

THE INTERNET AS A MASS COMMUNICATION MEDIUM

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Summary

This article will review the development of the Internet as a mass communication medium. After surveying the origins and development of the concept of mass communication within the context of inventions of new media and information technologies, this article will examine the Internet from its initial development as a wartime communication network to its contemporary civilian applications. As the engine behind the information society, the Internet plays an important role in shaping world society. As such, the Internet has aggravated the divide between those who have access to information and those who do not. At the same time, the Internet has the potential to bridge the information gap. It contributes to the process of globalization, and it is shaped by it. The impact of the way in which it connects the global and local realms is still in dispute among scholars. As a result, the Internet has attracted various degrees of regulation and control worldwide.

Finally, the Internet poses a fundamental challenge to previous models of mass communication. Its bottom-up, decentralized, networked, and interactive characteristics stand in sharp contrast to the top-down, centralized, linear, and mostly mono-directional

mass communication models of the past. As such, the Internet holds the promise of sustainable development, because it can contribute to coordinating global resources with local needs. For that potential to be realized, the Internet has to be considered as a public resource, and must not fall under the control of corporations or governments.

1. Introduction

From the beginning of its existence, humankind has used elements from its natural environment to express its feelings, fears, and aspirations. In other words, humans have communicated for as long as they have existed, using a variety of physical and symbolic devices to create and convey meaning. Cave paintings from more than one hundred thousand years ago remain to this day as indelible proof that communication is an age-old phenomenon. The devices and methods that humans have historically used have evolved with the societies in which they were used. This evolution occurred in a process of mutual influence whereby social, cultural, economic, political, religious, and natural forces affect the means of communication, and whereby in return the means of communication influence and shape ideas, values, traditions, and institutions.

The evolution of means of communication witnessed a substantive boost in the past two hundred years. The pace of invention has accelerated from one every fifty years or so in the eighteenth century to several per year at the dawn of the twenty-first century (see the *Chronology of Technological Inventions Leading to the Internet* at the end of this article). The decisive turn was taken during the second half of the nineteenth century, when a flurry of technical inventions changed the communication landscape. By the late nineteenth century, important inventions had already been made public: the telegraph, the telephone, the motion picture camera, and the motion picture projector were among the most prominent information and media technologies to emerge. Perhaps more important was the invention of electricity, which would become the bloodline of the information revolution. These early inventions created the conditions that made the process of mass communication possible; equally important is the fact that these inventions established the early foundations for the current global communication system.

2. From Mass Society to Mass Communication

It is in the context of this invention fever that early concerns about media emerged. Historically, new ideas and inventions and their bearers have been at the center of concerns about public welfare and morals. Sometimes, this occurred as mere anxiety in the face of the new and unfamiliar. At other times, however, communities found a scapegoat in novel ideas and creations, as they were blamed for the ills of the societies in which they developed. In addition, intellectual and moral standard bearers, such as men and women of letters and members of the clergy, have tended to be pessimistic about the societal influence of new technologies. Their outlook was especially bleak when facing information and media technologies. This was due to the belief, which largely persists today, that whereas industrial and agricultural technologies were sometimes seen as a threat to the economic and political status quo, communication technologies were usually seen as a danger to the souls, hearts, and minds of the population at large. At a time when the vast majority of the world population did not

have the benefit of education, and at a time when superstition reigned supreme, the media emerged at the heart of public concerns and moral panics.

These then widely held views generated the idea of mass society, which was the first time that the word “mass” was used by scholars to refer to processes that affected large segments of the population. The mass society theory was based on the premise that modern technologies disrupted the life of rural communities and led to an exodus towards cities where individuals were absorbed in an urban mass. This mass was believed to be a passive, gullible, undifferentiated group of people with potential for mob-like behavior. In that urban environment, into which large populations were crowded for the benefit of the industrial elite in whose factories the masses worked, people were left vulnerable to the influence of the new media technologies.

The theory of mass society was held by members of the political, intellectual, and business elite in the nineteenth century. These elites felt that their privileged status and way of life were threatened by the mass of urban dwellers from the working classes. Their fears were mainly directed at the emerging mass media, because media content was extremely sensational and catered to the lowest common denominator in terms of social sensibility and aesthetic taste. Among the media prevalent in those times was the penny press, whose content ranged from the garish to the outrageous, and whose main aim was to provoke, titillate, and entertain, rather than to provide meaningful news. As a result, the ruling classes attacked the mass media for the vulgarity of their content and for subverting the traditional sociocultural order of things.

