They speak to and are accountable to everyone in the group, which acts as an oversight team. When questions arise, they are put to the group. The group can deliberate in real-time or asynchronously. They can also participate in research, work and drafting taking advantage of the screen to share assignments effectively. Groups might appoint a reporter or rotate the role of reporter, blogging about the work of the group to a collective policy weblog. Groups might appoint a representative or rotate the role of representative, who collaborates with the other small groups assigned to that proposal. That representative might take the form of an avatar, for example, that is “played by” different or all members of the group.

By working within and across groups, the citizen jury system, takes advantage of the collective to understand the policy problem and its possible solutions. Using the new tools available, a group can delineate a problem, visualize and map out causes and effects, think through options, provide information and collectively design solutions. In addition to providing accountability and oversight, we can imagine a group or groups of groups wielding a veto power over proposals.

Currently, lawmakers make proposals too late in the game for input to be meaningful; citizens react viscerally and vociferously without the benefit of adequate information or channels to make a difference in policy-making. Yet politicians and public alike worry about how to exploit the Internet to create meaningful public consultation. They worry even more about relinquishing power to the public to make its own decisions, organize its own discussion and build participatory groups of the kind we have seen emerging through such efforts as Meetup and Moveon. If the state takes groups seriously, policy discussions — whether of congressional bills or agency rule-making — might take place online, encouraging groups to engage in positive and proactive activities. This can take the form of officially sanctioned citizen consultation exercises organized both online and off. But, in addition, such citizen participation in lawmaking might be the result of decentralized and self-generating action taking place in the blogosphere and in groups of all kinds. This is a first step in the transition from consulting the public to engaging the public.

There is much to flesh out if we are to develop a system of “deliberative bus stops” to connect people using the networked screen to groups to create greater political accountability. The details require extensive planning, collective imagination and

experimentation [211]. But crucial is the suggestion that we have and will soon have the tools and the widespread access to them to enable people working in groups to participate effectively in governance. However, these socially engineered mechanisms for citizen consultation are not nearly as interesting, complex and potentially worthwhile as the emergent, self-organizing, diverse and fully voluntary groups we also want to promote.

The new democratic corporation

Imagine a world in which, not only are citizen juries mushrooming all across the country to harness the collective imagination to the legislative and rule-making processes but juries and groups of all kinds increasingly make their own decisions about issues in economic and civic as well as political life. In the same way that in many arenas, the state defers to the “self-regulatory” decisions of associational bodies, such as journalists, physicians and lawyers, or Congress enacts legislation made by the consensual agreement of industry and public interest groups [212], or Federal agencies defer to negotiated rule-making [213], through technology, it is possible to imagine that groups will have power not only to consult with existing political structures but to make their own laws to which the state can defer.

As new kinds of groups take advantage of the available technology to form and scale, the law should recognize the rights of groups as social units. If we believe, as I do, that robust and decentralized groups of citizens are a good thing and help strengthen the fabric of civil society, we need to create a legal framework for groups to form, sustain and regulate themselves. As Günther Teubner inquires, how do we set up “the interaction and the systems which are to be controlled and developed in such a way that they can more or less regulate themselves and control each other?” [214] Teubner, too, is interested in the role of autonomous and decentralized social subsystems as an alternative to the centralized polity. How should the law now respond to what technology can do for groups? What are the legal models to engender the creation of a wide array of collective actors?

One possibility is that the market will self-organize the necessary means for groups. Technology can implement the contractual arrangements within a group, backed up by group bank accounts and insurance, creating the infrastructure for groups to act and wield power. But just as the market depends on the state to create the statutory framework that regularizes corporate actors, democracy may benefit from the incorporation of groups. Especially in a world of private and privatized communications platforms, where constitutional protections do not necessarily apply, we need a way to safeguard the rights of groups to associate, own assets, make decisions — and to protect against malevolent groups. Giving rights to groups is easier when we can identify the groups. And, if we want to impose conditions for the legitimate work of groups, we also need a guiding framework.

We need a way to safeguard the rights of groups to associate, own assets, make decisions — and to protect against malevolent groups.

This will require recognizing new forms of collective legal personhood. As David Johnson writes:

“The single most fundamental impact from all of these new capabilities may be felt in connection with the way in which we form the middle tier of the social fabric — organized, persistent, collaborating (non-governmental) groups.”

He suggests the “creation of new forms of organizations — including complex, stable institutions that ultimately may demand and deserve legal personhood” [215].

We can imagine a framework statute [216], which recognizes the external existence of self-constituting groups. The law would accord rights to such groups to allow them to own assets and make binding decisions. While technology, to an extent, will provide the means for groups to control assets and make decisions, we need to explore in much greater detail what the group corporation might look like. We need more experience and experimentation with emergent and self-organizing groups to define that legal framework definitively, but, at least initially, we can imagine baseline conditions that might apply.

First, those groups that secure a member’s right to exit and safeguard other member rights, such as rights of free expression and association within the group would be eligible. Second, the group corporation that the law defers to is one that is self-governing. In other words, it makes decisions that directly affect itself and not those outside the group. Of course, there is no such thing as pure autarky; there are always some external effects. But we can imagine a requirement that reintroduces some degree, not of representativeness, but of direct impact. The group cannot have as its purpose to harm individuals or groups. Third, it must maintain transparency in exchange for which the law recognizes its rights to own and dispose of assets and make decisions with binding authority. The group — no matter how short-lived or how constituted (*e.g.* a Meetup) — can own a bank account.

The legal framework ought to be flexible enough to accommodate a wide variety of purposes. There is no need to impose a single corporate form *a priori* and risk reifying the nature of group life especially when the technology is still evolving. Unlike in the business corporations context where we have an incentive to limit the number of corporate forms, to enhance the ability of groups to make decisions over an ever increasing array of complex subject matter, we want to have groups proliferate. Business corporations assume an extended life for the corporation. But these democratic

corporations need to exist only long enough to accomplish their purpose. That may require an extended life or it may only need to subsist for a moment or a day. This group corporate status need not apply to the group as a whole or for the duration of the group but could apply to decisions or output of the group that the groups desires to have regarded as binding and legitimate. Again, because the new group corporation would be something easy to enter into without significant transaction costs (imagine an online registry), it need not have the same formalities at every level as the traditional business or municipal corporation. In fact, I imagine the forming of a new corporation to require only a series of clicks to establish. We trust people to make binding contracts in one click. Why not make it simple and easy to make a group in two?

We trust people to make binding contracts in one click. Why not make it simple and easy to make a group in two?

Not all groups would need to become group corporations. While most groups can self-regulate, where groups need to ensure that their decisions can become binding and legitimate law and enjoy authority, they would become “group corporations.” The law would recognize decisions made by the group that affect the members of that group. But the group would be free to engage in decision-making as it chose, congruent with the values of its members. Groups could connect with other groups in larger scale corporations, which could be formed for a longer or a shorter period, depending on the task to be accomplished.

Technology in every age creates the conditions and the boundaries for collective action. Cyberspace is no different.

We are just at the beginning of the conversation about the future of groups. There is no doubt that soon technology for groups — or visual and social software — will become mainstream and part of the familiar fabric of cyberspace. That cyberspace will look more and more like a videogame and less like the text-based Web we know today. And that evolution toward more visual screens will likely have a positive impact on social relationships online, allowing people, not only to play, but also to work together. Technology in every age creates the conditions and the boundaries for collective action. Cyberspace is no different. But with a decade of experience with cyberspace and the challenges of cyberlaw behind us, we can begin to address how the law should respond to the changing nature of cyberspace and to its potential impact on democracy. We know

that law is often a blunt and awkward instrument, especially when applied retrospectively, for encouraging positive and democratic uses of technology. Corporate law, which establishes a statutory framework for social order and action, suggests a possible avenue forward for recognizing the rights of groups and the legitimacy of their decisions while circumscribing the malevolent influences of bad groups.



Conclusion

All new technologies in every era convey a promise of revolutionary change and social betterment. Optimistic myths persist even in the face of evidence of the ills of technology or the realization that technology is neutral. Today, even after the dotcom bust, the myth that technology will revolutionize democracy continues on. As Vincent Mosco writes, “the end of politics is a powerful myth that is sustained by the widespread desire to overcome hierarchy, the bureaucratic state, and the endemic insecurities of a world constantly threatened by local, regional and global military aggression” [217]. Given the pervasive ills of our representative institutions and the deep sense of malaise about traditional forms of liberal democracy, combined with the rise of the new social and visual software, it is no surprise that we speculate about technology’s promise.

This is not to idealize an earlier era that never existed, but there are clearly problems with today’s political governance structures. They are inadequately democratic and civil society is underdeveloped and even shrinking. Contemporary politics suffer from what Robert Putnam refers to as “dysfunctional ugliness” [218]. Regardless of what one views as the causes, there is general agreement that there are problems. Our legislative decision-making processes suffer from what Carl Schmitt termed the “motorization of law.” Slow institutions, designed for a different temporal reality, rush to keep up with the pace of modernity. Marx long ago warned of the lag between the technological structures of society and its lawmaking super structures. Arguably, legislatures either pass laws so quickly that they are ill-conceived and without the significant shelf life that general pronouncements should have or they deliberate too long and cannot meet the pace of change. The internecine battles of entrenched party political camps deteriorate under the influence of big money and special interests giving rise to political gridlock. The problems are exacerbated by the delegation of authority to the executive branch, which, using such vehicles as the executive order, regularly grab power without accountability [219]. The executive, in turn, relies on overburdened agencies to make specific law.

