

# Media and Information Technology

## *The Blindspot of Media and Communication Research?*

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We can perhaps assume that the use of a medium of communication over a long period will to some extent determine the character of knowledge to be communicated and suggest that its pervasive influence will eventually create a civilization in which life and flexibility will become exceedingly difficult to maintain and that the advantages of a new medium will become such as to lead to the emergence of a new culture. (H.A. Innis, *The Bias of Communications*, 1951)

Harold Adams Innis opens his best known essay by quoting Hegel: “Minerva’s owl begins its flight only in the gathering dusk...”

The idea is hardly a new one, that a culture begins its disintegration with its highest and most creative period; Hegel, the young Marx and Toynbee certainly all thought so. Innis followed the flight of Minerva’s owl into new quarters, however, suggesting that the process of cultural growth and expansion flows not from genius or empire but from media. Minerva’s owl follows the route of a new form of communication – whether it be script, oral tradition, or print. Minerva (the most trusted goddess of Zeus), in Innis’s thought, becomes the greatest of muses, and her owl the clue to the mysterious ways in which she works. Today Minerva’s owl would surely be surfing the Internet. My fear is that too many of us are not.

One need not venture far to find evidence that our media landscape is changing all around us. Already we are seeing a media situation that is all the more fragmented and individualised. Radio and television are evolving and now send news and entertainment around the clock. Even the daily newspaper is not what it used to be and is in danger of withering away in importance. Using Innis (with some help from McLuhan) as our cicerone I want to suggest ways in

which we (media and communication researchers) could be approaching the rapid developments in media and information technology (MIT) that are shaping a new media landscape.

The work of Harold Innis and Marshall McLuhan suggest that changes brought about by new media affect societies so thoroughly and yet so unnoticeably that these changes are almost impossible to detect. Imagine for a moment a new definition of media and information technology that goes beyond the “hardware” of machines and electronic devices – suggesting that technology is not so much a type of work or an applied science, but a way of doing things and a way of thinking about doing things – a state of mind and being (Penley + Ross, 1991; Reingold, 1993; Stone, 1995). Isn’t that what cyberspace, IT, and virtual communities are all about?

Innis and McLuhan go further by positing a different theory of overlapping technologies. By concentrating on media as the most significant technologies of any period – they both assume that information movement does more to modify a culture than the uses of energy or materials – they have each come up with different theories of interacting and overlapping technologies.

For Innis the most critical factor in a society is its communications. Not so much what is communicated, but how specific communications media operate, what presuppositions they impart to the culture, what forms of power they create. The key to cultural change is the predominant communication medium in a culture. Innis defines media broadly: they include spoken language, the materials for writing, print, and electronic transmission. For Innis, the medium is the critical factor that reshapes cultures whole. A new medium tends both to subvert and offset the power establishment and cultural bias maintained by the previous medium. New media relate to the older media like a pendulum relates to its latest swing – by a reversal or a lunge in the opposite direction.

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Innis developed two categories that explain the influence of communications medium: *space* and *time*. Using historical examples Innis showed how the use of clay tablets in Babylon confined information to a limited space, but guaranteed its durability. Papyrus, on the other hand, was available in great quantity for the Romans; it was light, easy to transport, and enabled information to move to the far flung corners of the empire. Consequently, Innis claims, Babylon was a culture with a sturdy temporal bias; Rome had a spatial bias.

A central idea is that elites can more easily control some media than others. A medium that is in short supply or that requires special skills has more potential to support the special interests of elite classes because they have more time and resources to exploit it. A medium that is more easily accessible to the average person is more likely to help democratize a culture.

Innis argues that most media of communication have a “bias” either towards lasting long periods or towards being easily moved across great distances. He claims that the bias of a culture’s dominant medium affects the degree of the culture’s stability as well as the culture’s ability to take over and rule a large territory (Meyrowitz, 1985).

