

Beyond Community Networks

From local to global, from participation to deliberation

Fiorella de Cindio

*University of Milan
Milan, Italy*

Douglas Schuler

*The Evergreen State College and the Public Sphere Project
Seattle, WA, USA*

Both authors of this paper have been engaged in the community networking movement and its evolution for many years in an ongoing effort to help create online systems that meet human needs. Among other things, community networks are intended to help address shared "public affairs" in geographical areas. Although this goal is important and laudable, community networking communities are often unable to have their voice heard in these matters. To help address this question — and the broader problem of inadequate and marginalized citizen engagement society-wide — we have launched several research / action projects related to community networks and online deliberation. To inform that process we focus on three prominent protest communities in Italy. We find that they must move beyond the community network model and perspective in two profound ways. Firstly, the communities must necessarily work with and integrate local and non-local perspectives. Secondly, the need exists for more purposive modes of communication that we believe can be supported through informed development and use of technology. We take this approach as a useful step in an ongoing process, building on our experiences with community networks as conceptualized in the mid 1990's to help develop and define our requirements for useful online capabilities as they link local and non-local communities in a sustained way that manifests civic intelligence.

Keywords: community networks, online deliberation, civic intelligence, e-democracy, Robert's Rules of Order, informed discussions, community informatics, decision-making, group processes.

THE HISTORICAL ROOTS OF COMMUNITY NETWORKS

The advent of the Internet, particularly after the US National Science Foundation relinquished control and expanded access to commercial concerns and the general public, has vastly expanded the reach of communications and has helped create the conditions for the issues that motivated this special issue.

Conceptualized in the 1990s (e.g., Schuler, 1994 & 1996) community networks (including Free-Nets) were probably the first widespread attempt to develop networked information and communication technology (ICT) for a wide range of community affairs. As such, community networks have been one of the inspirational sources of community informatics (e.g. Gurstein, 2000) as well as the more recent urban informatics (Foth, 2008). They give rise to research as well as action perspectives on ICT (and information and communication generally) in geographically delineated communities. Moreover, they provided empirical concreteness to the concept of civic intelligence, the form of collective intelligence that is directed towards civic ends (Schuler, 2001). This was promoted by providing a platform to individuals and groups for developing original ways of exploiting the possibilities offered by ICT for developing their own projects (De Cindio, 2004), thus allowing citizens to play an active role in shaping the network society.

In those early days — especially in the early, Free-Net days — community networks were strongly local networks, as their names clearly demonstrated: Cleveland Free-Net (Schuler, 1996), Seattle Community Network (Schuler, 1996), Blacksburg Electronic Village (Silver, 2004), Milan Community Network (Casapulla, De Cindio, and Gentile, 1995) and so on. This “locality” was explicitly expressed in a note by community networking pioneer Steve Cisler within the GCNP (Global Community Networking Partnership) mailing list (whose name itself suggests a "glocal" perspective): "Community Networking occurs when people and organizations collaborate locally to solve problems and create opportunities, supported by appropriate information and communication systems. A community network is a locally-based, locally-driven communication and information system" (De Cindio and Ripamonti, 2010). Hence, we use "local" to mean a focus on relatively bounded particular geographical location, while "global" means a broader, more diffuse, focus beyond particular locations often extending to locations that were the seat of relatively more power (Sassen, 2001). One exception to this was De Digitale Stad (The Digital City) the first initiative in Europe, set up in spring 1994 on the occasion of Amsterdam's municipal elections. The DDS organizers decided not to use "Amsterdam" in its name, choosing instead an explicit conceptual frame that transcended city walls.

However, at the same time, these initiatives with local orientations were often perceived to be — and in actuality were — part of larger (more "global") networks which were often used to share experiences, software, and answers to technical problems (Schuler, 2010). They also banded together along national lines. In the US, for example, Free-Nets joined together under the umbrella of the National Public Telecomputing Network (NPTN; Grundner, 1993); in Canada, they organized in the Telecommunities Canada organization (Telecommunities Canada, undated). In Europe, after the first European Conference on Community Networking (held in Milan, in July 1997), an effort was made to establish a European Association for Community Networking (De Cindio, 2000).

The interplay between the local and the global was present in the Milan Community Network (RCM in Italian) mission statement (September 1994) below (Figure 1) (De Cindio and Ripamonti, 2010). These two dimensions, local and global, were also clearly present in the RCM logo which showed Milan within the globe (Fig. 1). The Seattle Community Network (Fig. 1) logo also invoked the non-local through a depiction of the messenger of the ancient gods reclining on Mount Rainer while communicating with the outside world via the Seattle Space Needle repurposed as a communications beacon. Two relevant lines from the SCN principles adopted in 1993 under the subtitle "Commitment to the World Community" are listed under the logo.



"In addition to serving the local community, we will become part of the regional, national and international community"

"We will build a system that can serve as a model for other communities."

"RCM in Milan is an online and free digital environment designed to promote and favor communication cooperation and exchange of services among citizens and all public and private bodies (non-profit organizations governmental institutions, and private companies) of the local community, opening at the same time the local community to the online communication with the rest of the world."

Figure 1. Two Community Network Logos

LIMITS TO COMMUNITY NETWORKS

One common shortcoming of community networks, however, was their seeming inability to become recognized players in the decision-making process at the local level. Although community networks have often addressed important issues on the local policy agenda, the discussions have had little impact on the discussion or decision-making on the political agenda. There are many plausible explanations for this including how they (and the Internet generally) were conceptualized or framed, in addition to political, social, economic and technological ones. One important reason is the lack of institutional mediators and political will. In those early days, local governments (especially in Europe) were far from being aware of the importance of listening, interacting, and involving citizens. (One exception was the pioneering and anomalous work on the PEN ("Public Electronic Network") in Santa Monica, California, the earliest online governmental system that encouraged public participation. Unfortunately with PEN, the flood of citizen input was so steady and abusive that ultimately no elected official would take part. Still, valuable lessons were learned about unforeseen challenges of this new approach (Varley, 1991).) The awareness that citizen participation was possible and even desirable, became stronger (see, e.g. Caddy & Vergez, 2001) after a decade in which local governments used the Internet solely for information publishing and the provision of interactive services such as paying parking fines or applying for permits (what is often referred to as "e-government"). However, in most locations the ideal of "citizens as partners" is still more a good intention and an electoral promise, than an actual policy implemented with concrete actions.

The community networks themselves must also bear some responsibility for those failures (Schuler, 2010a). They failed, for example, to adequately sustain the networks that had formed in large part in response to the necessities of the era (where there were fewer opportunities to access the Internet). Their mutual adoption of common technological infrastructures (again, out of necessity) was abandoned in the face of the world wide web. The network developers, the organizations and institutions that worked with the developers, and the users themselves apparently did not see the value of maintaining their relationships. The tidal wave of the web rendered many of the prior relationships

apparently obsolete. Moreover, the way in which discussions in early virtual/online communities were carried on was too often dysfunctional: they were unlikely to be productive in terms of building consensus or encouraging collective action. Discussions rarely ended with something explicit, agreed-upon, and tangible — either a shared position or, when that was not achieved a clear representation of the competing positions. This pattern of carrying on never-ending discussions, as well as perceived and actual anonymity of the participants, negatively affected citizens' participation and helped discourage government engagement with citizens in public discussions. This was due to a combination of social and technological factors. For one thing, the lack of agreed-upon social norms or protocols discouraged productive dialogue. While at the same time there was little progress in the development of technology that could help support the norms or protocols.

