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**Book section – Accepted version
(Refereed)**

Original citation:

Originally published in: Price, Monroe and Nissenbaum, Helen, (eds.) *Academy and the Internet*. Digital Formations (12). (New York, USA: Peter Lang, 2004) pp. 168-195. ISBN 978082062035

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Available in LSE Research Online: August 2014

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The Internet & Communication Studies

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June 26, 2002

Not intended for citation or distribution

11,000 words

Prepared for
Monroe Price and Helen Nissenbaum (Eds.) *The Internet and the Academy*

The Internet & Communication Studies

Introduction

It is hard to avoid the bustle of activity within academia generally, and communication studies particularly, since popularization of the Internet. New courses and degree programs are being introduced with “Internet Studies” in the title. Specially tailored research institutions are sprouting up around the world. Methods of scholarly investigation are being modified or, in some cases, invented to accommodate Internet developments.

With all of this activity, it is difficult to distinguish permanency from seasonal fashion and to resist the temptation to join the chorus of those proclaiming that a revolution is underway in the academic arena. We, as authors of this chapter, differ on a wide array of issues, but we share a healthy dose of skepticism regarding such radical proclamations. We believe, instead, that most of the changes occurring in the educational and research institutions related to communication studies and the Internet are incremental in nature rather than revolutionary. Indeed, the conventional constraints impinging on any academic institution – financial resources, history and culture, power and influence – are also at work here. Further, many of the changes evident in the field of communication studies are hardly unique. They may, however, be more pronounced in this discipline because of its close affinity with much of what is associated with the Internet. They may also be more pronounced because communication studies is a relatively young field, and its theories, definitions and methods are still contested. For these reasons it may be valuable to examine the recent changes in communication studies in some detail in order to gain a glimpse as to what other academic disciplines may have yet to encounter.

The field of communication studies is exceptionally broad and covers such areas as journalism and broadcasting; speech and rhetoric; telecommunications; mass, organizational and interpersonal communication; public relations and marketing; and cultural studies. Not all of these divisions are usually contained within a single department, but universities following the Anglo-Saxon model of higher education generally combine forms of professional training

with more academic, research-oriented divisions. In some programs, like those in journalism departments, such a combination is mandated by accreditation standards of organizations such as the Association for Education in Journalism and Mass Communication.

The field has been multidisciplinary since inception and, if anything, the number of institutional impulses influencing and determining the character of communication studies has increased dramatically during the past two decades. Initial inputs from sociology, psychology and political science are now combined with those from economics, law, business, computer and information science, and the humanities. The thin thread holding this anomaly of intellectual disciplines together can be concisely formulated as concern for the study and practice of human communication. Such a general basis understandably leaves much room for diversity between departments. It also creates space for considerable tension within the subdivisions of a single department, particularly between faculty oriented towards theoretical issues and those more practically disposed, and between faculty leaning in the direction of empirical investigation and those preferring artistic expression.

These aspects of communication studies make it particularly problematic to speak in broad terms about the impact of the Internet on the field. Nevertheless, we address through concrete cases three central issues in this chapter: how a university is creating a new educational program that incorporates the Internet, how scholars are considering conventional concerns of the diffusion and adoption of new communication technologies in light of the Internet, and how a new approach to researching the Internet is being developed that relates data collected about producers, users and content. In all three cases, the overriding purpose is to provide indication of the kinds of issues and questions that are being addressed in Internet-related scholarship conducted within communication studies.

This chapter is based on the informed impression of its authors. Each of us is active within a particular subdivision of communication studies; some are senior members of the field and others are young scholars at the forefront of new innovations in both research and teaching regarding the Internet. Emphasis is placed on illustrating changes as we are experiencing them. Such an approach may have a built-in bias: undue and unwarranted

attention being given to developments peripheral to the field in general. A partial corrective to this approach, however, is our diversity of backgrounds, institutional affiliations, research interests and theoretical approaches. We represent six university departments of communication situated on the West Coast, Mid-west and Eastern seaboard of the United States, and in Continental Europe and England. Three of us are editors of a journal devoted to new media scholarship. Another three of us are editors of book series dealing with media and technology, and two of us are directly involved in a long-term investigation of the penetration and impact of the Internet on American society.

The chapter is divided into four sections. Each section addresses one of the three issues previously noted. Some of the sections, understandably, overlap in concern; by and large, however, the foci of the sections are concerned with educational curriculum, research program, and research methods. In each of the sections, however, research issues and questions are raised. In the first section concerns within an established university are addressed in adapting media-oriented courses to the social dimensions of the Internet. This is accomplished through an extended profile of a curriculum innovation at the London School of Economics and Political Science. Although this program differs considerably from the curricula at other universities, it may portend future developments at research oriented institutions.

The second section outlines one of the larger and more significant research programs stemming from the Internet and communication studies. Called the Pew Internet & American Life Project, this research initiative is posing questions around the diverse ways people are incorporating this technology into their everyday lives. This project suggests a shift not only in some of the conventional domains of research, but also in a form of data sharing that is largely unprecedented in the social sciences.

The third section deals with innovations in communication research methods as related to the Internet. Various social science research methods are undergoing a major overhaul, from interpretative methods such as virtual ethnography to quantitative techniques such as online surveys. The extended case for this section describes an important

methodological innovation known as Web sphere analysis, under development as a way of illuminating relations between producers and users of the Internet.

In the concluding section we speculate on some of the overall developments related to curricula, research directions and research methods that may be expected within the next few years regarding the Internet and communication studies.

Media@lse: Creating a New Curriculum

The Interdepartmental Program in Media and Communications, called Media@lse and located at the London School of Economics and Political Science (LSE), is involved in research and teaching at the interface between social and technological change. It is an example of a program explicitly designed to encourage critical reflection on the many issues emerging in a world where digital technologies are becoming intensely intertwined with our everyday lives. However, those contributing to the program have a strong commitment to ensuring that the new technologies of the Internet Age are not privileged over other media or over developments in the social world.

