Political Communications Infrastructure
W. RUSSELL NEUMAN

The ANNALS of the American Academy of Political and Social Science 1996; 546; 9
DOI: 10.1177/0002716296546001002

The online version of this article can be found at: http://ann.sagepub.com/cgi/content/abstract/546/1/9

Published by:
SAGE
http://www.sagepublications.com

On behalf of:
American Academy of Political and Social Science

Additional services and information for The ANNALS of the American Academy of Political and Social Science can be found at:

- Email Alerts: http://ann.sagepub.com/cgi/alerts
- Subscriptions: http://ann.sagepub.com/subscriptions
- Reprints: http://www.sagepub.com/journalsReprints.nav
- Permissions: http://www.sagepub.com/journalsPermissions.nav
- Citations http://ann.sagepub.com/cgi/content/refs/546/1/9
Political Communications Infrastructure

By W. RUSSELL NEUMAN

ABSTRACT: Major American corporate and political forces are currently battling for control of a new digital communications network that marks the convergence of what were until recently separate industries of publishing, broadcasting, telecommunications, and computers. So far the debate over the National Information Infrastructure has been dominated by questions of who gains and who loses economically. This article attempts to redirect attention to the issue of political communication—how technical developments in mass and interpersonal communications may influence how citizens learn about the political world around them, how political support is mobilized for issues and candidates, and how citizens signal preferences to their representatives.

W. Russell Neuman teaches at the Fletcher School of Tufts University and is director of the Edward R. Murrow Center there. His recent books include The Paradox of Mass Politics; The Future of the Mass Audience; Common Knowledge: News and the Construction of Political Meaning; and The Gordian Knot: Political Gridlock on the Information Highway.
OME years ago, the Canadian economic historian Harold Innis drew attention to the political ramifications of communications technology. He noted, for example, that the evolution of written communication permitted the management of large and complex political systems such as the Roman Empire.

Following in part in the Innis legacy, there has been ample analysis of the subtle and not-so-subtle impact of television on politics in modern industrial democracies. What is refreshing in this literature is the recognition that the impact of new media on politics is not strictly a result of the innate properties of the technology. True, television's visual and aural properties are important, but much of the character of political television in the United States, for example, can be attributed to the medium's commercial structure, its cultural identity as a primarily entertainment medium, and the conventions of news reporting derived from radio and print journalism. This view suggests that the character of our political communications infrastructure is not predetermined by immutable laws of digital electronics but remains under our collective control. Technologies do have properties that interact with social and political structures, but we need to move beyond the stage of vilification or sanctification of technologies usually associated with periods of dramatic change.

At the moment, discussions of the National Information Infrastructure lean toward sanctification. The information highway represents a confluence of commercial interests—as would-be barons jockey for positions of advantage—and legitimate political enthusiasm about new opportunities for job creation and an improved balance of trade.

There are numerous analyses of the fundamentals of the communications revolution. They can be summarized in the four Cs: control, convergence, convenience, and cost.

CONTROL

Computers used to be arcane scientific calculating machines, costing

---


millions and requiring a suite of air-conditioned rooms. Now they are inexpensive, miniaturized, and, as a result, omnipresent. We find special-purpose computers in our watches, our microwave ovens, and our cars. The first principle of the communications revolution is that all electronic communications devices will, in effect, become computers. This is a positive development because computers translate into control—control, in this case, in the hands of the consumers of communications.

The traditional analog radio or television receiver was a dumb machine. It could translate radio waves into sound or sound and light once tuned to a given frequency. The only control the audience member had was the frequency tuning knob, and given inefficient analog transmission schemes, there were not many channels to choose from.

Digital—that is, computerized—transmissions are more efficient, allowing more information, so the modern digital receiver can filter, store, and actively select information and entertainment from a much broader array of sources.

In the late 1990s, there remains a meaningful distinction between a communicating personal computer—connected to a CD-ROM and via modem to the Internet—and a television set. The typical personal computer costs more than a TV and still has a difficult time with full-motion video. The TV set is still dependent on the frequency control knob, although cable and satellite dishes provide a larger number of channels. By the year 2000, the price and the functionality of the television and the personal computer will become identical; the two technologies will converge.

