

# **Organizing Technologies: Genre Forms of Online Civic Association in Eastern Europe<sup>1</sup>**

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forthcoming in the

*Annals of the American Academy of Political and Social Science:  
Cultural Production in a Digital Age*

edited by Eric Klinenberg

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# **Organizing Technologies: Genre Forms of Online Civic Association in Eastern Europe**

Balázs Vedres, László Bruszt, and David Stark

## **Abstract**

To study technologies of politics in a new field of representation we examine how civic associations in Eastern Europe create online organization. Organizing technology is about combining specific technological features with actors and types of acts. Based on data we collected on 1,585 East European civil society websites we identify five emergent genres of organizing technologies: newsletters, interactive platforms, multilingual solicitations, directories, and brochures. Genre structures organization. These clusters do not correspond to stages of development; and, moreover, newer website are more likely to be typical of their genre suggesting that these forms are becoming more rather than less distinctive. In contrast to the utopistic image of a de-territorialized, participatory global civil society, our examination of the structure of hyperlinks finds that the transnational are not inclined to be participatory and the participatory are not transnational. Whereas the Internet and Society paradigm focused on inequality of users' access to various aspects of the web, we probe inequality in the accessibility of websites to potential users. Search engine technology is search engine politics.

## **Introduction: After “Internet and Society”**

One of the challenges of exploring the co-evolution of organizational forms and emergent technologies is to take seriously the expectations triggered by a new technology. Taking them seriously does not mean accepting their, sometimes wildly exaggerated, claims but, instead, understanding the underlying assumptions about technology and society that give rise to them. The popular as well as the scholarly literature on the internet and the public sphere is filled with excitement about the transformative potential of new information and interactive technologies which, it was believed, would open a new era of an expanded and vibrant global civil society.

The possibility for connectivity was seen as the key element in this transformation. The new technologies would overcome the one-to-many character of the once-dominant mass media in favor of unmediated connections among the new global citizens. They would revive a dormant public sphere by creating new domains for deliberation. Because connectivity was interactive, the virtual public sphere would be a new field that was, above all, participatory. In place of the passive consumers of the mass communication model or of the tired electorate of the old polity, the cybercitizen would be a user as producer, contributing to online debates and interacting directly with others. Connectivity, moreover, would not only reshape the citizen but would also reshape the topography and the geography of the public sphere. Because technology provided the means for anyone with a network connection to link to someone similarly networked anywhere else on the planet, the virtual public sphere would become increasingly de-

territorialized. In the e-topic visions, an imaginary pre-modern polis became fused with the globally interactive technologies of the 21<sup>st</sup> Century (for a critical discussion of this literature see Hand and Sandywell, 2002).

Amidst this overheated rhetoric, sociologists posed the sobering question: is connectivity really so ubiquitous? Who has access? How are patterns of usage such as hours online and types of online activity (emailing, browsing, shopping, gaming, instant messaging, etc.) stratified? And how do these patterns correlate with other demographic or social class variables such as gender, age, occupation, income, level of education, and so on? The resulting body of work represents an already well-developed framework that many refer to as the “Internet and Society” paradigm.<sup>2</sup> Exemplary in its relentless determination to chart the demographics of web usage has been the research undertaken under the sponsorship of the Pew Project on “Internet and American Life,” as indicated by this sample of titles in its recent reports:

“Asian-Americans and the Internet: The Young and the Connected”  
“Wired Seniors: A Fervent Few, Inspired by Family Ties”  
“Hispanics and the Internet”  
“African-Americans and the Internet”  
“College Students and the Web”

If the internet enjoys a special distinction, it might be that its end-users are the most systematically studied (both for commercial and scholarly purposes) of any newly-introduced technology in history.

The Internet and Society paradigm offers an important corrective to the utopian promises of the early literature on the virtual public sphere. But as the flip side of the utopian framework – both emphasizing connectivity, one pointing to its transformative potential, the other pointing to obstacles (whether in access or skills) to it – the Internet and Society approach fails to challenge widely-held assumptions about technology. Our objection, to pose it succinctly, is less with the terms “Internet” or “Society” than with the “and,”<sup>3</sup> signaling that technology is something external to society.<sup>4</sup> As sociologists, we agree that our task is to study the social; but we argue for a sociology in which

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<sup>2</sup> For example, Harvard and Stanford each has a center on “Internet and Society,” and researchers in the University of Maryland’s program on Scientific Research on the Internet edit the journal, *IT&Society*. For exemplary contributions to the paradigm, see DiMaggio et al. 2001; Robinson et al. 2003.

