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Innovative Ambiguities: NGOs' Use of Interactive Technology in Eastern Europe*

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This article examines the co-evolution of interactive technology and non-governmental organizations in Eastern Europe. It addresses, on the one side, the emergence of non-governmental organizations (NGOs) as actors who exhibit new organizational topographies and, on the other side, the emergence of the Internet and related interactive technologies that not only provide a new medium of representation in a virtual public sphere but also make possible fundamental changes in the character of organization. We explore how organizations of civil society can be a source of organizational and technological innovation necessary for their societies' ongoing adaptability in a rapidly changing global economy. As such, NGOs can use new technologies within and beyond their existing roles as safety nets (to mitigate the new social problems of emerging market economies) and as safety valves (to give voice to social groups underrepresented in the newly competitive polities) to function as social entrepreneurs exploring new organizational forms as ongoing sources of innovation.

Introduction

Businesses, banks, universities, museums, hospitals, and a wide panoply of non-profit and public-sector agencies face an imperative of organizational innovation under circumstances of radical uncertainty. This uncertainty is brought about by an extreme volatility of markets and rapid technological innovation—exponentially accelerated by the digital tools that make it now possible to access text, audio, visual, and database information in an encompassing

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interactive environment. What social forms are emerging in the newly hypermediated organizations?

This article examines the co-evolution of interactive technology and non-governmental organizations (NGOs) in Eastern Europe. In the decade following the revolutions of 1989, the countries of East Central Europe successfully launched structural reforms that consolidated their transitions *from* socialism; in the coming decade, the region faces an increasing imperative to promote innovation in order to move *toward* a more integrated role in Europe and the global economy. Poland, the Czech Republic, Slovakia, and Hungary have successfully achieved the minimum stable structure of modern society, with private firms operating within institutionalized markets and political parties competing within institutionalized democracies (Stark 1996; Agh 1998; Lavigne 1999). Yet the region still lacks a vibrant civil society, without which this twinned transformation cannot create deep-seated structural improvements. Partially as a result of this underdevelopment, these economies remain hungry for investment, and their business cultures exhibit low levels of innovation. The accomplishments of the transition are thus tempered by uncertainty as increased social and economic tensions follow in the wake of socialism, and neophyte governments navigate the demands of the new global information economy (Iatridis 2000; Zwass 1999).

The post-socialist societies of Eastern Europe provide an extraordinary laboratory for exploring the co-evolution of organizational forms and interactive technology: the emergence of voluntary associations in the region coincides with the digital revolution. Prior to 1989, there were almost no NGOs in the conventional sense in Eastern Europe, and the Internet was in its infancy. Before 1989, the small number of beleaguered voluntary associations communicated by *samizdat* (illegally distributed underground literature). With no access to photocopy machines, they attached special springs to typewriter keys to produce up to seven carbon copies of their documents. In Prague, for example, it was not uncommon for the members of an underground philosophy seminar to circulate texts that were literally in manuscript—some in the handwriting of elementary school children who had painstakingly copied a parent's writing so it could circulate more widely. Today, both NGOs and the Internet are experiencing exponential growth throughout the region. In Hungary, for example, the number of NGOs jumped to about 15,000 in the first year after the revolution and now stands at over 50,000. While, at the same time, by conservative estimates, the number of people online doubles every year, and the number of web sites doubles every six months (Kuti 1996, 2001). In the time span of little more than a decade, the technological framework in which voluntary associations are operating has gone from the limitations of a pre-Gutenburg setting to the opportunities of advanced communication technologies.

We do not presume that these technologies will be either magically liberating or harbingers of Orwellian control. Rather, we ask how the shift from mass communication to interactive media affects the practices of NGOs as an emerging organizational form in the region. We are equally aware that one cannot conflate civil society with the mere presence of NGOs (Hann 1996). Yet, spurred by a combination of real need, normative motivations, and western funds, the

1990s saw an exponential growth of NGOs that share the common denominators of being founded independent of state control, having a formal structure, and being motivated by a normative value rather than profit (see Osborne 1998: 16; Salamon and Anheier 1997). NGOs are now an inescapable factor in the post-socialist landscape, and they are expressing increasing interest in the potential of digital technologies to promote change, address social issues, and streamline their operations (Lewis 1998; Hamelink 1997; White 1997).

There is, however, little empirical work on NGOs' use of new technologies. We know from studies of firms that the introduction of new technologies can substantially affect an organization's internal and external relations (Orlikowski 1995). Will NGOs' structures come to reflect the collaborative and less hierarchical organizational forms observed in firms that have introduced information technology and who operate under conditions of high uncertainty (Kahn 2000; Girard and Stark 2002)? Will the use of interactive technology and related organizational changes allow them to more flexibly address the competing demands placed upon them and better exploit ambiguity? Will the capacities of the Internet to link people and resources, to search formal and informal archives of information, and to allow people to interact either in real-time or at a time of their own choosing enhance NGOs' ability to mobilize (cf. Gurstein 2000; Schuler 1996)? How might this affect their ability to influence social change? NGOs are turning into new forms of hybrids that do not easily map onto conventional images of non-profit, voluntary organizations. What new challenges to accountability will result? Will emerging hybrid forms continue to promote information brokering as a prime function of NGOs, or will they facilitate the emergence of new knowledge networks?

NGOs as Innovators and Social Entrepreneurs

NGOs are potential innovators that can play the role of social entrepreneur. The literature on civil society often interprets NGOs either romantically, as the institutionalized "conscience" of society, or cynically, as vessels for power struggles between class interests.[1] The former image is problematic because it implies that NGOs somehow guide society back to an ideal, true self. This is a fiction, for the consequences of social change are not a return to an earlier state but a move into new, uncertain directions. The latter view is equally problematic since it empties NGOs of agency and reduces them to pawns of external interests.

