INNOVATIVE AMBIGUITIES:
NGOs' USE OF INTERACTIVE TECHNOLOGY IN EASTERN EUROPE

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TITLE VIII PROGRAM

Project Information*

Sponsoring Institution:	**Columbia University**
Principal Investigator:	**David Stark**
Council Contract Number:	**816-10g**
Date:	**May 10, 2002**

* The work leading to this report was supported in part by contract or grant funds provided by the National Council for Eurasian and East European Research, funds which were made available by the U.S. Department of State under Title VIII (The Soviet-East European Research and Training Act of 1983, as amended). The analysis and interpretations contained herein are those of the author.

Absract

This paper examines the changing form of NGOs in Eastern Europe as they face challenges of democratic consolidation in an organizational environment increasingly permeated by universally available information technologies, unprecedented collaboration opportunities and complex technological change. We examine how NGOs' potential for developing an innovative capacity is linked to their use of interactive technology. Examples include art, media and "meta" NGOs from Poland, Hungary, Slovakia and the Czech Republic. We argue that there is a move away from information brokering toward the facilitation of knowledge networks. This move may allow the unfolding of innovative capacity, but it also raises accountability issues and questions about the future form and function of NGOs.

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. That uncertainty is brought about by an extreme volatility of markets and rapid technological innovation – exponentially accelerated by the digital tools that now make it possible to access text, audio, visual, and database information in an encompassing, interactive environment. What social forms are emerging in the newly hypermediated organizations?

This paper examines the co-evolution of interactive technology and non-governmental organizations in Eastern Europe. In the decade following the revolutions of 1989, the countries of East Central Europe successfully launched structural reforms that consolidated their transition *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 stable minimum 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 culture exhibits 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. 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 text 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 websites doubles every six months (Kuti 1996, 2001). In a little more than a decade, the technological framework in which voluntary associations are operating has gone from the limitations of a pre-Guttenburg 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). 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 impact 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 that operate under conditions of high uncertainty (Kahn 2000, Stark 2000)? 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 NGOs' ability to network and effect social change by mobilization be enhanced by the properties of the Internet to link people and resources, search formal and informal archives of information and allow people to interact in real-time or at a time of their own choosing (cf. Gurstein 2000, Schuler 1996)? NGOs are transforming 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 it 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 else cynically as vessels for power struggles between class interests. The former 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 towards 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 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 ideally balance the inherent tension between self-interest and the common good within a democratic free-market system.

In the above 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 *transforming* the system to make it 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. 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 encounter 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 different ways in which an NGO legitimizes its self-worth: the method of justifying its existence differs when done vis-a-vis a donor, a client, or an opponent. The organization must develop different strategies of justification that can nonetheless be employed simultaneously.[1] Because NGOs exist in an environment rife with uncertainty, there is a tendency for them to treat potentially ambiguous situations (such as having to employ different forms of justification for different audiences) as something to be contained or avoided. The most successful strategies, however, require exploiting the ensuing ambiguity.[1] 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 entrepreneurs to the private sector may be more a

result of conditioning rather than necessity: the properties of being an "entrepreneur" would better refer to an organization's successful exploitation of multiple regimes of worth rather than a proclivity of an individual to make money (Stark 2001, Spinosa et al. 1997

The "original" NGOs in Eastern Europe – the dissident groups of the socialist era – were, in a sense, very entrepreneurial. The scarce dissident NGOs under the 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 explained to us how they bartered Italian wine and Russian watches in a complicated transaction to get paper for an economics journal. This entrepreneurial spirit made good use of exploiting ambiguities.

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 we need to examine their ability to turn ambiguity into an asset. Studies of firms indicate that this is best done 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 which they compete. Such an attempt at recombination 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 that turn to them as expedient, if not always effective, sub-contractors for diverse issues from health care to housing (Kuti 2001, Osborne 1998). They are 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 keep going and to intensify their relations with business and government as donors. Thus self-interest compels increased cooperation with public and private sectors. This opens new opportunities for sustainability, yet if they work too closely with the state or business NGOs risk serious accountability

1 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

problems, including co-optation, loss of legitimacy and failure.[2] Co-optation by state and market forces are the Scylla and Charibdis of NGOs.