<sup>3</sup> Here we are more charitable than Bruno Latour who, criticizing the approach of which he was a founder, famously commented that there were only four things wrong with Actor-Network Theory – “the word actor, the word network, the word theory, and the hyphen!” (Latour 1999:15).

<sup>4</sup> Attention to the paradigm’s moniker would, of course, be trivial if the division that it denotes did not so deeply inform the approach.

technology is a constituent part of the social.<sup>5</sup> While we reject the utopian approach that tries to deduce social effects from the properties of technology, we also depart from approaches that focus solely on the effects of the properties of social structure. Instead of trying to understand the structure of civic organization mechanistically from the properties of the new technology, and instead of analyzing the ways social structures might limit these effects, we propose to study combinations of technologies, actors, and types of actions yielding different emerging structures of online civic association.

In this departure we are strongly influenced by insights from science and technology studies. As Michel Callon and Bruno Latour have argued, social network analysis, as practiced by American sociologists, typically focuses only on ties between persons (or anthropomorphized organizations) ignoring the socio-technical features of organizations as ties among persons and things (Latour 1991). Similarly, Hutchins (1995) argues that intelligence is socially distributed – in which the “social” includes humans and their non-human artifacts – as he demonstrates in a painstakingly detailed analysis of how a navy destroyer is navigated into harbor after a power failure. In a pathbreaking study of the relationship between organizational form and technology, Yates (1989) points to the importance of such prosaic artifacts as the file folder and the filing cabinet in the emergence of bureaucratic organizations; Eisenstein (1993) demonstrates that the organization of modern science is inseparable from print technology; Orlikowski (2000) criticizes the “appropriationist” view that uses are inscribed in technology; and Barley (1986) provides a set of theoretical tools to grasp how technology interacts with organizational structure. As Boczkowski (2004) demonstrates in his study of online newspapers, technologies offer “affordances.” Although it is the case that you cannot do just anything you want with a given technology, it is also true that a given technology typically “affords” more than one application. The history of technology, and of communication technologies in particular, is replete with examples of how technologies, such as the telephone (Fisher 1992), coevolved with social practices in ways that departed dramatically from the usage originally inscribed by their designers.

The postsocialist societies of Eastern Europe provide an extraordinary laboratory for exploring the coevolution 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 non-governmental organizations (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

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<sup>5</sup> Thus, in place of Internet and Society, it would already be better to study the society of the internet. The simple terminological change suggests an expanded and more heterogeneous constellation of “actors” – not only millions of persons, but also websites, routers, servers, search engines, and the rapidly proliferating population of pieces of software code (“intelligent agents”) coursing through the internet, interacting with us and each other. Systematic study of the social dynamics of these interacting populations is an exciting opportunity for sociology.

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 writings 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 democratic transition 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 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-Gutenberg setting to the opportunities of advanced communication technologies.

Our task in this paper is to examine civil society websites. As our title, “Organizing Technologies,” suggests, we study technologies of organizing and in doing so we study how these technologies are organized. Website technologies can be deployed by civic associations and social movements for organizing civil society. From the array of available technologies, which are featured on their websites? Just as we can think about conventional (offline) organizations as particular bundles of routines, so here we think about online organization as particular bundles of features. If technology was determinant, then we would expect to find little systematic variation in that array. But, as we shall see, we do find identifiable patterns of variation suggesting that civic associations are organizing technologies in distinctive ways. Restated, we are examining a new field of political representation: with the emergence of NGOs we find new types of actors making new kinds of representational claims outside of electoral politics within a new representational medium. In asking how organizations re-present themselves online, we are examining the technologies of politics. In charting the characteristic patterns of how particular features are combined, we examine the organization of technology.

### **Data**

To chart structuration processes in the web of civil society in East Central Europe, we gathered data from 1,586 prominent civil society websites with the following distribution across the four countries in the region:

[Table 1 about here.]

Website data for each of the four countries were collected between March and June 2002 by native language speakers whom we trained in the sample selection and coding procedures.<sup>6</sup> We visited each website and used a questionnaire to record data on specific features adopting a procedure that we had refined in a previous pilot project of 600 websites. In that pilot project we found that many site features involved different ways of

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<sup>6</sup> Details on sample selection and coding protocols are available in the online version of this paper at <http://www.coi.columbia.edu/workingpapers.html#ot>.

organizing relations with other actors: visitors, members, clients and/or potential constituents, actual or potential donors, other organizations, and so on. These features are the elementary forms of online civic organizing. They allow for different forms of activity: from getting in touch with the NGO; consulting information about its activities, its field of action, or its allies; as well as more active forms of participation in online and offline actions.<sup>7</sup> Our task is to identify the distinctive patterns in which these relational features are combined.