Institutional problems render it increasingly difficult to make public decisions congruent with the values of the people being regulated by those decisions. So we look to technology and the electrification of democracy for better prospects. We have previously talked about “e-democracy” but in ways that are descriptively and normatively problematical in part because they focus on ways to make current institutional structures faster without addressing how technology, in fact, might change those structures. The

vision of radical individualism and market-based democracy without the state neglects the reality of collective action and the value of collaborative work in a pluralistic society. Equally, the scenario of national scale deliberation is oblivious to the temporal reality of busy people in a complex world.

I want to posit an alternative: a model of consociational democracy premised on the collective action of small groups working on a scale enabled by technology.

I want to posit an alternative: a model of consociational democracy premised on the collective action of small groups working on a scale enabled by technology. It is based on the understanding that visual and social technology makes it possible for people to see the groups to which they belong and to participate in them more effectively by sharing tasks via a computer network. The new computer screens replicate and often improve upon group socialization in real life. Through collective action, whether purely online or enabled by technology off-line, groups can not only come together to form virtual communities and build social capital but they can also make decisions and solve problems as legal actors.

The Internet provides the hardware and communications infrastructure on which we can design software applications and screens that groups can exploit for collective and participatory ways of working. The Internet is the locus for social action and activism. But it facilitates not only exclusively online interaction. These new tools can enable groups to wield “real” power, namely the power to take action, make decisions, solve problems. The underlying technological preconditions to collective action and activism are changing. As a result, groups and webs of groups can become more effective legal actors than they have in the past.

We might remedy the democratic deficit in our representative political institutions by taking advantage of the way new technologies empower groups to distribute citizen consultation more widely and practice it on an ongoing basis. We should institutionalize citizen juries to consult on every piece of proposed legislation or regulation. Because technology enables the exchange of reasoned ideas through the visual interface, groups can “deliberate” new more efficient, less time-consuming and more effective ways.

Recognizing the work of decentralized groups will tap intelligence and resources from the periphery, engage more people in the life of the nation, build affective bridges and bonds across groups and contribute to creating a more pliable and resilient political culture that does not depend only on rigid hierarchies and dysfunctional power structures. But the power of groups should not be limited to engagement in what we have conceived of as traditional politics. Rather, we want to harness the emerging phenomenon of group

life to promote collective action in economic, civic and cultural arenas: the practice of democracy with a “small d.”

We want to harness the emerging phenomenon of group life to promote collective action in economic, civic and cultural arenas: the practice of democracy with a “small d.”

While, in large measure, the design of technology might enhance the conditions for group life online, it is the law that both circumscribes group power in the public interest and renders their work legitimate. This means creating a legal framework to support the rights of groups and to protect us from the collective action of malevolent groups. Such a “corporate” law would recognize the rights of new forms of groups as legal entities and the legitimate nature of those groups’ decisions. It would safeguard the rights of members within those groups and defer to the self-governing and self-regulatory decisions made by groups for their own members. By protecting the right of groups to form, hold assets, make decisions and work together law can democratize power. 

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Notes

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2. C. FRED ALFORD, *GROUP PSYCHOLOGY AND POLITICAL THEORY* (1994); see also, JOHN GASTIL, *DEMOCRACY IN SMALL GROUPS: PARTICIPATION, DECISION MAKING AND COMMUNICATION 1* (1993).
3. MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS*, 1 (1971) ("since most (though by no means all) of the action taken by or on behalf of groups of individuals is taken through organizations...").
4. ALEXIS DE TOCQUEVILLE, *DEMOCRACY IN AMERICA* 242 (J.P. Mayer, ed.; George Lawrence, trans., Doubleday 1969) ("Americans of all ages, all stations in life, and all types of disposition are forever forming associations. There are ... a thousand different types — religious, moral serious, futile, very general and very limited, immensely large and very minute.")
5. For a thoroughgoing discussion of the rejection of the group in democratic political theory, see C. FRED ALFORD, *GROUP PSYCHOLOGY AND POLITICAL THEORY* (1994) (analyzing the role of the group in Hobbes, Locke, Rousseau, Tocqueville and modern theorists including Rawls, Sandel).
6. James Madison, *The Federalist No. 10, The Utility of the Union as a Safeguard Against Domestic Faction and Insurrection (Continued)*, *THE FEDERALIST PAPERS* (1787) (Penguin 1987) ("A zeal for different opinions...have, in turn, divided mankind into parties, inflamed them with mutual animosity, and rendered them much more disposed to vex and oppress each other than to co-operate for their common good.")
7. SIGMUND FREUD, *GROUP PSYCHOLOGY AND THE ANALYSIS OF THE EGO* (trans. James Strachey (1959)).

8. ROBERT PUTNAM, BOWLING ALONE 24 (2000) (discussing the exaggerated role of the individual in American myths of self-identity).
9. ROBERT PUTNAM, BOWLING ALONE 19–20 (2000) (*Bowling Alone* is considered one of the seminal works on social capital. Putnam also cites to other theorists in his introduction).
10. See, generally, AMITAI ETZIONI, THE SPIRIT OF COMMUNITY (1994); AMITAI ETZIONI, RIGHTS AND THE COMMON GOOD: THE COMMUNITARIAN PERSPECTIVE (1994); THE ESSENTIAL COMMUNITARIAN READER (Amitai Etzioni, ed. 1988).
11. ROBERT PUTNAM, BOWLING ALONE 349 (2000).
12. Alford views this myopia as having multiple causes: an aspirational desire for man to fulfill himself as an individual in contrast to the collective, a disdain for the details of group psychology from an epistemological perspective and a fear of the totalitarianism that may result from mob rule.
13. Groups include groups of groups as well as groups of individuals. So, for example, a group of law reviews can together impose a length policy for article submissions. See *New Article Length Policy* at <http://www.harvardlawreview.org/manuscript.shtml#length>.
14. The City Scan Project of the Connecticut Policy and Economic Council (CPEC), at <http://www.cpec.org> (last visited 30 November 2004).
15. *Google Groups Offers a Home to Online Communities; New Features Enable Users to Start and Join Groups, Find and Share Information*, BUSINESS WIRE, 2 December 2004.
16. HOWARD RHEINGOLD, SMART MOBS (2002) (describing the modern phenomenon of smart mobs, the phenomenon of human cooperation made possible by mobile telephony and pervasive computing whereby people typically organize themselves using cell phones).
17. *The Mobile Internet Makes Collective Action Possible*, SAP INFO, Interview with Howard Rheingold (3 March 2003) ("You believe smart mobs have already become a political force. Can you explain how and give us an example or two? Rheingold: Yes, a president in South Korea, President Roh Moo-hyun, who wouldn't be a president if it weren't for smart mobs that organized the vote campaign and again Howard Dean and his constituents' organization. Text messages flashed to the cell phones of almost 800,000 people urging them to go to the polls and vote for Roh. Half a million visitors logged on to his main Web site every day to donate money or obtain campaign updates."), available at <http://www.sap.info/index.php4?ACTION=noiframe&url=http://www.sap.info/public/en/index.php4/article/Article-168363f9919c1007f0/en/articleStatistic>.

18. See <http://chihuahua.meetup.com> (last visited 2 December 2004). Additional information about activities of these clubs provided by Meetup.com President, Scott Heiferman, in an interview with the author, New York City, 25 October 2004. See also video of conference on Votes, Bits and Bytes, Harvard Law School, 10 December 2004.

19. The Public Library of Science is a non-profit organization of scientists and physicians committed to making scientific and medical literature freely available. For more information, see <http://www.plos.org> (last visited 2 December 2004).

20. Beth Simone Noveck, *Democracy: The Videogame* in JACK M. BALKIN AND BETH S. NOVECK, *THE STATE OF PLAY: LAW AND VIRTUAL WORLDS* (NYU Press, forthcoming 2006).

21. MeetUp is the trademark of MeetUp.com, a company that helps people to organize groups uses the Internet. According to the company's Web site, "Meetup.com helps people find the others who share their interest or cause, and form lasting, influential, local community groups that regularly meet face-to-face." See <http://www.meetup.com> (last visited 13 February 2005).

22. A Wiki is a tool for creating Web pages that can be openly edited; that is to say, more than one person can change the content of the page and its organization. A Wiki is what is known as a collaborative editing tool as it allows a group to create content together. For more information, see, The Wiki Media Foundation, at <http://wikimediafoundation.org/wiki/Home> (last modified, 1 February 2005).

23. LiveJournal allows users not only to create online diaries like a weblog but to connect with other users to form groups and communities. It is a new form of more social, group-oriented weblogging. See LiveJournal at <http://www.livejournal.com>.