The mass society perspective continued to inform much of the scholarly work on media that emerged in the first half of the twentieth century. It suffered a decline when no new technological inventions were visible, and enjoyed heightened salience when new media technologies appeared to pose a threat to the prevailing sociopolitical order. In the decade after the Second World War, the work of Paul Lazarsfeld began to question the mass society theory. Having established the Bureau for Applied Social Research at Columbia University after emigrating from Nazi-dominated Austria, Lazarsfeld launched empirical studies using sociopsychological statistical methods to measure the impact of media on society. His most significant finding was that the influence of the mass media on society was considerably weaker than previously believed. Lazarsfeld’s work came to be known as the “limited effects” theory.

The most important aspect of Lazarsfeld’s work is that it established social scientific foundations for the study of mass communication. Since then, the study of mass media institutions, messages, and audiences has been known as the field of mass communication. Defined simply as social interaction through media technologies, mass communication was premised on a model that framed communication as a process originating from the few (mass media institutions) and destined for the many (the mass media audience). This “one sender, many receivers” model was as much a reflection of the technologies of the time, mainly over the air broadcasting, as a reflection of the values of the sociocultural elite who wanted to be in control of the new media.

This model found different applications. In the public broadcasting philosophy that guided most broadcasting efforts in Western Europe, the primary function of mass

communication was to serve the public by providing information to citizens about important issues. In much of the developing world, however, mass communication has been regarded as primarily a tool for national development. In countries like the United States, Brazil, and Lebanon, mass communication was from its inception a capitalistic enterprise whose main function was to make money by generating advertising revenue. In authoritarian regimes, mass communication was harnessed as a tool for ideological propaganda.

With the invention of every new medium, such as the moving picture, radio, television, and finally the Internet, notions of mass society have been invoked because of the anxiety resulting from unfamiliarity with the new medium. However, the mass society view is now held by only a small minority, and most mass communication researchers are proponents of views more congruent with the limited effects perspective. Critical scholars are especially weary of the “effects” language, arguing that mass communication is a two way flow of meaning creation, and that the “effects” tradition has wrongly emphasized a causal, rather than a constitutive, model of communication. A constitutive model of communication, widely held by critical and interpretive scholars whose research is influenced by the humanities, believes that mass communication messages are polysemic, in that they have numerous meanings embedded in them, and that mass media audiences are active, in that their reception of media messages is shaped by personal, social, and cultural factors specific to audience members. As a result, it is appropriate to point out that a unifying theory of mass communication does not exist. Rather, numerous theories, with their own assumptions and points of emphasis, have attempted to shed light on various dimensions of the mass communication process. It is, therefore, more accurate to refer to mass communication theories in the plural, rather than theory in the singular.

3. The Emergence of the Internet

As the latest, and arguably the most spectacular, of the series of information and media technologies that emerged during the twentieth century, the Internet is a bearer of enormous hopes and deeply seated fears. The circumstances surrounding the invention of the Internet illustrate the fact that most important information and media technologies are not invented at once, but rather develop because of several related and complementary inventions. Most scholars agree that the Internet was originally conceived by the United States Department of Defense as a communication network that could survive and remain functional during a nuclear conflict. Initial research and development were conducted under the auspices of the Advanced Research Projects Agency (ARPA), involving a few selected individuals at United States research universities. The resulting network was therefore known in the late 1960s as ARPANET. In the early 1980s, legislation was passed in the United States Congress that put the development of a computer network for civilian use in the hands of the National Science Foundation, a federal agency of the United States government. The resulting NSFNET was mainly used for research and academic purposes, and made the public availability of the Internet a step closer. During the same period, Swiss researchers invented the first protocols that would lead to the development of the World Wide Web. Originally consisting of a multimedia component of the Internet, the World Wide Web’s user-friendly format soon became the preferred interface for Internet

usage, making the Internet available to the general population.

Technologically, the Internet is a global network of smaller networks of computers connected by the information superhighway of telecommunications infrastructures, including fiber-optic networks and coaxial cable grids, in addition to wireless and satellite communications. As such, the Internet integrates millions of computers worldwide, whose users can communicate via electronic mail and the World Wide Web by sending packets of digital information to the destination of their choice. In other words, the Internet is a network of networks, allowing those who are connected to it to send and receive digital data from a virtually infinite number of sources.