Avoiding co-optation is a difficult enough challenge for NGOs, but an even bigger problem may be distinguishing cooperation from co-optation in certain cases. This is because the state and market themselves are not static but are undergoing fundamental changes. NGOs cannot avoid similar radical transformations. Globalization creates redefinition and uncertainty, and for NGOs this 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 (re)source for organizational change

One key to understanding 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 (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 in popular views of today's world as increasingly structured by technologies. 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

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which a rabbit breeder's roadside stand advertises "Pets and Meat")

another means for instrumental rationality to colonize our life-world, where "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), enriching and empowering civil society and acting as a natural catalyst for democracy.

Similar disagreement exists regarding the introduction of interactive technology into organizations. Champions of interactive technology tout its potential for reducing constraints, improving communication and increasing participation within firms. Critics emphasize the surveillance potential of new technologies to turn the modern workplace into a panopticon and worry about the alienating effects of computer-mediated-communication.[3]

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 "affordances" are recognized (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.

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[2] 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.

[3] Negative social effects of Internet use were first reported by Kraut et al. 1998, but in research since then Kraut et al. (in press) have found data that considerably modify the earlier assumptions.

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 their confrontation with new technologies? At first glance we found a felicitous 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 it.

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 into decision-making via email find 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. Websites 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 the 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

Almost overnight NGOs in Eastern Europe have gone from pre-Gutenberg limitations to the opportunities of advanced communication technologies. Despite material limitations, NGOs today in Eastern Europe preside over an almost unprecedented amount of technological firepower. A relatively developed telecommunications infrastructure 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 10,000 inhabitants), which, since it has only one fourth of Poland's population, indicates a far 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 every other category, surprisingly leads in the number of Internet users (per 10,000 inhabitants) (Central and East European Networking Association 2000).

The organizational structure of NGOs also differs across the region. While they share some qualities, such as segmentation and relative de-centralization, each country differed in subtle yet important ways during socialism and began the transition from divergent starting positions with different sets of institutions (Stark and Bruzst 1998, Anheier and Seibel 1998). NGOs in Poland suffer from the lack of both state and societal 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 2000 in 1989 to over 40,000 in 1998), the Czech state has favored pre-1989 organizational relationships, with civic associations involved in "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, where social development

was hampered by long years of political stagnation under the 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 re-granted 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 of going online still remains prohibitively high, with Hungary, Poland and the Czech Republic remaining, in 2000, the most expensive countries within the OECD for the price of 30 hours of connection at off-peak times (OECD 2001). The high rates charged by telecommunications carriers results in fewer users and constrains existing potential for Internet use: in Hungary, for example, although 300,000 households had computers in 1999, only 50,000, or 0.7% of Hungarian households subscribed to the Internet (Pattinson 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 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 regarding 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 repeat, is no guarantee of any positive outcome in a given organization (though its use cannot be regarded as, in itself, detrimental either). Let us take a closer look at the situation surrounding one of the key ways in which NGOs are using interactive technology: their

websites. Thousands of NGOs in Eastern Europe maintain websites today, with vastly varying results. We conducted a preliminary study in the spring of 2009 of over 600 NGO websites in Hungary, the Czech Republic and Slovakia to get a sense of how NGOs were representing themselves on the web.[4]

We found that the sites varied widely over five variables: information richness, online activity, site quality, commercialization and prestige (see table 1).[5] 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.

Table 1: Simplified Presentation of Variables Used in Coding NGO Websites

Composite variables	**Contains one or more of the following:**
Information richness	Presence of material such as annual report, news, downloadable documents, databases, texts of laws, training manuals, etc.
Interactivity (online activity)	The ability for the user to sign up for email alerts, newsletters, listserves, bulletin boards, chatrooms, online membership forms, ordering items online, etc.
Offline activity	Information posted about meetings, conferences, educational programs, events, etc.
Design coherence	Relative subjective ranking based on navigability, use of graphics, color, layout, etc.
Up-to-date status	A site is considered current if it has been modified within the last six months.
Commercialization	The presence of banner ads and other advertisements.
Known site	A site is "known" if there is at least one site in Google's backlink directory pointing by hyperlink to the site in question.
Prestigious site	A site is "prestigious" if there are at least 50 sites in Google's backlink directory pointing by hyperlink to the site in question.