CONVERGENCE

Thus the second principle of the communications revolution is that media that were once separate, unconnected technologies, electronic as well as nonelectronic, will converge into a single computerized digital network of networks and hence be interoperable.

The networks of book, journal, and newspaper publishing, radio, television, telephony, and computer systems have all traditionally been optimized for efficiency given the limits of the technologies of their era. Printing on large, centralized cylindrical presses is cheaper and faster than distributed home printers, so the newspaper is printed downtown and delivered by truck. The telephone represents a switched, two-way network but, because of the constraints of analog transmission on copper wires, is limited to voice communications. TV and radio are spectrum based and one-way. But a digital network can carry text, graphics, voice, or video—and thus constitutes an information superhighway. An interoperable mix of wires, fibers, terrestrial spectrum, and satellite broadcasting will bring what were newspapers, books, recordings, video games, movies, and TV programs to the home on demand.

CONVENIENCE

The library at Alexandria supposedly contained in one place the accumulated knowledge of the world of its era. One suspects, however, that the
average Nile fisherman lacked a library card and probably literacy skills as well. But no longer. The convergence of media, to paraphrase one of AT&T’s new marketing mantras, means any information, any time, any place. Now if she has access to a computer, the teenager from the Oakland ghetto has access to the Library of Congress, the Vanderbilt Television News Archives, and the London Museum, on a par with everybody else on the information highway.

COST

But who will pave the information highway? One suspects a toll road is on the drawing boards. Ultimately, access and pricing are matters of the marketplace and of public policy. But from a technical standpoint, cost is a minor issue. Communications and computation costs have been declining steadily and rapidly. Although the latest models of personal computers remain rather pricey, they are virtually doubling in capacity every 18 months. In time, a convergent telephone-TV-computer with full access to the information highway will cost no more to manufacture than a present-day TV set. Will our friend from Oakland be charged a premium for her connection to Vanderbilt? Not likely. If the Internet, for example, were charged out to each individual user, the estimated charge per user per year would be less than $2.4 There may well be charges for information and entertainment on the information highway, as before, but costs of communications and connectivity will play a relatively minor role.

POLITICAL COMMUNICATIONS INFRASTRUCTURE: TEN FUNDAMENTAL POLICY QUESTIONS

There exists a persistently romanticized notion of participatory democracy associated with the image of the New England town meeting, the muckraking independent journalist, and various strains of American progressivism and populism. In fact, the whole notion of American exceptionalism is based on an argument about the unique character and structure of American democratic traditions.5 Our focus here is more narrow, reviewing the classic issues of the distribution of information and influence but centering on the question of how the architecture of the new digital communications infrastructure might be better designed by revisiting these questions.

1. Information equity

Is it possible that the information highway will bypass the center cities and impoverished rural areas? Will new information technologies actually serve to exacerbate social, cultural, and informational inequities in industrial democracies? Will the unintended consequence of technical advances be the creation of a new information underclass? These are legitimate concerns, in my view, but


not grounds for changing course. In fact, I am not convinced a large-scale policy initiative aimed at protecting the public from information inequities is justified.

The large inequities in informational resources for poor and wealthy Americans will probably remain so despite the best efforts of policymakers and technologists. In the nineteenth century, there was great enthusiasm about the development of a public library system and how it would make the best literature of the world available to even the poorest American, diminishing the inequities between rich and poor. Similar arguments, of course, have been made about public schooling. Public libraries and public schools are important institutions, but we have grown more realistic over the years in our expectations about their capacity to effect change and to diminish inequities. We will probably work through a similar cycle of enthusiasm and realism with the new information technologies. There are, however, several economic and political factors that, in context, may assuage some of our natural concerns about the information equity issue.