24. Searchnetworking.com defines peer-to-peer (P2P) as "a type of transient Internet network that allows a group of computer users with the same networking program to connect with each other and directly access files from one another's hard drives. Napster and Gnutella are examples of this kind of peer-to-peer software. Major producers of content, including record companies, have shown their concern about what they consider illegal sharing of copyrighted content by suing some P2P users. See http://searchnetworking.techtarget.com/sDefinition/0,,sid7_gci212769,00.html (last visited, 11 February 2005).

25. Groupware is software designed for use by groups and commonly refers to productivity applications such as electronic mail.

26. Virtual worlds are three-dimensional, immersive online social worlds. In the game context, these are sometimes referred to as Massively Multiplayer Online Role Playing Games. For more, see RICHARD A. BARTLE, *DESIGNING VIRTUAL WORLDS* (2003).

27. Ian Foster, Carl Kesselman and Steven Tuecke, *The Anatomy of the Grid*, INT'L. J. SUPERCOMPUTER APPLICATIONS, available at <http://www.globus.org/research/papers/anatomy.pdf> (describing the next generation of "grid" computing which will provide the technical infrastructure for collective action, group collaboration and virtual firms).
28. Unlike Groupware, Social Software is software for groups designed to foster activities other than mere business coordination.
29. Friendster can be found at <http://www.friendster.com>.
30. Wallop is the new social networking system developed by Microsoft Research; see <http://www.mywallop.com>.
31. ROBERT PUTNAM, BOWLING ALONE ch. 6 (2000) (Putnam distinguishes between the politically and civically engaged doer, which he terms the masher, and the socially engaged schmoozer).
32. MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS (1971).
33. See Dan Hunter and F. Gregory Lastowka, *Amateur-to-Amateur*, 46 WILLIAM AND MARY L. REV. (2004) (arguing that copyright is premised on a model of professional and centralized content creation when, today, content is also created by decentralized amateurs using the powerful new tools available).
34. For a thorough and detailed exposition of these competing visions of electronic democracy, see Neil Weinstock Netanel, *Cyberspace Self-Governance: A Skeptical View from Liberal Democratic Theory*, 88 CAL. L. REV. 395 (2000).
35. BRUCE ACKERMAN & JAMES S. FISHKIN, DELIBERATION DAY (2003).
36. See, e.g. ALVIN AND HEIDI TOFFLER, FUTURE SHOCK (1984), POWERSHIFT: KNOWLEDGE, WEALTH AND POWER AT THE EDGE OF THE 21ST CENTURY (1991).
37. Yochai Benkler, *Coase's Penguin, or Linux and the Nature of the Firm*, 112 YALE L.J. 369 (2002) (discussing the social implications of peer production technology for democracy).
38. JÜRGEN HABERMAS, THE THEORY OF COMMUNICATIVE ACTION, VOL. 1: REASON AND RATIONALITY OF SOCIETY (Thomas McCarthy, trans. 1984) and, Vol 2: LIFEWORLD AND SYSTEM: A CRITIQUE OF FUNCTIONALIST REASON (Thomas McCarthy, trans. 1987.).

39. BRUCE A. ACKERMAN & JAMES FISHKIN, *DELIBERATION DAY* (2004); *DEBATING DELIBERATIVE DEMOCRACY* (James S. Fishkin & Peter Laslett eds., 2003); JAMES, FISHKIN, *DEMOCRACY AND DELIBERATION: NEW DIRECTIONS FOR DEMOCRATIC REFORM* (1991).

40. On 20 July 2002, AmericaSpeaks brought together 5,000 people in New York City for the Listening to the City project in order to get public input and feedback on proposed designs for rebuilding the World Trade Center Site. The feedback generated led to the existing proposals being scrapped and the launch of a new search to find an acceptable design. The *New York Times* reported this day-long get together on the front page thus requiring that officials take note. See <http://www.americaspeaks.org>.

41. RICHARD POSNER, *PRAGMATISM AND DEMOCRACY* 107 (2003) ("With half the population having an IQ below 100 ... with the issues confronting modern government highly complex, with ordinary people having as little interest in complex policy issues as they have aptitude for them, and with the officials whom the people elect buffeted by interest groups and the pressures of competitive elections, it would be unrealistic to expect good ideas and sensible policies to emerge from the intellectual disorder that is democratic politics by a process aptly termed deliberative.") This is probably what Netanel has in mind when he wrote about the "multifarious virtual communities developed through online discussion groups." Neil Weinstock Netanel, *Cyberspace Self-Governance: A Skeptical View from Liberal Democratic Theory*, 88 CAL. L. REV. 395, 404 (2000).

42. WILLIAM SCHEUERMANN, *LIBERAL DEMOCRACY AND THE SOCIAL ACCELERATION OF TIME* (2003). (discussing the challenge posed by speed to a deliberative system of checks and balances).

43. But cf. Oren Perez, *Global Legal Pluralism and Electronic Democracy*, available at http://www.biu.ac.il/law/unger/wk_papers.html (Bar-Ilan University, Working Paper #3-04) (promoting use of Internet for direct public deliberation on global legal institutions). See also, Joshua Cohen & Charles Sabel, *Directly Deliberative Polyarchy*, 3 EUR. L.J. 313-342 (1997).

44. But cf. Oren Perez, *Global Legal Pluralism and Electronic Democracy*, available at http://www.biu.ac.il/law/unger/wk_papers.html (Bar-Ilan University, Working Paper #3-04) ("the legitimizing force of democratic deliberation is postulated to rise from a culturally shared belief in the moral legitimacy of decisions, which were made through a fair and open dialogue. It is the openness of the deliberation process to all those concerned, and its relative fairness, which gives the democratic process its legitimizing power.").

45. See, e.g., TED BECKER & CHRISTA DARYL SLATON, *THE FUTURE OF TELEDEMOCRACY* (2000); See also, JOHN HASKELL, *DIRECT DEMOCRACY OR REPRESENTATIVE GOVERNMENT?: DISPELLING THE POPULIST MYTH* (2001) (classic text on direct democracy). Netanel, too, critiques what he terms the

"cyberpopulist approach." Neil Weinstock Netanel, *Cyberspace Self-Governance: A Skeptical View from Liberal Democratic Theory*, 88 CAL. L. REV. 395 , 404, 415–428 (2000).

46. HENRI LEFEBVRE, *THE PRODUCTION OF SPACE* (Donald Nicholson-Smith, trans.) (1991).

47. See, e.g., DIANA SACO, *CYBERING DEMOCRACY* 33 (2002) (Saco complains of our failure to theorize the role of space, technology and body in our understanding of democracy).

48. MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* 2 (1965); ELINOR OSTROM, *GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION* (1990).

49. By corporation, I am referring to the legal form whatever its purpose. This includes a wide variety of incorporated organizations and non-profits as well as business corporations. JOHN MICKLETHWAIT AND ADRIAN WOOLDRIDGE, *THE COMPANY: A SHORT HISTORY OF A REVOLUTIONARY IDEA* 54 (2003); see also Robert Merges, *From Medieval Guilds to Open Source Software: Informal Norms, Appropriability Institutions, and Innovation*, available at [www.law.berkeley.edu/institutes/bclt/pubs/merges/From Medieval Guilds to Open Source Software.pdf](http://www.law.berkeley.edu/institutes/bclt/pubs/merges/From_Medieval_Guilds_to_Open_Source_Software.pdf) (discussing the nature and function of medieval guilds).

50. EDWARD DAY COLLINS, *COMMITTEES OF CORRESPONDENCE OF THE AMERICAN REVOLUTION* (1902).

51. Institute for Information Law and Policy, *The Cairns Project Web site*, at <http://www.nyls.edu/cairns>. (The eponymous Cairns Project is a software design experiment aimed at building a knowledge collection tool for better understanding the dynamics of group life).

52. Robert Ellickson, *The Evolution of Social Norms: A Perspective from the Legal Academy*, Yale Law School, Program for Studies in Law, Economics and Public Policy, Working Paper, No, 230 (1999) (on norm creation and the ability to influence others within the group).

53. SIGMUND FREUD, *GROUP PSYCHOLOGY AND THE ANALYSIS OF THE EGO* (James Strachey, trans. (1959).

54. Carl Wellman, *Alternatives for a Theory of Group Rights* 25, in *GROUPS AND GROUP RIGHTS*, Christine Sistare, Larry May and Leslie Francis, eds. (2001) ("a group is neither its members nor the organizational form of the group but "a social group *is* its individual members *in* their relationships" as a group).

55. HOWARD RHEINGOLD, *THE VIRTUAL COMMUNITY: HOMESTEADING ON THE ELECTRONIC FRONTIER 1* (1993).

56. Craig's List, a Web site launched by Craig Newmark, is a series of community bulletin boards located in various cities for dating, classified, want ads and barter with millions of users in 57 cities. See Matt Richtel, *Craig's To-Do List: Leave Millions on the Table* (6 September 2004), available at <http://www.vraigslist.org/about/press/leave.millions.html>.

