A STUDY OF CIVIC LIFE ON THE INTERNET

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Theory and Expectations

Some estimate that over 30 million people now connect with the Internet, and that number is expanding rapidly (Negroponte, 1995: 5). Many of them use the Internet to engage in political discussions (Rheingold, 1993: 8-12). While use of the Internet has received considerable coverage in the popular media in the past two years, there has been little discussion of it in scholarly political science or public opinion journals. Yet the Internet provides new opportunities for citizens to connect with each other. Indeed, the Internet provides a means to develop a new public space--an electronic agora if you will--that facilitates democratic participation in politics adapted to advanced post-industrial societies.

Having evolved from research financed by the Department of Defense's Advanced Research Projects Agency (ARPA) to develop a communication, command, and control network that could survive a nuclear attack, the Internet has no center (Rheingold, 1993: 7-8; Gilster, 1994: 16-17). Because there is no central cluster of studios from which most information on the network gets distributed, in theory at least, political decisions can emerge through interaction among individuals who share equal powers of communication. And, as the Internet extends across national boundaries, the virtual communities provide unique opportunities for people to participate in the emerging politics of the global village.[1]

In this paper we first describe some models of electronic democracy that derive from the power of the Internet to enhance citizens' participation in politics. We then explain how we developed and administered a survey to collect data on how people use the Internet to participate in civic life. After reviewing the strengths and weaknesses of our data collection, we evaluate our results with regard to the validity of the models of democracy with which we began, and we look at some of

their implications for survey research and democratic theory.

As our research developed, we hypothesized that civic life in cyberspace could be classified into five distinct types. The first type of civic life in cyberspace is the communitarian. This approximates an ideal type of direct participatory democracy that emphasizes mutuality. The Internet makes such a civic life possible because citizens share equal powers for receiving and broadcasting, as well as equal access to sites with vast stores of data. Citizens can employ sophisticated search engines to locate and retrieve desired information from remote computers, including information on public policy.

The second type of civic life is democratic mobilization. Cyberspace also facilitates a more traditional civic life that involves organization, mobilization and bargaining among interest groups. Newsgroups and mailing lists represent two powerful means of communication among group members. They can be used to lessen the costs of traditional participation in adversarial politics. Positions can be developed; strategies devised; bargains and compromises proposed.

The third type of civic life, like-minded exchange, discourages contact with those who hold different opinions or interests. Like-minded exchangers prefer to engage in discussions only with those who share their values. The Internet provides a means to develop virtual communities that resemble the semi-private spaces of modern health clubs more than the public spaces of agoras. Instead of meeting to discuss and debate issues of common concern to the society, members of these virtual communities meet largely to discuss and promote their own interests (whether or not these are political) and to reinforce their own like-mindedness. As a consequence, however, they also reinforce the fragmentation and factionalism of modern society (Putnam, 1995).

The fourth type of civic life we call technological elitism. This life requires economic resources and technical skills to participate. While no one argues for recreating the stratified citizenship of ancient Athens on the Internet, virtual communities may nonetheless reflect biases that favor the affluent and well educated. Even though the federal government has subsidized development and usage of the Internet, access is still limited principally to those connected with educational institutions, research organizations, state and local governmental units, and businesses which also pick up a

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[1]Acquiring access to the required hardware and software, however, remains too costly for most people, especially those who don't reside in richer industrialized societies. In third world countries even those who can afford to acquire the necessary personal computer technology may find inadequate telecommunication infrastructure.

portion of the tab (McLaughlin et al., 1995: 103-04). These participants tend to be better off financially and better educated than most citizens (Pitkow, 1995; Pitkow and Kehoe, 1995).

The fifth type of civic life we considered is manipulation and domination. This civic life turns the first type on its head. Instead of using the relative facelessness of the Internet to overcome prejudice, these participants use it to disguise their true identity. Instead of seeking truth and fostering mutuality these participants manipulate opinion, exercise domination, and enhance their own power. They aim to create and control a virtual reality that other participants cannot distinguish from the civic life of either cyberspace or the real world (Rheingold, 1993: chapter 10).

We reasoned that each of the five general types of civic life had some characteristics that we could measure using survey research. For instance, we expected that communitarian types would report that they used the Internet mostly to establish friendships and social contacts, to express opinions, to obtain others' opinions, and to organize or plan group activities. We expected those who participated for more traditional political reasons involving mobilization, bargaining, and compromise among groups would place more emphasis on group organization and obtaining or expressing opinions and less emphasis on building friendships and social contacts. In contrast, we expected those who participated for contact with like-minded individuals and those who participated for economic or technological advantage to place more emphasis on establishing professional contacts or interchanges, uploading and downloading information, and possibly seeking entertainment or amusement. Both of these types would be less tolerant of social scientists asking them about their usage of the Internet than those whose participation resembled the civic life of the first two types.

