

# Theorizing New Media

## A Meta-Theoretical Approach

### 1 Introduction

Over the last 20 to 30 years the study of information and communication technologies (ICTs), a field broadly referred to as *new media research*, has expanded well beyond its roots in mass communication research to incorporate perspectives drawn from rhetoric, critical and cultural studies, political economy, as well as theories of interpersonal and group interaction and social network analysis. In the 1990s this trend was accelerated by the rapid growth of networked computing and the Internet. In many ways the Internet has become the archetypal 'new medium' and so has led many analysts to argue for a distinct field of 'Internet studies' or research.

It is still an open question whether 'the' Internet merits this type of analytical distinction as compared with other ICTs (any more than in earlier periods we might have had 'radio studies' or 'telephone studies' as separate fields). The question is complicated by the fact that networked computing, telecommunications, and broadcasting increasingly constitute a single, relatively cohesive digital platform for carrying almost any type of content, whether textual or hypertextual, visual or audio, color or monochrome, motion or still.

Nonetheless, with the Internet as the prime example, new media have presented theoretical and analytical challenges to conventional theories of media and society at every level of analysis. The social phenomena associated with new media, including the Internet, are only partially addressed by any of the traditional theories of media effects, mass audiences, the political economy of media, uses and gratifications, diffusion of innovations, cultural/critical/ reception theories, and so on.

Therefore, in this paper I argue for a meta-theoretical approach that takes into account several important characteristics of ICTs, conceptualized in terms of a two-dimensional space. On one dimension, ICTs are defined as fundamentally *infrastructural*, in the sense proposed by Star and Bowker (2002) and Star and Ruhleder (1996). That is, they involve not only built systems themselves, but also the social practices and institutional formations that have evolved along with them. The second dimension comprises several major themes or characteristics of new media that have emerged in discussions and analyses of ICTs to date: *ubiquity*; the *recombinant* nature of new media; and the prevalence of the *network metaphor*, which is become used today to describe virtually every aspect of the technical, personal and institutional world.

Based on these two dimensions, I propose a meta-theoretical frame for new media and Internet research, within which various research projects or theoretical perspectives might be arrayed. I discuss the implications of this scheme for continuing theoretical and empirical studies of new media and the Internet.

## 2 Past Approaches to Research on ICTs

As a background for the framework proposed below, it is useful to review briefly the principal strands of past new media research, and a few of the major works associated with them. Generally speaking, four main perspectives or approaches have dominated new media research in the past. The *historical/institutional* approach has tended to focus on the development of the technologies themselves over time, including their technical features as well as the key individuals and institutions involved. The social history approach has been a particularly fruitful way to examine the interrelationships between ICTs and the societies that produce and use them. For example, Claude Fischer's (1992) study of the telephone, James Beniger's (1986) wide-ranging examination of the use of ICTs in the "control revolution" dating back to the industrial era, and Carolyn Marvin's (1988) insightful survey of communication technologies that are common today but were "new media" in their own time, have all been widely influential. Technology policy studies have also taken a historical-legal and institutional perspective on key issues such as universal service policies (Dordick 1990; Mueller 1993), or the changing nature of "information work" and ICTs and employment (e.g., Schement/Lievrouw 1984; Urey 2002), among many others.

The second major research approach has been *social-psychological*. It follows the traditions of U.S. media effects research, uses and gratifications theory, the social psychology of telecommunications and computing, and studies of human-computer interaction. In this line of work, ICTs are regarded as having effects or "impacts" on individual users, groups or society. For example, a line of studies can be traced back to Wilbur Schramm's book, *Big Media, Little Media* (Schramm 1977), in which new media technologies are classified according to their technological attributes, features or channel characteristics (e.g., Durlak 1987; Pool 1983; Steuer 1995), with the assumption that those features or characteristics affect user behavior. More recently, Reeves and Nass (1996) have proposed the *media equation* thesis, suggesting that people not only anthropomorphize communication technologies; their cognitive processing of media content is also affected by the formal features and design elements of the interface.