57. VINCENT MOSCO, *THE DIGITAL SUBLIME 100* (2004).

58. MAX WEBER, *ECONOMY AND SOCIETY 1375–1380* (Guenther Roth & Claus Wittich, eds. Univ. of Calif. Press 1978) (1914).

59. See, e.g. CAROLE PATEMAN, *PARTICIPATION AND DEMOCRATIC THEORY* (1970).

New technology enables new forms of public exchange of reasoned ideas that do not resemble town meetings of old.

60. My original interest in the life of groups stems from a staunch belief in participatory, strong and highly deliberative groupings. But in looking at the impact of Internet technology on collaboration and the right to citizen participation, it became clear there are many ways and processes by which groups can productively work. New technology, especially, enables new forms of public exchange of reasoned ideas that do not resemble town meetings of old.

61. David R. Johnson, Susan P. Crawford, and John G. Palfrey, *The Accountable Net: Peer Production of Internet Governance* (April 2004), available at <http://ssrn.com/abstract=529022> (describing emergent decision-making).

62. Peter Steiner cartoon, original publication on 5 July 1993, available at <http://www.cartoonbank.com>.

63. AMY GUTMANN & DENNIS THOMPSON, *DEMOCRACY AND DISAGREEMENT* (1996) (addresses theories of deliberative democracy).

64. BRUCE ACKERMAN AND JAMES S. FISHKIN, *DELIBERATION DAY* (2004) (describing experiment to create National Deliberation Day).

65. James S. Fishkin, *Center for Deliberative Polling*, at <http://www.la.utexas.edu/research/delpol/> (Last updated 10 February 2003).

66. CASS R. SUNSTEIN, REPUBLIC.COM (2001) (arguing for more diverse and pluralist information).
67. JOHN RAWLS, A THEORY OF JUSTICE (1971) (personal endowments of physical, economic and other attributes should not play a role in making rules for society which should be done by rational actors, assuming equal position, from behind a veil of ignorance).
68. For example, the Maptastic Project created by students at the New York University Interactive Telecom Program is just such a collaborative mapping interface. Maptastic is available at <http://stage.itp.nyu.edu/~swh232/ssw/map11.html> (last visited 18 December 2004).
69. Prof. David Johnson's Collaboragraph Project is group software for the creation of collaborative diagrams. See <http://dotank.nyls.edu>.
70. During the election campaign of 2004, Vermont Governor Howard Dean galvanized people to get active by joining together to clean up garbage and do community service.
71. JAMES SUROWIECKI, THE WISDOM OF CROWDS: WHY THE MANY ARE SMARTER THAN THE FEW AND HOW COLLECTIVE WISDOM SHAPES BUSINESS, ECONOMIES, SOCIETIES AND NATIONS (2004) (Surowiecki debunks with many concrete examples the individualist ethos of economic life and explains how and why groups make better business decisions); Yochai Benkler, *Coase's Penguin, or Linux and the Nature of the Firm*, 112 YALE L.J. 369, 396 (2002) (describing the production of economic and cultural value by groups). See also VIRTUAL AND COLLABORATIVE TEAMS: PROCESS, TECHNOLOGIES AND PRACTICE, Susan Godar, ed. (2004).
72. See, e.g., Gregory Huang, *I Robot*, INNOVATION NEWS, December 2004, available at <http://www.technologyreview.com/articles/04/12/innovation51204.asp?trk=nl> ("Groups of robots have been fixtures in academic robotics labs for years).
73. Kevin Kelley, *Recent Innovations in Method*, in THE TECHNIUM, 9 December 2004, ("Massive multi-authorship — The greatest innovation in the last fifty years was the organization of research into big projects with tens or hundreds of people to do a single experiment. The change from small to big teams was most spectacular in experimental particle physics, but has also happened to a lesser extent in other fields such as biology (Freeman Dyson) I had a personal experience in jointly writing a paper through the Internet. I completed a paper (in the Netherlands), with a Frenchman and his postdoc, a Chinese fellow, working at UCLA in California, never having met these guys nor spoken them. Purely by means of e-mail exchanges over a period of almost half a year the paper was accomplished. This was an exhilarating experience, also given the time differences (they worked while I slept, and vice versa). (Gerrit Breoekstra) Massively multi-authored, multinational papers is a major innovation. (Bruce Sterling).")

74. STEVEN STROGATZ, SYNC (2003); LASZLO BARABASSI, LINKED (2002).

75. Howard Rheingold, Andrea Saveri of the Institute for the Future, and William Cockayne, Stanford Humanities Lab, will offer the course, which will focus on the unmapped role of cooperation in evolution. For more information, see, <http://shl.stanford.edu/hum202.html>.

76. SERGE MOSCOVICI, SOCIAL REPRESENTATIONS: EXPLORATIONS IN SOCIAL PSYCHOLOGY (2001); C. FRED ALFORD, GROUP PSYCHOLOGY AND POLITICAL THEORY (1994); Max H. Bazerman, Jared R. Curhan, Don A. Moore, Working Paper, *The Death and Rebirth of the Social Psychology of Negotiation*, Division of Research/Harv. Bus. Sch. (1999); AROLDO RODRIGUES & ROBERT V. LEVINE, REFLECTIONS ON 100 YEARS OF SOCIAL PSYCHOLOGY (1999), DOROTHY MIELL & MARGARET WETHERELL, DOING SOCIAL PSYCHOLOGY (1998), DANIEL T. GILBERT, SUSAN T. FISKE, & GARDNER LINDZEY, THE HANDBOOK OF SOCIAL PSYCHOLOGY (1998); R.D. HINSHELWOOD, WHAT HAPPENS IN GROUPS (1987); WALTER LIFTON, GROUPS: FACILITATING INDIVIDUAL GROWTH AND SOCIETAL CHANGE (1972)

77. ROBERT WUTHNOW, SHARING THE JOURNEY: SUPPORT GROUPS AND AMERICA'S NEW QUEST FOR COMMUNITY (1994); HARRISON C. WHITE, IDENTITY AND CONTROL: A STRUCTURAL THEORY OF SOCIAL ACTION (1992); THEODORE M. MILLS, THE SOCIOLOGY OF SMALL GROUPS (1984); WILFRED BION, EXPERIENCES IN GROUPS (1961); GEORG SIMMEL, CONFLICT AND THE WEB OF GROUP AFFILIATIONS (K.H. Wolff and R. Bendix, trans. 1955); GROUPS IN CONTEXT, Jonathan Gillette and Marion McCollum, eds. (1955); CHARLES HORTON COOLEY, HUMAN NATURE AND SOCIAL ORDER (1902) and SOCIAL PROCESS (1918).

78. For a review of the sources on participation, see Beth Noveck, *The Electronic Revolution in Rulemaking*, 53 EMORY L.J. 1 (2004).

79. See, e.g., MAXIMUS LESSER, THE HISTORICAL DEVELOPMENT OF THE JURY SYSTEM 14 (1894); ALFRED S. OSBORN, THE MIND OF THE JUROR (1937).

80. Powers v. Ohio, 449 U.S. 400, 402 (1990) (The role of the jury is central. It is not only a fundamental right to be tried by a jury of one's peers but also a fundamental right to serve on a jury and to partake in the "exercise of responsible citizenship by all members of the community, including those who otherwise might not have the opportunity to contribute to our civic life.").

81. Jerry Kang, *Cyber-Race*, 113 HARV. L. REV. 1130 (2000).

82. Joel Reidenberg, *Lex Informatica: The Formulation of Information Policy Rules through Technology*, 76 TEXAS L. REV. 553, 553-584 (1998) (in the information age

design choices impose rules on participants); Ethan Katsh, *Software Worlds and the First Amendment: Virtual Doorkeepers in Cyberspace*, 1996 U. CHI. LEGAL F. 335 (discussing relationship between software and speech). See also LAWRENCE LESSIG, *CODE AS LAW* (1998) (arguing that different forces regulate in cyberspace, including the technology itself).

82. See generally, HUMAN VALUES AND THE DESIGN OF COMPUTER TECHNOLOGY (Baty Friedman, ed.); Helena Nissenbaum, *How Computer Systems Embody Values*, IEEE Computer, March 2001, available at <http://www.nyu.edu/projects/nissenbaum> (last visited 19 August 2004).

83. No longer do social theorists only write articles. They produce software embedded with their values and vision for the good life. See, Michael Froomkin, *Habermas@discourse.net: Toward a Critical Theory of Cyberspace*, 116 HARV. L. REV. 749 (2003) (describing some of these technologies, including Unchat, created by the author), Beth Simone Noveck, *Designing Deliberative Democracy in Cyberspace: The Role of the Cyber-Lawyer*, 9 B.U. J. OF SCI. AND TECH. L. 1-71 (2003); see also, Values in Design Web site, at <http://www.valuesindesign.org>.

84. I refer to this new generation as the "new philosophe." A portrait of these technology designers who are attempting to change the world and do social criticism through technology design can be found in the author's essay, *The New Philosophe*, available at <http://cairns.typepad.com>.

85. Some of these social software proponents participate in a weblog known as the One2Many weblog, available at <http://www.one2may.org>.