Additionally, at least in the United States, a case can be made that the rhetorical construction of the Internet itself played a strong role in the shaping of the social Internet. At that time the rhetoric about the "true nature" of the Internet and of that received wisdom helped establish what people believed was possible (and what was not) and what was desirable (and what was not). Many people (including many community network activists) acted as if the Internet was "magic" insofar, for example, that it "routed around censorship" ("information wanted to be free!"). Also, in the US at least, political libertarianism was the reigning creed of the cyberpunditry; the common view was that government should never get involved; it was an obsolete "smoke stack industry" and its presence, even through its possible support of community network projects was undesirable. Moreover it was generally "known" that corporations would never be able to consolidate their control over the Internet (although this had happened with earlier media including newspapers, radio and television) (See, e.g. McChesney, 1994). And there was a major shift in rhetoric that occurred when the Internet was beginning to become more widely known from "electronic democracy" to "e-commerce." Politicians in the early days took their cues from pundits, generally corporate (even though, for example, Free-Nets had been offering free email years before Microsoft's Hotmail or Google's Gmail, etc.) and they echoed the conventional wisdom as if it were the result of their own conclusions. Now, nearly twenty years later, faced with the financial crises worldwide, they are continuing that approach and are looking towards Facebook and other for-profit applications that have no particular commitment towards democratic principles to serve their purposes. This approach, for better or worse, tends to yoke the fate of government sponsored community collaboration and deliberation systems to wherever the commercial systems take them.

All of these factors contributed to the failure of several community networks: most of them became stagnant or simply disappeared, some evolved into the web site of the local institution with a marginal role for citizens (as is the case with most of the Italian "reti civiche"), while a few of them have survived in spite of ongoing and severe problems of sustainability. Another potential way to avoid marginalization was to broaden the scope adopting a less local, more global (or, at least, non-locality based) perspective. This was the case, for instance of BCNet, the Barcelona Community Network, whose administrators promoted the Global Community Networking Partnership. In this case at least, abandoning (or forgetting) the local origins of these networks, was not a successful expedient, as a few years later, these systems quietly closed their doors.

Over the years we have identified and pursued two distinct yet complementary paths that attempt to extend and empower the ideal and the actuality of community networks: (1) maintaining a local focus while trying to overcome the political and technical problems of community networks, also by developing new online environments (or spaces, as you prefer) and tools which pursue the original RCM work in the context of the Internet of the Twenty-First Century, and (2) collecting "global" knowledge that can empower organizations and individuals to act locally, as evidenced by the Liberating Voices pattern language project (Schuler, 2008) that presents 136 "patterns" of social engagement. The more action-research oriented approach adopted by RCM and the more research / theoretical oriented approach of Liberating Voices attempts to inform local efforts at social amelioration, as well as approaches that transcend the local. The two paths converge and are integratable in many intriguing ways. The pattern language was used, for example, to orient a

workshop in Milan, Italy, for social activists, including members of the protest communities mentioned in this paper. Another example, the Online Community Services Engine (De Cindio and Sonnante, 2008), pattern within the Liberating Voices pattern language, which was informed by experiences with RCM, includes the idea of federating local community networks as one approach towards meeting more "global" needs.

Using examples of local protest communities in Italy that we will discuss in the next section, we show that local issues (especially those of some weight and importance) very often, if not always, have a non-local component. This suggests a new approach that explicitly and intentionally tries to cross borders, such as those separating the local and the non-local. But, beyond this, there is an increasing awareness – among citizens as well as in responsible governments – that in the globalized world, global problems influence and shape the local context. In addition, acknowledging the "global" also helps in identifying and implementing solutions, through learning about successful experiences in other locations and sharing patterns of effective behavior. The lack of distinct demarcation between the local and the "global" (or non-local) suggests that community technologies should be developed to support discussion, deliberation, and sharing of knowledge, both locally and across geographical boundaries.

In order to address these points, we first discuss three prominent protest communities in Italy that do or could -- or should -- work with and integrate local and non-local perspectives. Although a comprehensive look would include an extensive examination of their skills, interests, work patterns, resources, and needs, we will nevertheless only note selected anecdotal observations here. We then present technologies that we have developed building on our experiences with community networks. These technologies, although not "prototypes" as they are used by thousands of citizens, should not be viewed as final solutions, but rather a sort of running experiments that provide feedback, so that "successful models evolve through trial, use, and refinement" (Handler et al, 2008).

CIVIC INTELLIGENCE AND NOT ONLY LOCAL GOVERNANCE

Because of active citizen engagement, governments around the world are facing increasing difficulties in implementing decisions that have impact on the territories they are supposed to administer. Some of these difficulties can be attributed to NIMBY ('not in my back yard') tactics employed by privileged groups that introduce roadblocks into the decision making process or into the implementation of decisions. On the other hand, it has been shown time and time again that although less energy is consumed and less pollution is caused by lower income communities, it is these communities that are often called on to shoulder much of the burden of a consuming and polluting society. For that reason (among others) the legitimacy of their complaints must also be considered. The question in their case isn't "Why in my backyard?" but "Why in my backyard again?" In many cases the source of the problem can be traced to inadequate citizen participation in the construction of the purported solution, which is often the handmaiden of citizen discontent.

Below we discuss four prominent cases of contemporary Italian local protest movements, showing that, in all of them, a significant non local dimension is present. Of course, this doesn't prove that this holds true in all cases. Neither do we suggest that the non-local dimension is fully considered or leveraged in the struggles. And, finally, although the cases are not representational of all possible linkages, we do, however, believe that the boundary between local to global is often indistinct and permeable in an increasingly globalized world.

1. The proposed construction of a high-speed TAV (Treno Alta Velocità) railway track in Val di Susa, Piemonte has been the focus of a powerful citizens protest movement in Italy for over 10 years (Bobbio, 2007). The project is one of several measures undertaken and partly funded by the European Union to improve the railway system, in particular by shifting the transportation of goods from trucks to trains. The main issue is the proposed 50 km tunnel whose excavation would have a

strong environmental impact on the valley, not the least is due to the presence of asbestos in the ground. The project affects three communities:

- the local community: elderly and young people, ordinary citizens along with almost all the mayors of the Val di Susa municipalities, constitute a large majority opposed to the project, and participate in the protest against it;
- Piemonte, the region to which Val di Susa belongs: the deployment of the new railway track could function as a development accelerator for the economy of Piemonte. For this reason, regional governments (on both the left and the right), have always been in favor of the project, and have put pressure on the mayors to support the project and convince their citizens that it is needed. This position in favor of the TAV has been so directly linked to the regional government that most observers agree that it has been the main reason why the Piemonte governor (left-coalition) was not re-elected at the regional elections in 2010; and
- Italy at the national level: the TAV protest movements have impact at the national levels because it sets an example for several grassroots protests movements. It also affects the relationships between Italy and France, and between Italy and the European Union.