For each website, we recorded the presence or absence of thirteen features yielding the following variables: Offline reachability (labeled OFFREACH) refers to whether a user could find a street address or a phone number of the sponsoring organization listed on the website.<sup>8</sup> A positive score on EMAIL similarly indicates that the website includes an email address to reach the organization. MISSION records whether the site includes a mission statement. REPORT records whether the site includes a feature of downloadable annual reports or accounts of fundraising. NEWS indicates the presence of a distinct new section. Websites with calendars about events or otherwise a list of scheduled meetings receive a positive score on the variable CALMEET. Our variable labeled CONF refers to whether a website posts information about conferences. Some sites are available to readers in different languages, so our variable MORELANG records whether the site as a whole (e.g., “click here for English version”) or any significant part of it is available in a language other than the native language of the site. LINKPAGE indicates whether there is a separate page or dedicated section specifically for links to other websites. Our SIGNUP variable indicates whether a user/visitor to the website can signup online to join the group or organization or to register online to join listserves or receive e-mailings of various kinds. The variable PARTICIPATE indicates the potential to participate online through such features as bulletin boards and chat-rooms or to post documents directly to the site. DATABASE indicates an online database of any kind that can be used on the website or downloaded from it. Our final variable records whether the website includes an online SURVEY. Table 2 reports the overall frequencies of the feature variables in our population of prominent civil society websites.

[Table 2 about here.]

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<sup>7</sup> Students of political participation will recognize that we translate standard definitions of types of political participation such as “reading about,” “getting in touch,” “identifying with,” and “actually participating in” specific actions.

<sup>8</sup> Each feature is recorded as a dummy variable, i.e., with a score of one if a given feature is present and zero if it is not found on the website.

## Clusters of civil society websites

How are these features selected and combined in actual websites? The logical permutations of the 13 variables make it possible that we could find as many different types of websites as the total number in our population. That would be a finding of no pattern at all. Another possibility is that there is a single model or blueprint encoded in the technology of the web. The topology of such a field would be smooth and single-peaked. At its apex would be the modal websites that conform most fully to that blueprint. Scattered randomly around the center would be those websites that have not yet realized the full potential for civil society websites whether because the creators of these website have not yet learned how to use the technology efficiently or because of limited time or lack of resources they have not been able to complete their site construction. In the single mode model, these websites are expected to converge to the blueprint.

To chart the landscape of websites we used cluster analysis. The result of the Ward-clustering (Ward 1963) partitions our cases into five groups, explaining 38% of the variance of website features. Table 3 presents the five clusters and the percentage of websites within each cluster that have a given feature. For each feature we also present an adjusted residual that indicates whether the given feature is significantly more or less common in the given cluster than in the overall population. An adjusted residual greater than two indicates that websites in that cluster are significantly more likely to have that feature than average. A residual less than minus two indicates that websites in the cluster are significantly less likely to have the feature (Agresti 2002).

[Table 3 about here.]

Each of the clusters represents a distinctive form of organizing online. That is, in place of a single model to which all websites conform to greater or less degree, we found five relatively coherent models or blueprints. The creators of civil society websites are neither rigidly following a single model nor randomly selecting features. They actively shape their websites, but they do so along clearly identifiable types or scripts. As we shall see on closer inspection, four of these types have precursors in print genres: newsletters, solicitations, brochures, directories. A fifth type, the interactive platform, is an emergent online genre. Faced with new technologies, the creators of websites turn to already-existing cultural forms as templates for action. Genre structures organization.

### Online genres

*1. Newsletters.* Comprising nearly one-third of the NGO websites, this cluster is the most numerous online organizational form. Websites of this type have a much higher than average probability of including calendars of events or information about meetings. In fact, 90.3 percent of these websites do include such a feature, and almost 28 percent of them (higher than any of the other clusters) provide information about conferences. These websites are also the most likely to have a “news” feature about the activities of the NGO. Websites in this cluster function as *online newsletters* of ongoing activities,

regularly reporting on activities that have already taken place and providing information about the possibilities for participation in upcoming off-line events. Consistent with this orientation to a user who is an actual or potential member, these websites frequently make use of technologies of registration, allowing constituents to join the organization online and sign up to receive more specific information about the activities of the NGO. Significantly less likely to translate their materials into other languages, these websites are oriented to domestic users whom they seek to get involved in their off-line activities. Involvement in this case does not, however, extend to online participation for these websites are significantly less likely to include such features. These online newsletters select, among the affordances on the web, those features that target their members and constituents with information that encourages them to participate in the off-line activities of the organization.