[4] This study was developed and conducted with the invaluable collaboration of our colleague Balazs Vedres.
[5] A website is considered prestigious (i.e. has a high prestige score) if more than fifty other websites link to it. We determined this by using the "reverse google" function in the Google search engine that provides backlinks.

Overall, we were able to categorize the sites almost equally into "active" and "passive" categories based on their scores regarding information richness, online activity and recent modification. Sites which had sophisticated design and high prestige scores in addition to high scores in the above categories fall into the "active-sophisticated" category. Sites that exhibit high scores in design and are also up-to-date, yet exhibit low online activity and information richness we categorized as "passive-sophisticated." "Amateur" sites had low scores concerning coherent design and prestige in combination with lower scores in the information richness and online activity categories (see table 2).

Table 2: Distribution of NGO Websites Into "Active" and "Passive" Categories (Percentage of Total Websites Studied From Hungary, the Czech Republic and Slovakia)

Cluster:				
Variables	**1: Active (sophisticated)**	**2: Active (amateur)**	**3: Passive (sophisticated)**	**4: Passive (amateur)**
Information rich	92.65%	82.86%	0.00%	9.30%
Interactivity	88.97%	62.14%	42.22%	10.08%
Offline activity	77.21%	72.14%	76.67%	41.86%
Design coherence	100.00%	56.43%	88.89%	48.06%
Up-to-date status	97.06%	60.00%	78.89%	20.16%
Commercialization	55.15%	29.29%	27.78%	36.43%
Known site	100.00 %	61.43%	72.22%	43.41%
Prestigious site	33.09%	5.00%	0.00%	0.00%

These figures are preliminary and only hint at a larger story about how and why NGOs find it desirable or necessary to have a website and how they use it. In interviews we were told that websites were perceived as an indispensable form of "calling cards," but that endowing them with functionality beyond a simple page often proved too much for resources and skills. Some NGO staff saw websites as necessary for remaining in the good graces of foreign donors; this catering toward donors might explain why, of the approximately twenty percent of the websites surveyed that had pages in languages other than the local language, it was nearly always English or German. Only in the rarest of cases did a website

have a page in a neighboring Eastern European language. Some sites were full of activity in the local language, however, reflecting not only a vibrant virtual culture but an interest in exploring new ways to be active in society.

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

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 provenance 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 it 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. We suggest that acting as information brokers is an ultimately inadequate response to the conceptual shifts of the digital age, because it relies on antiquated ways of conceiving communication flows. Nonetheless, providing information remains a central function of many NGOs, and the more savvy organizations within the information broker model are learning to compensate for 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, 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, as in the case of many Internet Service Providers in Eastern Europe that began as non-profits and grew into viable businesses (Peizer 2000).

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 work on providing Internet access and training to Central and Eastern Europe. By the mid-1990s 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' 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 non-governmental organizations 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 work with a virtual nation-wide radio network. As a member of the World Economic Forum's Global

Digital Divide Initiative, C@MP is actively involved in seeking opportunities to overcome the digital divide.

For independent media to fulfill their role in democratic and democratizing societies they need 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 medium. Campware helps with automating web publications, managing subscriptions, and allowing remote contributors to feed content to the publisher's database, and 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, which itself becomes a collaborative international enterprise. Importantly, all the software it develops is made public (under the GNU General Public License) so that its development can benefit from maximum input, and it provides limited fellowships to help develop Open Source projects.

C@MP thus uses technology to transform technology while pursing a normative mission with social change as a desired outcome. Its output is increasingly identical to the client's input, that is, rather than 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 in perceived gaps, it has evolved into what we can 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 notion itself of producer and consumer is blurred by emphasizing knowledge facilitation. This blurring, is to some degree, a function of digital technology's affordances: online consumption, for example, blurs with the production process by allowing (or forcing) users to engage in an activity formerly relegated to production, such as data entry, or by producing information in 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 as C@MP does is not an obvious choice for most NGOs, because 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. 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. While changing, this remains a dominant organizational way of thinking.

The "information society" is best understood as a society faced with exponential practical and epistemological problems occasioned by the unprecedented access and creation of information (how to process large amounts of data, how to insure data protection, how to ascribe meaning to data). This is a society where problems of quality stem from problems of quantity, and the basic structures of brokering remain in place. It has an hourglass structure, with information passing through the broker in the middle on the way from A to B.