Currently (as of February 7, 2012), NOTAV.INFO (<http://www.notav.info/>) seems to be the most up-to-date website of the protest movement. It includes rich recent news and videos by No TAV activists (comments are not allowed) and it is continuously updated. At the bottom of the page one can find links to the other websites discussing TAV (but no links to other protest communities in Italy). Among the other websites, <http://www.notav.eu/>, hosts on its home page a very busy and informative Twitter channel, and includes a forum section from which several different positions emerge (“No TAV”, “Si TAV” and “Forse [Maybe] TAV”) and an archive (<http://www.notav.eu/archive.html>) that allows tracking of the process over the past six years. Also looking at the No Tav Committee site (<http://www.notavtorino.org/>) one immediately realizes that the TAV project has been controversial for many years. This basic fact, however, is totally absent on the official website of the “New Line Torino Lione” (<http://www.torino-lione.it>) which includes materials from the two railways companies, the RFI (Rete Ferroviaria Italiana) and the LTF (Lyon Turin Ferroviare). The home page says that the project is governed by the “Osservatorio” (“Observatory”) which was established in order “to seek exchange/confrontation with the territory affected by the project” and “makes use of the participation of the territory.” It is worth noting that this explanation, formerly online, is no longer present (on January 2012). On the other hand, while the protest goes on and appears almost every day in the Italian newspapers, this official website is frozen: it includes a section called “We answer your questions” with a total of 13 questions and answers (but no email or online forms for posing new ones) and a blog whose most recent post (as of October 30, 2011) is over a year old (dated December 10, 2010).

It is not apparent which Facebook page is most appropriate to the TAV controversy: <http://it-it.facebook.com/pages/NO-TAV/40019706447> has 30,214 subscribers (“I likers”) ; while the Facebook page linked from the above mentioned official website, <http://www.facebook.com/NuovaLineaTorinoLione>, has 455 subscribers, and is seemingly abandoned by the page administrator (its last post dates back to December 10, 2010) although it is still used by people who seek “official” answers to their questions. Finally, there is also a Si TAV page <http://www.facebook.com/PRO.TAV> with 1,014 subscribers.

Interestingly, from a local / global perspective, some links to the other protest committee in Italy do exist (in contrast to case 3 below). On the other hand, from a translocal / international viewpoint, there is nothing in French or English on the protest community websites, although TAV is an EU funded project and connection with French activists could presumably help support the campaign. The European dimension is described well in a video (http://www.gips.unisi.it/dcc/movie/dcc_eng.avi) which describes a Deliberative Polling (Fishkin and Luskin, 2005) session organized in Turin on March 24-25, 2007 (Intune, 2007).

2. The construction of dams via the MOSE (Modulo Sperimentale Elettromeccanico, Experimental Electromechanical Module) project, to protect the City of Venice from flooding is another controversial project. Although the inhabitants of the region are most directly affected by the project, the potential rights and responsibility of people around the world are also affected in many ways. Venice, of course, has special significance worldwide. It is a United Nations World Heritage Centre which people from all over the world visit each year. Thus, they are likely to feel personally concerned about the city's future. The No MOSE committee was very active in years 2006-2008, with connection with other protest committees, especially with the "No Dal Molin" one (see 3 below). In 2009 the federal judge in charge of public expenses accountability remarked (Mezzera, 2009) that the documentation on the No Mose committee website (no longer online) provided him more — and higher quality — information than that provided by the official MOSE consortium site. Now the protest has apparently slowed down as the project continues unabated while the pro-MOSE forces have strongly improved their online presence through a rich web site and YouTube videos in both Italian and English. However, as Standish (2012) notes, this does not imply that the No MOSE campaign is dead. The potential of not only national attention, up to now an apparently unfulfilled opportunity, could awaken on the occasion of the dams' inauguration.



Figure 2. Protesting in Venice against the construction of a new dam. <http://nomose.splinder.com/> accessed January 3, 2010.

3. Dal Molin, the primary US air forces base in Southern Europe, run by the US Army in Vicenza, a city in the Veneto region of Italy, is the focus of the third protest community. The object of contention is the proposed expansion of the base, moving troops from other sites in Europe, predominantly from Germany to Dal Molin. The project was approved in 2006 by the COMIPAR (Comitato Misto Paritetico Regionale) of the Italian government. Despite a relatively good relationship between the US soldiers and Vicenza citizens, and the economic infusion to the region, the project is strongly opposed by the citizenry. Since then (2006), the “No Dal Molin” committee sustains citizen’s mobilization. The campaign has numerous cross-governmental implications which are presented in rich stories on the movement website (<http://www.nodalmolin.it/>), which

also includes a detailed presentation of the US project. Links to the No TAV protests, and to a wide spectrum of citizens initiatives (on issues such as democracy, environment, energy) in Italy and few cases abroad are also present and kept current. It is worth noting the slogan of the website “This land is our land” which evokes Woody Guthrie’s influential and iconic 1940 folksong “This Land is Your Land”, thus making an implicit link to the non-local nature of the problem. The website links to an active Facebook page with 13,933 (at October 30, 2011) subscribers.

4. A more recent case concerns the situation occurring in L’Aquila (the capital of Abruzzo, a region in Center-South of Italy, 75,000 inhabitants) after the earthquake of April 6, 2009. Despite the government promises for a quick reconstruction, one year after the earthquake, the historical center of the city, its social and economic hearth, was still officially a “red zone” under military control. All access was denied. Moreover, everything remained in the same state as immediately after the quake: almost all the buildings were damaged, shaky or destroyed and the streets were still covered by debris. This situation gave rise to a protest movement, extensively described in (Farinosi & Treré, 2010). As these authors describe, the so-called “Popolo delle cariole” (“People of the Wheelbarrows”) movement whose first goal was cleaning the center by removing the debris with wheelbarrows. The movement used blogs and social media extensively, namely Facebook, to organize the protest: “The protest flowed from the Wheelbarrows group on Facebook, to the Sunday “scarriolata” (an Italian neologism for “to go down to the square with a wheelbarrow”) on L’Aquila streets, to the events reported online on the anno1.org Internet site and to the streets again.” After a deep analysis of the online and offline activities, the authors “highlight ... the great importance that the local dimension played in this case study. While most of the studies on social movements have underlined the importance that ICTs play in strengthening the movement’s transnational dimension by allowing distant activists to communicate and share resources, our case study shows that ICTs can also play an important role in extraordinary situations which are ingrained into the very local dimension of a certain community.” However, as (Padovani, 2010) discusses, already three months after the earthquake, when the Italian government decided to move the Group of Eight (G8) summit to L’Aquila in July 2009 “as a show of solidarity with the town”, the two most active protest groups, the “3 e 32 committee” (3:32 was the time the quake occurred), and the Epicentro Solidale (Solidarity Epicenter) movement, took the G8 meeting as a “golden opportunity ... to make their voices heard, not only nationally but also internationally” in order to help speed up the rebuilding process. Once again, we note that even a locally focused protest movement may choose to engage with a broader audience in order to meet its goals more effectively.

We believe that people in these protest communities generally support each other's efforts, although determining how substantial this is in practice is beyond the scope of this paper. Interviews with principals in these communities could provide evidence, as could more in-depth analysis of electronic communication via email, web links, or tweets. We believe that this presumed interconnection would add detail to the trans-local picture we are painting without substantially altering it.

COMMUNITIES NEED DELIBERATION

In each of the four cases citizens of a local community mobilized and engaged, when faced with a serious threat. Additionally they use the internet for organizational purposes, for sharing documents before and after demonstrations, and for tracking the timeline of the protest. The web sites of these protest committees contain documents, data, pictures, suggestions, opinions, and ideas that are rich and diverse; they reflect the civic intelligence that comes from active engagement (Schuler, 2001). These web sites also show that the Internet is increasingly the glue that connects one experience to another. And although it cannot provide the necessary human motivation, zeal, creativity, and dedication, it can provide the foundation for tools and services that help focus and integrate this energy.