2. *Interactive platforms.* This is the second largest cluster in our population of civil society websites with nearly 20 percent of the NGOs grouped in this category. Almost 62 percent of these websites include features that allow online participation – by far the highest among our five clusters. The user they are targeting seems to be active and experienced in the online environment: these websites are likely to have linkpages for their users and, more significantly, they are most likely to allow users to join the organization online or sign up for various kinds of online services (almost two-thirds of their websites include such features), to provide online databases, and to use the web to survey their members or constituents. Consistent with this orientation to individual members, these sites are least likely to provide formal annual reports or information about funders and they are unlikely to translate their materials into foreign languages. Moreover, consistent with their online orientation, they are least likely to provide information about their off-line reachability (more than 25 percent of these websites contain neither an offline address nor phone). When compared to the average website, these sites are significantly less likely to provide an email address, a finding that may seem curious given their otherwise strong online sensibility. But this finding is meaningful in light of the full ensemble of features: perhaps even more important than *reaching the “organization,”* users of these interactive sites might want – and by the ensemble of features presented are most encouraged – to *reach each other.* As the websites among our population with the richest opportunities for online conversation with other users, for online participation, for using online databases, and for posting materials online, the format of these websites is as a *platform for online interactivity.*

3. *Multilingual solicitations.* The most distinguishing feature of the websites grouped in this cluster (representing about 15% of the population) is that nearly all of them (95.3 percent) post their site in more than one language version. Across all clusters in the overall average, only one in three websites adopts this feature. In addition to this pronounced multilingual character, websites in this cluster are more likely to use the web in attempts to establish their professional standing as the beneficiaries of donors and the (formally accountable) spenders of money: On one hand, they are more likely to have their annual reports and fundraising information on the web; on the other, they are less likely to provide an ongoing news feature and to provide for forms of online interactivity. The contrast with the “interactive platforms” is telling. Solicitation websites are three

times more likely than the “interactive platforms” to post reports that establish their accountability on a standardized professional basis; conversely, they are nine times less likely to adopt features that allow for online participation and nearly five times less likely to attempt to attract new members by allowing them to use online forms or join the organization online. Although about 22 percent of these sites post information about conferences, they are far less likely than the more activist newsletters to post calendars or announcements about meetings (36 percent compared to 90 percent). Thus, whereas the websites in our first and second clusters appear to be organizing members for online or offline activities, these multilingual solicitations are *oriented to other organizations*, perhaps especially to foreign donors. The organizations creating these websites are highly reachable: 97 percent provide an address or phone and 92 percent provide an email address where they can be contacted. But when you reach their websites, you are less likely than on the average site to find a link-page feature from which you can reach other (potentially competitor?) organizations.

4. *Directories.* Among the civil society websites in our population, about 12 percent are grouped in our fourth, and smallest, cluster distinguished by the finding that nearly two-thirds of these websites post a “link-page.” Apart from one other variable, an email contact address, these sites are below average on every other feature (that is, the adjusted residuals are negative). They are significantly less likely to have information about conferences and meetings, provide online databases, and adopt various forms of online registration or participation; and among all the clusters they are least likely to post mission statements and include features of formal accountability. These websites are *virtual directories*. Thus, they differ markedly from the online newsletters: Websites in this “directories” cluster are ninety times less likely to have a calendar of events or information about meetings than the sites of the newsletter cluster. They also differ from the sites of the “interactive platform” cluster in that they are 23 times less likely to use the most interactive features of web technology: bulletin boards, online chat-rooms and sections for member uploads. Finally, they differ from the multilingual solicitors in that they are much less likely to have an annual report or information on fundraising on their websites. About one-quarter of these websites have a version of the website in more than one language; one in five have a “news” feature; and one in ten provide an online database. These sites are oriented to a user that is expected to be neither a prospective member nor a prospective donor (at least not of or to the hosting NGO itself). When you visit these websites, what you are most likely to be able to do is to *move on to other websites* by means of an organized collection of links. In that respect, these websites maintain the avenues of online civil society by creating hyperlinks that keep other websites connected and accessible.