A third approach has been *micro-sociological*, focusing primarily on interpersonal and small group interactions carried on via ICTs. Early studies in this stream explored the psychological states of individual participants as well as group dynamics in computer-mediated communication. (e.g. Rice/Love 1987) Most were conducted in the workplace and organizational contexts where the technologies were first adopted; indeed organizational communication continues to be a major arena for this type of research.

(Jackson/Poole 2002) Early studies developed accounts of user anonymity, emotional or affective communication, and the lack of interpersonal cues in computer-mediated communication that could lead to disinhibited interaction, such as the aggressive style of *flaming*. (Kiesler/Siegel/McGuire 1984; Sproull/Kiesler 1991) The nature and quality of *interactivity* via new media has also been a key topic in this area. (Rafaeli 1988; Rafaeli/Sudweeks 1997; McMillan 2002)

Taking more of a Goffman-style perspective, with a focus on language and action, other researchers in this stream have examined the ways that new media technologies allow users to express and work out personal issues, identities, relationships and interests. Here, a great deal of attention has been paid to issues like *identity and gender play* (Baym 2002; Donath 1999; Slater 2002; Turkle 1984; 1995); *domestication*, that is, the adoption and use of ICTs in the home; the use of alternate personas or avatars (Sudweeks/McLaughlin/Rafaeli 1998), the nature of online community (Jones 1998) and changing notions of what constitutes the "self". (Gergen 1991)

The fourth approach has been primarily *macro-sociological*, with an emphasis on whole-community or whole-society phenomena, such as the diffusion and adoption of new technologies, content or practices. Researchers have sought to understand the broad-based social changes and movements associated with ICTs and their attendant legal, ethical, social, and economic issues. *Information society*, *information economy*, or *post-industrial society* studies, dating back to the seminal work of Fritz Machlup (1962), Daniel Bell (1973) and Marc Porat (1977), are perhaps paradigmatic here. However, these early studies have been strongly criticized as taking a top-down, technologically deterministic view that obscures enduring, industrial-style problems of power and social inequity (e.g., Slack/Fejes 1987; Webster 2002), and so two camps, the *discontinuity* and *continuity* schools of thought, respectively, have evolved. Most recently, these concerns have been a prime focus of critical communication policy research (Mansell 1993) and studies of the *digital divide*. (Cooper/Kimmelman 1999; Naitonal Telecommunications and Information Administration 1998; Katz/Aspden 1998) Perhaps one of the most influential social theorists working in this area today, Manuel Castells, has proposed that society is increasingly organized in a more contingent and less rigidly structured way that is influenced by the movement of information, or what he calls the *space of flows*. (Castells 1989; 1996)

Obviously, this very short sketch cannot capture all the breadth and detail of the decades of research that has been conducted regarding ICTs to date. For a more comprehensive overview readers may wish to consult other recent works, including a review of communication and technology research appearing in *Communication Yearbook 24* (Lievrouw et al. 2001), or the various chapters of the *Handbook of New Media*. (Lievrouw/Livingstone 2002) However, the summary offered here gives a general sense of the diversity of problems, frameworks, theories, and empirical work that comprise the field.

Today, the diversity, range and scope of new media research have produced an impressive body of research and scholarship. From its beginnings as a relatively small and

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arcane group of studies (and interdisciplinary researchers) that did not fit neatly into either the mass media or interpersonal/speech areas of communication research, the field has grown dramatically. New media research now constitutes a major specialization both within communication and in many other disciplines, complete with scholarly journals, societies, and academic degree programs throughout the world.

The social scientists who conducted the earliest studies, including economists, sociologists, policy and organizational analysts, social psychologists, information scientists and communication researchers, have recently been joined by colleagues from the arts, humanities and cultural studies who 'discovered' the Internet once the introduction of the World Wide Web and accessible browser software made it easier for non-technical users to create, find and share content. Indeed, since the mid-1990s, a kind of research 'gold rush' has developed as more disciplines have turned to the new media as a topic for study and as a tool for scholarly and creative exploration.