These communities of engaged citizens, organized online around shared interests, with strong mutual trust, share many characteristics and challenges with early community networks. Unfortunately, they still suffer from the absence of a framework for informed discussion and deliberation that could help the group identify and develop decisions and plans that were collectively approved and could be therefore seen as legitimate. The lack of deliberative facilities constraints and blocks the evolution and sustainability of these grassroots movements after the hot protest moments. De Cindio and Peraboni (2010) provide extensive empirical evidence for this claim by discussing two cases: the Popolo Viola (literally, “purple people”) movement and the, Cinque Stelle (“five stars”) Movement, born under the umbrella of the blog of Beppe Grillo, an Italian comedian and the most popular Italian blogger.

As the diversity and number of stakeholders grows, the greater the need for deliberation becomes. It is worth noting that the need for online deliberative tools would be perceived as greater if the movements would more thoroughly consider and activate the non-local dimension of their struggle. Among the web sites mentioned above, the most advanced is maintained by the Dal Molino committee. In the left-hand frame, the collection of “press releases” and “recent news” contains links to the No TAV movement, to their demonstrations, and to other national events and demonstrations, thus highlighting the need for coordination among different movements.

We are focusing on deliberation because of the complexity of the problems people have to face, the requirements for inclusion and fairness, the contention for bandwidth (even in face-to-face encounters) and the potentially large number of participants, the need for deliberation will always exist, even if there is an absence of it in practice. We believe that structure of some type is necessary for deliberations, especially complex ones involving lots of people. This can be imposed by technology, protocol, social norms, probably in combination with each other.

Deliberative facilities would be helpful for groups of engaged citizens, as well as for local institutions that are willing to involve their citizenry in local governance processes. Although our work has been informally influenced by the large number of practical experiments involving citizen deliberation that have been conducted over the past few decades, further study of these experiences is warranted. This work includes the National Issues Forum network in the United States (<http://www.nifi.org>), Danish Consensus Conferences (Joss and Durant 1995), 21st Century Town Meetings (<http://www.americaspeaks.org>), and a large number of community charrettes. (The National Coalition for Dialogue and Deliberation (<http://www.thataway.org/>) in the United States maintains a collection of links to many projects and approaches.) Other examples, participatory budgeting (started in Porto Alegre, Brazil) and local Agenda 21 processes (which emerged from the 1992 United Nations Summit on Environment and Development held in Rio de Janeiro) have shown great potential as well as serious limitations: Evans and Theobald (2003) describe the hindrances to participation typical of local Agenda 21 processes. On the basis of the data from (IBGE, 2009), Leonardo Avritzer (2012) showed that a “participatory divide” exists since the percentage of municipalities with participatory budgeting experiences at the municipal level was highest in Brazil’s most developed regions. Among the other limitations, the time and space constraints in exclusively face-to-face settings, reduces the number of participants as the participatory process proceeds. This is precisely the difficulty we observed in a field analysis performed in ten municipalities in Italy's Lombardy region (De Cindio and Peraboni, 2010) and in a Deliberative Polling (Fishkin & Luskin, 2005) session organized in Turin on March 24-25, 2007 (Intune, 2007).

In short, we believe that developing deliberative technologies that promote the creation of informed, complete, coherent decisions that are both inclusive and efficient is necessary, although not sufficient, to more successfully fulfilling the promise and potential of community networks. To this end, we are currently developing and experimenting with software platforms such as e-Liberate (Schuler, 2009) and Deliberative Community Networks (De Cindio, Peraboni & Sonnante, 2008) that go in this direction. In the following section, we present the motivations behind these platforms, sketch their features, and show how they can help to address the need for participation. Before doing this, we

would like to mention several core assumptions in relation to deliberation that help underscore our motivations and our findings so far.

CORE ASSUMPTIONS FOR ONLINE DELIBERATION

Social context is a critical factor. Although this may seem obvious, it is important to mention here that neither community networks nor any approach to online deliberation can have any meaningful existence independent of a social context (Schuler, 2010b). This reminder has practical implications for designers of any type of social software, and although we focus on deliberation (rather than on its social context) in this paper, an understanding of social contexts (in general and of specific contexts) will have critical significance on the overall design of online systems. Briefly, the social context can be viewed (1) as a source of "input" (including social conditions and constraints) to a deliberative process and (2) as a receiver of the resulting "output" from the process. The deliberative process refers to the social actors who interact — directly or indirectly — with the system, how they interact, and the issues that they deliberate about while the "output" of the process refers to the form that the product (decision, recommendation, etc.) of the deliberative process takes, who is the intended receiver of the product (the city council or the media, for example), and how the product will be conveyed to them. This last point should serve as a reminder that engagement will be invaluable in any evolution from dis-empowered community network to empowered community network. In other words, even if people are involved in very productive deliberation the decision-makers of the world are unlikely to do anything about it, if people do not engage with them diligently and purposefully. It should also be pointed out that a focus on online deliberation will necessarily preclude people who have no access to the Internet (or at least as direct participants). In this case the social context that surrounds the online deliberation dictates that "digital inclusion" work must be carried on in parallel, if the result is increased participation and a more genuinely democratic society.

No one person or group of people has a monopoly on the truth. None of the social actors in any complex, public issue can claim to hold an objective and comprehensive representation of the problems (let alone the only representation with those features). Experts are often involved to provide "objective" data, but it is often the case that different experts provide different pictures of the pros and cons of a certain action in a given situation. Even if this were not the case, expert opinion alone is not sufficient: People's in-the-field knowledge is important as well as expert knowledge and both must be discussed and considered.

Online deliberation should be pursued — but it needs to be developed incrementally. E-participation appears so complex that people, who are in charge of web sites supporting it, have so far tended to use well-known and consolidated applications in order to limit risks. Moreover, in approaching e-participation projects, computer professionals tend to pay little attention to issues like social context and history, software usability, varying intensities of participation, and people's widely uneven familiarity with computers. As a result, the benefit that information and communication technologies (ICTs) ought to contribute to managing participation frequently goes unnoticed, while the vision that the net ought to help augment representative democracy with elements of direct democracy is sometimes challenged. Moreover, through the work with Italian networks and municipalities, it has been found that "participation appears in peaks of social engagement rather than a continuum" (De Cindio, Di Loreto & Peraboni, 2008).

Deliberation does not take place in a vacuum. The best deliberation system, online or not, will not be sufficient if other elements are not present. Generally speaking people, groups and organizations that are deliberating must be willing to do so, and to do it in a forthright way. If one party is the government, then it is critical that the government is transparent, non-coercive, and operating in good faith, i.e. that they are willing to abide by the deliberated outcomes.

No approach is optimum under all conditions. It now seems fair to say that neither face-to-face, nor online venues are optimum for all potential discussions and all relevant participants. Both approaches offer substantial opportunities and constraints, and access to information and to the discussion itself;

but motivation, and civic skills are still critical. It also must be noted that in an era of increased globalization and issues that transcend local boundaries, it will become increasingly important for people in particular geographical areas to deliberate across these boundaries.

Finally, online deliberation is not a panacea for ailing states, nor a substitute for other communication venues, but it could be part of a productive, holistic approach.