5. *Brochures.* About 18 percent of our NGO websites are grouped in this last cluster characterized as *digital brochures*. The features of the web that they are most likely to combine are information on off-line reachability, a mission statement, and features of formal accountability. Across all the clusters, these websites are least likely to include any of the other available features of web technology. In comparison to the virtual directories they are ten times less likely to have linkpages. Although they do provide more information about their offline activities than the directories, they are much less

eventful when compared to the websites of the online newsletters – considerably less likely to have a news feature (24 percent compared to 62 percent) and 17 times less likely to post information about meetings. When compared to the multilingual solicitations they make even less use of the interactive affordances of web technology; but the most salient difference between these two clusters is that, whereas 95 percent of the websites in the former cluster have multilingual versions, only 5 percent of the sites in the pure brochure cluster offer versions in more than one language. This group of websites represents a minimal participation in the web of civil society.

### **Age of websites and genre forms**

Consistent with the idea that combinations of technological affordances, actors, and actions yield emerging structures, we interpret the clusters of website features that we have found as distinct genre forms for organizing technologies. Technology is enacted, rather than encoded. An alternative explanation is that these typical combinations of features are simply stages of development in building a civil society website, whereby actors “appropriate” technology. Thinking of the brochure cluster, for example, one might be tempted to assume that this constellation of website features signifies a first phase, a temporary placeholder on the web until further features can be added. In a similar vein, the participatory cluster of interactive platforms could be thought of as an advanced stage where civil society websites arrive once their creators are thoroughly familiarized with the potential of online technologies. Whereas a brochure is a first step in the life course of a civil society website, interactive platforms come later as the full realization of the promise of the technology.<sup>9</sup>

To test this stage hypothesis, we collected information about the age of each website in our population. A chi-square test finds no difference between website clusters in terms of age (chi-square=1.358, p=0.852). Based on this finding (and other related tests with various statistical controls)<sup>10</sup> we can reject the hypothesis that website feature clusters are stages in website development or progression along the path to realizing the one real civil society website. It is more likely that website features clusters are indeed emerging genre forms of civil society web presence.

If clusters do not correspond to stages of development towards a blueprinted ideal civil society website, is the web of civil society in Eastern Europe evolving towards or away from the five genre forms we have found? That is, although websites are not converging to a single ideal type, is it the case that websites within a given cluster come to resemble more an ideal typical site that represents their cluster? Operationally, are websites that are created later more likely to approximate their cluster centroid than websites that were designed earlier?

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<sup>9</sup> Alternatively, one might argue that websites would adopt the state-of-the-art practice current at the time of their founding. In this case, newer sites would be the more interactive. Our tests reject this hypothesis as well. There is no significant correlation between age and genre form.

<sup>10</sup> See website version of the paper for details on these measures and the statistical tests.

To test this hypothesis we created a measure of closeness to the genre ideal types using discriminant analysis.<sup>11</sup> If the web is evolving towards the five genre forms, then we would find that a significantly higher discriminant score for the newly designed websites than for the older ones. An F-test of this hypothesis finds that the newer websites do have a significantly higher discriminant score ( $F=3.765$ ,  $p=0.053$ ). Newer websites more closely approximate their cluster centroid (within cluster ideal type).

The finding suggests that genre forms are robust and that they are likely to continue to structure online organization in the near future. A likely explanation of the finding is that the creators of websites learn from websites they have seen and use them as models. Instead of being instructed simply to “make us a website,” webmasters, it seems, are being told to “make us *this kind* of website.” But this indexical ordering does not yield a rigid copying. To be clear, our findings here are not that newer websites resemble older websites within their genre but that *the newer are more likely themselves to be typical of the genre*. At the outset of the process, differences among websites were perhaps slight; but, based on these initial differences, forms emerged that are becoming more rather than less distinctive. Genre structures. But it does not do so mechanically. In this case it is reproduced precisely as new actors make modifications that shape the genre form.

### **The field of online civic organization**

Having examined how genres structure online organization, we turn now to the structure of the organizational field of civil society websites. Figure 1 presents the correspondance analysis of the field as represented in a two-dimensional space. One of the advantages of correspondance analysis is that it allows us to represent the clusters and the variables in a single space. We can thus represent the distance of the various features from each other (understood as the probability of their co-occurrence on the sites) as well as represent the relationship among the clusters as given by their relative proximity/distance from the various features.

[Figure 1 about here.]

As a model, Figure 1 is a simplified representation of the original data. The adequacy of the two-dimensional space is measured by the proportion of variance the two dimensions represent of the original variance in the distribution of features across genre forms. In this case the proportion of variance explained is 59.6%, indicating that this two dimensional model is a good fit to the original data.<sup>12</sup> On our two dimensional figure we indicate the overall frequency of each feature by the size (area) of its circular marker; and the number of websites that have been grouped in a given cluster is represented by the area of the respective squares.