However, the diversity of the field has also created problems of understanding and cross-disciplinary communication. Many of the latest entrants to new media research and scholarship remain relatively ignorant of the studies conducted before the 1980s; some of their work seems to suggest that the Internet, for example, sprang fully-formed into society less than a decade ago. By the same token, the economists, policy researchers, engineers and social psychologists who studied early systems and their interpersonal and organizational effects have sometimes been reluctant to explore the newer social theories, critical philosophical frameworks, artistic styles and movements, and grounded/qualitative methodologies that inform contemporary research.

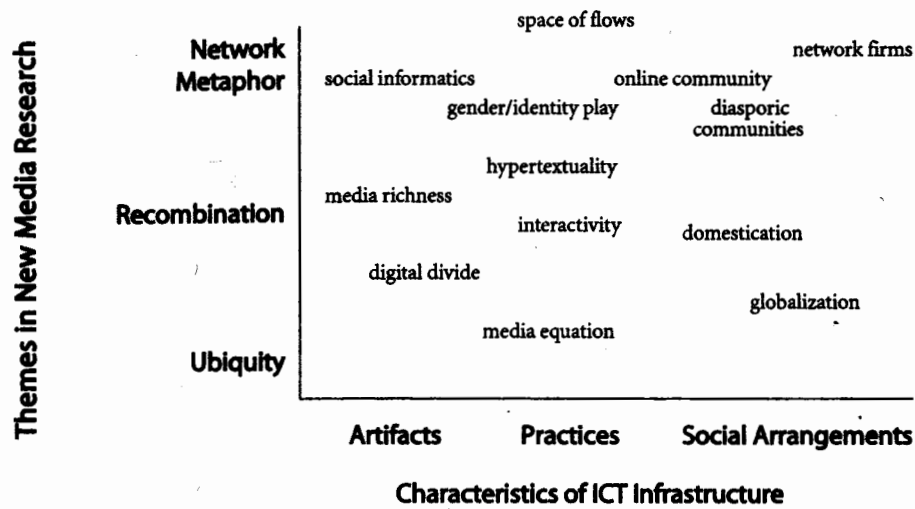
New media researchers face an enormous challenge today: there is no substitute for keeping abreast of developments in a number of disciplines at once, including those that may be unfamiliar or philosophically inhospitable to one's personal views or training. There is a growing risk that new media research could splinter into many non-conversant camps, reflecting traditional disciplinary and philosophical boundaries. Therefore, at this stage in the field's development it would seem useful to begin to explore synthetic frameworks that might help colleagues from different fields and backgrounds place their various influences, tools and findings in context, to "read across" theories and methods and so to sustain the kind of multidimensional, triangulated exploration that has been so fruitful up to now.

### 3 Dimensions of New Media Research

One way to attempt such a synthesis is to identify key themes or characteristics that cut across the variety of studies and approaches. (see Figure 1) A particularly compelling one has been proposed by Leigh Star and Geoffrey Bowker, who are, respectively, a sociologist and a historian of technology. (Star/Bowker 2002; Star/Ruhleder 1996) They have described the features of technological *infrastructures*, which in their conceptuali-

zation include not only the physical and technological system, structure, matrix or platform that underlies a technology, but also the emergent social and institutional phenomena and everyday activities associated with those systems and structures.

Figure 1 Meta-Theoretical Framework for New Media Research



Infrastructure is *embedded* or “sunk into” and inside of other structures and technologies. It is *transparent*, in the sense that it does not have to be reinvented each time it is used and it invisibly and easily supports those tasks. It has *broad scope or reach*, both in space and in time. It is *learned* and *eventually taken for granted* by the members of the society that use it. Infrastructure is therefore also *linked with conventions of practice*, that is, how things are already done. It embodies or is *plugged into technical and social standards*, and is built on and complements an *already-installed base* of other technologies. And crucially, infrastructure typically only becomes visible or *obvious when it breaks down*.