TWO ONLINE DELIBERATIVE ENVIRONMENTS

Deliberation is a complex social phenomenon that encompasses and brings together a broad spectrum of more finely-grained social activities. Although deliberation is not particularly amenable to a purely rationalistic analysis and decomposition, developing a set of processes that are seen as legitimate and are sufficiently well-understood that they are not out of grasp of "ordinary citizens" is necessary for democratic participation. For these reasons, our short-term, if not long-term, approach is to develop a variety of flexible "plug and play" modules that support civic online deliberation at various levels and scale. Examples of such modules include tools for supporting: informed discussions, regulated (formal) meetings, brainstorming, collaborative editing, and certified citizen consultation (which collect the opinions of large numbers of people). However, at present, few examples exist, probably because deliberation applications are difficult to design and implement for several reasons. (Other broader explanations such as lack of profitability and discomfort with genuine "people power", not to mention the learning curve associated with learning new civic "languages", are discussed in Schuler, 2008.) Two of these reasons seem particularly relevant. Firstly, deliberation is a complex social process which surfaces a number of complex issues. Should, for example, online deliberation systems reproduce existing offline processes, or should it strive to improve on them, thus running the risk of breaking rules and procedures that evolved over time and could be viewed as foundation blocks of democratic trust? Consider the example of electronic voting: although traditional voting is not without problems, electronic voting systems introduce their own problems, and some people prefer to retain traditional systems that they believe are easier to control. Secondly, these applications — more than others — require a participatory design approach, which, however, is made difficult by the lack of funding for development and by the fact that people still have limited experience to draw upon within a participatory design process.

These difficulties, which have to be taken seriously, should not, however, slow down efforts toward supporting online deliberation. We believe that it is important to develop tools, strongly rooted in the democratic tradition: i.e., firstly, let's try to reproduce what we know to work fairly well in the offline world, removing through the use of ICTs some of their space and time constraints. These tools cannot be developed "in vitro", but need to be tested in actual deliberative processes of increasing complexity to understand what does work and what does not, which are the useful functionalities, and which new ones are still needed. This is precisely the kind of iteration suggested by Handler et al. (2008). After the creative and the design phases, and testing in a "micro" social context, new tools have to be viewed experimentally in a "macro" context to observe and to collect feedback based on their actual appropriation by users. These outcomes from real uses are input for the new iteration.

In the following paragraphs we present two deliberative software systems that our groups have independently developed, but that can be seen as two components of the "plug and play" online deliberative environment that many people see as the ideal approach to pursue due to their fit with the incremental, learning-oriented approach discussed above. At first glance, they can be seen as versions of tools that exist in many (if not most) common software platforms such as Drupal, Plone, and Joomla. Unfortunately, these widely-used tools that support chats and discussion forums, polls and surveys, still suffer from their lack of support for formal and well-known deliberative processes and certified and finalized interactions. The applications described below have been enriched to support deliberation and to overcome the limitations described above.

e-Liberate

Motivated by an interest in the prospect of explicitly developing and employing computing technology for social benefit (Schuler, 1989) particularly among civil society groups who are striving to create more "civic intelligence" (Schuler, 2001). Schuler proposed (1996) within a community networking context that "Robert's Rules of Order" (Robert, 1990) could be used as an initial building block for online deliberation systems. This proposal was bolstered by the fact that this approach is in widespread use in the United States and similar systems are in use around the world. An online network-based application that could provide non-profit, community based organizations with technology that helped facilitate effective deliberative meetings when members can't easily get together in face-to-face meetings could be very useful, especially to organizations with limited resources. Interestingly, it was only recently that idea of deliberative protocols became newsworthy: the Occupy Wall Street Movement through their General Assembly ("Mic Check") protocol has helped make the idea of a protocol for coming to decisions more well-known.

The suitability of Robert's Rules of Order is an important consideration. Although the people who have used Robert's Rules of Order would be counted in the millions that approach will never be a dominant communicative mode in numbers of users or frequency of interchanges. Robert's Rules of Order was always just one deliberative approach in a universe of possibilities. (This family of deliberative approaches is discussed below in relation to OpenDCN.) Our claim is not that Robert's Rules of Order is the only the protocol worth using, nor that it's the best. Our claim in relation to Robert's Rules of Order is that it has been battle-tested like no other and, for that reason, we hypothesize that it would make a good initial platform for learning more about online deliberation. We are planning to develop a system that will enable users to develop new protocols that may be more appropriate for their particular situation. For our purposes here it might be enough to note that meetings that are currently being conducted online or offline using Robert's Rules of Order, are not likely to be conducted using Facebook in the future, which is not designed (or otherwise suited) for structured, democratic discourse.

Robert's Rules of Order was developed over a forty year period by Henry Robert beginning in the late 1800s to describe an orderly process for people meeting together face-to-face to make decisions fairly. One of the most important design objectives was to ensure that every attendee would have opportunities to make his or her ideas heard while ensuring that the minority could not prevent the majority from making decisions. One of the interesting observations about the Robert's Rules process is that it seems to be useful at a variety of scales: small groups of five or so can use them, as well as groups numbering in the hundreds. Robert's Rules of Order (and its variants) are now used by tens of thousands of organizations around the world and, in fact, its use (or other formal approaches) is legally mandated in many cases for governmental and civil society meetings.

Robert's Rules of Order is a type of "protocol-based cooperative work" system (Schuler, 2010b). It is related to Malone's "semi structured messages" work (1987) and the work done by Winograd and Flores (1987), which was built on the "speech act" work of John Austin (1962) (and others such as Conklin (1987) and (Rittel and Webber (1973))). Those examples all employ "typed messages." The message "type" is, in effect, a descriptor of the message content and because it is discrete it is more easily handled by computer applications than natural language. There are several reasons why a strict set of constraints on communication may be imposed. Generally, this is done in cases where there is contention for resources. In the case of deliberation, it is the relatively scarce amount of time available for speaking, when there are explicit objectives and/or formal constraints placed upon the venue, in a courtroom or within a legislative or other deliberative body, for example.

Using a simple criterion of efficiency, the benefits of using one protocol or another should exceed the drawbacks. In voluntary assemblies, this translates into individuals making a conscious or subconscious calculation of whether the effort of learning the "rules" (such as Robert's rules of Order)

and participating in the assembly is justified by the perceived benefits that are derived from participating. Ideally, from the collective point of view, the output should be seen as worthwhile in relation to the efforts put in. We must also remember that the "output" is not only the decision or the motions passed but the state of the collective and individual capacity for problem-solving that improved (or worsened!) as a by-product of the deliberation. This critical aspect of deliberation seems to be receiving some attention (see, e.g. Davies and Chandler, 2012) but there is still much work to be done.

As mentioned above, the objective of e-Liberate was to move beyond chat, premature endings, and unresolved digressions. The initial plan was to support groups who are already working for social change and to try to mimic their existing deliberative processes, as closely as possible. This approach was intended to minimize disruption by integrating the online system as unobtrusively as possible into their work lives. Incidentally this strategy has been met by unexpected resistance from software developers who seemed opposed to the idea of implementing existing systems. Again, as mentioned above, additional or modified functionality to the Robert's Rules implementation could be undertaken, but generally as a response to user needs.

E-Liberate is intended to be easy to use for anybody familiar with Robert's Rules of Order. The system employs a straightforward user interface (Figure 3), which is educational as well as facilitative. The interface shows, for example, only the legal actions that are available to the user at that specific time in the meeting. (For example, a user cannot second a motion when there is no motion on the table to second!) Also, at any time during a session an "about" button can be clicked to explain what each particular action will accomplish, thus providing useful cues that are not available in face-to-face meetings to help participants better understand and internalize the rules. In addition, meeting quorums are checked, voting is conducted, and the minutes are automatically taken and archived. See <http://www.publicsphereproject.org/e-liberate/demo.php> for a transcript of a meeting.