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<sup>11</sup> Details of these tests are available in the online version.

<sup>12</sup> Readers in the field of cultural studies will recognize correspondance analysis from the writings of Pierre Bourdieu. Models that explain nearly 60% of the variance are rarely encountered in his work.

We interpret structure in this field as follows: The horizontal axis is organized (reading left to right) as information versus participation. The vertical axis is organized (reading top to bottom) as offline activity versus online activity. Thus, to the right side of the origin we find websites that are oriented to members. Websites in the upper right quadrant are oriented to a user-member who does, or potentially wants to do, something offline. Websites in the lower right quadrant are oriented to users who are active online. To the left side of the origin, by contrast, we find websites that are oriented not to members but to visitors. For example, websites in the bottom left quadrant seem oriented to a visitor who uses a directory to gain information about other sites on the web. Those in the upper left hand quadrant seem oriented to a user who visits sites to gain information related to donation (in Eastern Europe in 2002 still very much an offline activity).

Whereas websites to the left of the origin control what is posted on their sites, those to the right allow users to post materials by participating in chat rooms and uploading documents. But it would be mistaken to interpret the horizontal axis as “closed” versus “open.” The feature SIGNUP is double-sided: on one hand, it indicates that users can signup to join the organization and/or receive materials, on the other it suggests that there might be filtering mechanisms. Not just anybody can post materials – only those who have registered, perhaps only those who have in some way been vetted. That is, more participatory websites might be more restrictive, even exclusionary. Building online communities, especially as havens for groups out of the mainstream, can require creating boundaries. By contrast, websites to the left of the origin are an open book. Indeed, to some extent, they open their books by posting documents such as annual reports, budgets, and so on. They are open with information, but if you visit the site there is not much to do there. The sites with more online participation, however, are highly unlikely to post such documents. Open to participation, some of these non-conformist groups would justifiably reject the notion that they should give an open accounting to just anybody.

### **Hyperlink geography**

In addition to recording the various website features, we also studied patterns of hyperlinks pointing from these sites to other sites on the web. We were specifically interested to test whether some forms were more likely to have transnational ties. To do so, we examined the outgoing hyperlinks. We coded a website as “transnational” if it had any hyperlinks pointing to foreign NGOs, foreign funding sources, or supranational governments or agencies. Similarly, we coded a website to have any domestic links if it had any links to other domestic NGOs, domestic funding sources, or national or local governments. Our tests found that the multilingual solicitation form was the only one that was statistically more likely than average to have transnational outgoing links. Interactive platforms are not the most transnational in their orientation. Thus, in contrast to the utopistic image of a de-territorialized, participatory, global civil society, we found that the transnational are not participatory and the participatory are not transnational. This does not mean, however, that the interactive websites are isolated from others. In fact, alone among the genre forms, these websites are statistically more likely than average to have outgoing hyperlinks to other domestic organizations. Participation seems

to go together with a domestic, local orientation.

### **Accessibility redux**

Having analyzed the construction process whereby civil society organizations build websites of emerging genre forms, we now turn to larger construction processes that incorporate these civil society websites into the World Wide Web. To do so, we examined the number of hyperlinks pointing to each website (referred to variously as “backlinks” or “in-degree”). Studies of the structure of the hyperlink network on the web overall have shown that there are extreme inequalities – following a highly skewed, power-law distribution – among websites in terms of their hyperlink centrality (Barabasi, Albert, and Jeong 1999). The distribution of in-degree hyperlinks in our population of East European civil society websites is very similar to the overall distribution found on the web. The least central 90% of the sites have only 20% of all incoming links, and the top 10% receive all the rest.

Centrality scores are not simply an academic’s way to assess visibility on the web. Such scores have practical consequences. Users navigating the web are more likely to come across a site if one can click on a link that points to it. More importantly, today, search engines, (not only Google, the most popular, but many others as well) famously use hyperlinks. More incoming links increase the probability that search engine web crawlers (software robots that roam the web) will find a site to place in their directories. And the equation of hyperlink centrality and “authority” means that websites with higher centrality scores will rank higher on search engine result listings.

Search engine technology is search engine politics. The inclusion of hyperlinks and search engine robots as kinds of actors in the society of the internet gives a new twist to the problem of accessibility. Whereas the Internet and Society paradigm focused on inequality of users’ access to various aspects of the web, we now add the problem of inequality in the accessibility of websites to potential users. On one side, users differ in their access; on the other, websites differ in their accessibility to the general public.