86. Clay Shirky, *Situated Software*, at http://www.shirky.com/writings/situated_software.html; *Social Software and the Politics of Groups*, at http://www.shirky.com/writings/group_politics.html.

87. Yochai Benkler, *Coase's Penguin, or Linux and the Nature of the Firm*, 112 YALE L.J. 369, 396 (2002) (exploring peer-to-peer networks as a means of distribution).

88. Yochai Benkler, *Coase's Penguin, or Linux and the Nature of the Firm*, 112 YALE L.J. 369, 372 (2002) (describing the dynamics of open source software development); Gary Rivlin, *Leader of the Free World: How Linus Torvalds Became Benevolent Dictator of Planet Linux, the Biggest Collaborative Project in History*, WIRED (November 2003), available at http://www.wired.com/wired/archive/11.11.linus_pr.html.

89. There has been work done for several in the business and computer science field about the design of so-called "Groupware" or Computer-Supported Cooperative Work (CSCW). This is not about the impact of technology on groups but, rather, about how to perform collaborative workflow tasks using a computer. See *e.g.*, GROUPWARE IN THE TWENTY-FIRST CENTURY: COMPUTER SUPPORTED COLLABORATIVE WORKING TOWARD THE MILLENNIUM, Peter Lloyd, ed. (1994); COMPUTER

SUPPORTED COOPERATIVE WORK. READINGS IN GROUPWARE AND COMPUTER-SUPPORTED COOPERATIVE WORK: ASSISTING HUMAN-HUMAN COLLABORATION (Robert Baecker, ed., 1992).

90. SHERRY TURKLE, *LIFE ON THE SCREEN: IDENTITY IN THE AGE OF THE INTERNET* (1995).

91. ARNOLD PACEY, *MEANING IN TECHNOLOGY 7* (1999).

92. Clay Shirky, *Group as User: Flaming and the Design of Social Software*, 29 November 2004, available at http://shirky.com/writings/group_user.html (last visited 2 February 2005).

93. John Henry Clippinger, *Social Physics* (2003), at <http://www.jclippinger.com/social.html> (last accessed 16 August 2004) (Group physics is to be distinguished from "social physics," a term used by John Henry Clippinger to describe the "generative rules" that give rise to social interactions. In Clippinger's view, social behaviors are algorithmically derived and, therefore, can be fostered through appropriate forms of code and law. The social physics project aims to develop the rules for automated collaboration across a network.).

94. Axelrod posits that "some social structure was found to be necessary" for the evolution of cooperation. That structure, for him, is created by labels, reputation, regulation and territoriality, ROBERT AXELROD, *THE EVOLUTION OF COOPERATION* 145-146 (1984).

95. The Social Physics project, directed by John Clippinger, can be found at <http://www.socialphysics.org>.

96. Cf. Clay Shirky, *Nomic World, By the Players, For the Players*, (27 May 2004) (proposing the creation of Nomic Worlds or environments owned and managed by and for the citizens), available at <http://www.shirky.com/writings/nomic.html>.

97. Unchat, software for real-time deliberation within a group, establishes structured, rule-based environments to coordinate dialogue within a group in real time. The Unchat software is designed by the author and others in an effort to test the impact of rule structures on social interaction. For more about Unchat, see <http://www.unchat.com> (last visited 18 December 2004).

98. Alford terms this the schizoid compromise, the delicate balance between an individual and a group identity that erodes the sense of self. C. FRED ALFORD, *GROUP PSYCHOLOGY AND POLITICAL THEORY* (1994).

99. Axelrod points out that repeat play is what is essential to fostering a spirit of cooperation. Even without a central authority, individuals acting in their own self-interest and not motivated by altruism or higher ideals, are still more likely to cooperate if they

know they are likely to meet again. ROBERT AXELROD, *THE EVOLUTION OF COOPERATION* 1–24 (1984).

100. JOHN DEWEY, *THE PUBLIC AND ITS PROBLEMS* 140–141 [1927] (Swallow Press, 1954).

101. See Jenai Wu & David Laws, *Trust and Other Anxiety in Negotiations: Dynamics Across Boundaries of Self and Culture*, *NEGOTIATION JOURNAL*, October 2003, at 331, (trust building is a function of process rather than of the traits of the participants).

102. It is outside the scope of this paper to argue that money itself is a form of information. See BENJAMIN REEVE, *THE CARTESIAN DOLL* (unpublished manuscript) (arguing that any force that produces a change in state in a system is information). Reeve argues that "money is pure information, nothing but information, always has been" because it is merely a representation and all informational things exist as representations. Reeve lecture to The Conspiracy group, New York, 9 February 2005 (notes on file with the author).

103. BRUCE BIMBER, *INFORMATION AND AMERICAN DEMOCRACY* (2003) (focusing on the role of information in shaping the possibilities for political action in a democracy).

104. JOHN SEELY BROWN & PAUL DUGUID, *THE SOCIAL LIFE OF INFORMATION* (2000) (arguing that information and individuals are always part of social networks).

105. Yochai Benkler, *Coase's Penguin, or, Linux and The Nature of the Firm*, 112 *Yale L.J.* 369, 438 (2002) ("Information production entails only a provisioning problem. Because information is nonrival, once it is produced no allocation problem exists."); See also, Henry Jenkins, *Quentin Tarantino's Star Wars? Digital Cinema, Media Convergence, and Participatory Culture* in *Rethinking Media Change* (David Thorburn and Henry Jenkins, eds.) (2003). ("Patterns of media consumption have been profoundly altered by a succession of new media technologies which enable average citizens to participate in the archiving, annotation, appropriation, transformation, and recirculation of media content."), at <http://web.mit.edu/21fms/www/faculty/henry3/starwars.html>.

106. Rip, mix, burn refers to Apple Computer's popular 2001 advertising campaign for its iTunes music software. The slogan refers to the ability Apple users have to "rip" or upload music onto their hard drive, to mix or arrange songs according to their preferences and "burn" or create new CDs of their compilations.

107. Oren Perez, *Global Legal Pluralism and Electronic Democracy*, Bar-Ilan University Working Paper #3–04, at http://www.biu.ac.il/law/unger/wk_papers.html; Jennifer Mnookin, *Virtual(ly) Law: The Emergence of Law in an Online Community*, 2 *J. COMPUTER MEDIATED COMM.* 1 (1996), available at <http://www.ascusc.org/jcmc/vol2/issue1/lambda.html> (last accessed 19 August 2004);

MARC SMITH & PETER KOLLOCK, *COMMUNITIES IN CYBERSPACE*, London: Routledge (1999); BEN SCHNEIDERMAN, *LEONARDO'S LAPTOP*, MIT Press (2003).

108. NASA Ames' Experiment, available at <http://clickworkers.arc.nasa.gov/top> (Clickworkers Web site).

109. Yochai Benkler, *Coase's Penguin, or, Linux and The Nature of the Firm*, 112 *YALE L.J.* 369–438 (2002) (discussing the paradoxical behavior of uploaders); See also Peter Kollock, *The Economies of Online Cooperation: Gifts and Public Goods in Cyberspace* in *COMMUNITIES IN CYBERSPACE*, (Kollock & Smith, eds. 1999).

110. Yochai Benkler, *Coase's Penguin, or, Linux and The Nature of the Firm*, 112 *YALE L.J.* 369–438 (2002).

111. See, e.g. Friendster, <http://www.friendster.com> or Orkut, <http://www.orkut.com> or the wildly popular Face Book, <http://www.thefacebook.com>.

112. The WIKIpedia is a collaboratively authored encyclopedia containing 328,452 entries, available at http://en.wikipedia.org/wiki/Main_Page (last visited 19 August 2004).

113. See ALAN FISKE, *STRUCTURES OF SOCIAL LIFE* (2003) (arguing that sharing is fundamental to human nature). Steve Lohr, *A Duet That Straddles the Political Divide*, *N.Y. Times*, 26 July 2004 at C1 (describing the phenomenal success of the Jib-Jab group's political satires).

114. Of course, I do not mean this to include only the technology known as peer-to-peer but, rather, all forms of collaborative and social knowledge production.

115. Another way of phrasing this is that I plan to map the architecture of the group to the technological architecture at the software or "application" layer.

116. Beth Simone Noveck, *Designing Deliberative Democracy in Cyberspace: The Role of the Cyber-Lawyer*, 9 *B.U. J. SCI. AND TECH. L.* 1–71 (2003) (describing Unchat, software developed by the author for real-time group deliberation).

117. ARNOLD PACEY, *MEANING IN TECHNOLOGY* 39–57 (1999) (discussing Alfred Crosby's description of the "shift to the visual" in history).

118. JOHN SEELY BROWN AND PAUL DUGUID, *SOCIAL LIFE OF INFORMATION* (2000).

119. Technorati currently tracks over seven million blogs worldwide, up from about 100,000 two years ago. According to Technorati, "The Pew Internet study estimates that 11% of adult U.S. Internet users regularly read blogs. A new weblog is created every 5.8

seconds, resulting in about 15,000 new blogs a day. Most bloggers update their weblogs regularly: there are about 275,000 posts daily, or about 10,800 blog updates an hour." A *Guide to Following Weblogs During Conventions*, at http://politics.technorati.com/convention_guide.html (Technorati offers blog aggregation and sorting services).