First, although the inequities of access are likely to be largest at the introduction of a new technical system, information highways, like transportation ones, are mass-market systems designed around inexpensive access and large economies of scale. The underlying technologies here in-


volve inexpensive manufacturing processes. The insides of even an advanced communicating computer are no more complicated to manufacture than those of a calculator or a portable stereo. Thus, although the latest, fastest, color-screen laptop costs over $2000, one need not own such a Mercedes to access the highway system. An appropriate diffusion model is probably the case of color television. In 1996 dollars, the early color television sets of the 1960s cost over $3000 and were first owned by the wealthy and the fanatic. For the rest of us, black and white would suffice. Ultimately, the diffusion of color sets crept up to 98 percent of American households.

Second, one need not equate access to electronic information with having a personal computer in the home. Of American teenagers, for example, 88 percent report access to computers in school, a much larger proportion than those who own computers. Increasingly, public libraries and other public institutions will provide access to electronic information resources. As with book publishing, waiting for the paperback or signing up on the waiting list at the library for a bestseller are constraints of convenience, not barriers to information.

Third, there is a concern about information siphoning. The term “siphoning” is derived from the pay television industry. The concern is that popular sports and entertainment programming might be siphoned off of so-called free TV—that is, advertising-
supported television—and positioned as premium channel or pay-per-view product available only through cable. What if presidential candidate debates or the Superbowl were not publicly broadcast? (The prospect of no televised Superbowl would appear to be an issue of more dramatic political significance.) Such concerns are natural, but information siphoning is neither economically nor politically realistic. The American political culture and the tradition of independent and investigative journalism do not sustain secrecy very well. If one tried to establish two parallel systems of high-priced and economy-priced news, the leakage from the first system to the second would ultimately preclude the first.

Economists use the term “price discrimination” to label the incentive of vendors to sell their product to different market segments at the maximum each is willing to pay. Thus airline ticket prices discriminate business from leisure travelers with the Saturday-night stay-over requirement. The same is true in the information and entertainment industries. Intellectual property is resold to successive markets: from theatrical motion picture, to pay-per-view to pay TV, to broadcast TV, or from hardback book to paperback. If Reuters develops a premium-priced electronic headline and stock-quote service for well-to-do business customers, one can expect to see the same information resold after an appropriate time interval to schools, libraries, and others.10

Overall, political information equity will probably improve slightly, as the marginal cost of moving information declines. Wealthy citizens will probably get their information on larger, higher-resolution screens and perhaps a little sooner than their less wealthy counterparts. But the notion that relevant political information will be systematically withheld from audience segments for commercial motives is unrealistic. The question remains, nonetheless: will the evolution of C-SPAN, CNN, and Internet political discussion groups have a measurable impact beyond those policy wonks and news junkies already addicted to the intricacies of political life?

2. Levels of political interest

Probably not. In the American context, there has been no shortage of political news in the traditional print and broadcast media. There are natural cycles of political engagement and malaise as particularly compelling candidates or issues come to prominence, as close electoral battles create drama, as economic or military developments threaten fundamental security, or as scandal is revealed. Political scientists feel compelled to correlate the growth of television or some other medium with some fragment of these recurring cycles and pronounce evidence of media effects, but most of this is akin to the correlation of skirt lengths and stock market averages.11 We have had mov-


able type, high-speed printing presses, and radio broadcasting for some time now. At this point, significant changes in overall levels of political interest are likely to be due to significant change in political or social structure.

3. Levels of political knowledge

Again, for the great majority of American citizens, knowledge about candidates and issues is driven more by interest than by information availability. In an era of 500-channel cable television, we could dedicate five 24-hour-a-day channels to coverage of a presidential campaign. One could imagine 3-hour documentaries on a ninth-place candidate running a shoe-string operation in the New Hampshire primary. One could imagine 45-minute campaign speeches carried without interruption. One could imagine marathon panel discussions between political observers and journalists. One could imagine combined Nielsen ratings for all five channels reported as an asterisk, meaning that the ratings are so small they cannot be reliably estimated—usually a small fraction of a ratings point.