The research program at Media@lse is providing a foundation for interdisciplinary graduate teaching through programs at the Master's level and through graduate research training. The program encompasses work on the way in which the local connects with the global, and its remit is to provide a scholarly environment that yields theoretical and policy-related insights into developments in new media and communication technologies and services and their implications for society. A major goal is to ensure that the program is sensitive to the need to understand the implications of Internet-related phenomena, both in the context of related changes in information and communication technologies and in the context of the social fabric of the "off-line" world. This account of the program's recent history and current research provides insights into the process of building a strongly inter-disciplinary, distinctive initiative in the media and communication field in the midst of an academic institution that continues to value the contributions of the traditional social science disciplines and which seeks to be responsive to the turbulence and many uncertainties in the world today.

Politics of the Academy

LSE has been running a small graduate program in Media and Communications since 1994, but in 1997 a decision was taken by the School to expand the program through creation of a new Chair in Media and Communications. This resulted in a process of development which, by 2002, consisted of four Master's programs and a doctoral program, attracting some 120 students overall and involving 11 faculty. It also began a process of defining an intellectual agenda for the program as a whole. This agenda was to be research-led and was to identify and justify the core concerns of the program. The timing of this initiative was propitious in a number of ways. The arrival of a new LSE Director with an esteemed reputation in the social sciences enabled creation of space for initiatives in the School, often against significant opposition from the more conservative social science departments. But also important was the nature of what was happening in the world outside LSE, both in and beyond the academy, in the media and communications industries.

The last decade of the twentieth century was witness to a huge and intensely complex series of changes in national and global institutions, networks, and practices of media and communications. Arguably central to these changes were the technological advances driven by digitalization, advances expressed and reflected in a multitude of dimensions and spaces. The Internet, the mobile phone, and satellite broadcasting were the palpable agents as well as the expressions of those changes. Around them, exploiting, containing and very often completely misunderstanding them, the world's global media industries sought new alliances, new organizational and commercial structures and new ways of reaching and engaging media consumers. Politics, both the politics of parties and states and the politics of oppositions and alternatives, were also finding in the flexibility, speed and reach of the new information and communication technologies an opportunity as well as a threat.

This was the context, and this was the challenge, which it quickly became clear the LSE media and communications program would have to address. Without too many encumbrances in the way of an established faculty, the opportunity to create a research and

teaching unit more or less from scratch to address the intellectual and pedagogic issues at the interface between technological, social and media change was irresistible. It was not that these were not being studied and taught elsewhere in the UK; far from it. But it was felt that the LSE, as one of the major academic institutions of social science research and teaching in the UK, would provide a basis for a distinctive and worthwhile program.

The second dimension of context was the academic. Media Studies, in the UK at least, was faltering. It had not been able to establish a coherent intellectual agenda and its relationship to the social sciences, both theoretically and methodologically, was uneven and partial. Elsewhere – in the social studies of science and technology (MacKenzie, 1996), in innovation studies (Freeman & Louça, 2001), as well as in the specific domains of the politics or economics of information and communication technology (Dutton, 1999) – the narrowness of perspective, given the scale and scope of the changes taking place, was debilitating. The possibility of bringing together sociologists, social psychologists, political scientists, economists and those working in geography, law, anthropology and information systems would at least provide the fertile ground for a new and, it was hoped, a creative approach.

The LSE offered both the institutional and intellectual basis for believing that this could be possible. Central to the emerging program was the grounding of both teaching and research in the established agendas and practices of the social sciences. Central too was a concern with institutional processes, everyday life practices and policy implications, and their interrelation. From these concerns it became both clear and essential that the newness and the novelty, of for example the Internet, should neither be reified nor fetishised. It was not just technologies or media institutions that were converging. Media and communication cultures and practices in their complex interaction required a direct and inclusive focus. There would be a need to understand technology as being constituted in those practices, and their effects as being mediated by them. There would be a need to work on content and context, and to resist the demands of students to focus only on the immediate or on the future rather than the past, the digital rather than the analogue; on the Internet and not on radio or television.

There were few new material resources available in the School and few opportunities to turn the program into a high-tech, technology-led initiative. The teaching program had to be structured so that it would be viable pedagogically in the reasonably conventional (possibly rather old-fashioned and low-tech) institutional context in which it is embedded, while making efforts to enhance content delivery and student support using appropriate software. Some progress is being made in developing information technology-assisted teaching materials and learning environments. Perhaps making a virtue out of necessity, but hopefully for more sustainable intellectual reasons, both the practices of research and teaching are emerging not from a locus in the technological, nor strictly even in the professional, but in a radical commitment to the investigation and analysis of the processes of change and stability in the interrelationship between technology, media and communications, and society. It is this critical position, in the broadest sense of the term, which informs Media@lse practice and justifies the claim for the relevance and distinctiveness of what is done within the program.

The Internet is playing a growing role in support of the pedagogic practice within the program, for instance, by enabling student access to course materials and resources. Training in the use of the World Wide Web as a useful electronic archive of research resources and in the use of the Internet to support qualitative and quantitative research methods is provided both by Media@lse faculty in specialized areas and, more generally, by the LSE through a methodology division and by courses offered by faculty from the computer services division. But there remains a fundamental commitment within Media@lse to faculty-student interaction in the context of the physical location of the School's classrooms and media and computing laboratories. The growing intensity of email interaction in support of dissertation supervision and around the traditional use of lectures and seminars is being treated as a complement to, not a substitute for, conventional learning environments.

Program Themes

The research and teaching program at Media@lse is emergent. Since it began, and as new faculty have been appointed, its thematic focus has been constantly under discussion, critique, and re-statement. During the early development of the Media@lse program in 2002, the research program was organized around five themes: Democracy; Digital Economy; Literacies; Culture and Community; and Ethics. These foci will change, as they must, if this program is to maintain a fundamental interest in what it means to go “beyond connection,” that is, to create new interpretations of the media and communications environment that are not informed by a determinism of either the technological or the social.