120. "With a computer and a phone line, anyone can become his own publisher/commentator/reporter/anchor, dispatching to everyone everywhere credible looking opinions, facts and 'facts' via the Internet." Beth Simone Noveck, *Transparent Space: Law, Technology and Deliberative Democracy* in CULTURAL VALUES 474 (October 1999) (Catherine Kratz, ed.)(quoting Kurt Anderson of the *New Yorker*).

121. In order to manage the influx of thousands of comments a day, Slashdot, a popular Web site about technology, allows its users to moderate comments by rating them on a numerical scale. For details of the Slashdot moderation system, see Comment and Moderation FAQ, at <http://slashdot.org/faq/com-mod.shtml> (last modified 4 June 2003).

122. For example, AmericaSpeaks, a Washington, D.C. based non-profit committed to organizing deliberative town hall events, had its greatest success with Listening to the City, where the deliberation of 600 people led to the scuttling of the proposed designs for the World Trade Center site. Their work was reactive. The group did not create new proposals. Listening to the City, at <http://www.americaspeaks.org/projects/listeningnyc.html>.

123. According to SourceForge, most open source projects are actually in the early stages of development and it is unclear how many will be completed. About 60 percent (around 36k/60k) of the open source projects are in very early stages — they are in alpha or pre-alpha stages, indicating a few weeks of development time. Only 15 percent are post Beta or stable. See SourceForge at <http://sourceforge.net/index.php> (SourceForge.net is the world's largest Open Source software development Web site, providing free hosting to tens of thousands of projects. The mission of SourceForge.net is to enrich the Open Source community by providing a centralized place for Open Source developers to control and manage Open Source software development.)

124. DARREN WERSCHLER-HENRY AND MARC SURMAN, COMMONSPACE: BEYOND VIRTUAL COMMUNITY 27 (2001).

125. Beth S. Noveck and David R. Johnson, *Society's Software*, 74 FORD. L. REV. 101 (2005).

126. Beth Simone Noveck, *The Electronic Revolution in Rulemaking*, 53 EMORY L.J. 1 (2004) (discussing technological innovations for managing the conversation of citizen participation).

127. Beth Noveck, *The Electronic Revolution in Rulemaking*, 53 EMORY L.J. 1 (2004).

128. JAMES SUROWIECKI, *THE WISDOM OF CROWDS: WHY THE MANY ARE SMARTER THAN THE FEW AND HOW COLLECTIVE WISDOM SHAPES BUSINESS, ECONOMIES, SOCIETIES AND NATIONS* (2004).

129. The Rotisserie Software or H2O project homepage at <http://h2o.law.harvard.edu/index.js>.

130. Beth Simone Noveck, *Designing Deliberative Democracy in Cyberspace: The Role of the Cyber-Lawyer*, 9 B.U. J. OF SCI. AND TECH. L. 1–71 (2003).

131. The Wiki Encyclopedia at http://en.wikipedia.org/wiki/Main_Page.

132. MICHEL FOUCAULT, *DISCIPLINE AND PUNISH* (1979) and *BIRTH OF A CLINIC* (1984) (discussion of the trap of being the corporeal and visible man).

133. Jack Balkin, Digital Cops in the Virtual Environment Conference on Cyber-Crime and Cyberterror, Yale Law School (26–28 March 2004).

134. Noah D. Zatz, *Sidewalks in Cyberspace: Making Space for Public Forums in the Electronic Environment*, 12 HARV. J. LAW & TECH 149 (1998).

135. DIANA SACO, *CYBERING DEMOCRACY* 33 (2002).

136. In designing the Unchat software for group deliberation, we insisted that people appear with full legal names, rather than with handles, and that those names always be visible to all members of the group. At the time (1999), this was a radical proposal that gave our technology design team pause. Now the technology community is regularly building tools — social networking software like Friendster, Dodge Ball and other applications that connect people based on their real names — to overcome the problem of creating group culture across a distance.

137. PETER GÄRDENFORS, *CONCEPTUAL SPACES: THE GEOMETRY OF THOUGHT* (2004) (describing the presentation of spatial information). See also MARTIN DODGE AND ROB KITCHIN, *MAPPING CYBERSPACE* (2000) (Geographers, such as Martin Dodge, have been preoccupied for the last decade with developing methods for mapping the information landscape of cyberspace) available at <http://www.geog.ucl.ac.uk/casa/martin/martin.html> (last visited 11 August 2004). Mappa Mundi, Mappa Mundi magazine, <http://mappa.mundi.net/> (last visited 11 August 2004) (Mappa Mundi contains numerous examples of such informational maps. "Here we are not just mapping information, we are concerned with portraying simulated landscapes and the people who inhabit them.")

138. ALBERT O. HIRSHMAN, *EXIT, VOICE AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES* (1970); see Elizabeth Reid, *Hierarchy and Power: Social Control in Cyberspace* 107–134, in *COMMUNITIES IN CYBERSPACE*, (Kollock & Smith, eds. 1999). See also, e.g., David R. Johnson & David

G. Post, *Law and Borders: The Rise of Law in Cyberspace*, 48 STAN. L. REV. 1367 (1996); David G. Post, *Anarchy, State, and the Internet: An Essay on Law-Making in Cyberspace*, 1995 J. Online L. art 3, at <http://www.wm.edu/law/publications/jol/articles/post.shtml>.

139. ROBERT AXELROD, *THE EVOLUTION OF COOPERATION*, 16 (1984).

140. Ken Jordan, Jan Hauser & Steven Foster, *The Augmented Social Network: Building Identity and Trust into the Next Generation Internet*, 8 FIRSTMONDAY.ORG 8, at http://www.firstmonday.org/issues/issues8_8/jordan.

141. Anna DuVal Smith, *Problems of Conflict Management in Virtual Communities*, 143–167 in COMMUNITIES IN CYBERSPACE, (Marc A. Smith & Peter Kollock, eds., 1999).

142. Dan Hunter, *Cyberspace as Place and the Tragedy of the Digital Anti-Commons*, 91 CAL. L. REV. 439 (2003); See also Mark A. Lemley, *Place in Cyberspace*, 91 CAL. L. REV. 521, (2003); Alfred C. Yen, *Western Frontier Or Feudal Society? Metaphors And Perceptions Of Cyberspace*, 17 BERKELEY TECH. L.J. 1207 (2002).

143. "[T]he metaphor of the "body politics" has been philosophically important since Aristotle, the Leviathan of Thomas Hobbes, the seventeenth century English political theorist of the state, is a good example of the power of this idea. Hobbes argued that the king's living body was a model for the nation-state, the body politic. Now the body politic is not mapped by the king's body; instead, it is a cyborg in form and fact." CHRIS HABLES GRAY, *CYBORG CITIZEN* 19 (2001).

144. *Lokale Legenden: Wiener Kaffeehaus Literatur* (Hans Veigl, ed., 1991); CARL E. SCHORSKE, *FIN-DE-SIECLE VIENNA* (1980).

145. On the relationship between architecture and identity, see generally, DAVID HALPERN, *MENTAL HEALTH AND THE BUILT ENVIRONMENT: MORE THAN BRICKS AND MORTAR* (1995) (on the relationship between the environmental and architecture and mental ill-health); THE PUBLIC FACE OF ARCHITECTURE : CIVIC CULTURE AND PUBLIC SPACES (Nathan Glazer & Mark Lilla, eds. 1987).

146. For an introduction to the technology of videogames and virtual worlds, see Beth S. Noveck, *Democracy: The Videogame* in THE STATE OF PLAY: LAW AND VIRTUAL WORLDS (Jack M. Balkin and Beth S. Noveck, eds. 2005).

147. A game user recently paid US\$26,500 to buy an island in Project Entropia, another virtual world. See *Treasure Island For Sale* at <https://www.project-entropia.com/Content.asp?id=1346>.

148. F. Gregory Lastowka and Dan Hunter, *The Laws of the Virtual Worlds*, 92 CAL. L. REV. 1, 3 (2003) (describing the leisure time activities of virtual worlds).

149. See *Bedazzle's Chinatown* at <http://secondlife.com/chinatown.php> (scale model of Chinatown within the virtual world).

150. James Grimmelman, *Virtual Power Politics*, in *THE STATE OF PLAY: LAW AND VIRTUAL WORLDS*, Jack M. Balkin and Beth S. Noveck, eds. (forthcoming NYU Press 2006), ("Playing a game together means squaring these two features with each other. Players with differing motivations and abilities must agree on a common set of rules that provide a satisfying set of constraints. The rules are the framework within which the game takes place; they are a compromise among the players.")

151. Michael Froomkin & Caroline Bradley, *Virtual Worlds, Real Rules*, 49 N.Y.L.SCH.L.REV. 51 (arguing for use of virtual worlds as legal testbeds to reduce the barriers to legal experimentation). See also, JOSHUA EPSTEIN AND ROBERT AXTELL, *GROWING ARTIFICIAL SOCIETIES: SOCIAL SCIENCE FROM THE BOTTOM UP* (1996) (discussing the creation of artificial worlds for conducting social science experiments).