In both advanced and consolidating democracies, NGOs have developed into major societal actors primarily because they meet real political and material needs: they serve as a source of political legitimacy for the system by providing the function of voice beyond electoral participation. By allowing dissent to find form and content rather than fester unproductively, NGOs can thus be considered a type of "safety valve" essential to the functioning of a democracy. Materially, NGOs provide services that seek to mitigate the effects of social inequalities that arise in the new market economies, acting as a "safety net." Both these roles serve to stabilize and balance the inherent tension between self-interest and the common good within a democratic free-market system.

In these roles as safety nets and safety valves, NGOs are systemically desirable for democracies, but NGOs are not (or should not be) "safe" for the system in the sense of cementing the status quo. On the contrary, NGOs are rooted in a normative commitment to *transform* the system to be more responsive to the diverse and changing needs of citizens. The common perception of NGOs as oppositional to government and industry is often correct, for the bureaucratic machinery of the state and entrenched commercial interests rarely welcome criticism. Yet NGOs increasingly achieve change by partnerships with government and the private sector (Bendell 2000; Hulme and Edwards 1997). NGOs are therefore paradoxical creatures: by promoting change they both legitimize *and* challenge democratic society.

Simultaneously legitimizing and challenging democratic society forms the core tension that NGOs embody in democracies. This tension is exacerbated by diverse pressures exerted on NGOs by constituents, donors, governments, and a broad array of amicable and hostile forces (Edwards and Hulme 1996). These diverse pressures create the different ways in which an NGO legitimizes its self-worth, differing in relation to a donor, a client, or an opponent. The organization must develop diverse strategies of justification that can nonetheless be employed simultaneously. Because NGOs exist in an environment rife with uncertainty, they tend to avoid or contain potentially ambiguous situations (requiring employment of different forms of justification for different audiences). The most successful strategies, however, are able to exploit this ambiguity.[2] NGOs that seek to exploit ambiguity mirror characteristics of social entrepreneurs (Stark 2001).

NGOs as social entrepreneurs? Applying the vocabulary of the market to NGOs has a heretical air, implying a capitulation to the profit motive that goes against both the spirit and the non-profit tax status of NGOs. Yet limiting our understanding of entrepreneurial skill to the private sector may be more a result of conditioning rather than necessity: the notion of entrepreneurship aptly reflects an organization's ability to exploit multiple regimes of worth, and not just the ability to make a profit (Stark 2000; Spinosa et al. 1997). The "original" NGOs in Eastern Europe—the dissident groups of the socialist era—were in a sense quite entrepreneurial. The few dissident NGOs under socialist regimes in Eastern Europe were true social innovators, pushing the limits of the system, devising ingenious methods for circumventing obstacles, and proposing daring ways of thinking. A Polish editor once described a complicated transaction involving the bartering of Italian wine and Russian watches in order to obtain paper for an economics journal, thus showing an ability to exploit ambiguities in an entrepreneurial manner. But being an entrepreneur today is vastly different than maneuvering around the margins of the informal economy under socialism. To understand how NGOs are acting as social entrepreneurs and innovators today we need to examine current strategies that enable them to turn ambiguity into an asset. Studies of firms indicate that organizations can do so by re-combining, re-cognizing, and re-presenting existing material and ideal resources. How might such a recombinatory approach affect NGOs?

One possible answer is that NGOs might seek to become more isomorphic with businesses or government agencies with whom they compete. Such an

attempt at re-combination makes sense given the pressures facing today's NGOs. From the United States to Eastern Europe, they encounter new and similar problems: NGOs are being thrust into service-provision roles by governments who turn to them as expedient, if not always effective, subcontractors for diverse social needs, from health care to housing (Kuti 2001; Osborne 1998). As such, they can be overwhelmed on a day-to-day basis with the uncertainties and resentment generated by economic and social change. The scarcity of donors forces some NGOs to turn to business solutions to survive, and to more intensively cultivate donors in business and government (Austin 2000). Thus, self-interest compels increased cooperation with public and private sectors. This opens new opportunities for sustainability, yet, by working closely with the state or business, NGOs risk serious accountability problems, including co-optation, loss of legitimacy, and failure.[3] Co-optation by state and market forces are the Scylla and Charybdis of NGOs.

Avoiding co-optation would be a difficult enough challenge for NGOs, but an even bigger problem may be distinguishing cooperation from co-optation, in some cases. This is because the state and market, like NGOs, are not static but are undergoing fundamental changes. Globalization is a time of redefinition and uncertainty, and, for NGOs, this fluid situation exacerbates their already ambiguous position between state and market. Being forced to negotiate multiple and contradictory claims may lead to a redefinition of the organization itself. Pronouncements of new organizational forms are perhaps premature, but viewing NGOs as emergent, rather than given, may provide us with the necessary perspective to track the development of this important sector in times of great change.

Interactive Technology as a Resource for Organizational Change

One felicitous perspective for observing change within NGOs lies in their use of interactive technologies such as the Internet, which is widely held to have a significant impact on both democracy and organizations. The advent of many-to-many communication (as opposed to one-to-many) has direct bearing on the social, institutional, and international environments in which NGOs operate (Naughton 2001; Gurstein 2000; Schuler 1996). NGOs are beginning to consider interactive technologies as important in expanding the web of social interaction, increasing its density, and promoting new connections among diverse and dispersed social actors.

