

Shaping the Web of Civic Participation: Civil Society Websites in Eastern Europe¹

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ABSTRACT

To study technologies of political participation in the era of internet we examine how civic associations in Eastern Europe create socio-technical platforms of civic participation. The creation of socio-technical platforms combines 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 online platforms of civic participation: newsletters, interactive platforms, multilingual solicitations, directories, and brochures. In contrast to the utopian image of a de-territorialized, participatory global civil society shaped by the new technology, our examination of civil society websites finds that the transnational are not inclined to be participatory and the participatory are less likely to be transnational.

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 of fast, cheap and de-territorialized connectivity was seen as the key element in this transformation. In this frame, to understand the dynamics of interaction between new forms of political participation and technological change, one had to focus on the properties of the new technologies.

The new technologies would overcome the one-to-many character of the once-dominant mass media in favour of unmediated connections among the new global citizens. They would revive a dormant public sphere by creating new networked spaces for participation and de-territorialized 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 global cybergitizen 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 21st 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.² With reference to political participation, the representatives of this approach stressed that technology is accessible only to few and called attention to the dangers of the emergence of another exclusive and elitist public, not much different from the bourgeois public sphere (Williams and Pavlik 1994).

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 the relationship between technology and social change. Our objection, to pose it succinctly, is less with the terms ‘Internet’ or ‘Society’ than with the ‘and,’ signalling that technology is something external to society. As sociologists, we agree that our task is to study the social; but we argue for a sociology in which technology is a constituent part of the social and social practices are performing technological change.³ Instead of trying to understand the emerging patterns of political participation mechanistically from the properties of the new technology, and instead of analysing the ways social structures might limit these effects, we propose to study the dynamics of interaction between social practices and technologies.⁴

Our task in this paper is to examine civil society websites. These websites are combinations of technologies, actors, and types of actions yielding different emerging structures of online civic participation. Website technologies can be deployed by civic associations and social movements for organizing platforms of participation for 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. We thus study technologies of organizing and in doing so we study how these technologies are organized. In other words, we are examining emerging socio-technical platforms of civic participation. In asking how civic organizations create new spaces of participation 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.

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. Today, both NGOs and the Internet are experiencing exponential growth throughout the region. 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.

While participation in voluntary associations in Eastern Europe is well below the levels of participation in the US and Western Europe (Curtis et al. 1992; Letki 2003), the proportion of the population having access to the internet is not that much behind. The four Visegrad countries (Poland, Czech Republic, Slovakia, and Hungary) are much closer to Western Europe in terms of internet access than other parts of the post-socialist world: around 15 per cent of the population has access (in contrast to the 30 per cent in Western Europe, and 5 per cent in the post-soviet states) (Center for Democracy and Technology 2004). We also have to note that while we talk about the weakness of civil society in Eastern Europe, this weakness translates more as unrealized potential than hopeless disintegration in the face of comparison with post-soviet

states (Green 2002; Miller et al. 1997). The percentage of the population holding membership in voluntary associations in the Visegrad countries (based on surveys from 1993–94) ranges from 14.5 per cent (Poland) to 31.2 per cent (Czech Republic) (Letki 2003). This can be considered weak in comparison with the US (72.7%), but comparable to Spain (30.8%) or Italy (25.9%) (Curtis et al. 1992). The level of civil participation in post-soviet states is much below the Visegrad countries, with 6.2 per cent of the population having any membership in voluntary associations in Russia, 8.7 per cent in Ukraine, and 8.6 per cent in Lithuania (Reisinger et al. 1995).

This makes the use of the web for achieving more civil participation a reasonable idea. Indeed, many foreign foundations and domestic government initiatives provided support for civil society organizations and groups to have better access to computer hardware, software, and expertise (Center for Democracy and Technology 2004). In this paper we will map the use of the World Wide Web for civil society purposes in the four Visegrad countries: Czech Republic, Hungary, Poland and Slovakia.

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. 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.⁵ 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 organizing venues for participation for specific types of 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 participatory activity: from getting in touch with the NGO; consulting information about its activities, its field of action, or its allies; accessing updated information on a specific policy field, as well as more active forms of direct participation in online and offline actions. As students of political participation will recognize, we translated standard definitions of types of political participation such as ‘reading about,’ ‘getting in touch,’ ‘identifying with,’ and actually participating in’ specific actions. 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 (labelled OFFREACH) refers to whether a user could find a street address or a phone number of the sponsoring organization listed on the website.⁶ 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 or any significant part of it is available in a language other than the native language of the site (e.g., ‘click here for English version’). 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 for direct participation 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 1).