152. JOSHUA EPSTEIN AND ROBERT AXTELL, *GROWING ARTIFICIAL SOCIETIES: SOCIAL SCIENCE FROM THE BOTTOM UP* (1996) (discussing the creation of artificial worlds for conducting social science experiments).

153. For a discussion of the value of real-time interactivity for democracy, see Beth Simone Noveck, *Designing Deliberative Democracy in Cyberspace: The Role of the Cyber-Lawyer*, 9 B.U. J. OF SCI. AND TECH. L. 1 (2003).

154. During the Moveon.org online conference with Michael Moore following the release of *Fahrenheit 9/11*, the computer screen showed the Director in his baseball hat but it also indicated "hot spots" of activity where people were participating. Not to be outdone by another region, increasing numbers of people volunteered, generating a higher level of engagement. The Michael Moore videoconference took place on 28 June 2004. Thanks to Paul Marino for participating and providing a description of what took place. See Byron York, Michael Moore, *MoveOn, and Fahrenheit 9/11*, National Review Online, available at <http://www.nationalreview.com/york/york200406290902.asp> (29 June 2004) (last accessed 19 August 2004).

155. One videogame company, Bioware, is even seeking real-life models to have themselves turned into avatars. See *Game Firm Holds Cast Auditions*, BBC On-Line (7 February 2004), available at <http://news.bbc.co.uk/1/hi/technology/4237589.stm>.

156. Warren Spector is President of Ion Storm Games, the creator of Deus Ex. See <http://www.ionstorm.com>.

157. Warren Spector, in *RE:PLAY*, 10 (Amy Scholder & Eric Zimmerman, eds., 2003).

158. "But it is important to remember that virtual community originates in, and must return to, the physical. No refigured virtual body, no matter how beautiful, will slow the

death of a cyberpunk with AIDS. Even in the age of the technosocial subject, life is lived through bodies." Rosanne (Sandy) Allucquere Stone, *Will the Real Body Please Stand Up? Boundary Stories about Virtual Cultures*, 81–118, in *CYBERSPACE: THE FIRST STEPS*, (Michael Benedikt, ed. 1991).

159. By virtue of being physically disembodied from the creator, avatars may act in anti-social ways in which the "real" person never would. But the existence of the avatar offers positive and participatory possibilities, too.

160. Raph Koster, *Declaring the Rights of Players*, at <http://www.legendmud.org/raph/gaming/index.html> (last accessed 17 August 2004) (Koster argues in favor of the rights of avatars).

161. JOHN RAWLS, *A THEORY OF JUSTICE* (1971) (Rawls proposes the construct of the "veil of ignorance" behind which social decisionmakers should make rule-choices independent of private considerations of their own personal endowments).

162. JOHN RAWLS, *POLITICAL LIBERALISM* 224 (1993).

163. The game's creator, Bioware, describes the game as: "Neverwinter Nights (NWN) is a computer game set in a huge medieval fantasy world of Dungeons and Dragons. This role-playing game (RPG) puts you at the center of an epic tale of faith, war, and betrayal." <http://nwn.bioware.com/about/description.html> (last visited 11 August 2004).

164. Jerry Kang, *Cyber-Race*, 113 *HARV. L. REV.* 1130 (2000).

165. See Susan Crawford, *Who's in Charge of Who I am?*, in *THE STATE OF PLAY: LAW AND VIRTUAL WORLDS*, Jack M. Balkin and Beth S. Noveck, eds. (forthcoming NYU Press 2006) (discussing the mutability of identity in virtual worlds and in cyberspace, generally).

166. On a given day, e-Bay showed 32 avatars for sale; http://search.ebay.com/avatar_Video-Games_W0QQsofocusZbsQQsbrftogZ1QQfromZR10QQsacategoryZ1249Q26catrefQ3DC6QQsotrZ2QQcoactionZcompareQQcopagenumZ1QqcoentrypageZsearch. Julian Dibbell describes his experiment trading avatars and digital property in his weblog, *Play Money*, available at <http://www.juliandibbell.com/playmoney/index.html> (the experiment concluded on 15 April 2004) (last visited 11 August 2004). For a more thoroughgoing and serious discussion of the economics of virtual worlds, see Edward Castronova, "On Virtual Economies" (July 2002). CESifo Working Paper Series No. 752. <http://ssrn.com/abstract=338500> or Edward Castronova, *The Right to Play*, 49 *N.Y. L. SCH. L. REV.* 185 (describing the EverQuest bazaar).

167. Susan Crawford, *Who's in Charge of Who I Am*, 49 *N.Y. L. SCH. L. REV.* (2004) (joining groups solidifies individual identity).

168. For more on the evolution of online identity, see Beth Simone Noveck, *Trademark Law and the Social Construction of Trust: Creating the Legal Framework for On-Line Identity*, WASH. UNIV. L. Q. (forthcoming 2006).

169. See Zhan Li, *The Potential of America's Army as Civilian Public Sphere* (2004) (unpublished Master's Thesis, Massachusetts Institute of Technology) available at http://www.gamasutra.com/education/theses/20040725/li_01.shtml (login required). (contains inventory of battle units in Americas Army).

170. Creating persistent, trusted identifiers is the focus of Identity Commons, see <http://www.identitycommons.org>.

171. David R. Johnson, Susan P. Crawford, and John G. Palfrey, *The Accountable Net: Peer Production of Internet Governance* (April 2004), available at <http://ssrn.com/abstract=529022> (describing emergent decision-making) (arguing for trusted identifiers to allow for private ordering of regulation in cyberspace).

172. See David Post and Michael B. Eisen, *How Long is the Coastline of the Law: Thoughts on the Fractal Nature of Legal Systems*, 29 J. L. Stud. 545 (2002); Jack M. Balkin, *The Crystalline Structure of Legal Thought*, 29 Rutgers L. Rev. 1 (1986), *The Promise of Legal Semiotics*, 69 Tex. L. Rev. 1831 (1991). Post and Balkin suggest theories about the geometric structure of legal reasoning. While Post views legal rhetoric as resembling a geometric fractal, Balkin likens legal rhetoric to dyads of juxtaposed arguments. It is much simpler today to build logic diagrams to represent legal rhetoric. What they did on paper conceptually could be built into the logic of a machine to generate visual legal arguments. This is, in part, the idea behind David R. Johnson's Clickable Statutes project at New York Law School.

173. Cory Ondrejka distinguishes virtual worlds from older videogames specifically because they allow players to create for themselves. See Cory Ondrejka, *Escaping the Gilded Cage*, 49 N.Y. L. Sch. L. Rev (2004) ("At the end of May 2004, users had created more than one million objects, over 300,000 objects with scripted behaviors, and over 300,000 pieces of clothing. Well over 99% of the objects in Second Life are user created, and user has responded positively to the idea of creating the world that they live in.").

174. For an illustration of treemapping, see the Treemap project page of the University of Maryland Human-Computer Interaction Lab, which describes a history of treemap research and design at <http://www.cs.emd.edu/hcil/treemap>.

175. See DAVID NELSON GIMBEL, DAVID NELSON GIMBEL, *THE EVOLUTION OF VISUAL REPRESENTATION: THE ELITE ART OF EARLY DYNASTIC LAGAS AND ITS ANTECEDENTS IN LATE URUK PERIOD SUMER AND PREDYNASTIC EGYPT* (2002) (Unpublished Ph.D. Dissertation, Oxford University) (on file with the author). See also RICHARD BRILLIANT, *VISUAL NARRATIVES: STORYTELLING IN ETRUSCAN AND ROMAN ART* (1984); *VISUALITY BEFORE AND BEYOND*

THE RENAISSANCE: SEEING AS OTHERS SAW (Robert Nelson & Norman Bryson, eds., 2000).

176. EDWARD TUFTE, ENVISIONING INFORMATION 12 (1990).

177. J.C.R. Licklider & Robert W. Taylor, *The Computer as Communication Device*, Sci. & Tech. 76 (1968).

178. Cass Sunstein, Republic.Com 3–23 (2001) (Chapter entitled “The Daily Me.”)

179. David R. Johnson, *How Online Games May Change the Law and Legally Significant Institutions*, 49 N.Y.L.SCH. L. REV. 51 (2004), available at <http://www.nyls.edu/stateofplay> (last visited 19 August 2004).

180. Daniel Terdiman, *Folksonomy Taps People Power*, Wired News (2 February 2005), available at <http://www.wired.com/news/technology/0,1282,66456,00.html>.

181. For example, the Maptastic Project created by students at the New York University Interactive Telecom Program is just such a collaborative mapping interface. Maptastic is available at <http://stage.itp.nyu.edu/~swh232/ssw/map11.html> (last visited 18 December 2004).

182. JOHN BORLAND & BRAD KING, DUNGEONS & DREAMERS: THE RISE OF COMPUTER GAME CULTURE FROM GEEK TO CHIC (2003) (history of videogames).