4. The Internet, the Information Economy, and World Society

One of the primary concerns of some observers and analysts of the Internet is its increased commercialization. This follows a trend that dates back to the invention of the telephone, where a new information technology is appropriated by commercial enterprises as soon as it demonstrates potential for financial profit. This, according to some analysts, occurs at the expense of the social, participatory, and developmental potential of new technologies. Currently, the Internet is heavily dominated by for-profit ventures, as revealed by an analysis of Internet domain names which determines what kind of an organization is at a particular address. As of November 2000, 77 % or more than three quarters of Internet domain names were '.com', indicating commercial companies, while the more general domain name '.net' stood at 14 %, and '.org', indicating not for profit status, stood at 9 %. Educational institutions and their Internet domain name '.edu' stood at 0 %, with 6256 sites, while the '.int' (international), '.mil' (military), and '.gov' (government) were each statistically insignificant at 0 %. The commercialization of the Internet is intricately connected to the globalization of the world economy and culture. The Internet figures prominently in the new neo-liberal regime, since it is assumed to be the lead engine driving economic growth and dismantling economic and other boundaries between countries, companies, and communities (see *The Information Economy and the Internet*). The frenzy over Internet-related stock in the US equity markets in the late 1990s created hundreds of extremely wealthy companies, dozens of new companies, and admittedly hundreds of new jobs. However, there is convincing evidence that the Internet boom has not benefited most segments of US and global society. Rather, critics see the commercialization of the Internet to be the cause of a worrisome widening of the economic gap between those on top and those at the bottom of the socioeconomic ladder.

There are several possibly negative socioeconomic consequences of the information highway. First, the sheer speed by which transnational capital can now be moved across national boundaries, a process made possible by the Internet, can wreak havoc on countries that are suffering from instability. The Asian financial crisis in 1997 was mainly caused by tremendously rapid capital flight from Asian markets. Admittedly, in this case the information superhighway was not the root cause of the crisis, but acted as a catalyst. Still, many observers believe that electronic capital movements made the Asian crisis exponentially worse. Second, at a time when the most valuable commodity in the world economy is information, access to the Internet is a crucial determinant of the ability of individuals and communities to participate in the economy. In other words,

lack of access to information is not a mere inconvenience, but could be a fatal handicap plunging entire communities into poverty and shunning them to the margins of world society. Third, access and continuous connectivity to the Internet are heavily dependent on national and global information infrastructures. This is a challenge to developing countries, since many of them do not have the financial resources to acquire and maintain adequate infrastructures. They are therefore trapped in a double bind: do they attempt to increase spending on information hardware, at the expense of other sectors in their economy, and at the risk of becoming more dependent on Western countries and loaning agencies? Alternatively, do they succumb to the dominant, neo-liberal, global economic discourse and privatize their information infrastructures, at the risk of giving control of a valued resource to transnational corporations with no national loyalties, and with the danger of restricting access to their populations due to the fees levied by commercial providers?

These are some of the socioeconomic dilemmas caused by the rapid growth of the Internet, which also have some cultural and political implications.

5. Internet Access and Cost: From the Information Gap to the Digital Divide

Today more than 100 million people worldwide use the Internet. Internet penetration varies greatly across countries, with the highest levels registered in North America and Scandinavia, and the lowest found in sub-Saharan Africa. A 1998 Nua Internet survey indicates that 57 % of Internet users live in North America, 21.7 % are residents of Europe, 17 % live in Asia, while South America, Africa, and the Middle East have the lowest percentages at 3 % for South America, 0.71 % for Africa, and 0.5 % for the Middle East. This distribution follows the availability of older media such as newspapers, radio, and television in different parts of the world, glaringly demonstrating that the availability of information is closely correlated to economic power and financial ability. A 1992 survey of information databases, for instance, reveals that while North America had 5396 databases, Africa only had eight. Between these two extremes are Europe with 1810 databases, South America with 54 databases, and Asia with 34. Within Europe, the numbers show a vast imbalance between Western Europe, where 1797 databases exist, and Eastern Europe, with a mere 13 databases. Generally, the imbalance between North America and the rest of the world is vast and continues to the time of writing, with the United States alone having more than half of the world's Internet users while having less than five percent of the world's population. The divide is especially strong if we compare the United States with Africa, where the island of Manhattan in New York has more telephone lines than the entire African continent's fourteen million lines. More than 80 % of Internet content is in the English language, while only one in ten people in the world can speak English. Having said that, Internet content in languages such as Mandarin Chinese, Spanish, French, and Arabic is fast growing. Still, people who have access to the Internet tend to be exceedingly Western, male, urban, high-income, and English speaking. More importantly, the increased commercialization of the Internet intensifies fears of lack of access and prohibitive costs for the economically disadvantaged. Therefore, the concerns about Internet access and cost are very real. First identified as the information gap, information inequality is increasingly defined as the digital divide. It is important to note that the digital divide or information gap exists both within and between nations.