The system currently supports meetings that take place in real-time over an hour or so as well as meetings that are more leisurely. Meetings could, in theory, span a year or so, making it necessary for meeting attendees to log in to e-Liberate once or twice a week to check for recent developments and perhaps vote or make a motion. (Although our preliminary evidence suggests that time lags may be extended beyond reasonable limits with this approach.) E-Liberate currently support the roles of chairs, members, and observers and these meeting participants can be anywhere where internet connections and browsers exist.

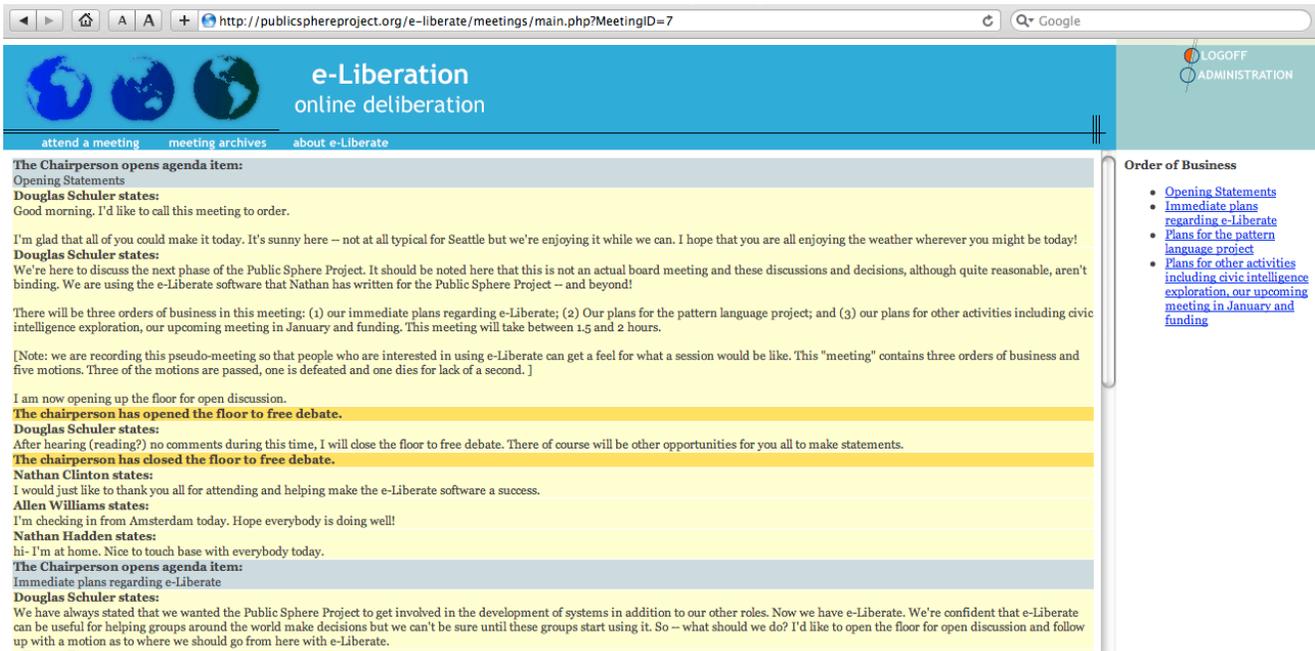


Figure 3. Main e-Liberate Window

E-Liberate, after some modification, is likely to be useful for groups who want to conduct online meetings using Robert's Rules of Order and we will continue to pursue this end by working with actual groups. In addition to improving the usability of e-Liberate with basic adjustments, we will pursue three additional lines of development: (1) working with outside groups to continue development, (2) working on ways to augment the system, while leaving the fundamental model intact, and (3) to serve as a general platform for protocol-based collaborative work generally. In other words, although the system would be extended in various ways meeting attendees would still be able to employ Robert's Rules of Order to arrive at decisions in an equitable, collective manner. The current plan calls for opening up e-Liberate, while maintaining the core Robert's Rules of Order functionality as one of many options, including a looser version of RRoO for less formal meetings, and, possibly, the General Assembly approach adopted by the Occupy Wall Street mobilization for in-person meetings.

Of course deliberation is an ongoing process, not just a sporadic, context-free occurrence with neither history nor consequences. At present, e-Liberate supports online deliberative meetings, discrete sessions that aren't linked in any way to each other or to other discussion approaches or shared information resources. This suggests, among other things, the need to integrate e-Liberate with other collaborative technology like brainstorming or collaborative editing. One of the most exciting prospects involves integration with other online (and offline) collaboration support systems, including community networks. It is hoped that the proposed ability to inspect and modify the rule-base will make projects like this plausible without necessarily changing the functionality of the basic e-Liberate core. It may even be possible to develop a variety of "plug and play" modules that could support exploration in the area of "Deliberation-in-the-large", which includes very large scale deliberations as well as deliberations across organizations or community boundaries (Schuler, 2010b). The ongoing nature of deliberation also suggests that an online deliberative tool that helps maintain institutional memory would be especially useful. Each of these approaches to augmenting the basic Robert's Rules model challenges the core system. In many collective enterprises, it is common to break the larger group into smaller working, distributed subsets like committees or federated organizations cooperating under an umbrella organization and the system should support that. Finally, there are also several capabilities related to integration with other services like e-mail and fax. Invitations and other notices are already sent to participants via email and there are other times when e-mail communication should

be invoked. We also plan to look into document sharing (the organization's by-laws, for example) among participants and support for image presentation during meetings.

The developers of e-Liberate have begun working with groups who are interested in using the system to support actual meetings. The hope is that non-profit groups will use e-Liberate to save time and money on travel and use the resources they save on other activities that promote their core objectives. We developers are enthusiastic about the system but are well aware that the system, as it stands, is likely to have problems that need addressing. It is for that reason that we continue to host meetings with groups and gather feedback from attendees. We plan to study a variety of online meetings in order to adjust the system and to develop heuristics for the use of the system. We plan to make e-Liberate freely available for online meetings in the near future and ultimately to release the software under a free software license. A more detailed discussion of the foundations, functionalities and issues coming out from the first experiences of use of e-Liberate are in Schuler (2010b).

Deliberative Community Networks

In 2003, Italy's Ministry for Innovation and Technology issued a "Call for selecting projects to promote digital citizenship (e-democracy)." Ten municipalities in the Lombardy Region (Mantua – the coordinator, Brescia, Como, Desenzano sul Garda, Lecco, Pavia, San Donato Milanese, Sesto San Giovanni, Vigevano, and Vimercate), some with previous experience managing community networks, presented a project named "e21 for the development of digital citizenship in Agenda 21" under the scientific coordination of AIReC (Associazione Informatica e Reti Civiche), the association set up in 1996 to promote community networking in the Lombardy Region. [For a brief description of A.I.Re.C. and its activities, see De Cindio, 2000].

All ten municipalities were signatories to the Aalborg Charter indicating their commitment to pursuing the Kyoto Protocol by involving citizens in sustainable development projects and activities. Several had applied the local Agenda 21 process that involves the local community, but people's involvement, typically high at the onset, tended to fall off over time. Moreover, the use of ICTs to manage participation had been minor and sporadic (for example, websites with FAQs, some documents, and a public forum). It was hypothesized that the causes of decreasing participation (the problem of finding a mutually available time and place, for example) could be mitigated by the appropriate use of appropriate ICT applications.