It is important to note that the pedagogical strategy of the Media@lse program cannot be understood outside the context of its research. This research is being drawn into the planning of new graduate degree programs as well as existing curricula. This process of continuous scrutiny of the corpus that should be taught (and of its boundaries) and of how best to be responsive to both a rapidly changing media environment and student interests in learning about media and communications is difficult. But the ethos of the LSE is one that encourages a “research-led pedagogy”, and some of the research issues and questions relevant to the five divisions are highlighted below.

Space does not allow detailed elaboration of all five themes of the Media@lse program in this chapter. Briefly, the focus *Digital Economy* is concerned with the economics and politics of the convergence of telephony, television and the Internet, as well as the changing roles of national and international regulation and policy. The focus is on the contributions of public, private and civil society actors to the transformations associated with the digital economy and on the forces shaping the creation of new markets. The protection of the public interest, issues of ownership and the structural dynamics of markets, and the role of intellectual property regimes are central to research within this theme, as are issues of social and economic inclusion and inequality (see Mansell, 2001; Mansell & Steinmueller, 2000; Murray, 2000; Quah, 2001; Scott, 2000; Thatcher, 1999).

The theme *Literacies* acknowledges that media and communications technologies, networks and services, including the Internet, are key resources, not just for the provision of news and entertainment, but as a means for finding and expressing cultural identity. Our experiences are mediated in multiple ways that create new kinds of literacies and expressions of identity. National broadcast channels and news agencies provide frameworks for national cultures, but new media are offering new spaces for minorities as well as enhancing the power of global corporations.

[Media@lse](#) is investigating these changes in the context of national, European and global mediation, and is fundamentally concerned with the changing literacies that are emerging as people interact with the Internet (see Couldry, 1995; Lewis, 2000; Rantanen, 2001; Silverstone, 1999; 2001). Investigations of the relationship between media and minorities are establishing a basis for identifying the capacity of minority and diasporic groups to create and sustain their own media cultures. The aim here is to understand the complexities of culture, identity and participation in host societies that are likely to emerge in situations of mobility and migration. An understanding of the nature of Internet use among children, young people and their families is an important feature of [Media@lse](#) research. Barriers and gateways to the acquisition and acceptance of the Internet among young users and their parents are being identified as well as financial, cultural, social and value-based factors that influence how and whether Internet literacy is achieved.

The theme *Ethics* takes as its starting point that inquiry in the field of media and communications should be informed by an ethical stance. The potential capacity of the new media to create a society leeching of humanity and the necessary face-to-face interactions of everyday life are of particular interest within this program theme. The implications of the new media for the conduct of public and private life and for their interrelationship mean that it is important to give special attention to whether a case for media and communication rights can be made (see Silverstone, forthcoming 2001). Is it possible to enable an “ethics of responsibility” to “the other” in an environment that is increasingly characterized by a politics of indifference? It may be that indifference can be countered by the specification of the first

principals of a media ethics. This would entail the creation of a favorable environment or space for acknowledging difference and variety and for understanding the way the media, themselves, can be seen both to enable and disable responsible action. Work in this area is complemented by empirical studies of the role of the new technologies in shaping civic spaces especially in contexts where issues of privacy and representation of identity are raised such as e-commerce and e-government services.

The program theme *Democracy* reflects recognition that some of the key questions facing the human race at the start of the new millennium turn on the central role that media and communications technologies play in human affairs. Questions about the power of the media as institutions and about the potential of the media to empower people are central. The intent is to establish how far the older forms of media and the new digital media can be mobilized to enhance democratic participation. This area of work includes cross-country comparative studies as well as detailed examinations of changes in the political information environment in the UK. It also focuses on the performance of the media and on changing conceptions of “participation” and “critical citizenship” (see Coleman, 2001; Couldry, 2000; Scammell & Semetko, 2000; Scammell, 2001).

In the field of political communication, the focus is primarily on key political institutions and actors and their use of media and, conversely, on key national media and their reportage of politics. A major concern is to locate the importance of media within democratic theories in order more precisely to gauge criteria for the assessment of media performance. Studies of elections in the UK and in the US focus on questions about the changing nature of campaigns, political discourse and voter turnout. Other work emphasizes the extent to which political marketing can move parties and candidates into new relationships based on trust and mutual exchange or whether this type of marketing is both cause and effect of a declining public sphere. The significance of consumer activism is also explored in terms of whether it signifies political weakness or evidence of a new political orientation in which old definitions of citizenship (in terms of rights and the state) are no longer appropriate.

Media and democratic citizenship provide a focus for research and course content addressing the ways that media, and particularly new electronic media, can establish new connections between citizens and their representatives. The central issues of how perceptions of citizenship are influenced by the multiplication of media sources and delivery systems, and opportunities for the “personalization” of the media offered by the Web and by digital television, are being examined. Media@lse is also concerned with assessing whether people are being provided with the resources to be participants in, rather than just spectators of, the wider public sphere. Work in this area focuses on the roots and ramifications of the power and authority of media institutions and models of how media transform the social world and its values.

Under the program theme, *Culture and Community*, it is recognized that new media do not determine social and cultural responses, but rather provide opportunities for, and challenges to, existing social structures and cultural values. Media@lse efforts are endeavoring to establish how far new media can be mobilized to enhance access to, and participation in, social, political and economic life (see Couldry, 2001; Gill, 2000; Livingstone & Bovill, 2001; Livingstone, 1998; 2000).