Survey research seemed less suited to measure the fifth type of civic life, manipulation and domination of virtual reality by an anonymous elite. But survey research can activate them. Indeed, we present evidence in the next section that suggests that self-appointed censors do exist.

Methodology and its Consequences

We soon discovered that posting a survey on the Internet differs from conducting conventional surveys in person, via telephone, or by ordinary mail. These involved sampling, questionnaire forms, means of posting, and means of reply.

The sampling problem was immediately obvious. There is no comprehensive list of individuals who use the Internet, nor is there any certainty about how many users log on from any particular node. In February of 1994 we posed the problem of drawing a representative

sample to various colleagues at the University of Cincinnati (UC) and elsewhere and to the public opinion research (POR) mailing list. The responses we received helped us to appreciate the complications but offered no comprehensive solutions.

Complications stem not merely from individuals sharing the same accounts or having multiple accounts at various nodes or multiple memberships in various Internet groups, but also from the ability of "lurkers" to read and reply to messages posted for groups to which they may not formally be registered. Moreover, with a few keystrokes anyone who reads or receives a posting can forward it to any other user.[2] Over and above the uncertain number of individual users, the virtual communities themselves change from day to day as new groups come into existence and old groups are modified or die.

In the end, as we could not sample individuals, we decided to sample from two types of user communities: USENET newsgroups and LISTSERV mailing lists. We also decided to sample from two strata: ostensibly political and non-political groups. We based these decisions upon a combination of sampling theory and convenience. First, we could obtain fairly comprehensive listings of newsgroups and mailing lists (Manrique, 1995: 11); and second, the central limit theorem would allow us to have some confidence in the distribution of characteristics of groups in each stratum if we could sample approximately 30 (or more) groups of each type. Knowing that some groups and lists would be inactive or dead, and that others would be closed or otherwise moderated, we selected a systematic sample of approximately 50 groups from each stratum using a random start. No substitutions or replacements were allowed.

We decided to post the survey to the selected lists and groups in a manner analogous to mailing a questionnaire. Subscribers to newsgroups would receive only the descriptive title of the questionnaire; subscribers to mailing lists would receive the questionnaire directly. The discussion of USENET "Netiquette" in the UC Manual, (Clark, 1994: 41-42), consultations with local computer gurus, and pretests of the questionnaire led us to expect some refusals from mailing list managers and some flames from users who would be irritated by an "off-topic" posting. Nonetheless, we hoped that our explanatory letter would encourage cooperation.

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[2]The problem is even more complicated. Some "list owners" or "list managers" oversee more than one mailing list. Several found our questionnaire of sufficient interest to offer to distribute it to subscribers on all their relevant lists. At least one did so on his own.

Following customary procedures for questionnaire development, we circulated drafts of the survey instrument to friends and colleagues via the Internet. After several iterations, we posted a revised draft to the POR mailing list and the *alt.politics.datahighway* newsgroup. The final version of the survey was ready for posting in early July 1994.[3]

The instrument itself consisted of 33 questions. These asked about the respondents' general experience using the Internet, their motivations for subscribing to newsgroups or mailing lists, and their experience regarding politically relevant activities on the Internet. The entire document including the explanatory cover letter, took up just under 15K bytes as Microsoft Word text on a floppy disk formatted for the Macintosh. Pretests showed that it took about 15 minutes to fill out the questionnaire. Respondents were asked to return completed surveys to the e-mail address of a special research account on UC's DEC-VAX cluster.[4]

Feedback from pretests showed that many users found it difficult to skip forward and backward through a document. Ideally, we would have prepared a program that presented each question separately and provided the respondent with the appropriate pattern of skips and contingency questions based upon his or her previous answer(s). Instead, we settled for an ASCII text questionnaire designed so that the respondent could mark close-ended questions and fill in short answers using his or her newsreader or some other text editor. To facilitate responses, space for answers were left-justified, and lines were kept to under 72 characters.[5]

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[3]See Fisher et al. (1995) for a fuller discussion of methodological problems. Copies of the questionnaire may be obtained by e-mail from mjmargol@ucbeh.san.uc.edu.

