Postmodernism and Information Technology: Philosophical Perspectives and Pragmatic Implications

John D. Wells
Texas A&M University, jdwells@tamu.edu

Follow this and additional works at: http://aisel.aisnet.org/amcis1996

Recommended Citation
http://aisel.aisnet.org/amcis1996/231

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 1996 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.
Postmodernism and Information Technology: Philosophical Perspectives and Pragmatic Implications

John D. Wells
Texas A&M University
Department of Business Analysis and Research
jdwells@tamu.edu

Introduction

Human beings, in their never-ending quest to understand the unknown, have deemed it necessary to express this intellectual process by labeling it and assigning certain defining characteristics. Modernism and, more recently, postmodernism are a direct result of this effort. Although these two philosophical perspectives have their origins planted firmly in art, literature, politics, and social movement; there are definite underpinnings that can be directly tied to information technology (IT). It has been hypothesized that a large number of today's advances in IT are a direct result of the postmodern movement. At the same time, it can be argued that IT has been a catalyst for the postmodern movement - actually stimulating its growth. This presents several interesting issues. How does one distinguish between modernist IT and postmodernist IT? Do advances in IT act as a catalyst for postmodern thought or are these advancements simply a product of postmodernism? Finally, how will the design of IT be affected in the postmodern environment?

Modernism and Postmodernism

Overview

There have been numerous opinions as to when and where modernism emerged as a philosophical framework. There are those who believe that it originated in Europe during the fifteenth, sixteenth, and seventeenth centuries (Dickens and Fontana, 1994). However, it did not reach its full potential as an expression of intellectual thought until the eighteenth century when philosophers of that era defined modernism as the movement "to develop objective science, universal morality and law, and autonomous art, according to their inner logic," with the hope that "the arts and sciences could promote not only the control of natural forces but also understanding of the world and of the self, moral progress, the justice of institutions and even the happiness of human beings" (Habermas, 1981, p. 9). Coyne describes modernism as "a rhetoric of crisis that seeks to persuade us that certainties are being challenged by its own product, namely technology, and particularly information technology" and goes on to discuss the modernists bond with metaphysics produces a "vicious circle of assertion and denial, where the only assurance is of technical progress" (p. 13).

The genesis of postmodernism in more advanced capitalist countries, according to some observers, can be placed sometime after World War II although there is considerable debate as to whether this constituted a complete paradigm shift or merely an extension from the modernist movement (Dickens and Fontana 1994, Lyotard 1984). Jameson (1991, p.60) discusses Lyotard's view of postmodernism as an extension of modernism. Lyotard, being one of the only philosophers who supports both modernism and postmodernism, is strongly committed to the development and eventual success of the postmodern movement. Jameson explains Lyotard's reasons for playing both sides of the fence. It is Lyotard's belief that postmodernism is simply a precursor to a higher level of modernism. In my interpretation, it appears that Lyotard sees the transition from modernism to postmodernism as cyclical. More specifically, through advancements in the modernist era, we have extended ourselves into an era of unknown phenomenon which is viewed as postmodernism. Only until our rational, scientific knowledge catches up to our advancements will we find ourselves back in a modernist framework. Toynbee (1954b) and Bell (1976) both link the transition from modernism to postmodernism to the development of Western capitalism. Dickens and Fontana (1994, p.4) define a postmodern society as "a radical heterogeneity that is characterized by a proliferation of creative discoveries in the arts and sciences and a corresponding decline of ideological hegemony in politics and social life." Smith (1991, p.370) views postmodernism in the context of the social sciences that places an emphasis on service organizations rather than the traditional industrial organizations.
Lyotard (1984, p.44-47), when forming his theory of the postmodern society, was quick to point out the effect that the computer and IT had on altering the social structure. Turkle (1995, p. 17), in the context of IT, characterizes modernism as "linear, logical, hierarchical", and having "depths that can be plumbed and understood" while postmodernism is "decentered, fluid, nonlinear, and opaque". Turkle (1995, p. 18), believing that IT can be a potential facilitator of postmodern thought, states that "computers embody postmodern theory and bring it down to earth."

Before we embark on a journey to discover the role IT plays in modernism and postmodernism, let us critically look at technology and, more specifically, IT in the modern era. Coyne discusses the four ways Heidegger (1977, p.6-16) characterizes modern technology. First, the technological age does not encompass philosophical thought. Second, Heidegger believes, because everything is produced, that technological thinking "enframes" (i.e. labels it as energy in reserve) everything and assigns a metaphysical origin to it. This is supported by Marcuse (1988, p.136) who believes that the nature of technology is to create a universal abstraction which alienates people from the world. Third, he believes that Being is concealed in the technological age. Fourth, ironically Heidegger believes that Being conceals being and that the suppression of Being is indeed a result of technology, but not its doing.

Coyne critically examines IT's effect in the modern arena. This critique looks at how IT can "marginalize the ethical, decontextualize human experience, and amplify and promote domination" (p.75-83). When discussing how the ethical is marginalized, Coyne makes a distinction between technical and human-factor issues. He stresses the need for these two areas to work together as opposed to an adversarial relationship. Coyne points out that critical theorists caution against the compromise in personal privacy and the actual limitation evoked on society as a result of IT. Coyne goes on to discuss the second target for critical theory: how IT decontextualizes the human experience. Critical theorists cast a discerning eye on the trend towards the "valorizing" of information and the concurrent "universalizing" and "homogenizing" of human practice. Critical theory's most serious accusation is IT's role in the domination of individuals or groups over others. Coyne addresses how IT is a means to domination by stating that information technologies "promote the illusion of differentiation, choice, and freedom, thereby masking their promotion of conformity" (p. 81).