The meanings and uses of media in everyday contexts are being examined to illustrate the diverse responses to, and reception of, genres such as the soap opera, talk shows, and crime drama. A more complex media and information environment, where national broadcast television is one of several media competing for attention, means that the meanings and uses of a variety of media and communication technologies in everyday contexts such as the home, school, or community are essential to understand. Both social and technological factors are affecting a shift from mass audience to diverse users of media. This means that the consequences for distinctions between the producer and consumer, the state and citizen, the commercial and the public, and the communal and the individual are under investigation.

Comparative studies are important to understand how developments including Internet-based and mobile telecommunications services are being appropriated. Such studies help to highlight differences in the profiles of country adoption of older and newer services

and changes in viewing patterns and habits. Research and teaching are concerned with the changing conceptions of “the audience” in the wake of the introduction of digital television. Considerable attention is also being given to understanding the opportunities and contradictions involved in emerging patterns of social and technical interaction in on- and off-line settings.

Program Consolidation and Growth

It is early days. So far, the Media@lse program is developing well. Applications for the graduate level programs run, on average, at ten applications for every available place. Steps are being taken to define and consolidate the research activities of the group, and to extend the links that have been made to other units and disciplines within LSE. Although there was skepticism in some quarters within the established disciplines about the intellectual basis for the Media@lse program, many departments are now represented by one or more faculty in the wider Media@lse network of about 35 academics. One danger with such diversity, of course, is that of eclecticism without sufficient depth because participants come from diverse disciplines. The benefit, though, is an intensively interactive exchange of viewpoints and experiences of research and teaching in the field of communication studies.

In conclusion, it is important to note that the program’s research profile is being actively promoted internationally through the networks of researchers, policy makers, and industrialists in which Media@lse faculty are active. The teaching program also benefits from a formal international link with the Annenberg School of Communication at the University of Southern California (USC); since 2000, the two institutions offer a joint Master’s degree. Another illustration of recent program expansion was creation of an endowed chair, entitled New Media and the Internet. These initiatives, albeit valuable, require replication and extension. This is, in fact, the challenge facing the Media@lse program during the coming years.

The Pew Internet Project

An altogether different approach than that of Media@lse is to consider the Internet as the central research object. This is the approach taken by the Pew Internet & American Life Project. One of the central research tasks of communication studies, the Pew Internet Project argues, is to monitor the penetration, use and appreciation of media in society. Of course, new media technologies do not only diffuse through society at large, but also through research communities. Scholars not only study the role of new communication technologies in people's lives, but they are also users of the new technologies in their own empirical studies. In this sense, communication studies is a key division of the social sciences for two reasons. First, its members are intrinsically interested in understanding relationships between communication technologies and patterns of social and individual behavior. Second, these scholars need to know how people use communication technologies because policy makers, pollsters and scholars in many disciplines conduct research with these tools, and the ability to make sound relational inferences depends on the methodological implications of sampling error and generalizability. The purpose of this section of the chapter, with these considerations in mind, is to review the work of the Pew Internet & American Life Project.

Surveying Internet Use in the U.S.

As of 2002, the number of Americans who seek information or complete financial transactions on the Web each day is the same as the number of those who communicate by email. On a typical day millions of Americans log on to the Internet, send or read email, and perform other activities on the Web. One of the most comprehensive projects studying how people integrate the Internet into their lives is the Pew Internet & American Life Project. This non-profit research project studies the complex roles of new media technologies in social life, and publishes reports about how new media technologies are managed by different economic and political actors – governments, businesses, civic groups and individuals – around the United States. The bulk of the project data is generated through survey methods, and though most of the reports produced are documents that summarize survey findings primarily for the

media, the project also undertakes larger research projects, inviting scholars to critically assess the consequences of technology-related social, economic, political and cultural trends.

The Pew Internet Project collects data through long-running continuous surveys that examine a typical day's online activities by the American Internet user. The survey technique employed makes it possible to collect large representative samples with a sufficiently diverse population that Internet use can be broken down by gender, age, and Internet experience, along with a range of other demographic categories. It has allowed project researchers to develop sophisticated typologies about who is doing what online, and collect information about how people use email to help build social networks through extending and maintaining friend and family relationships.

The project has run steadily since March 1, 2000, asking thousands of Internet users not only about what they have ever done online, but also about what they did "yesterday". Using a daily sample design, this approach measures the scope of Internet activities more accurately than conventional surveys because it focuses on activities that are fresh in respondents' minds. It also provides new insights into the range of online behavior that occurs daily. Overall, the project provides a detailed picture from interviews with over 16,000 Americans, about half of whom are Internet users. This section of the chapter summarizes some of the key findings from this work.

Pew Internet Project: A Sampling of Findings

Some 56% of American adults – about 106 million people – have used the Internet, and 73% of the young people between 12 and 17 years old have also used the Internet.¹ Moreover, 56% of those with Internet access go online on a typical day, which amounts to some 60 million people.

Other than using email to communicate with family and friends, the Project has found that there are four kinds of activities that Internet users pursue. First, for *recreation*, people

¹ The findings reported in this section are extracted from a more extensive study of Internet use in the United States prepared by Howard, Rainie & Jones (2001).

look for information about a hobby, download, watch and listen to media clips, send instant messages, check sports scores, play games or take part in chat rooms. Second, as an *information utility*, the Internet is used by people who want to research a product or service, often related to travel, get news or check the weather or stock prices. People who need information from government Web sites, or who go in search of information about politics or religion increasingly use the Internet. Third, people conduct some of their *major life activities* online: looking for work or doing research for school or work, seeking health information, looking for information on places to live or joining an online support group. Finally, the Internet is used for various kinds of *transactions*: purchasing products and services, making travel reservations, banking, participating in online auctions or buying and selling stocks and bonds.

The vast majority of those who are online during a typical day read and send email. Many of these same people also do other things online and these activities have been classified into four broad groups: 29% of Internet users say they also engage in recreation-oriented activities (e.g., browse for fun, send instant messages, play games, get hobby information), a third say they also use the Internet as an information utility (e.g., to get news, financial information, product and travel information), about a fifth say they perform important life activities online (e.g., get health information, do work- or school-related research, find leads about new jobs) and one tenth say they conduct some kind of financial transaction (e.g., buy a product, buy or sell stocks and bonds, make a travel reservation).