[4]In retrospect, we should have established two accounts, one for political and one for non-political strata. Because of variations in the identifying information provided by the mailing systems of various computers that respondents used, it was sometimes beyond our capability to determine the particular mailing list or USENET newsgroup from which the respondent came.

[5]Using ASCII text exacerbated another problem: many respondents chose to enter their own categories for closed-ended questions. This provides some additional information, but it delays the cleaning and coding of the data.

Several more recent surveys conducted on the Internet have used alternative sampling strategies. In October 1994 Quarterman (1994) sampled the postmasters of every major (second and third level) Internet domain. Since October 1994 the Graphics Visualization and

While we knew we were not the first to sample users of the Internet, we saw ourselves as ahead of most social scientists, pioneers in adapting old techniques to new media. We hoped to be among the first to produce reliable estimates of selected political behaviors and socio-economic characteristics of those who use the Internet. We promptly made our first major technological error.

Our pretests suggested that posting the questionnaire directly to subscribers of mailing lists would thrust a possibly unwanted--and for many, an apparently irrelevant--instrument into mail boxes. Far better to seek the cooperation of list owners or managers, in much the same way that researchers seek the cooperation of officers of organizations they seek to survey. A notice to the managers would help establish our bona fides.

Unfortunately, we had only a partial list of owners or managers. To obtain information about lists, our manual suggested issuing a **List Detail** and/or **List Short** command. We knew that requests to subscribe should be sent to List Servers, not to lists directly. We erroneously assumed that the LISTSERV software would recognize the format of other commands. To our chagrin, our two line message was delivered to thousands of puzzled subscribers to unmoderated mailing lists. Most ignored the message: erroneous messages, particularly misdirected commands to subscribe or unsubscribe, are common.

The two line error would have been less problematic had it not been contained an indication that the message had been sent to multiple addresses: all the lists for which we did not know the managers. We received several responses that expressed puzzlement at our improper use of apparently sophisticated commands. By responding quickly and politely we not only remedied the situation, but we learned from our correspondents how to direct messages to list managers even when we don't know their names or e-mail addresses. Following these new instructions we encountered no other serious difficulties nor any accusations of breaches of netiquette in distributing the questionnaire through the mailing lists.

Now, however, came technological error number two. As the multiple addressing had caused problems with the mailing lists, we decided to post our survey to

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Usability (GVU) Center of Georgia Tech University has solicited responses to several surveys on its WWW home page (Pitkow, 1995). In September 1994 O'Reilly and Associates (ORA) and Trish Information Services launched a three-pronged effort that combines traditional mail and telephone surveys with Internet-based surveys (Kanuk, 1995).

each USENET newsgroup separately. Like generals preparing for the last war, we reasoned that individual postings would show that we were not spamming the Internet with our survey.

How wrong we were! The USENET software is designed to handle multiple mailings as crosspostings. A crossposting resides on one newsgroup only; the crosspostings on other newsgroups simply fetch the single posting when a subscriber calls for it. By approaching each newsgroup separately, we had posted 80 times more material than necessary.

We didn't know it, but our posting caused considerable consternation and controversy. Even with its inefficient use of space, our entire posting on the Internet took up less than one high density floppy, dished out in 15K bytes. At first blush, this does not seem like much, but it produced an unanticipated multiplier effect. Apparently, the unorthodox sampling of groups at random, as opposed to sampling only those groups whose titles suggested direct relevance to aspects of civic life, caused great controversy. Meta-discussions began, and these took up additional space on newsgroups.

While the controversy raged in the background, users were responding in droves. Although we received a number of the anticipated flames, the large bulk of responses were completed interviews. Many respondents appended encouraging comments, and most requested to receive a copy of our report by e-mail. As we struggled to download and record the responses to make room for new ones, we remained unaware of the disturbance we had caused.

"If your message is *really* important," reads a portion of *news.announce.newusers*, "pick up the phone and try to call the other person." The surveys had been posted on Tuesday and Wednesday, July 5-6. On Friday, July 8 we received a telephone call from a designated spokesperson informing us of the controversy we had caused. Our caller reported that resolving the controversy had become particularly difficult because our survey looked bona fide.

Our caller then announced something to this effect: "I guess you don't know as yet, but 'someone' (sic!) has issued a cancel order to remove your survey from most of the USENET groups." The anonymous powers that be had decided that the survey could remain posted on newsgroups that they thought appropriate, but they had ruled that our survey, however well-intentioned, must be treated as a spam. We later received records of some of the debate, which revealed the name of the "someone" who issued the fateful cancellation order, evidently on Thursday, July 7.