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 centre 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 Ward-clustering (Ward 1963) partitions our cases into five groups, explaining 38 per cent of the variance of website features. Table 2 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).

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.

TABLE 1: *The frequencies of website feature variables*

Variable	Description	Per cent
OFFREACH	Offline reachability (address, phone number indicated)	86.6
EMAIL	E-mail address given	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

Source: Authors' sample as described in text.

Online genres

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 per cent of these websites do include such a feature, and almost 28 per cent 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 signup 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

TABLE 2: *Clusters of website features*

	1. Newsletter		2. Interactive		3. Solicitation		4. Directory		5. Brochure		Total	
	a	b	a	b	a	b	a	b	a	b		
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 minus 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 indicates a residual of at least minus two, while two minuses indicate a residual less than minus four.

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.

Interactive platforms

This is the second largest cluster in our population of civil society websites with nearly 20 per cent of the NGOs grouped in this category. Almost 62 per cent 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. Similarly to the previous genre, these websites are oriented towards domestic users primarily: 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. 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*.

Multilingual solicitations

The most distinguishing feature of the websites grouped in this cluster (representing about 15 per cent of the population) is that nearly all of them (95.3 per cent) 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 per cent 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 per cent compared to 90 per cent. 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 per cent provide an address or phone and 92 per cent 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.

Directories

Among the civil society websites in our population, about 12 per cent 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.

Brochures

About 18 per cent 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 per cent compared to 62 per cent) 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 per cent of the websites in the former cluster have multilingual versions, only 5 per cent 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, socio-technical platforms of civic participation, results of interactions between social practices and technological affordances. 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.⁷

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 ($\chi^2 = 1.358$, $p = 0.852$). Based on this finding (and other related tests with various statistical controls)⁸ 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?

To test this hypothesis we created a measure of closeness to the genre ideal types using discriminant analysis.⁹ If the web is evolving towards the five genre forms, then we would find 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.

Hyperlink geography

In addition to recording the various website features and identifying emerging patterns of de-territorialization based on their combination, 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. The results are similar to the ones we have gained based on the analysis of the website features: in contrast to the utopian image of a de-territorialized, participatory, global civil society, we found that the transnational are primarily not participatory and the participatory are primarily 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.

The use of more languages, another indicator of transnationalization is the characteristic of less than 30 per cent of the websites that actively use the web for organizing forms of offline domestic participation. Combining the features that aim at the strengthening of the local participatory roots of the organization with a feature of transnationalization, these websites might be the emerging online parts of transnationalizing social movements (Tarrow 1998). We also found multilingual interactive websites that do not offer possibilities of domestic offline participation. Lacking stronger domestic roots, they might both be parts of transnational advocacy networks (Keck and Sikkink 1998) or of emerging platforms of transnational online communities.

Shaping the technologies of civic participation

Transnational political action by civil society actors is not a new phenomenon., it has existed in several diverse forms in the Gutenberg

era, much before the emergence of internet (Keck and Sikking 1998: 39–79). While the spread of the new technology coincided with the rapid rise of newer forms of de-territorialized civic action the relationship between the two processes is far from being direct.

In this paper we explored the co-evolution of forms of participation and emergent technologies in four Central European countries. The emerging socio-technical platforms of participation 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, focusing solely on the properties of the new technology one can not understand the dynamics of interaction between social practices and technologies. 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. While they shape the technology to form newer platforms for participation the way they organize collective action is largely shaped by non-technological factors, like the structure of social and political opportunities (Tarrow 1998).

Strongly linked to off-line activities, the online field of civic participation is not a uniform new public sphere but a field consisting of diverse specific publics. 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 less 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.

NOTES

1. Research for this paper was supported by NSF Grant no. 0115378 and by The Open Society Institute Information Program (Budapest). Our thanks also to the Santa Fe Institute, where Stark is a member of the External Faculty and Védrés is an International Fellow.
2. For example, Harvard and Stanford each has a centre 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.
3. 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.
4. In this departure we are strongly influenced by insights from science and technology studies. See especially Latour (1991), Hutchins (1995), Yates (1989) Eisenstein (1993) Orlowski (2000), Barley (1986), Boczkowski (2004), Fischer 1992).

5. 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>
6. 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.
7. 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.
8. See website version of the paper for details on these measures and the statistical tests.
9. Details of these tests are available in the online version.

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