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Applying Critical Theory to the Study of ICT

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As three academics located in the domain of information systems (IS), we are delighted to act as guest editors and to highlight scholarship that applies a critical lens to the examination of information and communication technologies (ICT). In this editorial, we briefly present how reference disciplines—particularly sociology—have addressed issues of technology in society, placing this discussion in the context of the comparatively new disciplinary field of IS and its paradigmatic roots. We argue that IS has been dominated by inquiry adopting the philosophical approach of positivism but stress that there is a small and growing body of theoretical and empirical research from a critical perspective. We discuss this broadening field of critical research and critical research in IS in particular. Finally, we are pleased to introduce the articles we have chosen for this special issue that apply critical theories and methods to a number of ICT applications.

Looking back at the entirety of sociology as a discipline, studying the role of technology in society has been marginal at best. Although never central to their doctrine, Marx, Weber, and Parsons all noted that technology played an instrumental role in society, subordinate to economic action, effectively a means to an economic end (Shields, 1997). With the arrival of the Frankfurt School in the mid-20th century, the study of the role of technology in society merged with the burgeoning field of critical theory, in which technology was part of a critique of modernity and the developments and institutions associated with modern society. For sociologists, critical theory allied technology with modernity and again viewed it instrumentally, as a tool of the modern state used for more perfect subjugation of the masses and the individual. In the later half of the 20th century, sociologists have drawn on authors such as Habermas, Offe, Bourdieu, Foucault, Calhoun, and Kellner to develop a more sophisticated critique of domination with an emancipatory interest, the fusion of social or cultural analysis, and the role of technology in society. Critical theorists of technology are typically seen by sociologists as mild technological determinists who have focused on the coevolution of modernity and technology and their joint limitations, pathologies, and destructive effects (Kellner, 1989).

The Discipline of IS

In the context of how ICTs are viewed and studied in IS, it is useful to take a little time to discuss the emerging discipline of IS—a subject of contestation within the IS community.

It is a comparatively new field, with the first International Conference on Information Systems being held in 1980. Its newness and origins as a discipline help to explain the hegemony of the positivist paradigm and the rather sterile "paradigm wars" that have raged through IS conferences and journals during recent years. The foundations of this emerging field are eclectic, but it has arisen primarily as a reaction to the "technicism" (Lyytinen, 1992) that is predominant in computing and engineering disciplines. Hence, IS has very deliberately set itself against the technical approach of computing, seeing itself, to a large extent, as on the organizational and social science wing, and this suggests that it offers much more scope for a richer theorization (Adam, Howcroft, & Richardson, 2004).

Many of the disciplines from which IS has arisen have been primarily associated with the functionalist paradigm (Stowell & Mingers, 1997) that focuses on the development and use of IS in narrow technical terms, often disregarding their organizational context (Checkland & Holwell, 1998). As a consequence, much time has been preoccupied with resisting technological deterministic views of technology and by arguing for recognition of the social. This reaction against functionalism has been coupled with a desire for intellectual respectability and the need to create a niche for IS as an emerging discipline (Adam et al., 2004).

There is also a lack of clear definition of IS as a cognitive field, which has caused much concern and is in itself problematic and subject to an ongoing debate (e.g., Benbasat & Zmud, 2003; Hirschheim & Klein, 2000). There are disparate definitions of what is an IS or what is information, and it is difficult to establish precise boundaries between IS and other disciplines. There are antagonistic schools of thought dealing with different aspects of the domain. There are divergent philosophical conceptions underlying IS research and practice (e.g., Hirscheim & Klein, 1989; Klein & Lyytinen, 1995; Walsham, 1993). There is a lack of a cumulative IS research tradition, and de facto pluralism exists. The roots of the IS disciplinary debate are to be found in the sociocultural context of the era—IS developed in the context of rapid change, and there were practical demands of systems to produce "competitive advantage," with the adjoining need to justify the expense of developing systems. Thus, IS development solutions were often overgeneralized, and fetishes, fads, and fashions dominated IS discourse (Robinson & Richardson, 1999). The field of IS is dominated by the "needs of business" but also has a credibility gap in the business community. Moreover, the climate of 1980s and 1990s was not conducive to development of radical alternatives, and so it is unsurprising to find an exclusion of "bit-face" users in the IS development equation. In this respect, the development of critical research in IS is a radical alternative to more traditional functionalist and managerialist approaches to understanding IS.