While the cancellation, coupled with the sampling problems described above, hamper our ability to claim "true" representativeness of the USENET newsgroups that responded, we believe it had limited impact on the character or number of responses. Three quarters of our respondents reported they checked their boards at least daily; fewer than 10 percent reported checking only weekly or less.

We found that data collection in cyberspace can take place with extraordinary rapidity. Within hours of posting our questionnaire we were flooded with responses. Users appear to respond to a message or posting immediately or else they delete or otherwise ignore it. Thus, we feel confident that our respondents, despite their self-selection, represent a sample of the most active users of the newsgroups and mailing lists. In any case responses trickled down after July 8, even from mailing lists that the cancellation did not affect.[6]

Finally, we discovered that in contrast to most refusals for telephone interviews or mail questionnaires, many refusals for Internet surveys can be informative. Besides receiving 448 usable questionnaires, we received nearly 100 "informative" refusals. Of these 52 cited technical reasons: anything from improper posting methods to objectionable items in the questionnaire. Another 44 cited the irrelevance of questions of civic life or politics for their newsgroup or mailing list. They wanted to pursue the special interest to which the newsgroup or mailing list was devoted, and they did not want to be bothered with other subjects.

Results, Conclusions and Implications

The 448 who returned completed surveys were hardly a cross section of the world population, of the population of western industrial states, or even of the United States. They were predominantly male (80 percent), white (81 percent), and young (median age of 31 years). About 40 percent classified themselves as single and never been married. Asians were underrepresented in terms of world population, but they outnumbered blacks and Hispanics by a ratio of 2 to 1 (4 percent versus 2 percent each). As a group, respondents were highly educated: over 95 percent claimed to have some postsecondary (college or university) education; 69 percent

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[6]We received 483 responses of all types--comments, completed questionnaires, refusals etc.-- through July 7. We received an additional 67 on July 8. We received 103 responses thereafter, the latest arriving the fourth week of September. Some USENET newsgroups represent "bi-directional gateways" for mailing lists. Any posting on the newsgroup is automatically forwarded to all subscribers on the mailing list. Thus, the two populations partially overlap.

reported having completed a degree program; and 30 percent reported having completed a post-graduate program.

The respondents appeared to be relatively affluent as well as highly educated. The median household income of the 303 U.S. citizens who responded was between $40,000 and $59,000 annually. Over 23 percent of these respondents claimed an annual household income that exceeded $80,000. Only 2 percent reported being laid off or unemployed, 8 percent said they worked only part-time, and only one percent were retired. Eighteen percent classified themselves as students. Nearly all the rest claimed to be working full-time. (See Pitkow, 1995; Pitkow and Kehoe, 1995.)

Despite their youth and affluence, however, the United States citizens showed a distribution of party identifications that broadly reflected the general population: 36 percent Democrat, 33 percent independent and 24 percent Republican. (See Miller and Traugott, 1989: 81.) Eight percent, however, claimed some other affiliation.

When asked to pick as many ideological descriptions from a list to characterize their "outlook toward politics and public affairs," as seemed applicable, respondents chose "Liberal" (35 percent) and "Environmentalist" (30 percent) most frequently. Moreover, they selected "Libertarian" (21 percent) and "Left wing" (20 percent) over "Right wing" (6 percent). Twenty-four percent selected "Middle of the Road" and 20 percent claimed to be "Conservative." Ten percent described themselves as "Religious," 16 percent as "Feminist," 12 percent as "Socialist," and 8 percent as "Indifferent or apolitical."

As the rapidity of the return of completed questionnaires might lead us to expect, the respondents, on average, were quite active in cyberspace. Approximately 54 percent reported connecting to computer bulletin boards, USENET groups or similar nodes in cyberspace at least daily. The median time spent weekly reading or replying to BITNET and Internet e-mail or reading or responding to other information, programs or communications on computer bulletin boards, USENET groups or the like was six hours. Despite their diligence in reading postings, however, only one-third reported they replied to postings at least weekly or more often. Indeed, over 19 percent reported never having replied to a posting until today (i.e., responding to our survey).

Downloading information and receiving instruction, or obtaining others' information, ideas or arguments were cited most frequently by the respondents as to why they connected to bulletin boards, lists, or USENET groups (about 75 and 73 percent respectively). In order of frequency respondents then cited entertain-

ment and amusement (70 percent); professional/ occupational contacts or interchange (62 percent); and expressing opinions, ideas, and arguments (58 percent). Uploading information or instructing others and developing friendships and social contacts were cited with relatively less frequency: approximately 40 and 34 percent respectively. Lastly, only 15 percent reported they connected in order to organize groups or plan activities.