New digital, interactive technologies are both heralded and maligned as evidence of a world increasingly structured by technology. This is especially the case since digital technologies figure prominently in the space-time compression at the core of globalization. Many committed proponents of democracy are highly critical of these new technologies, and perceive the Internet as just another means for instrumental rationality to colonize our lives, such that "freedom on the net is the freedom of the market" (Dean 1997). Equally committed colleagues, including representatives of many American foundations, could not disagree more, seeing the Internet as "particularly suitable to building open societies" (OSI 1993), as well as enriching and empowering civil society and

catalyzing democracy. Similar oppositions are drawn regarding the introduction of interactive technology into organizations. Champions of interactive technology tout their potential for reducing constraints, improving communication, and increasing participation within firms. Critics are fearful of the surveillance dimension of new technology, its potential to turn the modern workplace into a panopticon, and the alienating effects of computer-mediated communication.[4]

Such proponents and detractors of interactive technology commit the common fallacy of reading social effects from technological properties. Discussions about controversial issues regarding digital technology—from how to provide equal access to what new laws should govern the virtual world—most always start from normative premises about technological properties. Yet, while assumptions about technology's social effects provide rhetorical ammunition, they tend in most cases to outstrip our knowledge of how technology is actually used (O'Mahony and Barley 1999). The social practices that evolve around the use of a technology tell us more about its effect than assumptions based on technological properties alone (Bijker 1997; Orlikowski 1992; Giddens 1984). Technology only affords certain potential uses (intentional and unintentional), but it is the institutional setting that determines whether these uses are realized (Bockowski 2001). Accordingly, rather than speculating on whether a certain technology will lead to a specific outcome, empirical studies about how people interact with technology can help trace how technology facilitates or constrains social practices, and how certain paradigms transform or replicate themselves.

The use of interactive technology is an inescapable part of Eastern Europe's rapid social change. How is technology conditioning the shape of these changes? What relation exists between NGOs and the new technologies? At first glance we saw an elective affinity between NGOs and interactive technology. Communication and networking are integral to NGOs' basic tasks of getting information to constituents; channeling and interpreting information from varied sources; aggregating information and demands and transmitting them to diverse audiences; and mobilizing individuals and groups. Interactive technology is designed and promoted as a tool for processing information, increasing communication, and facilitating networking. If technology is seen as a tool, then NGOs seem organizationally ideal for adopting interactive technology (Lindenberg and Bryant 2001).

The problem with viewing technology as a tool, however, is that once new technologies are introduced to solve old problems, the problems themselves change. Email may enable an NGO to increase its level of communication, but it may also create such a flood of requests for information that the NGO becomes paralyzed (cf. DiMaggio et al. 2001). Early studies on decision making via email found that email may make it harder to resolve conflicts, and that consensus building may be more difficult electronically (Sproull and Kiesler 1986). The need for computers, bandwidth, and skilled staff affects the budgetary structure of NGOs, and raises new workplace and accountability issues. Web sites are often carelessly designed, yet they are increasingly becoming the representation of an organization to the outside world. Thus, while it is true that NGOs' functions significantly involve information, communication, and

networking, it does not follow that these functions will necessarily be improved by the properties of interactive technology. They will, however, most likely be transformed, since use of a technology has frequently not been anticipated by its designers (Suchman 1987; Fischer 1992), and organizations themselves change when they adopt different practices to make use of technology.

NGOs and Interactive Technology in Eastern Europe

Despite material limitations, NGOs today in Eastern Europe preside over an almost unprecedented amount of technological firepower. A relatively developed telecommunications infrastructure now covers the historical core of Central Europe (Poland, the Czech Republic, Slovakia, and Hungary). Yet advances in the introduction of interactive technology are distributed unevenly across the four countries. Poland, for example, boasts the highest number of Internet hosts overall and the highest total connectivity. The Czech Republic, however, claims the highest numbers of hosts per capita, indicating greater penetration of the technology throughout society. Hungary has the highest number of backbone hosts, indicating a more decentralized market structure, while Slovakia, lagging in most other categories, surprisingly leads in the number of Internet users per capita (Central and East European Networking Association 2000).

The organizational structure of NGOs also differs across the region. While similar in terms of segmentation and relative decentralization, the four countries differed in subtle yet important ways during socialism, and began the transition with different sets of institutions (Stark and Bruszt 1998; Anheier and Seibel 1998). NGOs in Poland suffer from the lack of both state and social support, while, in Hungary, NGOs face a different challenge as the government has sought to use them as a vehicle for privatization and political control (Anheier and Seibel 1998; Ekiert and Kubik 1999; Kuti 1996). Despite sharing in the dramatic growth of NGOs (from slightly more than 2,000 in 1989 to over 40,000 in 1998), the Czech state has favored pre-1989 organizational relationships with civic associations involved in the "safe" areas of education and sports, resulting in criticism that it is reducing civil society's involvement in the policy-making process and thereby inhibiting civil society development (Green 1999; Potucek 2000). Slovakia, whose social development was hampered by long years of political stagnation under former Prime Minister Meciar, saw a growing role for NGOs in the 1998 "get out the vote" campaign (Wagner 2001).