The widely held belief that the digital gap only separates wealthy Western countries and poorer non-Western nations conceals the immense disparities that exist within rich and poor nations alike. In the United States, for instance, by many measures the wealthiest country in the world, and one of the leaders in the Internet sector, there is an alarming digital divide between urban, white, and wealthy communities on one hand, and rural and minority groups on the other. This gap between the “haves” and the “have-nots” persists in spite of substantial increases in the numbers of Internet users. Studies conducted by the US federal government show that US inhabitants of rural areas fall below the national average in access to and use of the Internet, irrespective of their income level. Disparity exists in spite of the fact that rural areas in the United States are well connected to telephone networks, in fact better connected than inner-city communities are. Reports have shown that at nearly all income levels, rural dwellers are less likely to own a computer, less likely to have Internet access, and less likely to have Internet access at home. Grade schools were the most popular place for rural people to access the Internet.

The same federal studies indicate that ethnic minorities lag far behind the national average in computer ownership and access to the Internet. In the late 1990s, Hispanic families were still half as likely as their white counterparts to own a computer. According to United States government figures, the computer ownership gap between whites and Hispanics widened by 37.6 % between 1997 and 1998, and is still widening at nearly all income levels. These low numbers are tempered by findings that many Hispanics use public access points such as schools to connect to the Internet. The situation is not much different for black Americans. Federal figures indicate that they still have less access to the Internet than their white counterparts do at locations such as home, school, work, and libraries. Between 1997 and 1998, the Internet access gap between blacks and whites increased by 37.7 %. Between 1994 and 1998, the computer ownership gap grew by 39.2 %. Significantly, government figures show that the computer ownership gap between blacks and whites decreases sharply at high income levels, beginning at US\$75 000 per year. The digital gap hits those at the intersection of marginalized groups the hardest. Black residents of rural areas, for instance, are one third less likely to have a computer than the average black family in the United States. Income, ethnic group, and place of residence (whether urban or rural) are all determinants of access to the Internet.

6. Regulation and Civil Liberties in the Internet Age

The political and cultural impact of the Internet is still not well understood. Decades of research will be needed to achieve a longitudinal and thorough understanding of the impact of the new information technologies on culture. A survey of the research conducted during the last decade of the twentieth century indicates that the emergence of the Internet brought back old concerns about representation, and the impact of media on social values and cultural identity.

In spite of inconclusive research, governments have rushed to regulate the Internet, because old concerns about the impact of media on society have resurfaced with the rapid spread and concomitant visibility of the new mass communication medium. The level of control, enforcement mechanisms, and other regulatory bodies and procedures

applied on the Internet vary vastly from one country to another (see *Government and Governance in the Networked Age*). However, all governments quickly realized that the Internet was a completely different medium from all other media they have regulated in the past, and that the regulation of the new mass communication medium would pose unique challenges to regulators, policy-makers, and law enforcement officials alike. Opinions about Internet regulation also varied greatly, with civil liberties groups around the world celebrating the new medium's supposed resilience to any form of control, while governments condemned the alleged elusiveness of the new medium as a conduit for illegal or harmful information. However, because of the Internet's growth and popularity, government intervention is sure to remain for the foreseeable future.

In fact, recent reports by international non-governmental organizations point to a worldwide increase in government restrictions placed on Internet access and use. This trend is not restricted to countries ruled by authoritarian regimes repressive of all kinds of information and free speech, but is also present in liberal democracies. In the United States, for example, a legal case over whether the government had the right to regulate Internet content, as stipulated in some portions of the Telecommunications Act passed by the United States Congress in 1997, went all the way to the United States Supreme Court. In this landmark case, known as *Reno v. ACLU*, the United States Supreme Court ruled in favor of the American Civil Liberties Union and against United States Attorney General Janet Reno, asserting that Internet content enjoyed the highest levels of free speech protection under the United States constitution. Canada has restrictions on hate-speech and obscene material on the Internet, while in the United Kingdom a trade group is working on establishing guidelines for voluntary control of Internet content. The situation in developing countries varies from China, where strong controls are exercised on political content while more latitude is allowed for Internet use for economic purposes, to Africa, where the presence of the Internet is still so minimal that there are no official regulatory mechanisms. This results in uneven regulatory measures: while some countries such as Botswana do not allow private Internet providers to operate within their borders, other countries such as Burkina-Faso have allowed international organizations and corporations to establish Internet connections.