Research about new media/ICTs and society, then, can be framed broadly in terms of infrastructure. Put differently, we can say that such research concerns “the *artifacts* or devices that enable and extend our abilities to communicate; the communication activities or *practices* we engage in to develop and use those devices; and the *social arrangements* or organizations that form around the devices and practices”. (Lievrouw/Livingstone 2002, 7; emphasis added)

All three aspects, of course, are interrelated phenomena. Nonetheless, some studies may focus primarily on the characteristics of artifacts and how they are designed, built or distributed (e.g., studies of computer-supported cooperative work, or CSCW; media richness theory [Daft/Lengel/Trevino 1987; Trevino/Lengel/Daft 1987; Trevino/Webster 1992]; or studies of the social shaping of technology [Lievrouw 2002]). Others take a social system, organizational, institutional or even global view as their point of entry (e.g., policy and regulation research, digital divide studies, early studies of the in-

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formation society, Castell's "network society" [1996], or Luhmann's social systems theory [1995]). Still others approach new media from the perspective of individual perception, cognition, or behavior (e.g., media equation theory; domestication).

On a second dimension, other key themes or attributes of new media can be arrayed. One is the real or perceived *ubiquity* of new media. ICTs are routinely described as affecting everyone in the societies where they are employed, whether directly or indirectly, and far beyond their origins and uses in research, entertainment, or the workplace. Again, this is a familiar feature of both the continuity and discontinuity schools of thought in early information society studies, as well as more recent discussions of the role of ICTs in globalization or political and economic equity.

Another important theme on this dimension is the *recombinant* nature of ICTs, that is, new media systems "are products of a continuous hybridization of both existing technologies and innovations in interconnected technical and institutional networks". (Lievrouw/Livingstone 2002, 8) As the recombinant metaphor suggests, ICTs may be shaped or largely determined by existing systems and institutions, and they may have (indeed, are likely to have) unintended consequences that are technical, social, institutional, political, personal, and so on. But ICTs are the products of human perceptions, decisions, and actions. "They are not determined by an independent, inevitable causality or evolutionary process unique to technology itself; rather, designers, users, regulators and others can [...] recombine technologies and new knowledge to achieve their particular goals or purposes." (Lievrouw/Livingstone 2002, 8)

This theme pervades most of the literature on social informatics and the social shaping of technology, for example (Kling 1999; Lievrouw 2002), as well as most recent research on ICTs in organizations. (Fulk/Steinfeld 1990; Jackson/Poole 2002) It is also reflected in the more culturally-oriented literature on hypertextuality, for example, or discussion of new types of online relations expressed through identity and gender play, online communities (Jones 1998) or diasporic communities, i.e., ethnic, language or national groups whose members are geographically dispersed and so maintain a sense of belonging with each other and the home community using email lists, web sites, chat rooms and other online forms. (Mitra 1997; 2001)

The third theme along this dimension is the growing prevalence of the 'network' metaphor as a description of all aspects of the technical, personal and institutional world:

*"[...] the term 'network' denotes a broad, multiplex interconnection in which many points or 'nodes' (persons, groups, machines, collections of information, organizations) are embedded. Links among nodes may be created or abandoned on an as-needed basis at any location in the system, and any node can be either a sender or a receiver of message – or both."*  
(Lievrouw/Livingstone 2002, 8)