IT as a Product /Catalyst of Postmodernism

As alluded to earlier in this paper, there is considerable debate as to the effect that IT has on the evolution of the postmodern environment. Coyne (p.96-97) alludes to a "grassroots" movement with respect to IT design where "the design of an information system is becoming within the grasp of any community." This pseudo-revolution can be viewed as an important step in the rebirth of human interaction in the world of technology. This revolution can be seen in the evolution of multiple-user domains (MUD's) and news groups that evolve not from logical, premeditated technical analysis and design, but through the dynamics of human interaction. Smith (1991), in his discussion of Heidegger's work, points out that modern technology cannot reveal reality to man because we are within this mode of revealing. According to Heidegger, modern man must find a new relation to technology if he is ever to go beyond the technological revelation of reality. For in the modern world of technology, the world is broken up into objects and in this process the unity of the whole is lost. It is the goal of the postmodernism to bring the parts together and create an innovative means to exist in this new environment.

There are those who will argue that advancements in IT have caused the development of the postmodern movement. Contrary to the previous argument that IT is a product of postmodernism, it can be theorized that innovations in IT have created a new paradigm of human-computer interaction. Through advancements in processing speed, telecommunications and computer imaging; the user is able to interact with computers in a revolutionary fashion. It can be theorized that IT is a catalyst that is stimulating the growth of the postmodern movement and not merely a product of it. Lyotard's view of postmodernism seems to support the theory that IT is a catalyst of postmodernism (Jameson, 1991). As stated earlier, Lyotard believes that
postmodernism is simply a result of overwhelming technological growth that modern technology has yet to engulf. Hence, the argument that IT is a stimulant of the postmodern movement is supported.

The discussion of IT's role in the postmodern movement presents the age-old question of "Which came first - the chicken or the egg?" (see Figure 1). The following section will consider the design of information systems in the context of an environment where IT is a product of postmodernism.

**Designing Systems from a Postmodern Perspective**

Up to this point, much of the discussion has centered on the pitfalls of modern technology and the movement towards a remedy - postmodernism. However, most of the references to the postmodernistic role in IT has been somewhat abstract. It is the goal of this section to corral postmodernistic offerings and place them in a pragmatic perspective - namely systems design. Coyne talks of the "indifference" of postmodernism in the attention it pays to formal systems theory while focusing on issues such as "power, how texts operate, ontological questions about the constitution of the subject, how we are constituted by our technologies, and the dismantling of metaphysics" (p.206). Heidegger mirrors these thoughts, especially with respect to the de-emphasis to be placed on metaphysics, when he touts the use of poetry in lieu of modern technology as a means of revealing reality (Smith, p.377). This sets the stage for how systems design can be fundamentally different from techniques that were used within a modernist framework.

Coyne proposes the extensive use of metaphors in system design and bases this proposal on the belief that "adopting metaphor as a design concern seems to appeal to pragmatically oriented systems designers" because it "suggests an engagement with the world of the computer user and programmer through familiar and recognizable objects, as opposed to esoteric commands and formal logic" (p. 250). There has been criticism regarding metaphorical use in systems design. Nelson (1990) and Kay (1990) believe that metaphors have become "forced" and, at times, are extremely inconsistent. While part of the metaphor may accomplish its goal (e.g. the use of a blank sheet of paper in a word processor), it does the more robust aspects of the system an injustice by not representing certain aspects of system functionality in a sufficient manner (e.g. animate drawing functionality on a word processor document).

Davidson (1979, p.30) is an outspoken proponent of the use of literal language and discredits the meaning of metaphors by stating "Metaphors mean what the words, in their most literal interpretation, mean, and nothing more." At the same time, Lackoff and Johnson (1980) effectively defend metaphorical thought against Davidson's attacks by taking the position that all language is metaphorical. According to Coyne, Lackoff and Johnson's primary insight with respect to IT is that "we need not accept as inevitable the current form and structure assumed by the computer" (p. 268). Coyne uses the concept of drawing and how computer could be redesigned to embrace this bodily act in such a manner that is impossible for binary
logic to accomplish. He adds that "by beginning with the bodily activity of drawing rather than the general mechanism of binary logic, a different kind of computer can be designed" (p.269).

How does one effectively use metaphorical thought during the course of systems analysis and design? The use of metaphors is closely tied to the domain that a programmer is operating within (Coyne, p.294). These metaphors are arrived at as a result of collaboration between both the designer and the user (p.295). Coyne (p. 296) discusses two extreme software design strategies. The first uses the traditional systems development life cycle (SDLC) while the second viewpoint provides the programmer with the opportunity to use any "method" that is appropriate for a particular problem. When actually designing the software, the importance of innovation and imagination cannot be understated. As Johnson (1987, p.168) states, "Imagination is a pervasive structuring activity by means of which we achieve coherent, patterned, unified representations." It is a critical step within the postmodern framework to bring the human element back into the technological scene. As Smith (1991, p.386) states, "something truly postmodern would have to come into being on its own" and only "if we open ourselves to the possibility of novel futures" will we begin to move into the postmodern.

**Conclusion**

Postmodernism has been interpreted from a number of different perspectives. Critics of the postmodern have labeled its participants as somewhat "defeatist" in their attitude by virtue of their unwillingness to address technological issues because of its increasing level of complexity. Proponents of postmodernism argue that there is no alternative other than to embrace this new view as a means to leave behind restrictive, logical modes of thinking in favor of a more unified, flexible, and innovative environment. It is important to view postmodernism as the foundation on which emerging IT and systems design are built. Only then will one be able to move away from traditional thought processes that encompasses the use of linguistics, propositional logic, and metaphysics to a metaphorical means to system design that includes the human element in unified fashion.

*References available upon request from author.*