Historically, most IS research has been underpinned by positivist philosophy (Orlikowski & Baroudi, 1991). During the 1980s and 1990s, several streams of work emerged based on different philosophical perspectives—mainly interpretivism—emphasizing the "inherent meaningfulness of the social world" including ethnography, hermeneutics, ethnomethodology, and phenomenology (Mingers, 2004, p. **PLS PROVIDE PAGE**). In the mid to late 1990s, interpretivism in IS research faced a critique, and slowly critical research in IS has been gaining voice.

Recent years have seen the growth of IS research that consciously takes a critical perspective. There have been a number of special issues of journals devoted to critical research

in IS (Howcroft & Truex, 2001; **PLS PROVIDE EDITOR OF JOURNAL OF INFORMATION TECHNOLOGY**, 2002; **PLS PROVIDE EDITOR OF INFORMATION SYSTEMS JOURNAL**, in press; **PLS PROVIDE EDITOR OF INFORMATION, TECHNOLOGY AND PEOPLE**, in press), conferences with a critical IS stream (Americas' Conference on Information Systems in 2001, 2003, and 2004—see `http://amcis.aisnet.org/intro.htm`; Critical Management Studies in 1999 and 2003—see `http://www.CMS4.org`), and workshops dedicated to defining and critically reflecting on critical research in IS (Adam, Basden, Richardson, & Robinson, 2004; Adam, Howcroft, Richardson, & Robinson, 2001). There are a number of empirically grounded studies beginning to emerge in critical IS research, not least from the three guest editors (Kvasny & Keil, 2006; Richardson, 2003; Tapia, 2004) and a seminal work illustrating the extent that critical research in IS is a small but growing field, broadening its engagement with critical social theory and grounding this in praxis (Howcroft & Trauth, 2005).

Critical research in the study of ICT in the main follows the same aims as critical research in general, namely to bring restrictive and alienating conditions to light and to be emancipatory (Klein & Myers, 1999), to expose, through critique, the illusions and contradictions of social existence with a view to enabling and encouraging social change (Chua, 1986). According to Howcroft and Trauth (2005), critical theory in IS research generally draws on five key themes:

1. Emancipation—freeing individuals from power relations and causes of alienation and domination.
2. Critique of tradition—disrupting the status quo by providing alternative and radically different views of the world, emphasizing positive change.
3. Nonperformative intent—rejecting provision of tools to support and assist managerial efficiency.
4. Critique of technological determinism—placing technological development, adoption, and use in context of broader social and economic changes.
5. Reflexivity—reflecting on the role of a researcher and in selection of research topics. The research process is not neutral.

In situating the study of ICT in the context of these five critical theoretical concerns, scholars are "seeking a better understanding of the nature of critical inquiry and recognition of its validity and legitimacy" (Cecez-Kecmanovic, 2005, p. 20). Researchers seek to change the world and contribute to emancipation of marginalized groups.

ICTs in Theoretical Context

What is meant by ICT is contested. The broad convergence of communications with information technology has led to a recent shift of industries being classified as ICT. The issue of defining the ICT sector and placing ICTs in their social, political, economic, and historical context is an ongoing complexity within the IS community generally. It is also essential to unpack the ICT artifact from the black box it has been kept in by both the technological determinists and the social constructivists. In doing this, we favor a mutually

constituted view of material technologies as shaping and being shaped by evolving social processes. Both polarized frameworks have problems with agency, in that constructivists give none to technology and the technological determinists attribute none to society. Both are linear and one-dimensional, black box the artifact, and only address the outcomes of technological change. Sociotechnical perspectives focus both conceptual and analytical attention on three concepts: that which is social, that which is technical, and their interrelations. Theoretical perspectives such as the social shaping of technology, actor network theory, and social informatics all highlight the material characteristics and actions of any technology and are shaped by the social actions of the designers, the specific uses of that technology, and the evolving patterns of use over time. Central to these frameworks is the concept of choice, in that technological innovation and development can be represented by a series of choices of one technological path over another through a process of negotiation and sometimes leading to irreversibility and lock-in of certain technologies. And finally, these perspectives are particularly adept at exposing the governance, control, and political motivations behind technological choice and development, critically exposing privilege and power (see, among others, Feenberg, 1991; Latour, 1988; Law & Bijker, 1992; MacKenzie & Wajcman, 1985; Williams & Edge, 1996; Winner, 1977 **PLS PROVIDE REFERENCE**).

"Doing" Critical Research

We have been offered three tasks derived from critical management studies in "doing critical research" (Alvesson & Deetz, 2000) and discussed in the Mitev article—those of insight, critique, and transformative redefinition. Richardson and Howcroft (2006) summarize the main aspects as follows. Insight helps to highlight hidden or less obvious aspects of social reality in the process of seeing how various forms of knowledge, objects, and events are formed and sustained. Critique challenges many of the taken-for-granted assumptions, beliefs, ideologies, discourses that permeate IS phenomena. Transformative redefinition is the development of critical, relevant knowledge and practical understanding to facilitate emancipatory change.