The point-to-point 'network' arrangement and shape has supplanted the top-down hierarchical formations of industrial-era systems and sociality in both popular depictions

of social relations, as well as more scholarly studies. (e.g., Putnam 2000; Castells 1996; 2001) Indeed it is difficult to find any alternative structural analogies today in popular discourse, whether the topic is family and interpersonal relations, co-worker connections in the workplace, leisure activities, political influence and participation, media and cultural production, international patterns of finance and trade. All, by one account or another, are routinely characterized as networks, especially when ICTs are involved. A more adventurous interpretation brings both human 'actors' and technological and institutional 'actants' together into complex *actor-networks*, where both have the power to influence the nature of social life and change. (Law/Hassard 1999; Bowker/Star 2000)

Given these two dimensions or vectors, then, we can propose that they frame a "space" or field in which various theories, perspectives or issues of new media research can be positioned relative to others. We can think of this space as a two-dimensional map or matrix, as in Figure 1, where each dimension ranges from more concrete, material or physical manifestations of ICTs at one end (e.g., artifacts on the infrastructure dimension and ubiquity on the thematic dimension), to more abstract, conceptual phenomena at the other (social arrangements and the network metaphor, respectively). Using this scheme, theories, concepts or issues emphasizing technical features, design, physical distribution, and so on would occupy the "southwest" corner of the field (e.g., digital divide, universal service, media richness), while highly theoretical or abstract accounts would occupy the "northeast" (e.g., Castell's space of flows). Between these two extremes lie other concepts and issues that vary to whatever extent on either dimension.

Figure 1 shows how the several concepts introduced in the present discussion might relate to one another. While some cluster in fairly obvious ways (space of flows, network firms, online community), other juxtapositions may seem surprising or non-obvious. For example, globalization and domestication are shown relatively close to each other in the lower right area of the figure. Though they relate to very macro- and micro-scale phenomena, respectively, both to some extent assume the increasing ubiquity of ICTs, whether globally or in households. Domestication involves particular practices and social arrangements, while globalization is principally a framework for large-scale social arrangements.

Of course, the positions for the various concepts in Figure 1 are only suggested; they are not intended as any sort of fixed or stable arrangement. Readers will certainly have their own views about how various concepts might be arranged differently, or which theories, concepts or issues to include. Primarily, however, the framework is meant to be a tool for thinking about the range of new media/ICT research and theory to date, not a final or definitive description of the field or its boundaries (which are necessarily porous and fluid).

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#### 4 Future Directions/Implications

All the various implications of the proposed framework cannot be fully elaborated in this brief treatment. But the framework does suggest at least a couple of possible directions for future work:

First, what areas are most heavily "populated" with concepts, theories and issues? Conversely, where are the gaps? Using this framework may give observers a sense of what topics or aspects of new media/ICTs have been more thoroughly studied (or perhaps, over-studied) versus areas that have been neglected.

For example, the "recombinant" character of certain new ICT-based practices has emerged in the many studies of hypertextuality, gender and identity play, uses of anonymity and reduced social context cues, "netiquette", and emoticons, among others. All of these have emerged as new forms and styles of expression and interaction in technology-rich social settings, and all embody a fusion of older, more traditional communication practices and new technological variations. Yet, curiously, recombination seems to be less of a focus in studies of how new media systems are themselves designed, built and distributed. (Lievrouw 2002)

Second, what other major themes in new media/ICT research might be added to the "thematic" dimension? Ubiquity, recombination and the network metaphor are obvious, in the author's view. But they are unlikely to exhaust all of the possible important themes that might be found in this diverse and wide-ranging literature.

To conclude, then, this paper has provided a very brief sketch and overview of research on new media/ICTs and society. A meta-theoretical framework has been proposed to help researchers more clearly understand or weave together the various conceptual, theoretical or thematic "threads" that have dominated this body of research and scholarship. It may also help scholars identify issues or problems that have enjoyed a great deal of interest, on one hand, or those that remain open problems or require further investigation, on the other. Readers are invited to use the framework to think through or position their own research and scholarship relative to other studies in the extensive, multi-disciplinary domain of new media research, or to propose ways to modify or expand the framework so that it provides a more useful "map" for this continually-growing territory of work.

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