The relationship between NGOs and interactive technology in the region is extremely mixed. Funding from western foundations made up the initial influx of interactive technology, especially grants from the Soros Foundation and USAID to enhance connectivity and promote electronic communication, some of which were then regranted by local organizations. This type of explicit funding for information technology has markedly decreased since the mid-1990s, with the notable exception of the European Union. The cost for going online still remains prohibitively high, with Hungary, Poland, and the Czech Republic remaining in 2000 the most expensive countries within the Organization for Economic Cooperation and Development (OECD) for connectivity (the highest price

for 30 hours of connection at off-peak times) [OECD 2001]. The high rates charged by telecommunications carriers result in fewer users and constrains existing potential for Internet use: for example, in Hungary, although 300,000 households had computers in 1999, only 50,000, or 0.7 percent of Hungarian households, subscribed to the Internet (Pattinson, Montagnier, and Moussiegt 2000).

The problems that NGOs encounter in using interactive technologies are serious and form a familiar litany—lack of funding to purchase equipment or services, lack of a skilled staff, too little time and interest. We must not forget that the majority of NGOs by all accounts appear not to have computers. Some NGOs find ways to overcome even this obstacle by using public terminals at "tele-cottages," public libraries, or Internet cafes. But even for NGOs with trouble-free access to the Internet, keeping up with technology can create difficulties with respect to the effective allocation of scarce financial resources and changing valuation of competencies among the staff. These problems will intensify as using technology becomes increasingly part of an organization's daily life. Some of the unexpected organizational challenges resulting from the undeniable difficulties of adapting to a different technological environment will appear in the following discussion of actual cases (especially regarding meta-NGOs).

Using interactive technology, we stress, is no guarantee of any positive outcome in a given organization (though, by the same token, its use cannot be regarded in itself as detrimental). Consider NGOs' use of their web sites. Thousands of NGOs in Eastern Europe maintain web sites today, with vastly varying results. In a preliminary study during spring 2001 of NGO web sites in Hungary, the Czech Republic, and Slovakia, we found that the sites varied widely. About one-fifth of the sites studied were rich in information and online activity and were sophisticated in design, followed by a group of similarly rich and active but amateurishly designed sites. More than half the sites we encountered, however, were outdated, contained little in the way of information, and lacked any indication of activity (Bach and Vedres, in progress).[5]

These findings, while preliminary, hint at a larger story about how and why NGOs find it desirable or necessary to have a web site and how they use it. Interviews indicated that web sites were perceived as indispensable "calling cards," but that endowing them with functionality beyond a simple page often exceeded resources and skills. Some NGO staff saw web sites as necessary to remain in the good graces of foreign donors, and this catering to donors might explain why featured languages other than the local one were nearly always English or German. Only in the rarest of cases did a web site feature a neighboring Eastern European language. Some sites were full of activity in the local language, however, reflecting not only a vibrant virtual culture but also an interest in exploring new ways to be active in society.

Web sites, however, are but one facet of interactive technology. It is important to understand the dynamics of a web presence, but of greater interest is how the use of technology, including web sites, contributes to organizational transformation (cf. Orlikowski and Iacono 1999). Let us therefore look more closely at some examples of NGOs in Eastern Europe whose own form and function are changing with their use of interactive technology. The following

cases were drawn from interviews and research conducted during 2000. They are not meant to be a representative sample of the region but rather to highlight NGOs that seek to actively adopt interactive technology. This is a small but growing group, and their experiences may prove informative for both the region, as more and more NGOs go online, and our understanding of how technology and organizations co-evolve.

From Brokering to Collaboration: Hybrid NGOs

Digital technologies make it easier for people to reconstruct what counts as information, so that its definition, or at least its circulation, is no longer the exclusive province of those with power, money, and connections (Nunberg 1996). The increased ability of individuals to access large amounts of disparate information is justly celebrated as empowering (Cairncross 1997). At the same time this kind of access presents serious problems for any organization that seeks to exert control over information collection or dissemination.

NGOs have a long history of brokering information, as both a service and a source of social and financial capital. Providing information remains a central function of many NGOs, and the more savvy organizations within the information broker model are learning to adapt to the shifting environment by creatively marketing their information. They augment their now easily shared information, such as directories or databases, with value-added aspects, such as efficient search engines and non-database-related services, such as training and web hosting. In the process they begin to make services available that provide not only information as such, but knowledge forms such as skills (know-how) and, through collaboration and links, knowledge of others (Peizer 2000).

NGOs are thus learning to approach information as a commodity in order to enhance sustainability. The resulting outcome-oriented processes are leading to hybrid NGOs that combine social and business ventures, such as the "dot-corg" dual enterprise model where revenue-generating is separated from the NGO's social mission and evaluated according to business metrics, or where the NGO sets its long-term goal as evolution into a socially oriented, for-profit venture, such as many Internet service providers in Eastern Europe who began as non-profits and grew into viable businesses (Peizer 2000; see also Porter and Kramer 1999).

The Center for Advanced Media–Prague (C@MP) is an example of this kind of hybrid NGO. Its origins lie in the Soros Foundation's early goal of providing Internet access and training to Central and Eastern Europe. By the mid-1990s, however, the foundation's attention shifted from providing access to developing content with greater emphasis on sustainability. One result was the Media Development Loan Fund launched by Soros's Open Society Institute (OSI) in 1996 to support low-cost financing and technical assistance for independent "indigenous" media in transition countries as a means to facilitate debates on core economic and social issues (www.mdlf.cz). The fund, with a Prague and a New York office, developed C@MP in 1998 to advance new media operations. Its audience consists of independent media and NGOs in the

post-communist and developing worlds which seek new media concepts and solutions. C@MP delivers such services through training, technical and content-building consulting, and project-oriented product development.