Critical research in IS exposes recurrent issues of power and emancipation. The Wilcox and Humphries articles discuss Foucault and dimensions of power, emphasizing that a radical view of power is needed in IS. Power and politics also emerges as a theme in Peszynski and Corbitt, an article that also highlights the importance of reflexivity in critical research, trying to create awareness and understanding of the various forms of social domination so ultimately people can act to eliminate them. A further theme arises in the absence of engagement by the IS field with prominent critical social theories and theorists in other reference disciplines such as sociology, cultural studies, and critical management studies. These are themes returned to in the Mitev and Wilcox articles. In its infancy, critical research in IS has often been criticized for being too theoretical and esoteric (Boudreau, 1997). Early critical research in IS was dominated by the Frankfurt School and particularly "over-saturated with Habermassian analyses" (Brooke, 2002, p. **PLS PROVIDE PAGE**), a theme returned to by Mitev. There has also been a lack of empirical study taking a critical

approach and particularly research not located in Northern Europe and North America. This landscape is slowly changing, and we present two case studies, from Peszynski and Corbitt and D'Cruz and Noronha, that apply a critical lens in praxis.

The articles we have chosen for this special issue reflect many of the themes being discussed within critical IS research and briefly discussed above. The first two articles adopt a Foucauldian perspective for the study of ICT. Willcocks makes a case for the applicability and appropriateness of Foucault's concepts and methods in the study of ICT in IS, organization, management, and surveillance studies. He notes,

> Foucault himself wrote little directly about ICT and indeed little about technological artifacts and tools, though he recognized that the technologies he was interested in were physical in part, for example, in the architecture of prisons, schools, the clinic. However, he did write much about procedures, techniques, processes, and behavioral or disciplinary technologies, for example, the confession, the examination, prison rehabilitation regimes, and "technologies of the self." (p. TS: PLS INSERT PAGE)

Whether as structural artifacts or behavioral practices, for Foucault, technologies enable the exercise of power.

In the second article, Humphrey uses Foucault's theory to examine Amazon.com as a site for the construction of the consumer as an object of knowledge through the use of technologies of surveillance and individuation through documentation. In doing so, Humphrey explores the creation and maintenance of power/knowledge relations between the consumer (the object of knowledge) and the marketer (the creator of objective knowledge). Wish lists, for instance, document consumers' past and present desires, while also serving as a basis to determine future desires and purchases. The power/knowledge created by wish lists comes from statistical analysis and qualitative groupings made by marketing analysts at Amazon .com. Humphrey relates the power/knowledge exhibited through ICT-enabled practices such as statistical analysis, tracking through cookies, surveying, recommendation and rating systems, data mining, and transaction processing to Foucauldian concepts of body politics, the Panopticon, the gaze, and popular illegalities.

The remaining articles in this special issue examine postmodern and critical theories in the context of IS research. Mitev notes that IS research has failed to engage in one of the most fundamental debates in social sciences in the past 30 years, namely criticality and postmodernism or structuralism. Mitev aims to start filling that gap by laying out the similarities and difference between critical and postmodern theories and positing the contributions that these theories offer to the study of ICT. According to Mitev,

> If technologies of control and communication (computers, systems of organization, communication technologies, etc.) are fields of information systems study, then the study of . . . the production and consumption of knowledge within these technologies may be identified as being a key theme. (**TS: PLS INSERT PAGE**)

Peszynski and Corbitt use critical theory to inform a case study of the selection and implementation of an enterprise-wide learning management system at Newlands University. This will be presented, providing an in-depth investigation of the implementation of an

enterprise-wide learning management system. Using the concept of social dramas, the researchers found that the systems selection and implementation process is invariably a complex process that is influenced by the implementation method or tool and the organizational politics and ensuing struggles for power. Thus, the systems selection and implementation process is essentially political and nonrational, rather than a linear, carefully controlled and managed process.

In the final article in this special issue, D'Cruz and Noronha examine the relationship between technocratic and socioideological control in an Indian call center. Using qualitative interviews, the researchers examine how managers invoke the concept of professionalism to control and elicit the compliance of agents. Agents internalize this notion of professionalism such that their thinking and behavior are molded and shaped through ideological control. Thus, we see how agents become complicit in their domination through gentle ideological control rather than tough physical coercion.

We should like to thank the editor and editorial board of *Social Science Computer Review* for giving us the opportunity to present this special issue on applying critical theory to the study of ICTs and hope that the readership finds the articles thought-provoking and of interest.

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