

New Media Theory

Although the practice of theorizing new media has a history as long as communication studies itself, the turn to new media theory has only formalized itself since the 1990s. The accelerated diffusion of digital media from telecommunications and information technology sectors in the 1990s has led media and communication studies to be defined by new objects of investigation. **New** forms of media demand exploration in their own right at the same time as the remediation of traditional media becomes open to investigation.

That new media studies has earned a place as a branch of communication theory also rests on claims that traditional media environments have been challenged not simply by technological innovations, but at an ecological level, consisting of substantial, qualitative changes rather than incremental developments to media environments.

From Medium Theory to the Second Media Age

One of the first such claims about substantial change due to media was made by Marshall McLuhan, inventor of the term *media*, in *Electronic Revolution: Electronic Effects of **New Media***, an address to members of the American Association for Higher Education in Chicago (and later reprinted in his book, *Electronic Revolution*). McLuhan argued that the effects of the electronic revolution in 1950s America were so great as to make educators displaced persons living in a world that has little to do with the one in which they grew up. For McLuhan, this revolution produced classrooms without walls as telecommunications and television brought a simultaneous information structure to electronic society.

McLuhan's formulations in the 1950s were to become prophetic for Internet Utopians in the 1990s, who proclaimed that McLuhan's time had finally arrived with the inception of instantaneous information provided by the Internet. The editors of *Wired* magazine went so far as to say that McLuhan was wired long before the editors of *Wired* magazine were born.

However, despite attempts to reclaim McLuhan for Internet studies (Paul Levinson's work is an example), there is little in McLuhan's work that deals with the kind of revolution in electronic media that is claimed by new media theorists today, a revolution which is the shift from broadcast to networked forms of electronic media. This transformation is one that is internal to electronic forms of media.

Although many of McLuhan's observations about media globalization (the global village) and convergence (the relationship between mediums) have established some of the grounds for new media research, the media revolution that inspires the contemporary concerns of new media theory can be found in the investigation of a second electronic media age based on interactivity. The euphoria for an Internet-led new media age culminated in a range of texts in the mid 1990s that ranged from the journalistic utopianism of George Gilder, Nicholas Negroponte, and Howard Rheingold to the more theoretical analysis of Mark Poster and Sherry Turkle, each of which declared the end of broadcast and the rise of interactive networks. In *Life After Television*, Gilder announced the overthrow of the master-slave architecture of television by networked media in which everyone is able to be a broadcaster.

With television, on the other hand, the ability to shape, store, and manipulate television pictures had to be

contained at the broadcaster since the technology of the time, due to economic and technical constraints, simply could not be contained within the individual television set. However, the advent of new technologies—the transistor (1948), the microchip (1958), and the fiber-optic cable (late 1970s)—made analogue television technology redundant.

Theorists of the second media age argued that audiences and consumers simply would not tolerate the passivity demanded of them by television as soon as active participation in a networked and decentralized medium became technologically possible. In *The Second Media Age*, Mark Poster declared that the Internet would be the medium to provide an alternative to the severe technical constraints of the broadcast model, enabling a system of multiple producers, distributors, and consumers. A postbroadcast age would also mean the end of the traditional audience and the emergence of an audience of one for whom the personalization of content, whether this be with interactive television or bookmarking Web pages, would replace the mass culture of broadcast.

By the end of the 1990s, the second media age had become something of an orthodoxy that underpinned new media theory and the development of Internet studies and cyberstudies. **New** media theory turned much of its attention to the ontology of digital media as the defining characteristic that would come to supplant the historicism of a second media age.

Digitalization and Convergence

The historicism of a digital age is founded upon the promise of interoperability between all forms of media that rely on digital code. As digital formats for storing and circulating information become a basic standard that ranges across computing, media, and telecommunications, a digital ontology is seen to be the basis for a mono-media world.