In contrast we can imagine a "knowledge society" with the structure of a network, emphasizing not information *per se* but communication. It too faces problems, but of an ontological nature, questioning the very a priori assumptions of organizational forms. 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. In this way knowledge network facilitators, as opposed to 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, to mediate between design and use, have socio-cultural insights that governments or corporations lack, and engage in experimentation on a constant 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 very 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 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 and critique. 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. C3 sponsors myriad exhibits and projects, including grants. An example of its critical, functional and experimental work is 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 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).

Mixing the social criticism of the artist with new media opportunities resulted in the "Inside Out" project that ran in the earlier days of C3 from 1997-98. 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 website. The photographers were interviewed about the photos after they were printed and were compensated for their work. The exhibition and website served to humanize a marginal population while helping make homelessness a topic for public debate.

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, which grew to over 300,000 users (it was later sold to the Hungarian telephone company Matav). Its 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 itself 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). 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 shift discussed above 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. The information broker model remains dominant for reasons of expedience and inertia; the promise of revenue from gaining rents is a more familiar bet than from facilitating knowledge networks. Knowledge-based organizations also face being held to account in multiple registers, an inherently unstable situation that requires ingenuity and flexibility.

Yet as NGOs adapt to changing environments they will increasingly be faced with a need to re-evaluate their roles. Co-existing and competing evaluative principles within in an organization will increase as interaction with governments, private funders, business, other NGOs and constituents becomes more complex. The conjunction of globalization and privatization that forms the environment for NGOs in transition countries will make it difficult to operate successfully on a strict information brokerage model. How is this tension between information and knowledge models manifesting itself among NGOs?

"Meta-NGOs" and the virtual public sphere

We confront this tension 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 strive to serve as clearinghouses for a country's NGO community in whole or in part (cf.

Fazekas 2001). 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 citizens' organizations." 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.

The organization 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 its web, technical support and training is available to NGOs for a nominal fee. Changenet is organized like a house with many rooms to visit and amble through. Design is important to the function of meta-sites, and they tend to pay more attention to it in general than other NGOs (except for art-based sites).

While based on the information brokerage model, where the meta-NGO acts as a conduit for information, their use of the Internet often leads to the creation of networks of communication beyond the purview of the organization. A tension arises concerning the level of "control" and positioning of the meta-NGO in relation 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 website, 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 "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-NGOs' wish to generate income to support their operations. The virtual public sphere is run through very real computers, servers, and connections, all of which costs 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 necessarily a problem, because it is also possible that entrepreneurial elements of NGOs are what allow for creative solutions. Yet it 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 a developer of a non-profit database, it shifted in the late 1990s from gathering data on NGOs in Poland to providing more tailored information for Polish NGOs. This, in turn, developed not just into providing information about and for NGOs, but also into promoting the flow of information between them. This shift 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). This was then complimented by its own extensive website (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 2000 to develop a template for websites that NGOs could use to quickly and efficiently gain a web presence by filling in the form and generating the website.

Klon/Jawor is a textbook case of how an NGO was transformed by its relationship to information to become a central node. Its founders were a group of sociologists from the University of Warsaw. Its early years as the developer of a (print) database on NGOs made Klon/Jawor a place for NGOs to turn to for information about the rapidly developing sector. A dense network grew up with Klon/Jawor as a

[6] The discussion of Klon/Jawor, and the Hungarian NGOs draws on Erzsebet Fazekas' research for the project. Her full report is available on the Interactive Technology and Civil Society website (www.columbia.edu/cu/iserp/itcs).

central node, and it became even more essential to other NGOs as it gradually moved many of its databases to the web and added services such as free email and website 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 over a physical and virtual network as the head of a consortium 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 rather comfortably laid claim to its central and progressive role in the Polish NGO sector.

Erzsebet Fazekas argues that the cohesive nature of Klon/Jawor is a function of country-specific factors, where cooperative networks morphed relatively painlessly into a formalized structure. Hungarian meta-NGOs did not exhibit the social intimacy and camaraderie that were the norm at the Szpitalna Center; rather, their relations were pervaded by distrust and competition. This distrust was, in part, caused by a more pronounced generational split, in which a younger generation of activists who increasingly adopt the rhetoric of professionalization clash with an older generation's commitments to grassroots organizing.