The purpose of the project was therefore to support and enhance citizen participation by creating a social environment on a custom-designed online deliberation platform. This environment is called openDCN (open Deliberative Community Networks) as it aims at improving "traditional" community networks by introducing deliberative tools (De Cindio, De Marco and Grew, 2007). OpenDCN has been developed to allow citizens to use tools that conceptually belong to different spaces (De Cindio, Peraboni and Sonnante, 2008):

- a community space fosters public dialogue on civic issues, as the basis for establishing a climate of mutual trust among participants, for sharing civic intelligence, and for promoting civic engagement. This social disposition cannot be taken for granted, but needs to be cultivated during the participatory experience as the result of dialogue and cooperation among participants, and can be facilitated by specific socio-technical design choices;
- a deliberative space aims to support purposeful interactions in order to foster the creation of shared vision, strategy, and tactics among the group members;
- a personal space helps participants to build their visibility, reputation, and ties to others, essential in motivating people to participate; and

- an information space enables the gathering, distributing, and sharing of relevant content provided by citizens to support activities in all the other spaces.

As spaces in the physical world are populated by tools supporting the activities that take place within them (kitchens, for example, contain stoves and refrigerators; living rooms have televisions; meeting rooms have projectors, and so on), the online spaces must contain appropriate tools as well. In this regard, OpenDCN now provides the following tools:

- the Informed Discussion is an enriched forum with facilities for increasing the interactivity and the rationality of the discussion: the displaying of the messages in a thread of discussion help participants to visualize at a glance in a single web page the nesting of posts and comments, and, if it is the case, to put their own post in the right position; informative resources (documents, links, videos, etc) that support the discussion, are collected all together in the right-hand frame of the page, constituting a knowledge base of the issue under discussion. A wiki is included for producing summary documents, individually or collaboratively. Each informed discussion can be provided with a topographic map (using Google maps) to localize the discussion threads, which can also be categorized with custom-designed markers. Posts, comments and informative resources can be rated by the usual web 2.0 features (with “stars” and “thumbs-like” icons).
- Problems & Proposals allows citizens to report about problems and to gather constructive proposals (that address at least one problem). The tool allows citizens to discuss problems and proposals in different ways:
 1. citizens can agree (thumb up) or disagree (thumb down) on a certain problem; in this way the most heated issues should emerge;
 2. three actions are available on proposals:
 - (a) citizens can agree (thumb up) or disagree (thumb down) on a certain proposal;
 - (b) citizens can indicate their support for a certain proposal publicly (non-anonymously): in this case, her/his name and face will be displayed in the proposal subscribers list;
 - (c) citizens can argue for or against the proposal with text.

As in the case of the Informed Discussion, problems and proposals can be illustrated by informative resources, can also be categorized with custom-designed markers and localized in a topographic map.

- The Certified Citizen Consultation polls participants who choose among alternatives thanks to a variety of polling modalities (plurality voting, approval voting, cumulative voting, Borda counting). It is suitable when the opinion of a large number of people must be heard. From a technical standpoint, this tool is essentially an online voting tool (hence, we refer hereafter to “votes,” “voters,” etc.). However, in the openDCN platform it can be used to poll community members opinion, or, within a deliberative process, to poll a set of participants (not necessarily all citizens but those participating in the process) for their preference among alternatives that have come out in earlier deliberation steps. Unlike most polling tools now available on the web, the openDCN Certified Citizen Consultation implements the protocols developed for online voting developed within a EU-funded project (Bruschi, Poletti, and Rosti 2002) that afford the following features:, rooted in the democratic tradition:
 - democracy: only eligible voters can participate;
 - uniqueness: no one can cast more than one vote;

- secrecy: also known as privacy or anonymity where votes must remain secret and anonymous:
 - accuracy: a voter's vote cannot be altered, duplicated or removed, without detection.
- The Brainstorming tool mimics face-to-face brainstorming. The organizer(s) of the brainstorming identify a problem (scenario) and ask participants to suggest ideas to solve it. After the session for gathering ideas, participants evaluate ideas by assigning them a score (in a range which can be modified: from 0 to 4, from 1 to 3, etc.). An algorithm, inspired by the one proposed in Speroni di Fenizio and Paterson (2010), based on the calculus of the so-called Pareto frontier, calculates and displays the most popular ideas. If only one idea comes out, this means that consensus has been reached on it, and the process stops. Otherwise it continues in a further run in which only “not dominated” (REF, 2009) ideas are included and new ones can be added by participants.
 - The Online Formal Meetings tool structures synchronous online debate with the goal of actually making decisions. This tool is similar to e-Liberate, which inspired it.
 - The Agenda tool allows outlining and the managing of a deliberative process, consisting of a series of steps, each one managed by specific tools (as opposed to e-Liberate where the agenda consists of orders of business for the assembly to take up). The organizers of a deliberative process configure it by setting several parameters: 1) timing, with each stage of the process assigned start and end dates; 2) dependencies, which may tie the start of one stage to the end of another; 3) actors, i.e., those who take part in the various stages of the process; 4) initial issue framing, which gathers the material needed to start activity. These attributes are recorded in the process-building module to structure the deliberative workflow. What sets the different tools apart is the modality used to arrive at a shared policy or position.

The Informed Discussion tool can be used both as a community tool and as a deliberative tool, including a wiki for optionally summarizing the discussion outcome. The others are typical deliberative tools. Experience from actual use revealed the need of an Events tool to help maintain and cultivate a sense of community. With that tool citizens can provide news to other people in the neighborhood and elsewhere. Also events can be presented on topographic maps that can be categorized with custom-designed markers. We omit, for the sake of space, the description of the social networking features typical of the personal space and of the tagging features, which are used to navigate the information space.

The openDCN software platform has been used in a variety of field cases:

- First of all, in the ten municipalities which are partners of the e21 project consortium within which openDCN was designed. The outcomes of this large scale field test are widely discussed in De Cindio and Peraboni (2009);
- Sicurezza Stradale – Road Safety, is a web site (<http://www.sicurezzastradale.partecipami.it>) which allows citizens to use a map to report problems for local government to fix. De Cindio (2012) discusses and compares the OpenDCN approach to similar initiatives such as the well-known FixMyStreet (<http://www.fixmystreet.org>) to illustrate how some features of the software, together with the design guidelines presented in the paper, induce behaviors inclined to deliberation;
- ComunaliMilano2011 was set up to foster dialogue between candidates and electors on the occasion of Milan's 2006 municipal elections; this initiative, presented in (De Cindio, Krzatala-Jaworska, Sonnante, 2012), now continues as <http://www.participaMi.it>

increasingly taking on the role of a significant online public square, where citizens and members of the city government meet and discuss civic issues. The initiative in the occasion of municipal elections has been replicated in 2012 in the city of Genova ([http://www.ComunaliGenova2012, it](http://www.ComunaliGenova2012.it)) using the same software.

These experiences have shown the importance of the design of social structure of the online environments where these deliberative technologies are used. Guidelines for the design of these "deliberative digital habitats" can be found in De Cindio (2012). It is worth noting that all these cases are rooted in a well-defined territory, namely a city. What is still missing is the testing of the platform in a non-local context.