Nonetheless, respondents reported a more active political life in cyberspace than is typically reported by respondents in the National Election Studies (NES) of the Center for Political Studies of the University of Michigan. Even though the technology is new, 61 percent had been asked to petition or otherwise contact a public official about an issue or public policy, and one-third reported having used e-mail to contact a public official. This compares to an estimated 28 percent of the NES who reported ever having written a letter to a public official during the 1960s and 70s (Miller and Traugott, 1989: 295).

The events that followed posting our questionnaire on USENET newsgroups suggest that we might liken civic life on the Internet to the interactions of the Greek citizenry with the behavior of their gods rather than to the interactions among citizens in the agora. Citizens may go about their business on the Internet, but in doing so they must avoid hubris lest they offend the gods. These gods, who control the destinies of citizens of cyberspace, rule by means of technological superiority rather than the exercise of immortal powers, but they rule nonetheless. They have the power to censure and to censor those who offend them, and some of them may even rain flame down upon those who violate their ritual netiquette.

We believe the gods have generally benign intentions. We think that they want to regulate behavior in the interest of preserving and protecting the integrity of the Internet. Nonetheless, there is an enormous potential for regulatory abuse. The week of September 19, 1994, we e-mailed a report to the personal mailboxes of respondents who requested it when they filled out their questionnaires. Some of these respondents, however, apparently posted the report to USENET groups that they thought were relevant. This stirred some further dissension among the gods. We received copies of an e-mail request to the "Judges.who.cancel.posts.that. threaten.to.over-load.NetNews@arch.ping.DK" to suppress the report itself.[7]

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[7]We sent our own missive to the Judges, and we received a polite reply that stated: "This is yet another misguided attempt to control abuse of the Net," and to our knowledge, the report was not suppressed.

We found no evidence of systematic due process in the civic life of the Internet. The technological gods make the rules, codify and post them on selected newsgroups, and expect ordinary mortals to study these rules and learn the netiquette before attempting any potentially disturbing activity, such as invoking the Net's potent one-to-many communication capabilities (McLaughlin et al., 1995). Although the gods may punish those who violate the netiquette, they do not make the rules easy to learn. Instructions on the proper invocation of commands are scattered among fugitive documents (Gilster, 1994: 42-52); not all commands are standardized; and not all of the gods give a high priority to their responsibilities for maintaining the Internet.

While distributing simple textual questionnaires to mailing lists and newsgroups can produce data suitable for exploratory analysis, development of more sophisticated sampling techniques and survey instruments would seem necessary in order to collect data suitable for testing formal hypotheses or measuring the fit of formal models (Fisher et al., 1995).

For mailing lists, the sampling problem can be approached by using a combination of political and technical strategies. Cooperation of the managers whose lists fall in a sample should be solicited. With the cooperation of managers and judicious use of the "Review" commands, specific individuals rather than whole lists can be sampled, and return rates can be measured.[8] Alternatively, building upon Quarterman's (1994) strategy researchers could ask postmasters to sample the LISTSERV subscribers within their domain without revealing their specific e-mail addresses.

The sampling problem for USENET groups is more difficult. If time allows, researchers could monitor each newsgroup selected and then sample those who post or follow-up over that period. Researchers might also negotiate with news administrators concerning permission for posting "off topic" questionnaires for specified periods on selected newsgroups. Again, if time allows, the postings could be limited to a few groups for short periods in order to lessen the chances of creating a controversy over spamming.

If possible, we would recommend developing a programmed questionnaire that would guide respondents through appropriate skip patterns, discourage or prevent them from entering inappropriate answers, and facilitate feeding their coded answers into data analysis packages. Given the variety of hardware and software on the Internet, however, it would be difficult to design such a programmed questionnaire for all newsgroups. One solution might be to develop techniques similar to computer-assisted telephone interviewing (CATI) and to place the questionnaire on a server connected to the Internet. USENET postings could then point to the server. (See also survey strategies in footnote 5.)

In sum, to assure sampling integrity it seems necessary to develop an e-mail analog of CATI as well as to negotiate with and obtain permissions from list managers, news administrators or postmasters.

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[8]Nevertheless, some subscribers have e-mail addresses that Review commands will not reveal.