It was in this context that a planned Hungarian cooperative venture to establish an NGO portal for the region went sour, partly because of distrust between two organizations that we will refer to by the pseudonyms "Information Central" and "Civic Sector Action." Like 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 a third Hungarian NGO put it, all local foundations wanted to be the only source for information and, significantly, be closest to the Soros Foundation.

The cooperative plan to establish an NGO envisioned "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 will devise independent projects in collaboration with others." This enhanced communication and interactivity was to be achieved through chat rooms, IRC, listservs, forums and the availability of technical know-how (in Fazekas 2001).

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, it felt the need to augment its strengths with a partner that had experience in information dissemination. IC seemed a perfect choice, as CSA could simultaneously increase its own profile by being the lead organization in the grant and, in the process, eliminate IC as a rival in overlapping areas while using its 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, the goal of which is to "to make accessible at one place all the services and information now dispersed in a structured way" (in Fazekas 2001).[7] As of summer 2001 this portal has not yet been launched.

Klon/Jawor and the Hungarian NGOs generally find themselves following the technology, often pushed by the priorities of funders and pulled by the demands of their clients. They use interactive technologies in an innovative way, yet they are only beginning to stress user innovation and tacit knowledge, or to combine technological know-how and socio-cultural insight in a collaborative

[7] The services will include a "nonprofit 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 nonprofit service providers, introductions to different NGOs, a matchmaking service for fundraising, service-seeking and problem solving, and an online nonprofit bookstore (Fazekas 2001).

environment (Century 1999). They are, however, important organizational developments regarding an emerging virtual public sphere and are an example of the transition from information to knowledge among civil society actors.

If meta-NGOs are successful in facilitating knowledge networks, 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 the ability of people and groups to be aware of each other and collaborate. This is not just the public space displaced into the virtual realm but a new type of interaction among individuals and organizations. Ideally meta-NGOs will become a vital part of a virtual public sphere structured as an emerging networked social system that distributes knowledge production along self-organizing principles.

We have encountered these types of structures in firms with collaborative networks that span organizational boundaries. These developments increase interdependencies within the organization. But because of the greater complexity of these feedback loops, coordination cannot be engineered, controlled, or managed hierarchically, resulting in "distributed authority" (Powell 1996) that raises new questions of accountability.

This situation arises because, as NGOs become sites of competing and coexisting evaluative principles, they spread their accountability unevenly between constituents, board members, donors, and the public (Edwards and Hulme 1996). This leads to an attendant proliferation of performance criteria that catches them 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).

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, develop hybrid entrepreneurial programs, and create 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, Marcuello 1998). 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. The types of educational background and experience necessary for mobility within the NGO world thus changes to include fluency with technology, which means not only literacy but familiarity – a certain ease of interaction – with technology.

This is significant because, at their most ambitious, NGOs seek the kind of societal transformation that ultimately requires redefining public discourse to change social practices. The shifting linguistic codes mentioned above are one way in which the co-evolution of NGOs and technology are embodying and fostering new practices. Others include changing the way in which people relate to the technology by, for example, coming to rely 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 key 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 the central actors in such intersecting networks, even nationally-based NGOs could take on an additional role of facilitating knowledge and collaboration beyond their provision of "safety-nets" and "safety-valves" (as discussed above). In the most speculative way this development could herald new roles for NGOs in the construction of a global civil society (see Salamon 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, new forms for identity and self-expression. The move toward knowledge brokering 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. 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 as we know it may soon merge into a mixed form of telephony and broadcasting that could make "the Internet" with a capital "I" a historical marker rather than a permanent descriptor of digital interactive technologies to come. Rather

[8] If NGOs institutionalize networks in which weak ties distribute nonredundant 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,

than predetermine the outcomes of interactive technology's social effects, as futurologists are wont to do, we can rather view its advent as an "interstice," in Georg Simmel's sense of 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 predecessor's earlier success in overthrowing recalcitrant regimes. We are cautiously hopeful that the affordances of interactive technology will be used creatively by NGOs to confront the uncertainty heralded by the new century, rather than submit to its exigencies.

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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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