Some clear differences among groups emerge in the activity classification scheme noted above. Young adults who use the Internet are more likely to engage in recreation-oriented activities compared to older respondents. Men are 50% more likely than women to have used the Web as an information utility. The most experienced Internet users are more likely than newcomers to have used the Internet as an information utility and to do research for major life activities.

The gender differences in the daily online world are not very dramatic for some major life activities such as using email and browsing for fun (men are a bit more likely to be doing

these things on a typical day), searching for health information (women are slightly more likely than men to be doing this), buying products and making travel reservations (men and women are doing this at roughly the same rate online).

A gap, however, is evident in other Internet activities. Online, men are nearly twice as likely as women to be seeking news on a typical day – 26% of men with Internet access are doing this, compared to 15% of the women online. A comparable ratio applies to the act of seeking product information: 16% of men who are online are doing this on a typical day, compared to 9% of the women online. Men are more than twice as likely to have sought financial information such as stock quotes or mortgage interest rates: 18% of the men online are doing this on a typical day, compared to 8% of the women online. Men with Internet access are half-again as likely as women to be using the Internet for work-related research: 18% of the men with access do this on a typical day, compared to 12% of the women. Similarly, men are 50% more likely than women to be seeking hobby information online during a typical day: 21% of the men with Internet access are doing this on an average day, compared to 14% of the women who are online.

The vast majority of Internet users report that the technology has in some way allowed them to learn about new things and nurture their relationships with family and friends. This is particularly true for women, many of whom report using email to communicate with relatives and friends. In this sense, Internet users seem to have a more robust social worlds than non-users. They have more active social lives, and the more experienced they are online, the more likely they are to believe that email has brought them closer to family and friends.

Whereas many scholars (e.g., Beniger, 1987; Shenk, 1997; Rochlin, 1998; Willock, 1998; Bennett & Grant, 2000; Borsook, 2000; Nie & Erbring, 2000) have argued that the Internet encourages social isolation, the Pew Internet & American Life Project found that compared to non-users, Internet users are more likely to say they have many dependable friends. Internet users are more likely to have recently visited or telephoned family and friends than non-users. Moreover, Internet users say they feel closer to their families, they

have learned a lot about their families thanks to email, and that they communicate regularly with a family member they had not contacted much before.

Internet veterans are a unique breed of Internet users. Between 35 and 40 million people have access at work and home, and are online frequently and for long periods of time. Certainly the demographics are changing, but for the most part Internet veterans are white, male, young, well educated and have a relatively upscale lifestyle. But whether or not users fit this demographic, there is a kind of developmental air to the patterns of Internet use. People begin by treating the Internet as a recreation-oriented technology, eventually use it as an information utility, then begin conducting some of life's personal affairs and ultimately exercising financial transactions.

Reflection on Pew Internet Project

The above findings indicate the kind of investigations and research issues being addressed by the Pew Internet Project. The conventional framework of social, political, cultural and economic categories is being attended to in these studies of Internet use. Emphasis is towards individual consumer use of the Internet rather than a political economy or policy orientation. Still, the Pew Internet & American Life Project has accomplished a number of important things. As an independent project, it has maintained high methodological standards and produced data that rival similar academic projects. The project has prepared widely read media briefings² on a range of topics – from studies of gender and online behavior, use of the Internet by senior citizens, to reports on the social life of Hispanic and African Americans online. Religious institutions online have also been examined as well as how government agencies perform their services online.

² Most of the media-oriented reports mentioned in this section can be accessed on the Pew Internet Project Web site: <http://www.pewinternet.org>.

Advancing Scholarship

The Pew Internet & American Life project has made a valuable contribution to the academy in three ways. First, the project has generated a large body of survey data, which is shared with scholars through its Open Research Initiative. Through this program the project invites scholars to contribute questions to the survey instrument itself. Rather than taking a proprietary attitude with the data it collects, the Pew Internet Project has eagerly sought relationships with academics and policy makers alike, and the data it generates will contribute to the need for a broad-based set of data in the years to come.

Second, the Pew data have helped define the frequency distributions for the attributes of people who use the Internet. Whereas the sampling distribution illustrates the range of attributes in a specific sample population, the frequency distribution helps scholars get as close as possible to a “theoretical mean” because it is a kind of sample of samples. For example, the average age of Internet users at one point in time may be different across several samples. Over the last decade, quantitative study of the Internet has had to proceed with few sources of reliable data – often commercial data with peculiar sample frames. In theory, there is a true mean age of Internet users, but it is only with repeated sampling like that provided by the Pew Internet Project’s rolling sample, that it is possible to approach this true mean age and a wide range of other independent and dependent variables.

Third, charting the rate of technological diffusion helps researchers assess sampling error. Scholars are increasingly using the Internet itself as a research tool. Web-based survey efforts like the National Geographic’s Survey2001 Project, and email panel studies like those run by commercial operations such as InterSurvey and Harris Interactive use the Internet because the medium allows so many more kinds of respondent stimulus than a telephone interview (Witte, Amoroso & Howard, 2000). However, the sampling error – an estimate of the probability of being invited to join a sample – cannot be calculated without knowing how the Internet has diffused across the country. Since there is a variety of types of errors

associated with survey research, including coverage error, measurement error, instrument effects, interviewer effects and non-response, it is advisable to study the diffusion of new media with different media.

In sum, the Pew Internet & American Project, along with other similar research initiatives, is generating an immense amount of data. This material is, in itself, an important contemporary and historical resource awaiting further analysis and scholarly contribution to our awareness of the import of the Internet on society. Its longitudinal data, emphasis on accuracy, openness, and engagement with academic researchers have made it a “research engine” that helps drive a community of scholars to probe further into social phenomena online.