The “bias of communication” is, therefore, the temporal or spatial tendency that will determine the orientation of a culture. Innis describes this process as the “monopoly of knowledge”. A new medium favors a fresh flow of information; inevitably, a small group (favored by the nature of the bias) will move within that flow and take power (Compare this notion with today’s information rich and the digital elite or *digerati*). Surely these are ripe notions that are waiting to be explored in a contemporary context.

For McLuhan, a new medium uses the previous medium as its content, so that the content of TV becomes movies, just as the content of movies has been novels or plays. In his own words;

Our conventional response to all media, namely that it is how they are used that counts, is the dumb stance of a technological idiot. For the ‘content’ of a medium is like the juicy piece of meat carried by the burglar to distract the watchdog of the mind. The effect of the medium is made strong and intense just because it is given another medium as ‘content’. The content of a movie is a novel or a play or an opera. The effect of the movie form is not related to its program content (McLuhan, 1965).

Both Innis and McLuhan argue for a theory of change among technologies in which some decisive causal relationship exists between an older and a

newer technology. The greatest contribution of Innis and McLuhan, however, may well lie in pointing out the central factor of information movement and control within older and particularly more recent technologies. Until recently we have thought of information technologies, from the printing press to the telephone, as communication technologies. Innis and McLuhan suggest another understanding. What about the computer? The notion of information movement and control as the underlying basis of our most developed technologies is important. Whereas people of the nineteenth and early twentieth centuries identified technology with the work performing, energy transforming machine, we are learning to identify technology with media and other forms of information control.

The distinction between a machine dominated, or mechanistic interpretation of technology, and an information control interpretation leads to major new considerations. The most important of these is the way in which one conceives technology in relationship to humans.

Both Innis and McLuhan, focusing on media, have reached unique conclusions about peoples relationship to technology. Where the mechanized conception of technology led almost inevitably to a polarization of man and machine, the media or information control interpretation leads to a conception of organic continuity between man and his technologies. This conception is latent in Innis in his view of history. But it becomes pronounced in McLuhan, who considers all media “extensions of man” and who likewise consider most modern technologies, from the automobile to the electric light, as extensions of media. Recently, DeKerckhove (1995) has deepened these insights and claimed that the electronic media have extended our psychology as well as our nervous systems and our bodies. DeKerckhove also argues that through the increased use of electronic media we are about to create a collective mind that will exceed the capabilities of any individual human.

It is important to note that for Innis and McLuhan, who see the process of technological change as an almost necessary historical and ecological development, questions of blame and value have no meaning. This approach comes less from a happy faith in technology than a method of inquiry that leaves value judgements out of consideration. The problem of value judgements is that they tend to appear before rather than after a study, and invariably create a kind of tropism toward the desired conclusions.

Lest we forget, Herbert Schiller reminds us that the waves of new communication technology in the twentieth century reveals at least two characteristics

present over the decades: “one is the overblown promise greeting its appearance; the other is the rapid assumption by corporate custodians of the new instrumentation and processes for commercial ends, i.e., profitmaking”(Schiller, 1996). Schiller argues that the high expectations for the new means of transmitting messages and images are invariably thwarted by the institutional arrangements that quickly enfold the new technologies. One could argue that this has been the fate, successively, of the telegraph, telephone, film, radio, television, cable, and satellite communication. The question is whether the Internet will suffer a similar fate?

The growth of the global telecommunications system which has been described as the “world’s largest machine” (Karlsson and Stureson, 1995) has increasingly become a focus of research. One of the key transformations in this growth and in media use internationally over the last three years has been the expansion in access and use of the Internet (Negroponte, 1995). The Internet, the electronic transfer of information via a vast interlinked computer network, represents a converged media form, where the possibilities of a variety of communication media can be accessed through the computer. Mark Poster (1995) has similarly labelled the Internet as a second media age that will supersede television and film in pre-eminence. An urgent task is to investigate the kinds of responses that have been generated by the traditional media industries to represent themselves as Internet entities in this changed media landscape.