The political information environment in modern industrial democracies tends to be richly dynamic. If a 24-hour campaign channel happens upon a significant political fact, a revelation about a candidate, a compelling proposal for flat taxation, or even an unflattering image of a candidate caught off guard, it will be widely circulated. Such news will migrate to the networks, the wire services, the metropolitan dailies. The same would be true if relevant political information were uncovered by a small and obscure weekly New Hampshire newspaper.

4. Political diversity

But what about the citizen whose approach to politics is strongly engaged by a single issue or political ideology? What if there were information-highway discussion groups that focused on political campaigns from the perspective of a single issue such as abortion, gun control, the environment, African American interests, or even veterans' concerns? Of course, such discussion groups do exist today on the Internet. As access to the Internet creeps steadily upward, they are active, exciting, engaging, and attended to by growing numbers. As noted previously, the communications revolution lowers the cost of communication and the critical mass of viable audience size. Where once a magazine or newsletter might require many thousands of subscribers to be economically viable, an Internet discussion group may thrive with a few hundred or a few thousand. This is perhaps the most significant impact of changing political information infrastructure—its openness to lower critical mass, pluralism, and ultimately, perhaps, a fragmentation of political perspectives.

I have argued elsewhere that the communications revolution does not mean that special-interest media will simply replace general-interest media. Mass-interest, advertising-

supported media will continue to compete successfully with specialized outlets, but the balance between the two will be determined more by the distribution of concerns and beliefs within the population than by artificial constraints of spectrum shortages or newspaper economies of scale.

If we use the term "pluralism," such a development sounds most positive. The term "fragmentation," however, augurs ill. The pessimistic and the skeptical may fear that the diffusion of pluralistic, small-scale media will reinforce dangerous social divisions and encourage racism and hate speech, thereby fostering cultural and religious misunderstandings. The impulse might be to somehow regulate or constrain such media. One would hope that such political questions will be addressed as such, resolved by existing political institutions and law, and not seen as grounds for the constraint of new media or of free speech.

5. Political responsiveness

Another intriguing question of the design of political communications infrastructure is how to take advantage of the two-way character of digital electronic networks to keep representatives better informed of the views of their constituents. We might posit that Congressman George Brown looks up from his desk. On the wall is a large meter electronically connected to virtually every household in his Southern California district. There is a major trade bill under consideration. He has polled his constituents, who, by moving joysticks, register their collective preference and strength of preference for the trade bill at hand: representative government made easy. Congressman Brown no longer needs to ponder the public interest; his vote is electronically predetermined by his constituency. A likely scenario? Of course not.

Centuries of political philosophy and practical political experience remind us that representative government involves a subtle chemistry of leadership and responsiveness. It is far from a mechanical summation of citizen opinions. 13 Ironically, it was not until survey sampling was perfected in the 1950s that candidates and representatives had a reliable handle on the public pulse. 14 What elected officials hear of public sentiment from lobbyists and concerned citizens, of course, is a highly weighted sample, weighted by level of concern and interest. Most voters much prefer to rely on the judgment of a trusted public official than to express preferences themselves on every fragment of legislation in local, state, and federal legislatures.

New electronic soapboxes, polls, surveys, straw polls, and discussion groups are inevitable and should be warmly welcomed. But they are better designed for the expression than


the systematic assessment of political views. 15

6. Freedom of speech

Freedom of speech represents a particularly difficult question for the design of political communications infrastructure. Although they may wish to protect the privacy and independence of their citizenry, democratic governments continue to use every tool available to monitor the electronic grid to track down crime, espionage, and sabotage. The ability to monitor phone records, charge accounts, and electronic mail can be used to capture a drug trafficker or to derail a political critic. Increasing dependence on a single electronic network for communications and economic exchange remains a temptation for abuse by those in power.

Perhaps the most accurate assessment of impact in this domain must take the form of a measured balance of good news and bad. One element of good news is simply an artifact of the growing quantity and diversity of communications. There are too many bits whizzing back and forth for authorities to track them in any practical way. If an authoritarian regime closed down one young electronic pamphleteer critical of the regime, two dozen more could spring up and, because electronic nets span international boundaries, could move beyond the reach of the censor.