C@MP seeks to create a self-organizing "hub" for the interaction between digital and print media. Although its beginnings lie in Eastern Europe, it has quickly moved beyond being a regional NGO and sees itself as an "interface" offering opportunities for technological collaboration between the developed and developing countries. Its projects, accordingly, are not limited by geography, and extend from South Africa to Southeast Asia, where it was a finalist in the Ericsson Internet Community Awards for its work with a virtual, nationwide radio network. As a member of the World Economic Forum's Global Digital Divide Initiative, C@MP is actively involved in seeking solutions for opportunities to overcome the digital divide.

For independent media to fulfill its role in democratic and democratizing societies it needs to compete and function at the standard of commercial media, especially regarding content distribution and avoidance of censorship. One of C@MP's most innovative elements is the "Campware" program that develops software for independent media that cannot afford the requirements of an increasingly electronic arena. Campware helps with automating web publications, managing subscriptions, and allowing remote contributors to feed content to the publisher's database, and also offers content management software. Campware is innovative in the way it develops and delivers technical assistance. In helping design software that would otherwise be beyond the means of independent media, C@MP works with existing bandwidth and resources to remain relevant and effective. It builds self-support networks to rival the technical support components of commercial software, networks which then become collaborative international enterprises. Significantly, all the software it develops is made public (under the GNU General Public License) so that further development can benefit from maximum input, and the organization provides limited fellowships to help develop Open Source projects.

C@MP thus uses technology to transform technology while pursuing a normative mission with social change as a desired outcome. Its output is increasingly identical to the client's input; that is, rather than characterized by a top-down service delivery relationship, C@MP's expertise is shaped by the collaborative activity of its members. If C@MP's private sector analogue is a consultancy firm, then we can see its success as a result of a "collaborative advantage" (cf. Huxham 1996).

Although C@MP began as an information broker trying to fill perceived gaps, it has evolved into what we call a "knowledge facilitator" through its emphasis on collaborative production of software solutions and self-support networks. This is part of the shift from information as a discrete property that (in theory) exists independently of a subject, to "knowledge" that requires a knowing subject and cannot be conceived of independent of the communication network in which it is both produced and consumed. The very notions of producer and consumer are blurred by the emphasis on knowledge facilitation. This blurring is to some degree a function of digital technology's affordances:

online consumption, for example, blurs with production process by allowing (or forcing) users to engage in an activity formerly relegated to production, such as data entry, or by producing information from the act of consuming, that is then sold for profit (e.g., information gathered about your web-surfing activities). Yet the social effect of this obfuscation of traditional roles ultimately depends on how organizations approach this situation.

Embracing collaboration along similar lines as C@MP is not an obvious choice for most NGOs, because continuing to follow the information broker model is a reasonable and conditioned reaction from the age of mass communication and mass production. Modern society is organized along lines of access to quantifiable information brokered between those who have information and those who want or need it. It has an hourglass structure, with information passing through the broker in the middle on the way from A to B, similar to Burt's (1992) bridges across structural holes or Latour's (1988) obligatory passage points. This can take the ruthless form of a monopolistic corporation or the benevolent form of an NGO seeking to spread formerly guarded information. Structurally, however, brokers work in the same way by exploiting gaps and, accordingly, gaining rents. They have a vested interest in maintaining the gap between information producers and consumers. The affordances of interactive technology can be used to maximize this brokering role, along with the power (and perils) that come with it.

In contrast, we can imagine a "knowledge society" with the structure of a network, emphasizing not information per se but communication. Whereas in an information society brokers have a vested interest in maintaining the gap between information producers and consumers, organizations in a knowledge society function as facilitators and help blur the line between users and producers. This does not displace or solve the practical and epistemological problems occasioned by "information" (e.g., how to process large amounts of data, how to insure data protection, how to ascribe meaning to data), but raises different questions of an ontological nature and questions the very a priori assumptions of organizational forms. Knowledge network facilitators, more than information brokers, have the potential to be genuinely transformative of social structure. But what sort of NGO would take on this task?

Creating "Knowledge Sources": Arts, Culture, and Communication

In the forefront of NGOs that initiate technological innovation are new media art organizations. Arts organizations are rarely considered as national resources of innovation. Yet they are well-positioned to act as knowledge facilitators rather than information brokers, mediate between design and use, have sociocultural insights that governments or corporations lack, and engage in experimentation on a continuing basis (Century 1999). New media arts organizations confront the paradoxical way that interactive technology recombines much of the traditional toolbox of artists:

> All the strategies developed to awaken audiences from a dream-existence of bourgeois society, like constructivist design, new typography, avant-garde cinematography and

> film editing, as well as photo-montage, now define the basic routines of post-industrial society; that is, the interaction with a computer. (Manovitch 1999)

Artists, however, are seldom content with the basic routines of society, and new media artists search for ways to illuminate the radical nature of everyday interactive technology while pushing the technology itself to new tasks and forms. While often highly critical of capitalism (see, for example, etoy.org), the playful, exploratory attitude that fuels art catches the attention of not only critics and audiences, but also industry. Firms, such as Xerox or Ericsson, have taken interest in and have come to regard artists and art organizations as a laboratory of sorts, consisting not of research scientists but "research artists" (cf. Larcon 1998; Harris 1999). "What distinguishes art from the research sciences and commercial entrepreneurship," writes Joel Slayton (1999), "is a very thin veil." New media art organizations are therefore good examples of the sort of entrepreneurship discussed earlier. As their relevance for industry grows they have to balance their social benefit as incubators of future designs and technologies with their sense of social responsibility. The lines between art collective, start-up Internet company, research laboratory, and socially conscious NGO are increasingly blurred.