In his 1999 book, *The Internet Challenge to Television*, Bruce Owens made a prophecy of convergence—that through digitalization, the Internet will be all, and television, telephone, and computers will converge on the Internet. But there are two versions of this mono-media thesis. Although some, such as Owens, Negroponte, and Gilder, see digitalization as the basis for convergence, others such as Henry Jenkins and Friedrich Kittler see the digital platform as the basis for interoperability between discrete kinds of media for which digital code has simply enabled a common language. According to Kittler, digital media has become a master ontology that determines our situation. First it was film, the phonograph, and the typewriter that appropriated the power of the written text. Film and the phonograph record images and sounds, while the typewriter usurps the eye's control of the hand. Current electronic technologies are bringing media back together, and Kittler suggests that in the future, all media will be connected on a digital basis, completely erasing the very notion of medium itself.

For Jenkins, in his book *Convergence Culture*, the interoperability of new media provides much more active participation in media. He argues that whereas old consumers of media were more isolated, new consumers of convergent media are more socially connected because they can upload their own content and choose from a much wider array of fragmented information, including being able to choose between corporate media and grassroots media.

From an economic standpoint, Brian Winston has also argued that in recent years, digitalization and technological convergence has become a rhetorical justification for further deregulation in the communications and media industries by downplaying capital concentration as a cause. For him, mergers and takeovers are not just about plundering technological opportunities, they are also driven by the monopolization in a single industry or even a tendency for the rate of profit to fall in one industry, making diversification attractive.

From a technological standpoint, Winston is an interesting writer in the way he produces a kind of history of the present around digitalization by showing that media convergence has always been a reality of the history of communications. Winston argues that digitalization is not required for convergence. Rather there have been other sufficient means of convergence based on analogue signals that have allowed interchangeability between

medium functions for many years. These are largely centered around the convergence between wired and wireless. For example, radio was first used for point-to-point communication, and the telephone was used as a form of network broadcasting in its early years. So today, Winston scoffs at the hubris of new media convergence that marvels that people can listen to the radio over their digital televisions or make telephone calls on their computers. For Winston, the change over to digital is more comparable to the move from analogue amplitude modulation to analogue frequency modulation in radio 40 years ago than to the slightly earlier postwar shift from radio to television.

When Old Technologies Were New

Winston is, of course, only one among a stable of writers who have performed such a history of the present as a way of undoing contemporary media historicism in the style of Carolyn Marvin's classic text, *When Old Technologies Were New*. Others include Lisa Gitelman and Geoffrey Pingree's *New Media 1740-1915*, James Carey's analysis of the telegraph, Stephen Kern's *Culture of Space and Time 1880-1918*, and Armand Mattelart's *Networking the World, 1794-2000*. The major lesson from these books relates to the way in which, particularly between 1880 and 1918, time-space compression intensified to a degree that has never been equaled. One can cite the invention of the telegraph as a decisive point in such acceleration, producing McLuhan's so-called cybernation of instantaneousness, an aural medium of information from everywhere.

As Carey argues, it was the telegraph that, more than any other technology, first marked a separation between transportation and communication. Jon Stratton argues that this separation led to the creation of the first kind of cyberspace. For Stratton, it is not the introduction of computers that defines cyberspace, but as increase in the speed of communication over distance to a point where the time needed for a message to traverse that distance is experienced as negligible by both sender and receiver.

Of course, the Internet and other digital technologies differ from the telegraph in their bandwidth and their ability to convey complexity, but it has done little to accelerate global time-space compression. And following Winston, digital media are not at all a prerequisite for generating an instant international context of social connection. One only has to watch a super-media event, such as the Olympics, to see how television can do this and why its liveness and its global reach provide a special kind of mediated visibility, or a gathering place, regardless of whether this visibility is provided by digital or analogue technology.

Ritual Theory

A second line of critique of digitalization and convergence as central to new media theory has been cultivated within ritual approaches to communication. The ritual approach offers an explanation as to why television and even newspapers and books have not declined in the face of the above trends. By examining how and why people interact with communication mediums, this approach suggests that attachments to mediums are not simply driven by efficiency and control over media that was pushed by the second media age theorists. Rather, attachment to media, both old and new, provides a constancy that individuals may find hard to attain in face-to-face relationships and other areas of everyday life.