An Innovation in Internet Research Methods: Web Sphere Analysis

In addition to general use studies such as those conducted by the Pew Internet Project, scholars in the field of communication studies are posing research questions regarding various specific Internet applications. With regards to the Web, these questions include:

- What forms of communicative actions are being inscribed on the Web and how do they change over time?
- How do the actions of Web producers enable and/or constrain the potential actions of Web users?
- What kinds of user experiences are potentiated on and between particular Web sites?
- How are relations between Web producers, as well as between producers and users, enacted and mediated via Web texts and links?

These kinds of research questions, along with the increasingly complex Web applications that are altering traditional relationships between media form and content, are challenging traditional approaches to communication studies. Web-based media require new methods of analyzing form and content, along with processes and patterns of production, distribution, usage and interpretation. In this section an overview of *Web sphere analysis* is provided, a

multi-method approach currently being developed for Web media studies. After describing the main elements of the approach, its application is illustrated in a case study of the Web sphere that was developed around the 2000 elections in the United States.

Content analysis, a widely used method in traditional media studies, is ill-suited for Web media in several regards. The method assumes a static and easily identifiable content universe, stable structures, singular forms, and consistent, if not constant, rendering of the content for media users. The Web, in contrast, is a born-digital, multimedia medium, which is evolving continually and rapidly. Not only is Web content dynamic, but so are methods of production as new HTML standards are developed and other digital media forms are integrated into Web productions. Web media, in which not only content but associative relations and meanings are co-produced through features and links in addition to texts (see Foot & Schneider, in press), challenge the textual focus of traditional content analysis. Furthermore, in contrast to the relatively consistent and predictable renderings of traditional print and broadcast media, Web media are differentially rendered. Users' experience of Web media may vary greatly due to any number of factors, such as bandwidth access, connection speed, browser type and version. These factors can affect not only the perceived form of the media, but the "content" as well, since some particular features may or may not be visible, and certain links may or may not function in any particular rendering.

Borrowing a concept from the work of Taylor and Van Every (2000) on the relationship between communication and organizing, the Web could be viewed as both a "site and surface" for communicative action. In order to complete an analysis of both the "site" and "surface" of the Web, it is helpful to create and analyze an archive not just of Web *sites* but of a *Web sphere*. A Web sphere is a collection of dynamically defined digital resources spanning multiple Web sites deemed relevant or related to a central theme or object, in the sense of the *gegenstand* concept from classical German philosophy. The *gegenstand* notion of object as a focal point embedded-in-activity (See Leont'ev, 1978; Foot, in press) enables the identification of a Web sphere as a collaborative production. As a unit of analysis, the

boundaries of a Web sphere are delimited by a shared object-orientation, a temporal framework, and an identified periodicity of collection.

The most crucial element in this definition of Web sphere is the dynamic nature of the sites to be included. This dynamism comes from two sources. First, the researchers involved in identifying the boundaries of the sphere are likely to continuously find new sites to be included within it. Second, as will be discussed below, the notion of defining a Web sphere is recursive, in that pages that are referenced by other included sites, as well as pages that reference included sites, are considered as part of the sphere under evaluation. Thus, as a Web sphere is archived and analyzed over time, its boundaries are dynamically reestablished by both the researchers and the sites themselves.

The Web sphere can function as a macro unit of analysis, by which historical and/or inter-sphere comparisons can be made. For example, the Web sphere of the 2000 elections in the United States can be comparatively analyzed with Web spheres that develop in later years, as well as with electoral Web spheres in other countries. Alternatively and/or simultaneously, other, more micro units can be employed in analyses within a Web sphere, as we explain below.

Web sphere analysis is an analytic strategy that, fully implemented, includes analysis of the relations between producers and users of Web materials, as potentiated and mediated by the structural and feature elements of Web sites, hypertexts and the links between them. In a nutshell, the multi-method approach of Web sphere analysis consists of the following elements. Web sites related to the object or theme of the sphere are identified, captured in their hyperlinked context, and archived with some periodicity for contemporaneous and retrospective analyses. The archived sites are annotated with human and/or computer-generated “notes” of various kinds, which creates a set of metadata. These metadata correspond to the unit(s) and level(s) of analysis anticipated by the researcher(s). Sorting and retrieval of the integrated metadata and URL files is accomplished through several computer-assisted techniques. Interviews of various kinds are conducted with producers and users of the Web sites in the identified sphere, to be triangulated with Web media data in the

interpretation of the sphere. In the remainder of this section a case study is presented employing Web sphere analysis in a study of the role of the Web in the 2000 U.S. elections.

Reflections on the Political Web Archive 2000 Project

As the U.S. 2000 election season dawned, it was clear that the Internet and specifically the World Wide Web were going to be intertwined with politics in unprecedented and unknown ways. Candidates, for-profit portal companies, media corporations, advocacy groups, civic organizations and ordinary citizens were poised to build and launch Web sites designed to inform, persuade, mobilize, engage, and pillory the various actors and participants in the political process. Identification of sites within such a Web sphere is a changing process because any contemporaneous Web sphere is, by definition, dynamic.

It was not possible to identify every site within the 2000 political Web sphere, since no single index nor collection of indexes was comprehensive. In building the Political Web Archive 2000, (PWA 2000), identification of sites required repeated searches of the Web using multiple Web indexes and search tools. The objective was to identify as many Web sites with election-oriented content as possible, and thus to conduct systematic and thorough searches of a constantly changing (largely expanding) universe of sites. Multiple standard Web indexes were used to locate sites produced by federal candidates, national and state party organizations, national and state advocacy groups, civic organizations, mainstream and alternative press outlets. Links on these sites were followed to find additional sites, including sites produced by individual citizens. Publicly available Web indexes were employed to uncover sites that linked to those sites already identified.