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Bibliography

Bell D. and Kennedy B. (2000). *The Cybercultures Reader*. 768 pp. London, UK and New York, USA: Routledge. [An edited collection of essays examining the concept of cyberculture from critical and interpretive perspectives.]

Beniger J. R. (1986). *The Control Revolution: Technological and Economic Origins of the Information Society*. 512 pp. Cambridge, USA: Harvard University Press. [The definitive historical account of the

technological and economic factors that led to the development of the information society.]

Brook J. and Boal I. A., eds. (1995). *Resisting the Virtual Life: The Culture and Politics of Information*. 278 pp. San Francisco, USA: City Lights Books.

Castells M. (1999). *The Information Age: Economy, Culture, and Society*, 3 vols. (Volume One, The Rise of the Network Society; Volume Two, The Power of Identity; Volume Three, End of Millennium). Blackwell. [An encyclopedic treatment of the information age and the cultural, social, political, and economic conditions that it creates and is shaped by it.]

Doheny-Farina S. (1996). *The Wired Neighborhood*. 244 pp. New Haven, Connecticut: Yale University Press. [A sustained critique of the concept of virtual communities, which proposes the idea of a wired neighborhood as a real alternative to the virtual community.]

Ellul J. (1964). *The Technological Society*. 449 pp. New York: Alfred A. Knopf. [A critical examination of how technology has systematized and therefore reduced a wide range of human activities.]

Gandy O. H., Jr. (1993). *The Panoptic Sort*. 255 pp. Boulder, Colorado, USA: Westview Press. [A political and economic analysis of surveillance and other social implications of information and media technologies.]

Negroponte N. (1995). *Being Digital*. New York: Knopf. [This is one of the most widely read popular books about the digital age, written in a jargon-free style for a large audience.]

Pavlik J. V. (1998). *New Media Technology: Cultural and Commercial Perspectives, Second Edition*. 400 pp. Boston, USA and London, UK: Allyn and Bacon. [This is one of the standard textbooks in new media technologies, focusing on the commercial and professional consequences of the Internet.]

Postman N. (1992). *Technopoly: The Surrender of Culture to Technology*. 222 pp. New York: Random House. [This is one of the most prominent criticisms of our age's obsession with technology, from a humanistic perspective.]

Rheingold H. (1994). *The Virtual Community: Homesteading on the Electronic Frontier*. 447 pp. New York: Harperrenial. [One of the early classic works about the Internet, which advances the concept of the virtual community.]

Schiller D. (2000). *Digital Capitalism*. 320 pp. Cambridge, USA: Harvard University Press. [This is one of the political-economic critical analyses of the corporate control of the Internet.]

Schiller H. (1995) *Information Inequality: The Deepening Social Crisis in America*. 212 pp. New York, USA, and London, UK: Routledge. [A critical analysis of how new media technologies are widening the gap between the information rich and the information poor.]

Stoll C. (1995). *Silicon Snake Oil: Second Thoughts in the Information Highway*. 249 pp. New York: Doubleday. [A critical evaluation of the enthusiasm about new communication technologies in the United States.]

Tehrani M. (1990). *Technologies of Power: Information Machines and Democratic Prospects*. 272 pp. Norwood, New Jersey, USA: Ablex. [A theoretical exploration of information technologies at the intersection of discourses of development and democracy.]

Turkle S. (1984). *The Second Self: Computers and the Human Spirit*. 352 pp. New York: Simon and Shuster. [An exploration of the psychological implications of the human and computer interface.]

Williams F. and Pavlik J. (1994). *The People's Right to Know: Media, Democracy, and the Information Highway*. 258 pp. Hillsdale, New Jersey: Lawrence Erlbaum. [An edited collection of essays exploring issues of access to information in the context of the US national information infrastructure.]

Wresch W. (1998). *Disconnected: Haves and Have-Nots in the Information Age*. 268 pp. New Brunswick, New Jersey, USA: Rutgers University Press. [A descriptive analysis of the promises and perils of the implication of information and media technologies for African countries.]

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