Further, user-controlled encryption permits those who wish to communicate privately to do so. The American government tried fitfully to establish a mandated clipper-chip system of computer encryption that would permit officials armed with court orders to decode clipper-encrypted messages. The effort—and others like it—could not succeed. Manufacturers from overseas would find an attractive market for non-clipper-chip computers in the United States. Additional software written by a talented local teenager could easily make clipper-chip communication no longer decodable. The inexpensive technologies of encryption simply outrun the capacity of central authorities to decode and censor.

The bad news may take the form of citizens’ fear to use networks for what could be interpreted as politically subversive purposes, whether the capacity of censorship is real or imagined. First Amendment principles will need to be established and protected in each new electronic domain as it evolves. Because of the enthusiasm of so many young people to experiment with the new networks, there is the impulse among some to censor and monitor with special vigor. In the end, however, this is a matter of public policy rather than technical architecture. In the interim, the question of electronic sedition and censorship will probably occupy a much more politically central
role in the authoritarian regimes of the developing world.\textsuperscript{16}

7. **Locus of attention**

If all politics is local, so, in its own way, is all journalism. The closer the event, the more newsworthy. How does a metropolitan broadcast news outlet or newspaper try to make sense of such a complex news story as the Persian Gulf war? Journalists are trained to look for a local angle, predictably a narrative describing the experiences of a local recruit on the front lines near Kuwait City or interviews with the families back home. Part of the pattern here is derived from the economics of advertising. The United States, like most industrialized nations, is divided up into marketing regions, areas of dominant influence, as the broadcast industry calls them in its rather ominous terminology. Local newspapers are dependent on local retail advertisers. The result is that the amount of national advertising in newspapers is so small as to be almost irrelevant.

This economically reinforced localness leads to some anomalies. For example, New Jersey, bounded by New York City in the north and Philadelphia in the south, is a state virtually without local broadcast news. Also the key election-primary state of New Hampshire is dominated by Boston-based rather than local broadcast outlets, a daunting proposition for candidates who might want to invest heavily in broadcast advertising only to find that fewer than 1 in 20 viewers in this expensive media market actually live and vote in New Hampshire.

The diversity of electronic networks in the delivery of news and information will serve to relax these market-definition strictures, allowing advertisers to target their audience and audience members to define what is local. If one wants to follow politics or sports from back home in Chicago although one now lives in Miami, Internet-based news makes it easy: a mix of Chicago and Miami news for one individual; extensive coverage of Brazilian and south Florida news for another.

One might puzzle over the lack of a national newspaper in the United States. Local advertising dominance and transportation delays initially made it economically impractical. Now, \textit{USA Today}, the \textit{New York Times}, and the \textit{Wall Street Journal} are widely available for daily local delivery, in many cases sent by satellite to regional printing plants. Regional sports and news networks on cable television blur traditional media market boundaries.

The impact of new information infrastructures on political boundaries is not yet clear. Basically, the new technologies lift old and somewhat artificial definitions of locality and change the focus of news coverage. A new balance between metropolitan, suburban, and regional news may result.

---

\textsuperscript{16} Frederick Schauer, "Communications Policy and the Distractions of the First Amendment: Toward a Global Information Infrastructure" (Report, United States Information Agency, 1995); National Research Council, \textit{Realizing the Future: The Internet and Beyond} (Washington, DC: National Academy Press, 1994).
8. Locus of control

The increasing audience control of communications media has already been touched upon in several contexts, but such an issue merits direct attention. The migration to new electronic media mediated by digital filters and retrieval software gives the audience increasing control over what it watches or reads and when. In terms of political interest and knowledge, we posited earlier that the likely pattern would reveal political enthusiasts exposed to more political information and political apathetics exposed to less. Multichannel cable television provides C-SPAN and CNN, but it also provides numerous entertainment alternatives to the dinner-hour evening news, contributing to a measurable decline in audience size for network television news. When there is no cable and there are three television stations in town and all three are carrying a presidential address or press conference, virtually everybody watching television watches the president. Such a state of affairs used to characterize political party conventions, election night, and other major political events. This pattern might be described as politics by default. It characterizes our journalistic past, not the future of political communications.