The Hungarian Center for Culture and Communication (C3) exemplifies this type of NGO. C3 has evolved from a public center for artists to a self-described center for advanced research and development, with the application of new media technologies at its core. Of the myriad exhibits and projects they sponsor, including grants, an example of their critical, functional, and experimental work was public access web terminals, set up in 1998 in order to "make the advantages of network information and communication manifest to every literate passer-by, or at least [show] that the existence of digital culture is not a mystery, that no special expertise is required in order to handle it, and that the rich content of the Net offers the procurement of information, as well as dialogue" (www.c3.hu). C3 also provides a service for NGOs to host their web pages and a directory of NGOs hosted on C3's server. C3 was one of the first NGOs to offer a free dial-up email system that grew to over 300,000 users (later sold to the Hungarian telephone company Matav).

Mixing social criticism of the artist with new media opportunities resulted in the "Inside Out" project that ran in the earlier days of C3, from 1997-1998. The rise of homelessness was one of the more shocking elements of the inequities of the market system, and C3 sought to draw attention to the problem. The challenge was to approach the subject without further reinforcing the homeless as an "other," outcasts whose situation evoked pity but no understanding. "Inside Out" gave color disposable cameras to approximately 40 homeless persons in Budapest and gave no instructions aside from the invitation to photograph those aspects of their everyday experience that they felt important or interesting. They knew that their pictures would be viewed eventually as part of a public exhibit and web site. Each photographer was interviewed about the photos once printed, and were compensated for their work. The exhibition and web site served to humanize a marginal population while helping make homelessness a topic for public debate.

C3's main web page looks like a periodic table of elements, with elements as links to other pages in the site. There are current and archived virtual exhibits, digital video, software to download, a sophisticated e-magazine, and links to international art databases. Going beyond the innovative use of technology, C3 offers grants and residencies in support of projects "which demonstrate an expanded exploration of digital media technology, display creative usage of the Internet, and which offer challenging and innovative ideas regarding communication and culture" (Eisenstein 1999: 37). C3 sees itself as a space for innovation in the use and even creation of digital tools, and as a place where the spheres of art, science, and technology can meet and cooperate. Andrea Szekeres, C3's program director, sees C3 not as a "center" in the traditional sense, but as an organization that treats its users as "producers of knowledge." "They might not think they are producers of knowledge but they are," she told us, "We help them be a knowledge source."

Szekeres' comment is telling, because it points to the movement discussed earlier from information to knowledge, from users *and* producers to users *as* producers. Interactive technology may be a necessary development for this shift, but it is not sufficient. Though unlikely to displace information brokering as the most expedient model, knowledge facilitation will become increasingly integral to the reevaluation of NGOs' roles as interactions with governments, private funders, businesses, other NGOs, and constituents increase in complexity.

"Meta-NGOs" and the Virtual Public Sphere

We confront some of the tensions between information and knowledge in the emergence of "meta-NGOs." These organizations' primary purpose is to provide information and assistance to other NGOs, including databases and online services, and they effectively strive to serve as clearinghouses for a country's NGO community in whole or in part. Today there is at least one, and usually more, such organization in each country. A typical example is the Slovak NGO Changenet, which bills itself as the "virtual community of Slovak not-for-profit citizen's organizations" (www.changenet.sk March 2001). Changenet provides a press service for NGOs to centralize their press releases, a calendar of events organized by NGOs, a classified advertising area for NGO-related issues (services, spare resources, jobs), databases on funding and news media organizations, and a subjects area (environment, human rights, youth, charity) that provides both original content in the form of explanations and FAQs, as well as texts of selected laws and how-to manuals. It also provides a gallery for a "photographic perspective" on issues important to NGOs. Particular to Changenet is a section providing information about a Slovak council of NGO organizations. A thematic link page is broken down into topics that generally mirror the subject areas. Accounts with five email addresses, web space, access to online conferences and private areas of their web, and technical support and training are available to NGOs for a nominal fee. Essentially the web site is organized like a house with many rooms to visit and amble through. Design is important to the function of meta-sites, and it tends to be more sophisticated than in other NGO web sites (excepting art-oriented sites).

While based on the information brokerage model in acting as a conduit for information, the meta-NGOs' use of the Internet often leads to the creation of networks of communication beyond its purview. A tension arises concerning its level of "control" and the positioning of the meta-NGO relative to its constituents in what we can label the "virtual public sphere": NGO sub-networks are often under the "jurisdiction" of the meta-NGO in cases where the meta-organization provides member NGOs with a web site, server space, connectivity, training, and guidelines, and individual users with moderated environments for communication. The meta-NGOs would like to be the primary, if not the sole, provider of these kinds of services to their specific NGO community. In the language of advertising, they aim to be the "category killers" and avoid redundancy through consolidation. While this kind of consolidation may make sense given resource scarcity, it raises questions as to whether it might dull the community nature of the web. The logic of consolidation confronts the desirability of diversity.

A second tension presents itself in the meta-NGO's wish to generate income to support their operations. The virtual public sphere is run through very real computers, servers, and connections—all of which cost money. At what point does the need to charge for services or partner with commercial enterprises sacrifice an organization's autonomy or commitment to social justice? It is not clear that this is an intractable problem, because, as we discussed earlier, entrepreneurial elements of NGOs can allow for creative solutions. Yet this tension could lead to a crisis of legitimacy if badly handled or if the result is co-optation or commercial-domination.