183. EDWARD TUFTE, ENVISIONING INFORMATION, 50 (1990).

184. David G. Post, *Governing Cyberspace*, 43 Wayne L. Rev. 155, 170–171 (1996) (advocating “a political order based in the primacy of local norms and individual choice” for the Internet); See also, David R. Johnson & David Post, *The New ‘Civic Virtue’ of the Internet*, in THE EMERGING INTERNET, available at <http://www.cli.org/paper4.htm>.

185. The term “meatspace” for real space (as opposed to virtual) was coined by John Perry Barlow.

186. Just Democracy is a group founded by Harvard Law students to monitor the polls during the 2004 elections. See <http://www.justdemocracy.org>.

187. CASS SUNSTEIN, WHY SOCIETIES NEED DISSENT (2003); *The Law of Group Polarization*, in *Debating Deliberative Democracy*, 81–98 (James Fishkin and Peter Laslett, eds., 2003). See also RICHARD POSNER, LAW, PRAGMATISM AND DEMOCRACY (2003). See also Dan Hunter, *Philippic.com*, 90 Calif. L. Rev. 611, 640 (2002) (“If there is any news more startling than that a Macedonian was triumphing over Athens, then it is surely that a leading democratic theorist should argue that group discussion and deliberation are bad things. Startling thought this may be, it is nonetheless

true. The central fear of REPUBLIC.COM is a fear of groups. More particularly, Sunstein fears of the polarizing effect of groups upon the decision-making and thinking of its members.”)

188. CASS SUNSTEIN, WHY SOCIETIES NEED DISSENT 118 (2003).

189. Dan Hunter, *Philippic.com*, 90 Calif. L. Rev. 611, 641 (2002) (reviewing and critiquing Sunstein’s description of polarization in groups in Republic.com. Hunter describes “the central fear of Republic.com is a fear of groups.”).

190. Dan Hunter, *Philippic.com*, 90 CAL. L. REV. 611, 642 (2002).

191. For innumerable examples of group deliberation practices, see the National Coalition on Dialogue and Deliberation Web site at <http://www.thataway.org>.

192. Robert E. Goodin, *Democratic Deliberation Within* 57–80, in DEBATING DELIBERATIVE DEMOCRACY (Fishkin and Laslett, eds., 2003) (deliberation occurs not only within one group but across multiple communities).

193. BERNARDO A. HUBERMAN, THE LAWS OF THE WEB: PATTERNS IN THE ECOLOGY OF INFORMATION 37 (2001) (describing how six degrees of separation principle applies to the World Wide Web). See also Thomas Smith, *The Web of Law*. To be published.

194. Neil Weinstock Netanel, *Cyberspace Self-Governance: A Skeptical View from Liberal Democratic Theory*, 88 CAL. L. REV. 395 (2000).

195. The Vivarto software system is designed to facilitate proxy voting which they term the Delegated Voting System. See <http://www.vivarto.com> (last visited 2 December 2004).

196. Lon L. Fuller, *A Reply to Professors Cohen and Dworkin*, 10 Villanova L. Rev. 655, 657 (1965).

197. PIERRE LÉVY, COLLECTIVE INTELLIGENCE xxvii (1997).

198. Ian Foster, Carl Kesselman and Steven Tuecke, *The Anatomy of the Grid*, INT’L. J. SUPERCOMPUTER APPLICATIONS, available at www.globus.org/research/papers/anatomy.pdf (describing the next generation of “grid” computing which will provide the technical infrastructure for collective action, group collaboration and virtual firms).

199. Among the groups addressing the issue of creating identity on the Net is Identity Commons at <http://www.identitycommons.net/> (last visited 18 February 2005) (“Identity Commons seeks to foster trusted electronic communications by creating the technological and social framework for an open global trust network. We are a creating a member–

owned international federation that empowers individuals and organizations to own, control and share their online identity and profile information in an environment of mutual trust and peer governance.”)

200. The Social Physics project describes itself as “a new open source project initiated by Parity Communications, Inc. We are working with the Berkman Center for Internet & Society at the Harvard Law School to acquire corporate and foundation sponsorship to undertaking a series of “experiments” to explore models in digital self governance and alternative intellectual property regimes ...” Social physics explores how to create the protocols for social trust and collaboration. See <http://www.socialphysics.org> (last visited 2 February 2005).

201. The Cairns software is available at <http://www.cairnsproject.org>.

202. Clay Shirky, *Nomic World: By the Players, for the Players*, at <http://www.shirky.com/writings/nomic.html>.

203. *Assessment Techs. of WI, LLC v. Wire Data, Inc.*, 350 F.3d 640 (2003) (Posner, J.) (“This case is about the attempt of a copyright owner to use copyright law to block access to data that not only are neither copyrightable nor copyrighted, but were not created or obtained by the copyright owner.” In this case, the company that created a database of public information for a municipality attempted to block access to that information by third parties.)

204. Michael Froomkin & Caroline Bradley, *Virtual Worlds, Real Rules*, 49 N.Y.L.SCH.L.REV. 185 (precisely the value of virtual worlds lies in their ability to be used as legal test beds).

205. There are those who would argue that physical proximity is an absolute precondition to effective protest and activism. See Henry J. Perritt, speech at Next Wave Activism (28 January 2005).

206. ETHAN LEIB, *DELIBERATIVE DEMOCRACY IN AMERICA: A PROPOSAL FOR A POPULAR BRANCH OF GOVERNMENT* (2004) (a proposal for creating a fourth branch of government to reflect the will of the people).

207. In the same way that everyone from MTV to strip clubs are providing incentives to people to vote, they might have giveaways and freebies for those participating in a citizen jury. See, e.g., Joshua Kurlantzick, *Strip Club Cover Charge is Voter Registration Card*, N.Y. Times (5 October 2004).

208. This is exactly what the Bush–Cheney ’04 Campaign for president did. “Team Leaders” who organized get–out–the–vote–for–Bush events in their neighborhoods could earn points good toward merchandise. “In addition to being given a ‘political edge’ over the competition, you earn GOPoints for each Action Item completed. Action Items range from writing a letter to your editor to calling local voters and gauging public opinion. The

GOPoints you earn can, in turn, be redeemed for collateral of your choice, ranging from leather PDA covers to folding chairs.” See <http://www.gopteamleader.com/benefits.asp> (last visited 2 February 2005).

209. By taking advantage of the transportation infrastructure and other public places in cities and towns as well as making participation possible from home, more and more diverse participants can participate.

210. Designs for the deliberative bus stop are under development by the author and Professor Tom Igoe, New York University, Interactive Telecom Program as part of the ongoing work of the Democracy Design Workshop, a “do tank” that promotes civic engagement and participation through technology design at <http://dotank.nyls.edu>.

211. Deliberative Bus Stop and Civic Cyberspace are two “Conspiracy Projects” of the Democracy Design Workshop, at <http://dotank.nyls.edu>.

212. For example, the Audio Home Recording Act of 1992 is considered by most to have been the product of consensual negotiation between industry and public interest groups, The Audio Home Recording Act of 1992, Pub. L. No. 102-563 106 Stat. 4237 (codified as amended at 17 U.S.C. 1001, et seq.); See also Robert C. Denicola, *Freedom to Copy*, 108 Yale L.J. 1661, 1684–86 (1999) (characterizing copyright legislation as contract negotiations between interest groups without congressional oversight).

213. Negotiated rulemaking or “reg neg” is a recent innovation adopted by federal agencies to produce rulemaking. Philip J. Harter, *Negotiating Regulations: A Cure for Malaise*, 71 Geo. L.J. 1 (1982); Cary Coglianese, *Assessing Consensus: The Promise and Performance of Negotiated Rulemaking*, 46 Duke L.J. 1255 (1997).

214. GÜNTHER TEUBNER, LAW AS AN AUTOPOIETIC SYSTEM 68 (Anne Bankowska and Ruth Adler, trans.) (1993); see also JEAN L. COHEN, REGULATING INTIMACY: A NEW LEGAL PARADIGM, chp. 5, *The Debate over the Reflexive Paradigm* 151–171 (2002).

215. David R. Johnson, *How Online Games May Change the Law and Legally Significant Institutions*, in THE STATE OF PLAY: LAW AND VIRTUAL WORLDS, Jack M. Balkin and Beth S. Noveck, eds. (forthcoming NYU Press 2006).

216. Edward Castronova, *The Right to Play*, in THE STATE OF PLAY: LAW AND VIRTUAL WORLDS, Jack M. Balkin and Beth S. Noveck, eds. (forthcoming NYU Press 2005) (Castronova calls these statutes of “interration” (from terra for earth). He imagines creating a special charter to encourage the establishment of virtual worlds that give rights to players. The statutes of interreration are less a form of corporation than a form of zoning law that “runs with the land.”)

217. VINCENT MOSCO, THE DIGITAL SUBLIME: MYTH, POWER AND CYBERSPACE 142 (2004).

218. ROBERT PUTNAM, BOWLING ALONE 47 (2000)

219. WILLIAM SCHEUERMANN, LIBERAL DEMOCRACY AND THE SOCIAL ACCELERATION OF TIME (2003). (discussing the challenge posed by speed to a deliberative system of checks and balances).

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