Newspaper readers, if they are so inclined, could always limit their reading to the comics and the sports page, without an inkling of even the headlines on the front page. That will be increasingly true of the electronic domain. What concerns political theorists, however, is that the editing, scanning, and filtering process can be achieved electronically. If I am tired of news from the former Yugoslavia, with but a few keystrokes I could filter out all news stories reaching my screen that contained even a passing reference to matters Serbian, Bosnian, or Croatian. Again it sounds like a cause for concern, but the capacity of the public to ignore political and especially international news would suggest that public levels of political knowledge are more a function of political interest than communications-access technologies.17

9. Political integrity

What about the capacity of a political system to resist and reveal political corruption? Is there reason to believe that the open, two-way flow of information on the network of networks will create a new generation of whistle-blowing citizens and investigative journalists?

The news here is positive, although in the American case, the incentives to publicize corruption are already generally well established. Critics and conspiracy theorists abound on the Internet. There is a rich mix of accurate information, false information, and innuendo. Nonetheless, the developments on this dimension are clearly positive. It is well documented that despite a strong tradition of investigative journalism, the close relationships between government officials and publishers, editors, and journalists can restrict or slow public awareness of indiscretion.18 The capacity of critics


18. Robert Woodward and Carl Bernstein, All the President’s Men (New York: Simon &
to raise and sustain discussion of an issue, to publicize uncovered information and to openly debate its authenticity and relevance, is greatly enhanced by the on-line networks and their topical discussion groups. Traditional news media retain the right to ignore letters or editorial replies as they see fit. The innate populism of the Internet culture, however, permits issues to bubble up and achieve a higher level of public attention.

As on several other dimensions, the biggest differences will probably be evident not in the relatively open industrial democracies of the United States and Western Europe but in the more authoritarian political cultures of Asia and Africa, which are more prone to censor news coverage and threaten critics with reprisals.19

10. Journalism economics

As I noted earlier, the traditional economic support for independent journalism in print and broadcasting was based on the largely oligopolistic profits of large metropolitan newspapers and television networks. With virtually guaranteed audiences and faithful advertisers, news directors and editors could confidently decide that another reporter be sent to Washington, to a foreign capital, to a primary election state. Supporting a news bureau in central Africa was defined as a journalistic rather than an economic priority. There was some insulation from economic pressures, and many news professionals put that independence to good use. But the tensions of the relative profitability of entertainment and news are not new to journalism. CBS Chairman William Paley was repeatedly challenged by his star reporter, Edward R. Murrow, over the proper balance of entertainment and public affairs programming.20

The changing economics of increasingly electronic and increasingly competitive news systems will challenge this traditional insulation of the news professional and raise new questions about economic viability of traditional political coverage. This is less a question for federal policy, however, than one for concerned citizens and professional journalists. It is also possible that new economic pressures on journalism could have demonstrably positive results. Take, for example, the long-accepted tradition of White House news coverage. One finds several dozen reporters from various metropolitan dailies, magazines, wire services, and broadcast outlets writing parallel stories on the political events of the day. The strongly monolithic character of their "independent" writing has been appropriately characterized as pack journalism.21 The growth of new electronic networks of unique political perspectives—shared by newly defined unique political constituencies—could lead to a more richly pluralistic and diverse


tradition of political reporting. It is an intriguing prospect.

POLITICAL COMMUNICATIONS
AT THE CROSSROADS

This review reveals a mix of positive and negative developments, on balance, to my eye, mostly positive. One might consider observers' responses to the new technologies as an informal Rorschach test of their underlying beliefs about democracy. The locus of control of political communication gradually moves from the official and the professional journalist to the citizen. The norms of professional practice in the Fourth Estate are challenged by new economics. Digital filters permit news consumers to draw in or filter out political topics at will. For those with confidence in the mass citizenry and practical democracy, these changes are productive, not problematic.