Collection of Web sites can be done at the level of bits, content or experience (Arms, Adkins, Ammen & Hayes, 2001), as mentioned above. The theoretical concerns of the PWA 2000 project required the development of capabilities to capture, as much as possible, the experience on the Web. Furthermore, research interests in the emergence of the Web as a political sphere, as well as in capturing the day-to-day actions of political actors producing the Web, led to the decision to collect impressions of Web sites on a daily basis.

Over the course of the PWA 2000 project, 2.1 million URLs were collected. Roughly 950,000 of these URLs represented HTML pages from nearly 5,000 different sites, which accounts for over 10 million links. The system stored these URLs, uncompressed, in a location neutral format, using a SQL database as a facility to index and to categorize these and the other archive objects. The pages were collected with a Web-spider written in Perl; HTML pages were reproduced on the fly with a client side CGI script. In addition, Web-based interfaces were created for adding newly discovered sites or pages to the collection process and for collecting researcher field notes related to sites or pages. A piece of client software allowed trained research assistants to assess live Web sites for the presence or absence of specified features, to add impressions of analyzed Web sites to the archive, and to attach the generated metadata to the archive indexes.

The PWA 2000 was accessed for several different kinds of analyses by researchers associated with the project. Some focused their analysis on a particular genre of sites with the Web sphere, such as press sites, candidate sites, and advocacy group sites. Other researchers analyzed political action as it occurred across site genres, such as mobilization and carnival. A Web sphere archive provides the basis for systematic analyses of Web structures, features, texts and links. A Web sphere archive can also provide stimulus material for focus groups, surveys and experiments on user perceptions, experience and engagement with various aspects of the Web sphere.

At a technical level, the PWA 2000 archiving system operated under considerable stress during the study period, requiring substantial *ad hoc* changes in architecture and design. These difficulties, however, should ease as additional Web sphere archiving projects are implemented and as design and specification criteria improve. Significant bottlenecks arose when researchers attempted to verify archiving activity during the collection phase, or when researchers attempted to retrieve and analyze archived objects during this phase. Additional processing and redundant storage would have alleviated these problems. In addition, bandwidth and memory limitations restricted the capabilities of the archiving system. A

profusion of disparate content standards and a wide range of nonstandard content posed serious challenges to archive collection and page reproduction.

Equally important, however, were the ethical and legal considerations that arose for the PWA 2000 project, both in collecting data and in analyzing and reporting the research. At least three research activities associated with archiving Web spheres have ethical and legal aspects that should be addressed: downloading and storing Web materials; providing access to archives; and linking to, citing and displaying archive materials in research publications and presentations.

An archiving system causes harm to a site producer if its activity reduces significantly the site producer's capability to distribute Web materials to others. Researchers should keep in mind their ethical responsibilities to the subjects as well as the objects of their research. If digital data artifacts are considered to be Web site performances by site producers, and if data collection efforts affect those performances, then the process of research may have an impact on human subjects. Ethical norms for scholarly archiving should be established, perhaps by Institutional Review Boards governing other aspects of research ethics. Such efforts are currently underway by professional associations such as the Association of Internet Researchers.

In addition, archiving digital materials raise serious issues related to copyright. Two aspects of copyright are of particular relevance to researchers contemplating Web sphere analyses that rely on archiving Web materials: distinguishing between archive data and metadata, and understanding the limitations for access to archive data. It is critical that an archiving system make a clear and sustained distinction between archive data, which may be subject to copyright restrictions, and researcher-created metadata, which is not. Maintaining this division will help researchers demonstrate that their archiving system respects copyright restrictions and properly applies access policies. In addition, this division should serve to ultimately protect researchers' interests.

At the same time, it is necessary to develop access policies to archived material that differentiate among collaborating researchers, other scholars, and the public. These three

constituencies may be able to make different claims to access archive materials, either via public or limited access Internet distribution, or via single-copy collections maintained by libraries. In the case of the PWA 2000 project, researchers neglected to craft a carefully constructed access policy that balanced the rights of copyright holders, the liability of the university sponsoring the research project responsible for the collecting activity, and the desires of collaborating scholars and other researchers for open access to archive materials. Consequently, the Web materials collected by the PWA 2000 project are currently accessible only in the library of the sponsoring university.³

A closely related ethical issue concerns linking to, citing and displaying archive materials in research publications and presentations. Without public Internet access to archived Web materials, linking to collected objects in electronic publications is considerably more problematic. However, some interpretations of the fair use doctrine, particularly the distinction between “transformative use” and “consumptive use”, (Ginsburg, 1998) may lead to the conclusion that selected and limited reproduction of pages from copyrighted Web sites is permissible. This is the position argued by Gurak (2001). These pages could possibly be reproduced and stored on a separate site, perhaps one affiliated with the researcher rather than the archive.

Finally, the experience of the PWA 2000 project demonstrated the importance of developing a citation strategy for referencing archives and materials collected in an archive. A Web archive, like any edited collection of objects reflects scholarly work and editorial decisions that ought to be recognized. Materials cited from Web archives should reference the editors and title of the archive as well as a unique identifier within the archive. Citations should point those interested to static pages available for viewing and contain all necessary information to retrieve the page of interest.

³ The 2000 Political Web Archive is available at the Library of the Annenberg School for Communications, University of Pennsylvania. Information concerning access to the Library and its collections is available at <http://asc.upenn.edu>.

In summary, the concept of an object-oriented and temporally-bound Web sphere is useful as a macro unit of analysis, within which other units can be identified. Web sphere analysis is emerging as a fruitful method of research for communication scholars, and holds potential for researchers from other social science fields as well. Collecting resurfable and analyzable archives of Web spheres allows testing of theories and development of hypotheses across a wide range of disciplinary interests.