Despite these tensions, meta-NGOs have great relevancy for shaping the virtual public sphere because of their claims to be representative and their high visibility in search engines and links. Klon/Jawor in Poland is an example of the most sophisticated type.[6] Originally developers of a non-profit database, they shifted in the late 1990s from gathering data on NGOs in Poland to also providing more tailored information for Polish NGOs. Providing information about and for NGOs, in turn, developed into promoting the flow of information between them. This necessitated setting up a means for NGOs to gain Internet access and resulted in an Internet program that sought to electronically integrate the NGO sector via an Internet server (www.ngo.pl). The program was then complimented by Klon/Jawor's own extensive web site (www.klon.org.pl) and a non-commercial free service for NGOs (free.ngo.pl), which currently has approximately 2,000 accounts. Plans were underway in fall of 2000 to develop a template for web sites, whereby NGOs could use an online form to quickly and efficiently generate a web presence.

Klon/Jawor is a textbook case of how an NGO was transformed by its relationship to information into a central node. Founded by a group of sociologists from the University of Warsaw, Klon/Jawor developed a (print) database on NGOs in its early years, making it a place for NGOs to turn to for information about this rapidly developing sector. A dense network grew up, with Klon/Jawor as a central node, which then became even more essential to other NGOs as they gradually moved many of their databases to the web and added services such as free email and web site hosting. In 2000 the organization became fully

independent (it had been affiliated with an older civil society organization, the "Regardless of the Weather" Foundation), and it now presides as the head of a consortium over a physical and virtual network of 12 smaller centers that support Polish NGOs (known as Splot). Like many other NGOs, Klon/Jawor took advantage of privatization and struck a deal with the government to acquire its own building, renamed the Szpitalna Center, which it now shares with nine other NGOs. Working closely with the Batory Foundation, the local representative of the Soros Open Society Institute, Klon/Jawor seems to have comfortably laid claim to its central and progressive role in the Polish NGO sector.

Fazekas argues that the cohesive nature of Klon/Jawor is a function of country-specific factors that allowed cooperative networks to morph relatively painlessly into a formalized structure. In contrast, Hungarian meta-NGOs did not exhibit the social intimacy and camaraderie that were the norm at the Szpitalna Center, and their relations were pervaded by distrust and competition. This was in part caused by a more pronounced generational split between a younger generation of activists who increasingly adopted the rhetoric of professionalization and an older generation committed to grassroots organizing.

It was in this context that a planned Hungarian cooperative venture to establish an NGO portal for the region went sour, in part because of distrust between the two organizations that we will refer to by the pseudonyms "Information Central" and "Civic Sector Action." Similar to Klon/Jawor, both were the products of academics. "Information Central" (IC) saw its primary role as information gathering and dissemination, while "Civic Sector Action" (CSA) focused on consulting and training to build sustainability. Both NGOs were constrained by the competition for limited funds that affects all NGOs in the region to various degrees. As one program director at another Hungarian NGO put it, everyone wants to be the only source for information and, significantly, the NGO closest to the Soros Foundation.

The cooperative plan for an NGO portal sought to establish an interactive information and communication platform where both civil society actors and representatives from other sectors could communicate. Meant not just for Hungary but for all of Central and Eastern Europe, this portal aimed to improve NGOs' services through the use of "new media technologies and the knowledge resources of its members" that would help their clients "form communities around various areas of interest and...devise independent projects in collaboration with others" (Fazekas n.d.: 63). This enhanced communication and interactivity was to be achieved through chat rooms, listservs, forums, and the availability of technical know-how.

Yet, while the focus was on collaboration and utilization of knowledge resources, neither organization was particularly keen on cooperation. CSA possessed neither the resources nor the willingness to shoulder all the costs. To win a grant for this project they felt they needed to augment their strengths with a partner who had experience in information dissemination. IC seemed a perfect choice, as CSA could simultaneously increase their own profile by being the lead organization in the grant and, in the process, eliminate IC as a rival in overlapping areas while benefiting from their resources. IC approached the

overtures for cooperation warily, and distrust overcame potential mutual interests, resulting in failure. Ironically, it was IC which, late in 2000, received a prestigious grant to create a very similar, though less ambitious, portal, whose goal is "to make accessible at one place all the services and information now dispersed in a structured way."[7]

Klon/Jawor and the Hungarian NGOs generally find themselves following the technology, often pushed by the priorities of the funders and pulled by the demands of their clients. They use interactive technologies innovatively, yet they are only beginning to stress user innovation and tacit knowledge, or to combine technological know-how and sociocultural insight in a collaborative environment (Century 1999). They are, however, important organizational developments in an emerging virtual public sphere and exemplify the shifting interplay between information and knowledge among civil society actors.

If meta-NGOs are successful in facilitating knowledge networks rather than providing mere information brokering, then NGOs may become less a space for the "antipolitics" that characterized civil society under the old regime than a sphere for what might be called "para-politics," concerned with improving access to information and facilitating contact and collaboration between people and groups. This would not extend an already existing public space into the virtual realm, but rather create a new type of interaction among individuals and organizations. Ideally, meta-NGOs could come to be viewed as a vital part of a virtual public sphere, structured as an emerging networked social system that distributes knowledge production along self-organizing principles.