A number of metaphorical representations of the Internet may hold some veracity. For instance, the Internet could be likened to a library in the massive amount of information and information transfers that are possible through its websites and downloading potentials. In a similar vein, the Internet could be seen as the great equaliser in what constitutes knowledge, where everyone can have a website and publish their thoughts and images to others. The university, one of the original nodal sources of the Internet represents a similar public orientation. Antithetical to this general representation of access are the earlier military applications of the Internet where the maintenance of communication when all other forms had broken down in a nuclear war was deemed of paramount importance. Equally antithetical is the movement to developing the commodity status of the Internet both through the establishing of online shopping systems to the payment of access to websites and information.

A current task is to establish the role of the traditional media industries in shaping the future of the Internet. The conceptualisation of the public that has developed through the broadcasting industry in the

twentieth century and the print industry in the nineteenth century has a particular history that is attached to the growth of democratic nation-states and the expansion of capitalism. It has worked to shape a definition of citizenry and the public that situates the media’s role in producing an informed citizenry. This idealized concept of the role of what is often called “the fourth estate” isolates on the value of the citizen as active participant in the polity, a form of public sphere that both Habermas (1991) and Sennett (1974) have argued has been in decline with the further development of the mediated contemporary culture. Simultaneously, the media as an industry have focussed on the forms of the commodification of information and through that process has developed the elaborate entertainment industry that has become one of the familiar tropes of contemporary culture (Burnett, 1996). The constitution of the active participant citizen is reconfigured in different media forms as either the consumer or the audience and often both simultaneously. With film the reproduction of prints allowed for the building of simultaneous exhibition and the increase in box office from larger and larger audiences. With broadcasting, the simultaneity was much more tangible; however the organisation of value of the audience was transcribed to either a new representation of a mass public for the new generation of nation-states or the “massifying” of the audience into a recognizable and clear manifestation of a national market. The audience produced in broadcasting became the specific commodity that was bought by advertisers; similarly public broadcasters can be seen as edifying and protecting the national audience and thereby intensifying the perceived value of the mass audience in political terms.

This historical baggage of connecting to an audience is what the traditional media of print, film, television and popular music bring to the Internet. Within these forms there is an entire history of the formation of intellectual property rights, the organisation of the media commodity, and the consolidation of the media audience that have been very successful at generating income for cultural producers and in the case of broadcasting representing a more coherent public interest. In other words, these media forms have generated an entire discourse on what constitutes a media/cultural commodity, what constitutes valuable information that can be sold, and what paths can be taken to establish something as public or as private interest through the development of the audience.

We need to investigate the “fit” of the conceptualisations and discourses produced by these media for translation to the Internet. The Internet challenges

the divides between public and private that have been articulated through broadcasting and cultural policy through regulatory frameworks. The construction of an audience is fundamentally differently constituted when a television broadcaster attempts to represent itself on the net or even if it replicates its practices by some form of webcasting. The forms of interaction and the characterisation of user as opposed to audience member transform the meanings generated and the practices of engagement in cultural forms.

Nevertheless, the media industries are powerful entities in constructing the currency of value in contemporary culture. Their general discursive power has helped establish hierarchies of news in both the press and broadcasting. Similarly in the entertainment industries, constructions of broadcast quality, generic formulas of narrative, the standard of the fictional feature film and the patterning of the popular music recording have all served to institutionalize standards and thereby hierarchise cultural production into legitimate and illegitimate forms.

The capacity of the media industry to construct value presents a powerful push to the organisation of the Internet. One of the central problems in the use of the Internet for information retrieval is that there is too much information. The number of words alone that are accessible through the World Wide Web has far exceeded the number housed in the Library of Congress, the largest library in the world. Organizationally, the expertise that the media industries can provide for the Internet is a hierarchisation of value that resembles current patterns in television, film, popular music and the press. The brandnames of newspapers and magazines, of film studios and television networks and of popular music labels can all serve to guide the surfing Internet user to the more legitimate sites for information and entertainment. The relative non-hierarchy of information could be reconstituted through the traditional media industries' presence on the World Wide Web.