How do our website genre forms differ in their hyperlink centrality and hence accessibility? To answer this question we ran a logistic regression model to test whether there were statistical differences among the genre forms in terms of incoming links. Table 4 shows the relative probability (compared to brochure sites) that websites in the other four genres belong to the most central ones with more than 30 incoming links.

[Table 4. about here.]

The Directory, Newsletter, and Multilingual Solicitation clusters are each more likely to be highly central than the brochure sites. Interactive platforms, the type that we might think of as making use of the most exciting affordances of the web, are not the most central websites. These sites are not “rewarded” by the dominant metric of the web.

## **Shaping the web of civic participation**

In this paper we explored the co-evolution of organizational forms and emergent technologies. The emerging organizational forms we found were not 'inscribed' in the technology, neither were they stages towards the full realization of the promise of technology leading to the singular ideal 'website of civic participation.' To put it differently, the social is not exogenous to technology. In our inquiry we found distinctive socio-technological networks, genre forms that are diverging patterns of online civic organization based on the combination of technological features, actors and types of acts. Social actors do not relate to "the Internet" as a monolithic unit. They give meaning to particular combinations of its technological features with selected types of acts to organize specific relations with various types of actors.

Strongly linked to off-line activities, the online field of civic organization is not a uniform new public sphere with universal accessibility but a field consisting of diverse specific publics with highly unequal visibility. In the civic organization of the World Wide Web active forms of participation and 'de-territorialization' are largely separated. Websites allowing for more active forms of participation are primarily addressed to domestic constituencies, while the websites most likely to be multilingual are the least likely to allow for direct forms of participation. Instead of an emerging de-territorialized and participatory 'global civil society,' the expectation of techno-romantic approaches, in the field we find diverse organizations of primarily domestic publics.

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Table 1. The distribution of websites by countries

Country	Number of websites
Czech Republic	484
Hungary	405
Poland	314
Slovakia	383
Total	1586

Table 2. The frequencies of website feature variables

Variable	Description	Percentage
OFFREACH	Offline reachability (address, phone number indicated)	86.6
EMAIL	E-mail address indicated	85.5
MISSION	Mission statement	63.7
REPORT	Annual report, information about funders	36.5
NEWS	News section	42.2
CALMEET	Calendar of events, information on meetings	41.7
CONF	Information about conferences	16.1
MORELANG	Site fully or partly available in other languages	33.4
LINKPAGE	Separate link-page	31.0
SIGNUP	One can sign up for alerts, ,newsletter or e-mail lists, or one can register as member, join the organization online	31.5
PARTICIPATE	There is a bulletin board, chat room, or users can post documents on the site by other means	21.1
DATABASE	Online database	15.9
SURVEY	Online survey	5.1

Table 3. Clusters of website features

	Clusters of website features										
	1.		2.		3.		4.		5.		Total
	Newsletter		Interactive		Solicitation		Directory		Brochure		
a..	b	a..	b	a..	b	a..	b	a..	b	a	
CALMEET	90.3	++	29.1	--	36.3		1.1	--	5.5	--	41.7
NEWS	62.4	++	47.2	+	32.5	-	19.6	--	23.7	--	42.2
CONF	29.0	++	13.1		21.8	+	0.5	--	3.8	--	16.1
PARTICIPATE	16.1	-	61.9	++	6.8	--	2.7	--	0.7	--	21.1
SIGNUP	34.6		63.7	++	13.7	--	9.0	--	13.8	--	31.5
SURVEY	3.8		12.0	++	3.0		2.7		1.7	-	5.1
DATABASE	16.3		21.3	+	17.1		10.6	-	10.7	-	15.9
MORELANG	27.4	-	29.3		95.3	++	24.9	-	4.8	--	33.4
REPORT	41.7	+	18.7	--	52.1	++	17.5	--	50.5	++	36.5
EMAIL	90.3	+	79.5	-	92.3	+	92.1	+	75.3	--	85.5
LINKPAGE	31.2		38.4	+	23.1	-	64.0	++	6.2	--	31.0
MISSION	60.2	-	60.8		74.8	+	38.6	--	81.1	++	63.8
OFFREACH	88.7		71.7	--	96.6	++	84.1		95.9	++	86.6
Total	100		100		100		100		100		100
n	497		375		234		189		291		1586
percentage	31.3		23.6		14.8		11.9		18.4		100

Notes: a: percentage of websites within the genre form that has the feature indicated. b: pluses and minuses represent the adjusted standardized residual of the frequency of the given feature. One plus means that the residual is greater than two, two plus indicates that the residual is greater than four. One minus, accordingly, indicates a residual of at least minus two, while two minuses indicate a residual less than minus four.