Conclusion

NGOs such as C@MP, C3, and Klon/Jawor are co-evolving along with interactive technology as they move from brokering knowledge to facilitating collaboration, developing hybrid entrepreneurial programs, and creating new organizational forms such as the virtual meta-NGO. Since technology both shapes and is shaped by the society from which it emerges (MacKenzie and Wajcman 1985), C@MP's media software and C3's experimental virtual art also transform *technology* through their practices. This same symbiotic process also transforms social relations (DiMaggio et al. 2001). For example, the linguistic codes that transmit socially shared meanings are changing, as the vocabulary of "listservs," "baud rate," "hyperlink," and the attendant jargon of the web, becomes commonplace for educated users. Originally used in English, these terms have now been translated or adapted into local languages, so that initiation into the language of technology is now easier for larger numbers of people. This new literacy brings with it altered social relations: within organizations that embrace new technologies we observe an increase in social status among those who are proficient in the language and use of computers (Marcuello 1998). The types of educational background and experience necessary for mobility within the NGO world is thus changing to include fluency with technology, which means not only literacy but familiarity—a certain ease of interaction.

This is significant because, at their most ambitious, NGOs seek to ultimately change social practices and redefine public discourse. The shifting linguistic codes mentioned earlier are one way in which the co-evolution of NGOs and technology are embodying and fostering new practices. Other examples include relying on email as a central organizing tool for any progressive political campaign, or challenging the idea of what constitutes adequate access to computers and the Internet (the so-called digital divide) in ways that ultimately affect the distribution of resources.

For the future evolution of NGOs themselves, the networking affordances of interactive technology are of pivotal importance. Broad networks linking people and organizations across regions are not in themselves democratic, but they do help institutionalize methods of communication that are not (yet) as easily susceptible to censorship or monopoly control as communication was in the past. By playing a major role as facilitators in such intersecting networks, even nationally based NGOs could take on an additional role of enhancing collaboration beyond their provision of "safety nets" and "safety valves" (as discussed earlier). At our most speculative we believe this development could herald new roles for NGOs in the construction of a global civil society (see Salamon et al. 2001; Warkentin 2001; Anheier et al. 2001).[8]

These organizational changes in NGOs—real and potential—are directly related to the larger societal changes (positive and negative) that are inextricably intertwined with the use of technology: changes in the circulation of information, the value and form of labor, the nature of the commodity, new methods of political mobilization, and new forms for identity and self-expression. The move toward knowledge facilitation and value-added information services shows NGOs are adapting to the changing political economy. Some of the rewards are sustainability, innovative capacity, and transformative potential. Some of the challenges lie in the increased professionalization of the voluntary sector, commercialization, the proliferation of performance criteria, and accountability problems. NGOs are becoming sites of competing and co-existing evaluative principles, caught between the value systems of business (efficiency, solvency) and social mission (adherence to principles, ideological agenda). In the best case they may exploit these contradictions, but the danger is real that actors who are accountable according to many principles become accountable to none (Stark 2001). For the countries of Eastern Europe these issues have become particularly acute as they seek to be part of a more tightly integrated Europe. More research is needed on how NGOs negotiate these opportunities and challenges as they increasingly collaborate with state and market.

Our observations are a snapshot of a period in great flux. The Internet with a capital "I" may well become a historical marker rather than a permanent descriptor of digital interactive technologies. As social scientists we can consider the advent of interactive technology an "interstice" in Georg Simmel's sense: an opening that allows people to produce innovative responses when large-scale change "disorganizes" the familiar world. NGOs in Eastern Europe face a doubly disorganized world, for not only is transition itself a traumatic upsetting of generations of conditioning, but NGOs today often find themselves ill-prepared for the different tasks that face them despite their predeces-

sors' earlier success in overthrowing recalcitrant regimes. We are cautiously hopeful that the affordances of interactive technology will be used by NGOs to creatively confront the uncertainty heralded by the new century, rather than submit to its exigencies.

Notes

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1. See, *inter alia*, Siegel (1992), Petras (1999), and the discussions about NGOs and civil society in Hudock (1999) and, in a case study of Bangladesh, Feldman (1997).
2. In exploiting ambiguity, actors attempt to hold a resource that can be justified or assessed by more than one standard of measure (as, for example, the curious scene in Michael Moore's documentary film, *Roger and Me*, in which a rabbit breeder's roadside stand advertises "Pets and Meat.")
3. Conversely, if NGOs reject cooperation with state and market forces too radically, they risk slipping into an exclusively oppositional role with diminished opportunities for agenda-setting.
4. It is worth noting that the most widely publicized report on negative social effects of the Internet by Kraut et al. (1998) has been considerably modified in a less negative direction by his more recent research (Kraut et al. forthcoming).
5. From March through May 2001, Bach and Vedres studied a random sample of 600 NGOs from the Czech Republic, Hungary, and Slovakia, drawn from a population of 1,500 NGOs compiled from available directories. They measured for centrality based on the number of incoming links to a given site and then focused on stratification by identifying groups of web sites with peculiar combinations of properties, employing cluster analysis and discriminant analysis. An article based on this research is in preparation (Bach and Vedres, in progress), and a follow-up project is underway.
6. The following discussion of Klon/Jawor and Hungarian NGOs draws on extensive research conducted for this project by Erzsebet Fazekas, a doctoral student in sociology at Columbia University.
7. The services will include a "non-profit press observer," a mailing list for civil organizations, a grant observer and funders' directory, search engines, databases of NGOs, an online consultation service, a map of non-profit service providers, introductions to different NGOs, a matchmaking service for fundraising, service seeking and problem solving, and an online non-profit bookstore (Fazekas n.d.: 56).
8. If NGOs institutionalize networks in which weak ties distribute non-redundant information to the widest possible audience, this could have meaningful social implications, since weak ties form the best bridges across social worlds and increase innovative potential (Granovetter 1973; Burt 1992). If this were done primarily through online ties, however, they would still have to be sufficiently strong to provide even the minimum benefits of weak ties, a point on which there is some disagreement (Walsh and Gabbay 1997).

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