Although the media industry presence is not dominant in terms of the number of websites, its presence is exaggerated because of the recognisable brand identification that new less computer-literate Internet users are drawn to in their search for interesting and regular sites to access. In sum, the media industries are powerful and influential in shaping the nature of the Internet and are important therefore to scrutinise their activities closely to determine the likely future of Internet use.

Using Innis and McLuhan as starting points, one could investigate the mediatization of the Internet through five critical avenues:

1. The divide between public and private media investment in the Internet
2. The transformation of media content for formats on the Internet
3. The construction of exchange value and commodity structure by the media industry
4. The activity of government and private media regulators in the expansion of the Internet as an information and entertainment source
5. The potential transnational restructuring of the media industry through the Internet

The outcomes of such research should lead to an assessment of the power of previous media institutions to inflect and shape the content of succeeding media institutions. In one sense, we need to investigate the critical transformation of the media industry in its shift into Internet form. Within that assessment, we can then add to the debate about the way that the Internet has provided reassessments of what constitutes public interest and what constitutes the servicing of the public through private interests. The Internet's entwined history with public access constructs an intriguing parallel to the emergence of some of the media industries of the twentieth century. The past imbrications of the media industry in the formation of the nation-state, the international flow of cultural production, and the conception of public interest are through the Internet reinvigorated and subject to serious public debate and critical discussion. This type of research ultimately will provide an important contribution to the role of new media in the shape of public discourse. As such, in the tradition of Innis and McLuhan, we need to identify the implications of technological change, a priority area, not only for an industry but its wider implications for the culture as a whole.

Until recently, media and communications researchers have overlooked not only the Internet but the entire field of computer-mediated communication (Reeves + Nass, 1996), staying instead with the traditional forms of broadcast and print media that fit much more conveniently into models for appropriate research topics and theories of mass communication.

However, one can argue as Morris (1996) "that if mass communications researchers continue to largely disregard the research potential of the Internet, their theories about communication will become less useful. Not only will the discipline be left behind, it will also miss an opportunity to explore and rethink answers to some of the central questions of mass

communications research, questions that go to the heart of the model of source-message-receiver with which the field has struggled". Morris urges us to rethink our ideas of what constitutes a mass audience and a mediating technology with the promise that studying "the computer as a new communication technology opens a space for scholars to rethink assumptions and categories, and perhaps even to find new insights into traditional communication technologies".

In taking up the challenge of studying the computer and the Internet we must remember our lessons from both Innis and McLuhan. Yet, we would be wise to also heed the advice of MIT scholar Seymour Papert.

In his criticism of technocentric thinking, Papert (1990, 1993) urges researchers to center their attention on the culture and not the computer if they want to understand the changes made to culture and people's ways of thinking when computers are present. A primary component of computer-mediated communication is social communication (Harasim 1993). Jones asserts that computer-mediated communication "is not just a tool; it is at once technology, medium, and engine of social relations" (Jones 1995). Therefore, to understand the fundamental implications of computer technology, we have to understand

the role of computer-mediated communication in its culture of use (Burnett, 1997). Computer-mediated communication is a technology, a communications medium, and a space within which people form communities (Turkle, 1995). New cultural meanings of these technologies are created as people use them in new ways (Carlson, 1992). These new communities and their emergent practices give new meanings to communication and community. These new forms of community rely on computer-mediated communication for communication (Agre, 1996). Communication is then more than the medium providing the connection; it is the group cohesion among people separated by time and geography. Or in the words of Innis, it is the culture shaped by the bias of *time* and *space*.

More research is necessary on the changing nature of communication, connectivity, culture and community in the ever expanding cyberspace. If we are serious about advancing media and communication studies as a discipline we must embrace the challenge. Not to do so would be to give away the field at a crucial point in our young history. For if we have learned our lessons from Innis it should be clear that media and information technology can liberate or confine humankind; just knowing that may one day make all the difference.

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