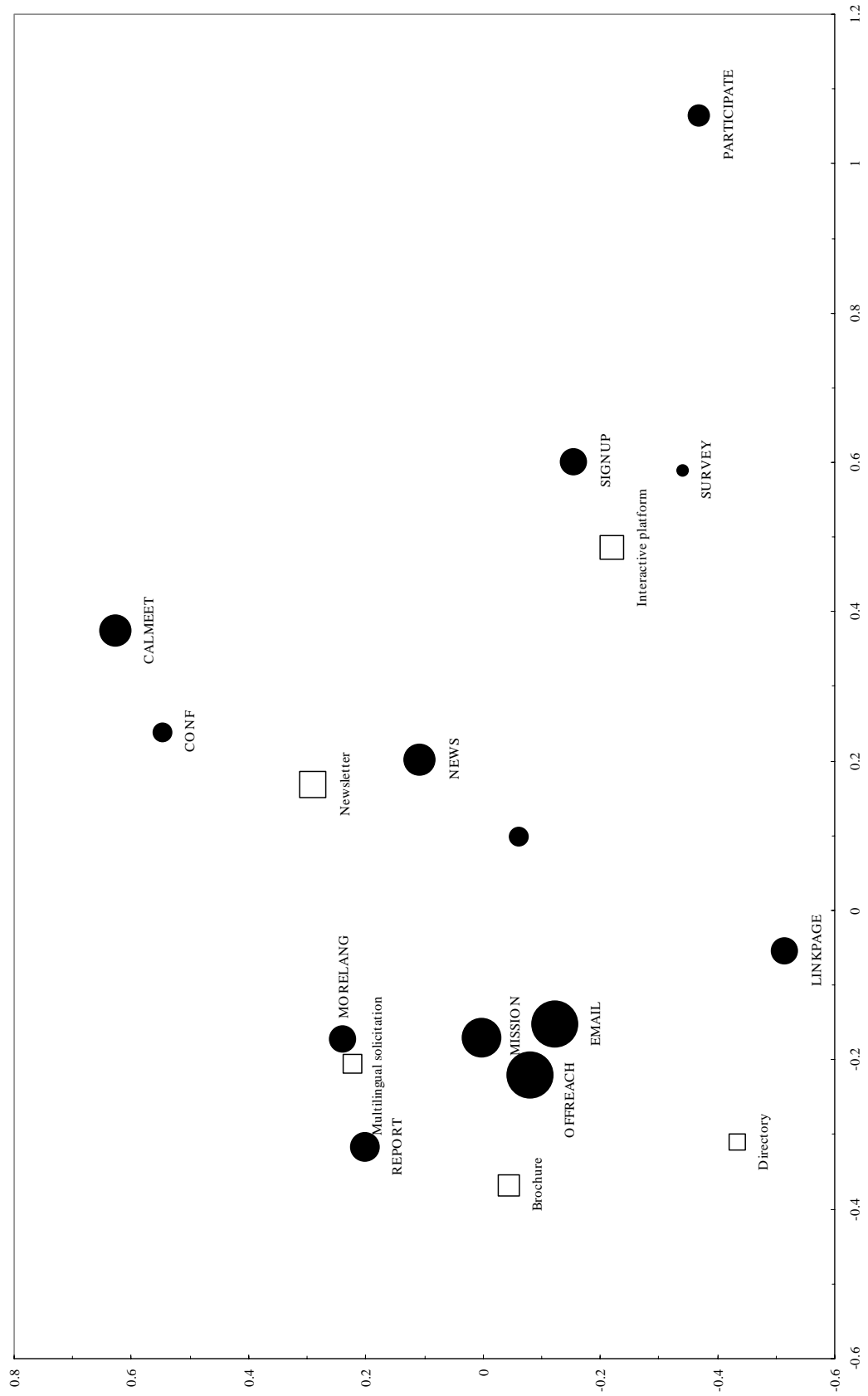
Table 4. Logistic regression model of forms and incoming links.

Dependent variable: 30+ indegree		
	coefficient	odds ratio
INTERACTIVES	0.262	1.300
NEWSLETTERS	0.757*	2.131*
SOLICITATIONS	1.262*	3.532*
DIRECTORIES	0.588*	1.801*

\*: p<0.05

Note: the reference category is the pure brochures. A significant positive coefficient means that the given genre has more incoming links than the pure brochures, the least visible category.

Figure 1. The space of genre forms and website features.



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