For example, in her books Lurkle explores forms of intimacy people have with digital mediums. In *The Second Self*, Lurkle examines the way in which computer users relate to their PCs as though they have a mind and soul, and to some extent, interaction with such an entity replaces direct human interaction. In her later work on online identity, Lurkle examines how we can use online communication to control how much we reveal of ourselves or, indeed, project altogether new identities. Although identity may become more fluid and decentered online, there is comfort in only having to interact with a medium rather than directly with other human beings, a comfort which creates the paradox that avatars are more willing to express intimacy online than they are offline. The fact that self-disclosure on the Web is an ambiguous performance arguably makes the Internet a seductive meeting place. However, such ambiguity depends on the lack of visibility that users have in

earlier forms of the Web. For the most part, their ability to project an identity was limited to what they could type.

However, the development of Web 2.0 as a platform has transformed the nature of interactivity on the Web and opened up a universe of user-generated media. Whereas the page metaphor of Web 1.0 only allowed for one-way downloading of information and was therefore not that different to the consumption of broadcast media, Web 2.0 applications allow users to become autonomous producers. Blogs, YouTube, Wikipedia, eBay, Flickr, Second Life, and other such online social networking sites enable media users to have a broadcast experience. At the same time pre-Web 2.0 applications become redesigned for their Web-usability, text documents can be saved as HTML, and images can be dragged and dropped between applications.

The significance of Web 2.0 is that, whereas broadcast generates an instant national or international context of social connection, there are few ways in which individuals can achieve meaningful interaction to make these global connections tangible. The fact that users can now work with the materials of broadcast media as a way of communicating expands the idea that media make possible a public sphere.

The stage, the cinema, and television are each spaces of appearance—where how I appear to others is the same as others appear to me—but ones in which the struggle for visibility are very unequal. However, Web 2.0 makes possible a mediasphere— something akin to Roger Silverstone's notion of the mediapolis. Silverstone's mediapolis is a site in which communication is multiple and multiply inflected. It is open to circulation of images and narratives and to a characteristic combination of moral and dramaturgic concerns. Unlike physical assemblies, however, the mediapolis easily finds a place at both national and global levels, an electronic gathering place that arises out of people speaking and acting together regardless of where they happen to be.

Finding a Methodology for New Media Studies

The concept of mediapolis, like Jenkins's concept of media convergence as a meeting of corporate and grassroots media, suggests a much more open media landscape than new media theory addresses. Indeed, Anna Everett has suggested that this landscape has created a sensory plenitude, defined by the simplicity and ubiquity of clicking a mouse, video-game joystick, or Web-TV remote control. At least, it is the power and pleasure of the click that produces a consumer-driven on-demand environment of media services and gives the consumer an illusion of autonomy over new media. From the human-media interface, click theory points toward the need for new accounts of the relationship between users-audiences and media texts, which mass media paradigms are unable to accommodate.

From the macroscopic standpoint of media environments themselves, new media theory faces methodological challenges from a number of directions. One is the pace of change of the three sectors relevant to the field: computerization, media, and telecommunications. Second is the difficulty, and perpetual infancy, of mapping the convergences between these domains, and third is the breadth of the interdisciplinary resources that are needed to survey the field. Medium theory offers some gestural insights into the relationship between old and new media, but it does not provide a methodology for examining the relationship between the coemergence of a vast array of new media in the one environment. Lars Qvortrup suggests that complexity theory can and should be applied to new media. For him, a basic methodological question is whether digital media can be reducible to a limited number of fixed features, which it cannot. Complexity theory is influenced by social determinism rather than by technological determinism in that it addresses media and media development in media evolution terms, implying that new media emerge in order to address emerging social complexity management problems. Thus, to understand the diffusion of new media, it is necessary to understand complex behaviors—of markets, individuals, and technologies— that have, in fact, a long process of evolution.

—David Holmes

Further Readings

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