CHALLENGES

The emergence of the web, which happened approximately at the same time that the Internet became publicly available, changed everything. The web became so popular, in fact, that most of the other services that people used on the Internet became virtually unknown overnight. The web, at its onset, was essentially a broadcast, "read-only" (i.e. a non-interactive) medium where information was published, thus supporting information provision, publicity, and non-interactive forms of education. The evolution of the Internet (now often called "the web") could roughly be characterized by the prominence of certain broad types of services: pre-web Internet (e-mail, newsgroups, ftp, IRC (chat), early community networks); the first web (read-only); form-based input from users; conversational services and "web 2.0" services which were introduced at approximately the same time. We will argue that the next stage ought to be characterized by the use of community and civic oriented collaborative and deliberative spaces that encourage the strong participation of citizens in the affairs that affect their lives, thus helping to affirm the spirit of the early community networks. (In contrast, it should be remembered that "web 2.0", according to the developer of the concept "is the business revolution in the computer industry caused by the move to the internet as platform", which he also calls "harnessing collective intelligence" (O'Reilly, 2006).)

We have arrived at a critical historical moment, where some of the decisions we make now and in the near future can have important implications. We find that local people, and people in "communities of interests", are already working together using new technology. Local people are also doing some deliberation. They are moving towards more productive systems that provide support for education, better decision-making, and more efficient civic processes. At the same time, we have observed that the important issues that people must face today are likely to cross the local boundaries. Moreover, when negotiating across the local borders and non-local decisions are developed, they are likely to be non-transparent and exclusive. Thus, they further complicate the task to develop systems that support these processes. We also note that decisions and other deliberative outcomes are not generally final and singular, but often intermediate, where one decision modifies the context for the next one. A future deliberative system could actually mean that a proposition that has been created and approved online by a citizen's group of sufficient size could be added to a ballot. For example, in Washington State (U.S), citizen propositions can be added to the ballots via a citizen initiative process. Many "products" of various deliberate phases are still transitional. From the glocal perspective, decisions that arise from one locality might feed to another lateral locality, which works on the same issue or in a consolidated umbrella group.

The challenges faced by people who are developing deliberation technologies are profound. Beyond developing technology that does, what it is supposed to do, developers must confront many problems which are faced by society at large. If these problems, such as access to ICTs, are not being addressed at the same time that the more focused deliberation issues are being addressed, then the work of developing equitable and useful services for citizen deliberation risks increasing irrelevance. For example, even if basic access to the Internet and to other communication technologies were made less unequal, other problems would still exist. Several of these relate to the potential users themselves,

including their skills, knowledge, degree of interest, self-image and their internal model of the world, as well as their view of the effectiveness of the participation venues open to them. Reversing these trends will require education and training, public (and private) funding, and civic experimentation. Also, of course, genuine democracy relies to a large degree on "following the rules." The challenges associated with people and institutions, who do not "play by the rules" and who, in fact, may be in the government or other powerful groups, are profound. History has shown that it is not obvious, who wins in such contests.

Ultimately, civic deliberation is an indispensable element of democracy. It often takes a long and torturous path that begins with somewhat nebulous ideas, mostly held by individuals. Gradually collective bodies transform them to policy or other ideas. Civic democracy also contends with how a multitude of concerns become integrated in shared frames that resonate with other shared frames. In the context we are exploring, community networks might surface the concerns and deliberative systems could assist in configuring and fine-tuning the solutions. Finally, while deliberative systems can help groups devise more effective and creative decisions, one of their most significant implications may be the collaborative learning that they facilitate and the civic intelligence that they improve.

CONCLUSIONS

Globalization, the intensifying of material, social (including economic), and environmental relationships between people, states, regions and cultures, provides the backdrop for many of the challenges that motivate humankind's need for online deliberation. At the same time, different facets of globalization help create the means through which online deliberation can be realized. While the need for more — and more effective — communication and decision-making strategies and venues at local and global levels (and all those in between) seems obvious, it is, seemingly, receiving far less attention than the situation warrants. To this end, we have developed some deliberative components, and we are doing the first tests of use. We plan to continue this work including integrating these components into existing online civic platforms.

There is a strong current of thought out there that suggests that complicated and complex decisions may simply emerge, the accidental result of a billion tweets, polls, and likes. We are dubious about this belief and, for that reason, are suggesting that it might be wise to at least hedge our bets by undertaking a vigorous exploration of deliberation. We assert that the idea of deliberating is not obsolete. We also assert that the idea that people need to reason together, probably with the help of technology, and probably with the help of protocols or structure. We believe that society needs these tools now and will presumably need them even more in the future. We can't assume that Facebook or other platforms will supply us with what we need, when we need them. Facebook is beholden to stockholders, while democracy is beholden to citizens.

At the same time, it seems like the Internet because of its burgeoning population and its malleable, meta-medium [Schuler, 1996] characteristics make the prospects of online deliberation especially compelling. The Internet has given rise to a wide range of new approaches to gathering and sharing information. Many of these new approaches are of the "instant" variety, including online polls and surveys, flash mobs, and clicking to buy, or just to like. And many new approaches to deliberation are being explored (see, e.g. Global Voices or Slashdot web sites). Clearly, the communication ecosystem is undergoing profound shifts, as new digital, networked venues are coming online. Although this is beyond the scope of this article, various communication habits are changing within this multidimensional "space". It would be a fascinating project that would help us get a better feel for the changes that seem obvious, yet there are to a large degree undocumented.

However, the idea of deliberation, generally speaking, but especially, approaches that are in the legalistic spirit of Robert's Rules of Order, is at odds with the current political culture in many countries, as well as with the current cyber-culture. So, although this paper is not focused on broad

societal diagnosis, it's worth mentioning several issues briefly, to help consider the significance of our approach.

- The lack of tools itself may itself be a culprit; How can we deliberate without the tools to do so?
- A perceived lack of return on investment; why would somebody waste their time?
- A perceived or actual lack of agency; Nobody listens to me / us.

It is probably not the case that people lack the knowledge or the dedication or the patience to deliberate. The popularity of online games that are time-consuming and complex demonstrates that people are not necessarily lacking the cognitive ability.

If the new culture of the Internet is making "old fashioned" deliberation obsolete (or is making deliberation "old fashioned"), the question that needs to be asked is not whether we should abandon these old approaches, but to ask whether the issues in society that had given rise to the older approaches have gone or away or have particular features that make old fashioned deliberation unnecessary.

We believe that creating processes that are more transparent and effective can also ultimately be achieved through an emphasis on community / local deliberation. When the voice of the people is denied or denigrated, protests and other less sophisticated methods of civic expression become the sole way for people to make their views known. Unfortunately, cynicism and other forms of civic withdrawal from civic life are generally more common. Although public protests and other demonstrations of civic dissatisfaction, including civic disobedience, are likely to remain part of civic engagement, inclusive and equitable deliberation among and with citizens and citizen groups remains an essential goal for democratic societies. Increased equity and sustainability, as well as fewer civic disturbances are the likely outcomes. The design and implementation of deliberative technologies and their use in actual e-governance projects aim to overcome these limits and empower local communities to play a more effective role in critical decision-making processes.

Although we believe that the Internet at present offers immense opportunities for democratic communication, it is not the intent of this paper to "sell" online deliberation or, for that matter, the Internet itself. Indeed, acknowledging the immense chasm that separates reality from utopian dreams is an extremely important responsibility for democratic communication activists to assume. Ultimately, civil society (including academia) must assume leadership, if genuine deliberation ever is to become a part of democratic governance. The dangers of "dumbing down" have been discussed before (see, e.g. Braverman, 1974; Schuler, 2001) but, like it or not, it is important to remember that clicking on Facebook's "Like" button is a far cry for the type of citizen skills that are needed in the 21st Century.

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