Conclusions

As previously mentioned, integration of the Internet into curricula and research programs is still in a nascent phase in the field of communication studies. Regarding *curriculum development*, at the most basic or micro level, it is probably fair to say that virtually all universities are adjusting their coursework in such a manner that Internet-based communication and Web-based materials are being incorporated into graduate and undergraduate courses. At a more general level, special courses are being tailored to features of the Internet at a rapid rate. These courses, numbering in the hundreds, are being taught in a wide variety of disciplines, where communication studies is only one of the many.⁴

Finally, at perhaps the most encompassing or macro level, developments include creation of new departments or research centers. Examples of this level include the Center of New Media at Columbia School of Journalism, the Internet Studies Center at the University of Minnesota, and the Unit for New Media Studies at the University of Illinois at Chicago. And in a few cases, special degrees are being awarded in Internet Studies, such as at Brandeis University.⁵

⁴ A depository of course syllabi dealing with the Internet may be found at the Resource Center for Cyberculture Studies: <http://www.com.washington.edu/rccs/>. For illustrations of course syllabi taught by faculty of communication studies departments see: <http://faculty.washington.edu/kfoot/InternetResearch/index.htm>, <http://faculty.washington.edu/barbwarn/cmu404spcmu422/>, <http://faculty.washington.edu/dsilver/507/index.html>.

⁵ For information on the Internet Studies Program at Brandeis University see: <http://www.brandeis.edu/programs/inet/index.html>.

Admittedly, the Media@lse program is not a prototype of these developments. This program does, however, illustrate how a major international research-oriented university is contending with the Internet in its curriculum and in its research agenda. And for the purposes of this chapter, this initiative also provides indication of the kinds of issues and questions gaining prominence on the research agenda. Some of these issues reflect the core concerns of communication studies, but more broadly they reflect concerns of the social sciences confronted by the tensions generated through major upheavals in the communications industries, in business and in the everyday lives of media consumers.

Academic institutions establishing centers and divisions related to the Internet and Internet studies are often doing so in a multi-disciplinary fashion, much as they had when communication programs came to be institutionalized in the U.S. in the mid-20th century. However, in part due to past experience and the emphasis on interdisciplinarity prominent on many campuses, alliances are being developed across departments and faculties within single institutions. In some cases, like Media@lse, these alliances involve other institutions in industry and academia.

The curricula being established are often reflections of the philosophies and practices already existing within the innovating institutions. Universities that have a tradition of providing training and professional development tend to stress these features in the educational curricula involving the Internet and they focus coursework, for example, on user interaction or web design. Universities with a research tradition tend to emphasize aspects of their already existing substantive research interests as well as concern for research methodology. [Media@lse](#), once again, is reflective of a program that emerged from an institution of higher learning already committed to its “research-led pedagogy” approach. Whatever the particular emphasis of an institution, there remains a strong tension between the objectives of the various actors involved. Students often have interest in skills training and preparation for identifiable careers; faculty are often torn between teaching and research interests.

Regarding *research questions*, it has not been possible for the field of communication studies to create a unified research agenda, and it should not be expected that the new hybrid Internet Studies would be able to do so. Most institutions incorporate study of the Internet into existing research agendas (e.g., departments of marketing focus on the marketing aspects made available within regions of the Internet, journalism departments consider provision of news via online channels). There are, nevertheless, some efforts to construct all-encompassing or at least over-arching research agendas. The Social Science Research Council in the U.S. is currently engaged, for example, in a long-term initiative to identify and influence the research agenda regarding the Internet and the social sciences. Perhaps the most encompassing initiative is that undertaken by Oxford University in establishing the Oxford Internet Institute (OII). The OII is supported by a major private endowment and its first director was appointed in 2002. As part of Oxford, the OII will have a major network of academics, industries and government units as its partners. At the same time, OII plans to retain its scholarly independence and strive to develop a multidisciplinary approach to the field.

Several more modest attempts have been made to develop research agendas for subsections of the field of communication studies. Jones (1995, 1998), in his introductions to the two *Cybersociety* volumes, provides a wide range of questions, most related to the relation between community and communication. Wellman and Gulia (1999) and Baym (2000), suggest lists of central research questions. The questions in these lists mainly address the relation between on- and off-line environments, expressions of identity and culture in cyberspace, and draw attention to the conventional sociological concerns of power and control. One very specific research agenda, developed by Jankowski (2002), relates to geographically-based online communities and the factors that influence participation in and use of these communities. Another research agenda is in development by scholars involved in an international project concerned with the public sphere and electronic networks.⁶ This

⁶ For further information on this project, see: <http://baserv.uci.kun.nl/~jankow/Euricom>.

agenda overlaps with a number of the issues found within Democracy theme of the Media@lse program.

Finally, with regard to the Pew Internet Project, this initiative has attempted to provide data suitable for a wide range of theoretical perspectives and research objectives. Toward the end of the first phase of this initiative, it has begun to incorporate additional methods into its arsenal of research tools. Engagement with theory-driven concerns is likely to influence the eventual methodological choices as the Pew Internet Project seeks to more deeply assess the Internet's impact on everyday life.

Regarding *research methods*, there is frequent expression of the position that “new media require new methods”. This claim is heard at special Internet research seminars and is occasionally found, at least implicitly, in some publications (Jones, 1999; Mann & Stewart, 2000). In our opinion, most modifications in methodology are based on already existing research designs and methods. Similarly, many innovations in research methods for Internet research are modifications of previously existing design strategies and methods for data collection and analysis (see Jankowski, 1999). Nevertheless, methodological advances and improvements are being achieved for conducting social science research in an Internet environment. The features, advantages and problems with Web-based surveys, ethnographies in cyberspace, and Web sphere analysis, for example, are more clearly understood thanks to the pioneering work being conducted by methodologically-concerned scholars (e.g., Sills & Song, 2002; Hine, 2000; Schneider, Harnett & Foot, 2001). We expect these initial achievements to expand in the coming years, and eventually to be incorporated into the everyday research practices of social scientists concerned with Internet research (see Jankowski & Van Selm, forthcoming 2003).

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